

ERIC BORGUET

Department of Chemistry
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Academic Appointments

Hazel Tomlinson Professor of Chemistry, Temple University	2023-present
Professor of Chemistry, Temple University	2007-present
Associate Professor of Chemistry, Temple University	2004-2007
Assistant Professor of Chemistry, University of Pittsburgh	1996-2004

Research Interests

Nanotechnology and Nanoscale Processes at Interfaces, Plasmonics, Nonlinear Optics, Ultrafast Dynamics, Environmental Chemistry, Nanomaterials, Scanning Probe Microscopy, Sensors for Biological and Chemical Agents

Education

Post-doctoral Research Fellow, Columbia University, New York	1993-1996
<i>“Nonlinear Optical Studies of Spectroscopy and Dynamics at Liquid Interfaces”</i>	
Advisor: Professor Kenneth Eisenthal	
Ph.D., University of Pennsylvania, Philadelphia, Pennsylvania	1993
<i>“Spectroscopic Study of Adsorption and Intermolecular Interactions on Stepped Metal Surfaces”</i>	
Advisor: Professor Hai-Lung Dai	
B.Sc. (Maîtrise de Chimie-Physique), Université de Paris-Sud (XI-Orsay), France	1986

Honors and Awards

Morino Lectureship, Japan	2019-2020
Honorary Visiting Professor, Indian Institute of Technology-Bombay, India	2019-2020
Fulbright Specialist Roster	2018-2023
Visiting Professor, Université Paul Sabatier, Toulouse, France	2013
Temple University CST Dean’s Distinguished Excellence in Mentoring Award	2012
Visiting Professor, Hokkaido University, Japan	2012
American Physical Society, Fellow	2010
Adjunct Professor, Tohoku University, Sendai, Japan	2010-2013
American Chemical Society, Philadelphia Section Award	2009
U.S. Young Observer to 2007 IUPAC General Assembly and Congress	2007
Visiting Fellow, Japan Society for the Promotion of Science	2007-2008
Adjunct Professor of Chemical & Petroleum Engineering, University of Pittsburgh	2002-2011
Visiting Professor, Université de Bordeaux, France	1999
NSF CAREER Award	1998-2002
Sigma Xi (The Scientific Research Society)	1996
University Research Fellowship, University of Pennsylvania	1987-1993
Pre-doctoral Summer Fellowship, University of Pennsylvania	1986
Funded research contracts from NSF, Research Corporation, DOE, DTRA, DARPA, ACS-PRF, DOE-NETL, NASA, Nanotechnology Institute	
Editorial Advisory Board: Chemical Physics, Ceylon Journal of Science, Journal of Chemical Physics	

ERIC BORGUET

Professional Affiliations

American Chemical Society, American Physical Society, Electrochemical Society
International Society of Electrochemistry

External Funding (Total awards as PI or co-PI \$38,722,480)

Current External Funding (Total: \$1,395,902)

Agency: DOE Program: BES
Title: **Pinpointing the elusive active defects of oxygen evolution catalysts and their molecular mechanisms**
Co-PIs: M. Zdilla, J. Perdew, D. Strongin
Amount: \$ 1,395,902 Award Period: 09/01/25-08/31/28

Proposals Pending

Agency: DTRA Program: BAA
Title: **Multidomain MOF Nanoreactors for On-Demand Molecular Synthesis and Delivery**
Co-PI: N. Rosi (Pitt)
Amount: \$400,000 Award Period: White Paper invited for full proposal

Agency: DTRA Program: BAA
Title: **Few-Atom Metal Oxyhydroxides for Catalytic CWA Simulant Hydrolysis: Impact of Metal Lewis Acidity and Oxidation State**
Amount: \$200,000 Award Period: TBD

ERIC BORGUET

Previous Funding (Total \$34,357,607) (\$1,419,795)

Agency: The University of Pittsburgh.
Title: **Dynamics at Buried Interfaces**
Amount: \$14,000

Program: Research Development Fund

Award Period: 07/1/97-06/30/98

Agency: The Research Corporation.
Title: **“Experimental Molecular Dynamics”. Dynamics of Surface Processes with Combined Atomic and Ultrafast Resolution**
Amount: \$35,000

Program: Research Innovations

Award Period: 01/01/98 -01/31/00

Agency: NSF
Title: **Structure, Dynamics and Reactivity at Electrode Interfaces**
Amount: \$320,000

Program: CAREER (CHE-9734273)

Award Period: 02/01/98 -01/31/02

Agency: DOE
Title: **Combined Theoretical and Experimental Investigation of Mechanisms and Kinetics of Vapor-Phase Mercury Uptake by Carbonaceous Surfaces**
Co PI's: K. Johnson (Chemical Engineering), R. Vidic (Environmental Engineering)
Amount: \$360,931

Program: Advanced Coal Research

Award Period: 9/1/98-3/31/01

Agency: NSF
Title: **Spectroscopy and Dynamics of Thermal Energy Relaxation Processes at Interfaces by Infrared-Second Harmonic Generation**
Amount: \$18,000

Program: NSF-CNRS INT-98-15824

Award Period: 03/01/99 -02/28/02

Agency: ACS-PRF
Title: **Dynamics & Reactivity of Photoexcited Electrons at Electrochemical Interfaces**
Amount: \$25,000

Program: Type G

Award Period: 5/1/2000-8/31/2002

Agency: National Energy Technology Laboratory (NETL)
Title: **Adsorption on Nanotubes**
Co- PI Prof. R. Vidic -Civil and Environmental Engineering
Amount: \$35,000

Program: Student Partnership

Award Period: 2/01/02-1/31/03

Agency: NSF
Title: **Research Experience for Undergraduates in Physics - Focus on Minorities**
Co-PI, J.A. Thompson, J. Mueller, D.L. Naples, O. Onipede
Amount: \$199,032

Program: Research Experience for Undergraduates

Award Period: 5/1/2000-4/30/2003

Agency: NSF (DMR 0116034)
Title: **Development of an Ultrafast Time-Resolved Microscope for Imaging Charge Carrier Dynamics in Complex Materials**
Co-PI: H. Petek, J. Levy, J. T. Yates Jr.
Amount: \$412,832

Program: Major Research Instrumentation

Award Period: 8/01/01-7/31/04

ERIC BORGUET

Previous Funding (contd.) (\$1,850,542)

Agency: NSF (BES 0202015) Program: Engineering Division
Title: **Development of Novel Mercury Adsorbents through Applied Industrial Ecology**
Co- PI Prof. R. Vidic - Civil and Environmental Engineering
Amount: \$376,180 Award Period: 7/01/02-6/30/05

Agency: ACS-PRF Program: Type AC
Title: **Thermal Energy Relaxation Pathways at Aqueous Interfaces**
Amount: \$120,000 Award Period: 7/01/03-6/30/06

Agency: NSF (NER DMI 0508508) Program: NSF-NER
Title: **Templated Assembly of Functional Nanostructures**
Amount: \$100,000 Award Period: 7/01/05-6/30/06

Agency: NSF (PHY 0244105) Program: Research Experience for Undergraduates
Title: **Research Experience for Undergraduates in Physics - Focus on Minorities**
Co-PI, J.A. Thompson, J. Mueller, D.L. Naples, O. Onipede
Amount: \$333,655 Award Period: 6/15/03-5/31/08

Agency: NSF Program: Research Experience for Undergraduates (REU)
Title: **REU Supplement to CRC: Long-Range Electron Transfer in Hybrid Inorganic-Peptide Nucleic Acid Nanoscale Assemblies**
Amount: \$12,000 Award Period: 07/01/07-06/31/08

Agency: NSF (CHE 0456965) Program: Surface and Analytical Chemistry
Title: **A Real Time and Molecular Resolution Investigation of the Dynamics of Self Assembly at Electrochemical Interfaces**
Amount: \$324,001 Award Period: 7/01/04-12/31/07

Agency: DOE (DE-FG02-05ER15638) Program: Basic Energy Sciences
Title: **Real Time Dynamics of Laser Activated Interface Processes at the Molecular Scale**
Amount: \$443,354 Award Period: 02/01/05-12/30/07

Agency: DOE Program: UCR
Title: **Mercury Speciation in Coal-Fired Power Plant Flue Gas - Experimental Studies And Model Development**
(co-PI R. Vidic-Pitt, J.R.V. Flora, University of South Carolina)
Amount: \$100,000 (Temple award exclusively) Award Period: 8/01/05-7/31/08

Agency: NASA Program: STTR-Phase I
Title: **Passive Wireless Humidity Sensors Using Orthogonal Frequency Coded Acoustic Wave Devices**
(in collaboration with Applied Sensor Research & Development Corporation)
Amount: \$41,352 (Temple award exclusively) Award Period: 3/01/08-2/28/09

ERIC BORGUET

Previous Funding (contd.)

Agency: NASA Program: STTR, Phase II
Title: **Passive Wireless Hydrogen Sensors Using Orthogonal Frequency Coded Acoustic Wave Devices**

(subcontract on Phase II award to Applied Sensor Research & Development Corporation)

Amount: \$108,988 (Temple award exclusively) Award Period: 9/01/07-8/31/09

Agency: NASA Program: STTR, Phase I
Title: **Rapid Hydrogen and Methane Sensors for Wireless Leak Detection**

(subcontract on Phase I award to Applied Sensor Research & Development Corporation)

Amount: \$13,501 (Temple award exclusively) Award Period: 02/01/10-07/30/10

Agency: Pennsylvania Nanotechnology Institute Program: PSTTR
Title: **Large-scale purification of carbon nanotubes by dynamic annealing**

Amount: \$ 60,000 Award Period: 7/01/09-09/30/10

Agency: Pennsylvania Nanotechnology Institute Program: Core Grant
Title: **Nanoscale Cellular Probes**

Co- PIs: H. Bau (Penn), P Ducheyne (Penn), N. Dun (Temple), Y. Gogotsi (Drexel)

Amount: \$ 99,000 (Temple award to Borguet group exclusively) Award Period: 9/01/08-09/30/10

Agency: Pennsylvania Nanotechnology Institute Program: Core Grant
Title: **Array piezoelectric nanocantilever sensors to detect immune responses to therapeutic monoclonal antibodies and breast cancer markers**

Co- PIs: W.-Y. Shih (Drexel), W.-H. Shih (Drexel) G.P. Adams (Fox Chase Cancer Center), H. Borghaei (Fox Chase Cancer Center)

Amount: \$ 80,434 (Temple award to Borguet group exclusively) Award Period: 9/01/08-09/30/10

Agency: NSF (CHE 0628169) Program: Collaborative Research in Chemistry
Title: **CRC: Long-Range Electron Transfer in Hybrid Inorganic-Peptide Nucleic Acid Nanoscale Assemblies**

Co- PIs: C. Achim (Carnegie Mellon University), Y. He (Temple), M. Madrid (Pittsburgh Supercomputer Center), D. H. Waldeck (University of Pittsburgh)

Amount: \$481,655 (Temple award to Borguet group exclusively) Award Period: 09/01/06-08/31/11

Agency: NATO Program: SCIENCE FOR PEACE AND SECURITY
Title: **Gas Analytical System Based on Nanosensor to Analyse Fire-Presage Gases**

Amount: \$9,779 (EURO 7,000) Award Period: 09/01/10-08/31/11

Agency: NASA Program: STTR, Phase II
Title: **Passive Wireless SAW Humidity Sensors and System**

(subcontract on Phase II award to Applied Sensor Research & Development Corporation)

Amount: \$173,759 (Temple award exclusively) Award Period: 01/01/10-9/30/11

Agency: ACS-PRF Program: New Directions
Title: **Acid-base chemistry at the aqueous-mineral interface**

Amount: \$100,000 Award Period: 01/01/09-12/30/11

ERIC BORGUET

Previous Funding (contd.)

Agency: NASA Program: STTR, Phase I
Title: **Hypergol Sensor Using Passive Wireless Saw Devices**
(as subcontract to Applied Sensor Research & Development Corporation)
Amount: \$30,017 (Temple award exclusively) Award Period: 04/01/11-12/31/11

Agency: NSF (CHE 0809838) Program: Surface and Analytical Chemistry
Title: **A Molecular Resolution Investigation of Electron Transfer at Electrochemical Interfaces**
Amount: \$426,205 Award Period: 7/01/08-6/30/12

Agency: NSF Program: MRI
Title: **MRI: Acquisition of a Transmission Electron Microscope for Multidisciplinary Research**
Co-PIs: D. Strongin, L. C. Knight, Parsaoran Hutapea, Bradford Wayland
Amount: \$431,480 Award Period: 08/01/09-07/30/12

Agency: Lockheed-Martin Program: Surface chemistry
Title: **Photoreactivity of Surfaces**
Amount: \$42,750 Award Period: 03/25/13-10/25/13

Agency: DARPA Program: LoCo
Title: **Coherent Photoreactivity of Surfaces**
Co-PI: Robert Levis
Amount: \$100,000 Award Period: 05/09/13-04/30/14

Agency: Exxon-Mobil Program: EMRE
Title: **Interface between water and a carbonate mineral oxide model system**
Amount: \$70,000 Award Period: 09/01/13-08/30/14

Agency: DARPA Program: LoCo
Title: **LoCo-4C: Local Control of Materials Synthesis**
Co-PI: Robert Levis
Amount: \$571,048 Award Period: 12/01/13-12/31/14

Agency: DARPA Program: LoCo
Title: **DARPA LoCo FOUR-C: Local Control of Materials Syntheses - Fundamental Optimal Dynamic Discrimination for User-defined Reaction-Control**
Co-PI: Robert Levis
Amount: \$120,841 Award Period: 06/01/14-11/31/14

Agency: NSF Program: NSF Graduate Teaching Fellows in K-12 Education
Title: **Scientists as Teachers; Teachers as Scientists**
Co-PIs: Shohreh Amini, Judith Stull, Nina Hillman
Amount: \$2,917,073 Award Period: 05/01/09-04/30/15

ERIC BORGUET

Previous Funding (contd.)

Agency: NSF (CHE-1337880) Program: MRI
Title: **MRI:Development of a high energy, ultrabroadband, ultrashort infrared laser source**
Amount: \$821,431 (\$645,432.00 excluding TU cost share) Award Period: 09/15/13 - 08/31/17

Agency: DOE Program: EFRC
Title: **Center for the Computational Design of Functional Layered Materials**
Director: John P. Perdew (TU). Co-PIs: Arun Bansil (Northeastern), Gustavo E. Scuseria (Rice), David J. Srolovitz (Penn), Daniel R. Strongin (TU), Xiaoxing Xi (TU). Other Principal Investigators: Eric Borguet (TU), Linyou Cao (North Carolina State), Mikko Haataja (Princeton), Maria Iavarone (TU), Goran Karapetrov (Drexel), Michael L. Klein (TU), Adrienn Ruzsinszky (TU), Jianwei Sun (TU), Umesh V. Waghmare (JNCASR), Xifan Wu (TU), Weitao Yang (Duke), Michael J. Zdilla (TU), Yimei Zhu (Brookhaven), International Member: C.N.R. Rao (JNCASR - Bangalore)
Amount: \$ 12,000,000 (Borguet group \$540,335 over 4 years) Award Period: 08/01/14 - 07/31/18

Agency: NSF (CHE 1508567) Program: CHE
Title: **Electrical Properties of Single Molecules; from Switches towards Devices**
Amount: \$450,000 Award Period: 08/15/15 - 07/31/19

Agency: DOE (DE-SC0012575) Program: EFRC
Title: **Center for Materials Theory**
Director: John P. Perdew (TU). Co-PIs: Arun Bansil (Northeastern), Eric Borguet (TU), Maria Iavarone (TU), Goran Karapetrov (Drexel), Michael L. Klein (TU), Adrienn Ruzsinszky (TU), Gustavo E. Scuseria (Rice), David J. Srolovitz (Penn), Daniel R. Strongin (TU), Jianwei Sun (Tulane), Xiaoxing Xi (TU), Xifan Wu (TU), Weitao Yang (Duke), Michael J. Zdilla (TU), Yimei Zhu (Brookhaven), International Member: C.N.R. Rao (JNCASR - Bangalore), Umesh V. Waghmare (JNCASR - Bangalore)
Amount: \$2,000,000 (Borguet group \$104,748 over 2 years) Award Period: 08/01/18 - 07/31/20

Agency: ACS-PRF (58559-ND5) Program: New Directions
Title: **Investigating complex solid-liquid interfaces using the vibrational spectroscopy and dynamics of molecular ions**
Amount: \$110,000 Award Period: 01/01/18-08/31/20

Agency: DTRA Program: BAA
Title: **Design, Synthesis and Characterization of Hybrid Stratified MOF-Plasmonic Nanoparticle Materials for Detection and Destruction of Chemical Agents**
Co-PIs: J. K Johnson, J. Millstone, N. Rosi
Amount: \$2,500,000 (\$625,000 to Borguet group) Award Period: 08/01/16 - 05/31/21

Agency: NSF (DUE 1643874) Program: S-STEM
Title: **Emerging STEM Scholars**
Co-PIs: Shohreh Amini, Peter Jones, Judith Stull
Amount: \$999,636 Award Period: 10/01/16-09/30/22

ERIC BORGUET

Previous Funding (contd.)

Agency: NSF (MRI 1828421) Program: MRI
Title: **MRI: Development of a time-resolved, high resolution nonlinear optical microscope for interfacial studies**

Co-PI: Hai-Lung Dai

Amount: \$1,535,014 (including \$460,504 TU cost share) Award Period: 10/01/18-09/30/23

Agency: DTRA Program: BAA
Title: **Rapid Response Development of Molecular Lego-like SYMBAs**

Co-PIs: C. Schafmeister, J. Hines (Sensanna)

Amount: \$4,994,578 (\$282,959 to Borguet group) Award Period: 06/01/22-05/30/24

Agency: DTRA Program: BAA
Title: **Energy Harvesting and Storage with Stratified Hybrid MOFs for Around the Clock Destruction of Chemical Warfare Agents**

Co-PIs: J. K Johnson, J. Millstone, N. Rosi, R. Frontiera

Amount: \$2,500,000 (\$500,000 to Borguet group) Award Period: 06/01/21-05/30/26

Agency: NSF (CHE 2102557) Program: CHE
Title: **Understanding the Fundamental Behavior of Single Molecule Electrical Junctions**
Amount: \$550,000 Award Period: 08/15/21-07/31/25

Agency: DOE Program: BES
Title: **A New Paradigm for Water Splitting in Layered Materials by Modulation of Catalyst Oxidation State**

Co-PIs: M. Zdilla, J. Perdew

Amount: \$1,309,873 Award Period: 06/01/22-08/31/25

ERIC BORGUET

Publications (182 total; 1 in 2000, 3 in 2001, 9 in 2002, 5 in 2003, 4 in 2004, 6 in 2005, 7 in 2006, 5 in 2007, 5 in 2008, 7 in 2009, 10 in 2010, 10 in 2011, 6 in 2012, 7 in 2013, 7 in 2014, 4 in 2015, 7 in 2016, 4 in 2017, 6 in 2018, 9 in 2019, 5 in 2020, 4 in 2021, 5 in 2022, 5 in 2023, 11 in 2024, 3 in 2025, 10 in 2026, papers in press, 5 papers submitted)

<https://scholar.google.com/citations?user=bdTuVVMAAAAAJ&hl=en>

h-index=62

1. Time-Resolved Surface Kinetics by IR Diode Laser Reflection-Absorption Spectroscopy, E. Borguet and H. L. Dai, *J. Elect. Spect. Rel. Phen.* 54/55, 573-580 (1990).
2. Strong Dynamical Dipole Coupling Between CO Molecules Adsorbed on a Metal Surface, E. Borguet and H. L. Dai, *Chemical Physics Letters* 194, 57-61 (1992).
3. An IR Diode Laser Spectroscopic Study of Adsorption and Intermolecular Interactions on Stepped Metal Surfaces: CO on Vicinal Cu(100), E. Borguet, Ph.D. Dissertation, University of Pennsylvania (1993).
4. Transient IR and Visible Laser Reflection-Absorption Spectroscopic Studies of Interadsorbate and Adsorbate/Substrate Interactions, E. Borguet, J. Dvorak and H. L. Dai, *SPIE Proceedings on Laser Techniques for Surface Science* (Int. Soc. Opt. Eng., Bellingham WA, 1994), SPIE Vol. 2125, 12.
5. Ultrafast Isomerization Dynamics at Interfaces by Time Resolved Second Harmonic Generation, E. Borguet, X. Shi and K. B. Eisenthal, *Ultrafast Phenomena IX* (Springer-Verlag, Berlin, 1994).
6. Site Specific Properties and Dynamical Dipole Coupling of CO Molecules Adsorbed on a Vicinal Cu(100) Surface, E. Borguet and H. L. Dai, *Journal of Chemical Physics*, 101, 9080 (1994).
7. Adsorbate Induced Reflectivity Changes in the Visible Region on a Metal Surface, J. Dvorak, E. Borguet and H. L. Dai, *SPIE Proceedings on Laser Techniques for Surface Science* (Int. Soc. Opt. Eng., Bellingham WA), SPIE Vol. 2547, 30, 1995.
8. Nonlinear Optical Studies of Structure and Dynamics at Liquid Interfaces, E. Borguet, X. Shi, A. N. Tarnovsky and K. B. Eisenthal, Brookhaven Natl. Lab., [Rep.] BNL (1995), Issue BNL 61733, Proceedings of the Nineteenth DOE Solar Photochemistry Research Conference, 1995, 81-3.
9. Time-Resolved Diode Laser IR Reflection-Absorption Spectroscopy of Surface Kinetics, E. Borguet and H. L. Dai, in *Laser Spectroscopy and Photochemistry on Metal Surfaces*, Advanced Series in Physical Chemistry, Vol. 5 (World Scientific, 1996).
10. Ultrafast Dynamics and Structure at Aqueous Interfaces by Second Harmonic Generation, X. Shi, E. Borguet, A. N. Tarnovsky and K. B. Eisenthal, *Chemical Physics*, 205, 167 (1996).
11. Ultrafast Nonlinear Optical Studies of Activated and Barrierless Relaxation Dynamics at Aqueous Interfaces, E. Borguet, X. Shi, A. N. Tarnovsky and K. B. Eisenthal, in *Femtochemistry: Ultrafast Chemical and Physical Processes in Molecular Systems*; Ed. M. Chergui (World Scientific, Singapore, 1996).

ERIC BORGUET

Publications (Undergraduate co-authors)

12. Monitoring Adsorption and Desorption on a Metal Surfaces by Optical Nonresonant Reflectivity Changes, J. Dvorak, E. Borguet and H. L. Dai, Surface Science 369, L122-L130 (1996).
13. Laser Studies of Molecules at Liquid Interfaces by Second Harmonic and Sum-Frequency Generation, E. Borguet, D. Zhang and K. B. Eisenthal, in Physical Supramolecular Chemistry (Kluwer, Dordrecht, 1996).
14. Second Harmonic Generation from the Surface of Centrosymmetric Particles in Bulk Solution, H. Wang, E. C. Y. Yan, E. Borguet and K. B. Eisenthal, Chemical Physics Letters, 259, 15 (1996). DOI: [10.1016/0009-2614\(96\)00707-5](https://doi.org/10.1016/0009-2614(96)00707-5)
15. Polarity of Liquid Interfaces by Second Harmonic Generation Spectroscopy, H. Wang, E. Borguet and K. B. Eisenthal, Journal of Physical Chemistry A, 101, 713-718 (1997). DOI: [10.1021/jp962074w](https://doi.org/10.1021/jp962074w)
16. Generalized Interface Polarity Scale Based on Second Harmonic Spectroscopy, H. Wang, E. Borguet and K. B. Eisenthal, Journal of Physical Chemistry B, 102, 4927-4932 (1998).
17. Molecules at Liquid and Solid Surfaces, H. Wang, E. Borguet, E. C. Y. Yan, D. Zhang, J. Gutow and K. B. Eisenthal, Langmuir, 14, 1472-1477 (1998).
18. Picosecond Infrared Optical Parametric Amplifier for Nonlinear Interface Spectroscopy, D. Bodlaki and E. Borguet, Review of Scientific Instruments, 71, 4050-4056 (2000).
19. Non-Quadratic Second Harmonic Generation from Semiconductor-Oxide Interfaces, V. Fomenko, J.-F. Lami, and E. Borguet, Physical Review B, 63, 121316 (R) (2001).
20. Photoreactivity of Alkylsiloxane Self Assembled Monolayers on Silicon Oxide Surfaces, T. Ye, [D. Wynn](#), [R. Dudek](#) and E. Borguet, Langmuir 17, 4497-4500 (2001).
21. Dynamics of Metastable Nanoscale Island Growth and Dissolution at Electrochemical Interfaces by Time-Resolved STM, Y. He and E. Borguet, Journal of Physical Chemistry B, 105, 3981-3986 (2001).
22. Effect of local environment on nanoscale dynamics at electrochemical interfaces: Anisotropic growth and dissolution in the presence of a step providing evidence for a Schwoebel-Ehrlich barrier at solid/liquid interfaces, Y. He and E. Borguet, Faraday Discussions 121, 17-25 (2002).
23. Second Harmonic Generation from Chemically Modified Ge(111) Interfaces, V. Fomenko, D. Bodlaki, [C. Faler](#) and E. Borguet, Journal of Chemical Physics, 116, 6745-6754 (2002).
24. Second Harmonic Generation Investigations of Charge Transfer at Chemically Modified Semiconductor Interfaces, V. Fomenko, [C. Hurth](#), T. Ye and E. Borguet, Journal of Applied Physics, 91, 4394-4398 (2002).
25. Combined Experimental and Theoretical Investigation of Polar Organic Adsorption/Desorption from Model Carbonaceous Surfaces; Acetone on Graphite, S. Kwon, [J. Russell](#), X. Zhao, R. Vidic, J. K. Johnson and E. Borguet, Langmuir, 18(7), 2595-2600 (2002).

ERIC BORGUET

Publications (Undergraduate co-authors)

26. Enhancement of Adsorption on Graphite (HOPG) by Modification of Surface Chemical Functionality and Morphology, S. Kwon, R. Vidic, and E. Borguet, *Carbon*, 40(13), 2351-2358 (2002).
27. Porphyrin Self-Assembly at Electrochemical Interfaces: Role of Potential Modulated Surface Mobility, Y. He, T. Ye, and E. Borguet, *Journal of the American Chemical Society* 124 (40), 11964-11970 (2002).
28. Impact of Surface Heterogeneity on Mercury Uptake by Carbonaceous Sorbents under UHV and Atmospheric Pressure Conditions, S. Kwon, E. Borguet, and R. D. Vidic *Environmental Science & Technology*, 36(19) 4162-4169 (2002).
29. The Role of Hydrophobic Chains in Self-assembly at Electrified Interfaces: Observation of Potential-Induced Transformations of Two Dimensional Crystals of Hexadecane by In-situ Scanning Tunneling Microscopy, Y. He, T. Ye and E. Borguet, *Journal of Physical Chemistry B* 106(43); 11264-11271 (2002).
30. Layering and Orientational Ordering of Propane on Graphite: An Experimental and Simulation Study, X. Zhao, S. Kwon, R. Vidic, E. Borguet, and J. K. Johnson, *Journal of Chemical Physics* 117, 7719-7731 (2002).
31. The Effect of Surface Chemical Functional Groups on the Adsorption and Desorption of a Polar Molecule, Acetone, from a Model Carbonaceous Surface, Graphite, S. Kwon, R. Vidic, and E. Borguet, *Surface Science*, 522 (1-3), 17-26 (2003).
32. Infrared Second Harmonic Spectroscopy of Germanium Interfaces, D. Bodlaki, E. Freysz and E. Borguet, *Journal of Chemical Physics*, 119, 3958-3962 (2003).
33. Combined Electron-Hole Dynamics at UV-Irradiated Si-SiO₂ Interfaces Probed by Second Harmonic Generation, V. Fomenko, E. Borguet, *Physical Review B* 68, 081301(R) (2003).
34. Dynamics and Second Order Nonlinear Optical Susceptibility of Photo Excited Carriers at Si(111) Interfaces, D. Bodlaki and E. Borguet, *Applied Physics Letters*, 83, 2357-2359 (2003). DOI: [10.1063/1.1592893](https://doi.org/10.1063/1.1592893)
35. Fluorescence Detection of Surface Bound Intermediates Produced from UV Photoreactivity of Alkylsiloxane SAMs, [Eric A. McArthur](#), Tao Ye, Jason Cross, Stéphane Petoud and Eric Borguet, *Journal of the American Chemical Society (Communication)* 126, 2260-2261 (2004).
36. Ambient Stability of Chemically Passivated Germanium Interfaces, D. Bodlaki, H. Yamamoto, D. H. Waldeck and E. Borguet, *Surface Science* 543, 63-74 (2003).
37. Ultrafast Time-evolution of the Nonlinear Susceptibility of Hot Carriers at the Ge(111)-GeO₂ Interface as Probed by SHG, [Arthur McClelland](#), Vasiliy Fomenko, and Eric Borguet, *Journal of Physical Chemistry B*, 108 (12), 3789-3793 (2004). DOI: [10.1021/jp0460700](https://doi.org/10.1021/jp0460700)
38. In situ Second Harmonic Generation Measurements of the Stability of Si(111)-H and Kinetics of Oxide Regrowth in Ambient, D. Bodlaki and E. Borguet, *Journal of Applied Physics* 95 (9): 4675-4680 (2004).

ERIC BORGUET

Publications (Undergraduate co-authors)

39. A Vibrational Spectroscopic Study of the Fate of Oxygen Containing Functional Groups and Trapped CO₂ in Single Walled Carbon Nanotubes During Thermal Treatment, X. Feng, C. Matranga, R. Vidic and E. Borguet, *Journal of Physical Chemistry B* 108(52); 19949-19954 (2004).
40. Mechanism of UV Photoreactivity of Alkylsiloxane Self-Assembled Monolayers. Tao Ye, [Eric A. McArthur](#) and Eric Borguet, *Journal of Physical Chemistry B*, 109(20); 9927-9938 (2005).
41. Optical Second Harmonic Generation Studies of Ultrathin High-K Dielectric Stacks, V. Fomenko, E.P. Gusev and E. Borguet, *Journal of Applied Physics* 97, 083711 (2005).
42. Conjugated Thiol Linker for Enhanced Electrical Conduction of Gold-Molecule Contacts, Alexei V. Tivanski, Yufan He, Eric Borguet, Haiying Liu, Gilbert C. Walker and David H. Waldeck, *Journal of Physical Chemistry B*, 109(12); 5398-5402 (2005).
43. Probing Surface Short Range Order and Inter-Adsorbate Interactions through IR Vibrational Spectroscopy: CO on Cu(100), E. Borguet and H. L. Dai, *Journal of Physical Chemistry B*, 109(17); 8509-8512 (2005). DOI: [10.1021/jp040527o](https://doi.org/10.1021/jp040527o)
44. Sensitivity of Ammonia Interaction with Single-Walled Carbon Nanotube Bundles to the Presence of Defect Sites and Functionalities, X. Feng, S. Irle, H. Witek, K. Morokuma, R. Vidic and Eric Borguet, *Journal of the American Chemical Society*, 127(30); 10533-10538 (2005).
45. Adsorption of hydrogen sulfide onto activated carbon fibers: Effect of pore structure and surface chemistry, W. Feng, S. Kwon, E. Borguet and R.D. Vidic, *Environmental Science and Technology*, 39(24); 9744-9749 (2005).
46. Nanolithographic Write, Read and Erase via Reversible Nanotemplated Nanostructure Electrodeposition on Alkanethiol Modified Au(111) in an Aqueous Solution, K. Seo and E. Borguet, *Langmuir* 22(4); 1388-1391 (2006).
47. Sulfur impregnation of activated carbon fibers through H₂S oxidation for vapor-phase mercury removal, W. Feng, S. Kwon, X. Feng, E. Borguet and R.D. Vidic, *J. Environmental Engineering, ASCE*, 132 (3) 292-300, (2006).
48. Adsorption and electrochemical activity: An *in-situ* Electrochemical Scanning Tunneling Microscopy Study of Electrode Reactions and Potential-Induced Adsorption of Porphyrins, T. Ye, Y. He and E. Borguet, *Journal of Physical Chemistry B*, 110(12); 6141-6147 (2006).
49. Detection of Low Concentration Oxygen Containing Functional Groups on Activated Carbon Fiber Surfaces through Fluorescent Labeling, Xue Feng, Nikolay Dementev, Wenguo Feng, Radisav Vidic and Eric Borguet, *Carbon*, 44 1203-1209 (2006).
50. Ultrafast Hot Carrier Dynamics at Chemically Modified Ge Interfaces Probed by SHG, [Arthur McClelland](#), Vasiliy Fomenko and Eric Borguet, *Journal of Physical Chemistry B* 110 (40), 19784 -19787 (2006). DOI: [10.1021/jp0460700](https://doi.org/10.1021/jp0460700)

ERIC BORGUET

Publications (Undergraduate co-authors)

51. Sulfurization of carbon surface for vapor phase mercury removal - I: Effect of temperature and sulfurization protocol, W. Feng, E. Borguet and R.D Vidic, Carbon, 44, 2990-2997 (2006).
52. Sulfurization of carbon surface for vapor phase mercury removal - II: Sulfur forms and mercury uptake, W. Feng, E. Borguet and R.D Vidic, Carbon, 44, 2998-3004 (2006).
53. Photoreactivity of Si(111)-H in Ambient, D. Bodlaki and Eric Borguet, Journal of Physical Chemistry C, 111(1), 234-239 (2007).
54. The Specificity and Sensitivity of Fluorescence Labeling of Surface Species, Yangjun Xing and Eric Borguet, Langmuir, 23(2), 684-688 (2007).
55. Potential-Induced Structural Change in a Self-Assembled Monolayer of 4-Methyl Benzenethiol on Au(111), K. Seo and E. Borguet, Journal of Physical Chemistry C, 111(17), 6335-6342 (2007).
56. Second Harmonic Generation as a Probe of Multisite Adsorption at Solid Liquid Interfaces of Aqueous Colloid Suspensions, R. Kramer Campen, De-sheng Zheng, Hongfei Wang and Eric Borguet, Journal of Physical Chemistry C, 111 (25), 8805 -8813, (2007). DOI: [10.1021/jp061730h](https://doi.org/10.1021/jp061730h)
57. Dynamics of Porphyrin Electron Transfer Reactions at the Electrode-Electrolyte Interface at the Molecular Level, Y. He and E. Borguet, Angewandte Chemie International Edition, 46(32), 6098-6101 (2007).
58. Self Assembled Monolayer Compatible with Metal Surface Acoustic Wave Devices on Lithium Niobate, Satoshi Nihonyanagi, Ali Eftekhari-Bafrooei, Jacqueline Hines and Eric Borguet, Langmuir, 24(9); 5161-5165 (2008).
59. Generation of ultra-broadband pulses in the near-IR by non-collinear optical parametric amplification in potassium titanyl phosphate, Oleksandr Isaenko and Eric Borguet, Optics Express 16 (6) 3949-3954 (2008). DOI: [10.1364/OE.16.003949](https://doi.org/10.1364/OE.16.003949)
60. Charge Transfer through Single Stranded Peptide Nucleic Acid Composed of Thymine Nucleotides, Amit Paul, Richard M. Watson, Paul Lund, Yangjun Xing, Kathleen Burke, Yufan He, Eric Borguet, Catalina Achim, and David H. Waldeck, Journal of Physical Chemistry C, 112(18); 7233-7240 (2008).
61. Interaction of acetone with single wall carbon nanotubes at cryogenic temperatures: A combined temperature programmed desorption and theoretical study, Dmitry Kazachkin, Yoshifumi Nishimura, Stephan Irle, Keiji Morokuma, Radisav Vidic, and Eric Borguet, Langmuir, 24(15), 7848-7856 (2008)
62. Chemical Labeling the Quantitative Characterization of Surface Chemistry, Yangjun Xing, Nikolay Dementev and Eric Borguet. Current Opinion in Solid State & Materials Science 11 86-91 (2007) [published in 2008]
63. Nanoscale Electrodeposition onto a Molecular Scale Template, T. Ye, K. Seo and E. Borguet, Langmuir 25 (10), 5491–5495 (2009). DOI: [10.1021/la9008976](https://doi.org/10.1021/la9008976)

ERIC BORGUET

Publications ([Undergraduate co-authors](#))

64. Pulse-front matching of ultrabroadband near-infrared non-collinear optical parametric amplified pulses, Oleksandr Isaenko and Eric Borguet, *Journal of the Optical Society of America B*, 26(5) 965-972 (2009).
65. Fluorescence Labeling and Quantification of Oxygen-Containing Functionalities on the Surface of Single Walled Carbon Nanotubes, Nikolay Dementev, Xue Feng and Eric Borguet, *Langmuir* 25 (13), 7573–7577 (2009). DOI: 10.1021/la803947q
66. Purification of Carbon Nanotubes by Dynamic Oxidation in Air, Nikolay Dementev, Sebastian Osswald, Yury Gogotsi and Eric Borguet, *Journal of Materials Chemistry* 19, 7904–7908 (2009). DOI: 10.1039/b910217e
67. The effect of surface charge on the vibrational dynamics of interfacial water, Ali Eftekhari-Bafrooei and Eric Borguet, *Journal of the American Chemical Society* 131 (34), 12034–12035 (2009). DOI: [10.1021/ja903340e](#)
68. Ultrafast time and frequency domain vibrational dynamics of the $\text{CaF}_2/\text{H}_2\text{O}$ interface, Ali Eftekhari-Bafrooei, Satoshi Nihonyanagi and Eric Borguet, *Ultrafast Phenomena XVII*, Springer Series in Chemical Physics, 92, 361-363, (2009) DOI: 10.1007/978-3-540-95946-5_117
69. Ultra-broadband infrared pulses from a potassium-titanyl phosphate optical parametric amplifier for Vis-IR-SFG spectroscopy, Isaenko O. and Borguet E., *Ultrafast Phenomena XVII*, Springer Series in Chemical Physics, 92, 777-779, (2009) DOI: 10.1007/978-3-540-95946-5_252
70. Impact of Synthesis Conditions on Surface Chemistry and Structure of Carbide-Derived Carbons, Cristelle Portet, Dmitry Kazachkin, Sebastian Osswald, Eric Borguet and Yury Gogotsi, *Thermochimica Acta*, 497, 137-142 (2010). DOI:[10.1016/j.tca.2009.09.002](#)
71. Temperature and pressure dependence of molecular adsorption on single wall carbon nanotubes and the existence of an "adsorption/desorption pressure gap, Dmitry Kazachkin, Yoshifumi Nishimura, Stephan Irle, Xue Feng, Radisav Vidic, and Eric Borguet, *Carbon* 48,1867-1875 (2010). DOI: 10.1016/j.carbon.2009.11.0
72. Neuronal adhesion and differentiation driven by nanoscale surface free-energy gradients, Guillaume Lamour, Ali Eftekhari-Bafrooei, Eric Borguet, Sylvie Souès and Ahmed Hamraoui, *Biomaterials* 31 (14), 3762-3771 (2010). DOI:10.1016/j.biomaterials.2010.01.099.
73. Effect of hydrogen bond strength on the vibrational relaxation of interfacial water, Ali Eftekhari-Bafrooei and Eric Borguet, *Journal of the American Chemical Society* 132 (11), 3756–3761 (2010). DOI: [10.1021/ja907745r](#)
74. An STM study of the pH dependent redox activity of a two dimensional hydrogen bonding porphyrin network at an electrochemical interface, Qunhui Yuan, Yangjun Xing, and Eric Borguet, *Journal of the American Chemical Society*, 132 (14), 5054-5060 (2010). DOI:10.1021/ja907397u

ERIC BORGUET

Publications (Undergraduate co-authors)

75. Optimizing Single Molecule Conductivity of Conjugated Organic Oligomers with Conjugated Carbodithioate Linkers, Yangjun Xing, Tae-Hong Park, Ravindra Venkatramani, Shahar Keinan, David N. Beratan, Michael J. Therien, and Eric Borguet, *Journal of the American Chemical Society*, 132 (23), 7946–7956 (2010). DOI: 10.1021/ja909559m
76. Contact angle measurements using a simplified experimental set-up, Guillaume Lamour, Ahmed Hamraoui, Andrii Buvailo, Yangjun Xing, Sean Keuleyan, Vivek Prakash, Ali Eftekhari, and Eric Borguet, *Journal of Chemical Education*, 87 (12), 1403-1407 (2010) DOI: 10.1021/ed100468u
77. Detecting and Quantifying Oxygen Functional Groups on Graphite Nanofibers by Fluorescence Labeling of Surface Species (FLOSS), Timothy Pellenbarg, Nikolay Dementev, Riffard Jean-Gilles, Carol Bessel, Eric Borguet, and Robert Giuliano, *Carbon* 48 (15), 4256-4267 (2010) DOI :10.1016/j.carbon.2010.07.035
78. Linking Surface Potential and Deprotonation in Nanoporous Silica: second harmonic generation and acid/base titration, R. Kramer Campen, Allison K. Pymer, Satoshi Nihonyanagi and Eric Borguet, *Journal of Physical Chemistry C*, 114 (43), 18465-18473 (2010). DOI: [10.1021/jp1037574](https://doi.org/10.1021/jp1037574)
79. Efficient high repetition rate near-IR non-collinear ultrabroadband optical parametric amplification in KTiOPO₄, Oleksandr Isaenko, Eric Borguet, and Peter Vöhringer, *Optics Letters* 35 (22), 3832-3834 (2010). DOI: 10.1364/OL.35.003832
80. Second Harmonic Generation Probing of Dopant Type and Density at the Si/SiO₂ Interface, J.L. Fiore, V. Fomenko, D. Bodlaki and E. Borguet, *Applied Physics Letters*, 98, 041905 (2011). DOI: [10.1063/1.3505356](https://doi.org/10.1063/1.3505356)
81. Ultrafast vibrational dynamics and spectroscopy of a terminal methylene group in a siloxane self-assembled monolayer, Satoshi Nihonyanagi, Ali Eftekhari-Bafrooei, and Eric Borguet, *The Journal of Chemical Physics*, 134 (8), 084701 (2011). DOI: 10.1063/1.3518457
82. Non-collinear optical parametric amplification of near-IR pulses in KTiOPO₄ at a high repetition rate, O. Isaenko, E. Borguet, and P. Vöhringer, *Ultrafast Phenomena XVII*, 709-711, ed. M. Chergui, et al., (Oxford University Press, New York, 2011)
83. TiO₂/LiCl based nanostructured thin film for humidity sensor applications, Andrii Buvailo, Yangjun Xing, Jacqueline Hines, Norman Dollahon and Eric Borguet, *ACS Applied Materials & Interfaces*, 3(2), 528–533 (2011) DOI: 10.1021/am1011035
84. A Metastable Phase of the Au(111) Surface in Electrolyte Revealed by STM and Asymmetric Potential Pulse Perturbation, Y. He and E. Borguet, *Journal of Physical Chemistry C* 115 (13), 5726-5731 (2011). DOI: 10.1021/jp110484w
85. Dramatic reduction of IR vibrational cross-sections of molecules encapsulated in carbon nanotubes, Dmitry Kazachkin, Yoshifumi Nishimura, Henryk Witek, Stephan Irle, and Eric Borguet, *Journal of the American Chemical Society*, 133 (21), 8191–8198 (2011). DOI: 10.1021/ja108903u

Publications (Undergraduate co-authors)

86. Effect of Electric Fields on the Ultrafast Vibrational Relaxation of Water at a Charged Solid–Liquid Interface as Probed by Vibrational Sum Frequency Generation, Ali Eftekhari and Eric Borguet, *Journal of Physical Chemistry Letters* 2, 1353–1358 (2011). DOI: [10.1021/jz200194e](https://doi.org/10.1021/jz200194e)
87. Thin polymer film based rapid and reversible wireless surface acoustic wave humidity sensors, Andrii Buvailo, Yangjun Xing, Jacqueline Hines and Eric Borguet, *Sensors & Actuators: B. Chemical* 156, 444–449 (2011). DOI:10.1016/j.snb.2011.04.080
88. Fluorescence Quenching of Dyes Covalently Attached to Single-Walled Carbon Nanotubes, [Cheuk Fai Chiu](#), Nikolay Dementev, and Eric Borguet, *Journal of Physical Chemistry A*, 115 (34), 9579–9584. (2011). DOI 10.1021/200152z
89. Self-assembly of Insoluble Porphyrins on Au (111) under Aqueous Electrochemical Control, Sedigheh Sadegh Hassani, Youn-Geun Kim and Eric Borguet, *Langmuir*, 27 (24),14828–14833 (2011) DOI: 10.1021/la201308g
90. Determining Charge Transfer Pathways through Single Porphyrin Molecules Using STM Break Junctions, Zhihai Li and Eric Borguet, *Journal of the American Chemical Society*, 134 (1), 63–66 (2012). DOI: 10.1021/ja208600v
91. Ultra-broadband sum-frequency vibrational spectrometer of aqueous interfaces based on a non-collinear optical parametric amplifier, Oleksandr Isaienko and Eric Borguet, *Optics Express* 20 (1), 547–561 (2012) DOI: [10.1364/OE.20.000547](https://doi.org/10.1364/OE.20.000547)
92. Quasi-Ohmic Single Molecule Charge Transport through Highly Conjugated Meso-to-Meso Ethyne-Bridged Porphyrin Wires, Zhihai Li, Tae-Hong Park, Jeff Rawson, Michael J. Therien and Eric Borguet, *Nano Letters*, 12 (6), 2722–2727 (2012) DOI: 10.1021/nl2043216
93. Spectroscopy and Dynamics of the Multiple Free OH Species at an Aqueous/Hydrophobic Interface, Ali Eftekhari-Bafrooei, Satoshi Nihonyanagi and Eric Borguet, *Journal of Physical Chemistry C*, 116(41), 21734–21741 (2012). DOI: [10.1021/jp210090h](https://doi.org/10.1021/jp210090h)
94. Oxygen-Containing Functionalities on the Surface of Multi-walled Carbon Nanotubes Quantitatively Determined by Fluorescent Labeling, Nikolay Dementev, [Richard Ronca](#) and Eric Borguet, *Applied Surface Science*, 258(24), 10185–10190 (2012). DOI: 10.1016/j.apsusc.2012.06.103
95. Electrochemical Molecular Templating: Laterally Self-Aligned Growth of Organic-Metal Nanostructures, Kyoungja Seo, Tao Ye and Eric Borguet, *Langmuir* 28 (50), 17537–17544 (2012). DOI: 10.1021/la3001202
96. Observation of the Bending Mode of Interfacial Water at Silica Surfaces by Near Infrared Vibrational Sum-frequency Generation Spectroscopy of the [stretch+bend] Combination Bands, Oleksandr Isaienko, Satoshi Nihonyanagi, Devika Sil and Eric Borguet, *Journal of Physical Chemistry Letters*, 4, 531–535 (2013) DOI: [10.1021/jz3015088](https://doi.org/10.1021/jz3015088)
97. Hydrophobicity of hydroxylated amorphous fused silica surfaces, Oleksandr Isaienko and Eric Borguet, *Langmuir* 29 (25), 7885–7895 (2013) DOI: [10.1021/la401259r](https://doi.org/10.1021/la401259r)

Publications (Undergraduate co-authors)

98. Experimental Correlation Between Interfacial Water Structure and Mineral Reactivity, Shalaka Dewan, Mohsen S. Yeganeh, and Eric Borguet, *Journal of Physical Chemistry Letters*, 4, 1977–1982 (2013) DOI: [10.1021/jz4007417](https://doi.org/10.1021/jz4007417)
99. Ultra-broadband few-cycle infrared pulse generation from non-collinear optical parametric amplifier based on bulk niobate crystals, Oleksandr Isaienko and Eric Borguet, *Journal of the Optical Society of America B*, 30 (8) 2075-2080 (2013) <http://dx.doi.org/10.1364/JOSAB.30.002075>
100. Effect of Anchoring Groups on Single Molecule Charge Transport through Porphyrins, Zhihai Li, Manuel Smeu, Mark A. Ratner and Eric Borguet, *Journal of Physical Chemistry C* 117 (29), 14890–14898 (2013) DOI: 10.21/jp309871d
101. The Single Molecule Conductance and Electrochemical Electron Transfer Rate Are Related by a Power Law, Emil Wierzbinski, Ravindra Venkatramani, Kathryn Davis, Sylvia Bezer, Jing Kong, Eric Borguet, Yangjun Xing, Catalina Achim, David Beratan and David H. Waldeck, *ACS Nano*, 7(6), 5391-5401 (2013) DOI: 10.1021/nn401321k
102. Generation of sub-30 fs microjoule mid-infrared pulses for ultrafast vibrational dynamics at solid/liquid interfaces, Abdelaziz Boulesbaa, Oleksandr Isaienko, Aashish Tuladhar and Eric Borguet, *Optics Letters*, 38 (23), 5008-5011 (2013) DOI: [10.1364/OL.38.005000](https://doi.org/10.1364/OL.38.005000)
103. Single Molecule Sensing of Environmental pH - an STM Break Junction and NEGF-DFT Approach, Zhihai Li, Manuel Smeu, Sepideh Afsari-Mamaghani, Yangjun Xing, Mark A. Ratner and Eric Borguet, *Angewandte Chemie International Edition* 53 (4), 1098-1102 (2014) DOI: [10.1002/anie.201308398](https://doi.org/10.1002/anie.201308398)
104. Vibrational Dynamics of Interfacial Water by Free Induction Decay Sum-Frequency Generation (FID-SFG) at the Al₂O₃(1120)/H₂O Interface, Abdelaziz Boulesbaa and Eric Borguet, *Journal of Physical Chemistry Letters* 5 (3), 528–533 (2014) DOI: [10.1021/jz401961j](https://doi.org/10.1021/jz401961j)
105. Orientation-Controlled Single Molecule Junctions, Sepideh Afsari, Zhihai Li and Eric Borguet, *Angewandte Chemie International Edition* 53 (37), 9771-9774 (2014) DOI: [10.1002/anie.201402343](https://doi.org/10.1002/anie.201402343)
106. The structure of water at charged interfaces: A molecular dynamics study, Shalaka Dewan, Vincenzo Carnevale, Arindam Bankura, Ali Eftekhari-Bafrooei, Giacomo Fiorin, Michael Klein, and Eric Borguet, *Langmuir* 30 (27), 8056–8065 (2014) DOI: [10.1021/la5011055](https://doi.org/10.1021/la5011055)
107. Regulating a Benzodifuran Single Molecule Field Effect Transistor via Electrochemical Gating and Optimization of Molecule/Electrode Coupling, Zhihai Li, Hui Li, Songjie Chen, Toni Froehlich, Chenyi Yi, Christian Schönenberger, Michel Calame, Silvio Decurtins, Shi-Xia Liu, and Eric Borguet, *Journal of the American Chemical Society* 136 (25), 8867–8870 (2014) DOI: [10.1021/ja5034606](https://doi.org/10.1021/ja5034606)
108. Seeing is Believing: Hot Electron Based Gold Nanoplasmonic Optical Hydrogen Sensor, Devika Sil, Kyle, Aurelia Niaux, Abdelaziz Boulesbaa, Svetlana Neretina and Eric Borguet, *ACS Nano* 8 (8) 7755-7762 (2014) DOI: [10.1021/nn500765t](https://doi.org/10.1021/nn500765t)

ERIC BORGUET

Publications (Undergraduate co-authors)

109. Hapticity-Dependent Charge Transport through Carbodithioate- Terminated [5, 15- Bis (phenylethynyl) porphinato] zinc (II) Complexes in Metal-Molecule-Metal Junctions, Zhihai Li, Manuel Smeu, Tae-Hong Park, Jeff Rawson, Yangjun Xing, Michael Therien, Mark Ratner, and Eric Borguet, Nano Letters. 14 (10), 5493-5499 (2014). DOI: [10.1021/nl502466a](https://doi.org/10.1021/nl502466a)
110. Towards Graphyne Molecular Electronics, Zhihai Li, Manuel Smeu, Arnaud Rives, Valerie Maraval, Remi Chauvin, Mark A. Ratner and Eric Borguet, Nature Communications 6, 6321 (2015). DOI: [10.1038/ncomms7321](https://doi.org/10.1038/ncomms7321)
111. Palladium Nanoparticle-based Surface Acoustic Wave Hydrogen Sensor, Devika Sil, [Uduak Udeoyo](#), Jacqueline Hines and Eric Borguet, ACS Applied Materials & Interfaces, 7, 5709–5714 (2015) DOI: [10.1021/am507531s](https://doi.org/10.1021/am507531s)
112. Transformation of Truncated Gold Octahedrons into Triangular Nanoprisms through the Heterogeneous Nucleation of Silver, Kyle D. Gilroy, Aarthi Sundar, Maryam Hajfathalian, Ali Yaghoubzade, Teng Tan, Devika Sil, Eric Borguet, Robert A. Hughes and Svetlana Neretina, Nanoscale 7, 6827-6835 (2015) DOI: [10.1039/C5NR00151J](https://doi.org/10.1039/C5NR00151J)
113. Copper intercalated birnessite as a water oxidation catalyst, Akila C. Thenuwara, Samantha L. Shumlas, Nuwan H. Attanayake, Elizabeth B. Cerkez, Ian G. McKendry, Laszlo Frazer, Eric Borguet, Qing Kang, Michael J. Zdilla, Jianwei Sun and Daniel R. Strongin, Langmuir 31, 12807–12813 (2015) DOI: [10.1021/acs.langmuir.5b02936](https://doi.org/10.1021/acs.langmuir.5b02936)
114. Sensing Hydrogen Gas from Atmospheric Pressure to a Hundred Parts per Million with Nanogaps Fabricated using a Single-Step Bending Deformation, Eredzhep Menumorov, Bryan A. Marks, Dmitriy A. Dikin, Francis X. Lee, Robert D. Winslow, Saurav Guru, Devika Sil, Eric Borguet, Parsaoran Hutapea, Robert A. Hughes, and Svetlana Neretina, ACS Sensors 1 (1), 73-80 (2016) DOI: [10.1021/acssensors.5b00102](https://doi.org/10.1021/acssensors.5b00102)
115. Spectroscopy and Ultrafast Vibrational Dynamics of Strongly Hydrogen Bonded OH Species at the α -Al₂O₃(11 $\bar{2}$ 0)/H₂O Interface, Aashish Tuladhar, Shalaka Dewan, James Kubicki and Eric Borguet, The Journal of Physical Chemistry C 120 (29), 16153–16161 (2016) DOI: [10.1021/acs.jpcc.5b12486](https://doi.org/10.1021/acs.jpcc.5b12486)
116. Nickel Confined in the Interlayer Region of Birnessite: an Active Electrocatalyst for Water Oxidation, Akila C. Thenuwara, Elizabeth B. Cerkez, Samantha L. Shumlas, Nuwan H. Attanayake, Ian G. McKendry, Laszlo Frazer, Eric Borguet, Qing Kang, Richard C. Remsing, Michael L. Klein, Michael J. Zdilla and Daniel R. Strongin, Angewandte Chemie 55, 10381-10385 (2016) DOI: [10.1002/anie.201601935](https://doi.org/10.1002/anie.201601935)
117. Elucidating the blue luminescence from alkyl-capped silicon nanoparticles synthesized by shaped femtosecond laser pulse ablation, Shalaka Dewan, Johanan H. Odhner, Katharine Moore Tibbetts, Sepideh Afsari, Robert J. Levis, and Eric Borguet, Journal of Materials Chemistry C 4, 6894 - 6899 (2016) DOI: [10.1039/C6TC02283A](https://doi.org/10.1039/C6TC02283A)
118. Amine Directed Hydrogen Bonded Two-Dimensional Supramolecular Structures, Sepideh Afsari, Zhihai Li and Eric Borguet, ChemPhysChem 17 (21), 3385-3389 (2016) DOI: [10.1002/cphc.201600686](https://doi.org/10.1002/cphc.201600686)

Publications ([Undergraduate co-authors](#))

119. Intercalation of Cobalt into the Interlayer of Birnessite Improves Oxygen Evolution Catalysis, Akila C. Thenuwara, Samantha L. Shumlas, Nuwan H. Attanayake, Yaroslav Aulin, Ian G. McKendry, Qiao Qiao, Yimei Zhu, Eric Borguet, Michael J. Zdilla and Daniel R. Strongin, ACS Catalysis 6, 7739-7743 (2016) DOI: [10.1021/acscatal.6b01980](https://doi.org/10.1021/acscatal.6b01980)
120. Capturing the ultrafast vibrational decoherence of hydrogen bonding in interfacial water, Abdelaziz Boulesbaa and Eric Borguet, The Journal of Physical Chemistry Letters 7, 5080–5085 (2016). DOI: [10.1021/acs.jpcllett.6b01870](https://doi.org/10.1021/acs.jpcllett.6b01870)
121. Effect of interlayer spacing on the activity of layered manganese oxide bilayer catalysts for the oxygen evolution reaction, Qing Kang, Loranne Vernisse, Richard Remsing, Samantha L. Shumlas, Akila C. Thenuwara, Ian G. McKendry, Michael Klein, Eric Borguet, Michael J. Zdilla and Daniel R. Strongin, Journal of the American Chemical Society 139 (5), 1863-1870 (2017) DOI: [10.1021/jacs.6b09184](https://doi.org/10.1021/jacs.6b09184)
122. Insights on Interfacial Structure, Dynamics and Proton Transfer from Ultrafast Vibrational Sum Frequency Spectroscopy of the Alumina(0001)/Water Interface, Aashish Tuladhar, Stefan M. Piontek and Eric Borguet, The Journal of Physical Chemistry C 121 (9), 5168–5177 (2017) DOI: [10.1021/acs.jpcc.7b00499](https://doi.org/10.1021/acs.jpcc.7b00499)
123. Structure evolution and thermoelectric properties of carbonized polydopamine thin films, Haoqi Li, Yaroslav Aulin, Laszlo Frazer, Eric Borguet, Rohit Kakodkar, Joseph Feser, Yan Chen, Ke An, Dmitriy A Dikin, Fei Ren, ACS Applied Materials & Interfaces, 9 (8), 6655–6660 (2017) DOI: [10.1021/acsami.6b15601](https://doi.org/10.1021/acsami.6b15601)
124. Electrical and Mechanical Properties of Poly(dopamine) Modified Copper/Reduced Graphene Oxide Composites, Zhengfeng Jia, Haoqi Li, Yao Zhao, Laszlo Frazer, Bosen Qian, Eric Borguet, Fei Ren, Dmitriy A Dikin, 52 (19), 11620-11629, Journal of Materials Science 52 (19), 11620-11629 (2017) DOI: [10.1007/s10853-017-1307-z](https://doi.org/10.1007/s10853-017-1307-z)
125. Effect of intercalated metals on the electrocatalytic activity of 1T-MoS₂ for the hydrogen evolution reaction, Nuwan H. Attanayake, Akila C. Thenuwara, Abhirup Patra, Yaroslav V. Aulin, [Thi M. Tran](#), Himanshu Chakraborty, Eric Borguet, Michael L. Klein, John P. Perdew and Daniel R. Strongin, ACS Energy Letters, 3, 7-13 (2018) DOI: [10.1021/acsenenergylett.7b00865](https://doi.org/10.1021/acsenenergylett.7b00865)
126. Systematic doping of cobalt into layered manganese oxide sheets substantially enhances water oxidation catalysis, Ian G. McKendry, Akila C. Thenuwara, Samantha L. Shumlas, Haowei Peng, Yaroslav Aulin, Parameswara Rao Chinnam, Eric Borguet, Michael J. Zdilla and Daniel R. Strongin, Inorganic Chemistry 57 (2), 557-564 (2018) DOI: [10.1021/acs.inorgchem.7b01592](https://doi.org/10.1021/acs.inorgchem.7b01592)
127. The Effect of Halide Ions on the Structure and Dynamics of Water Next to an Alumina (0001) Surface, Aashish Tuladhar, Stefan M. Piontek, Laszlo Frazer and Eric Borguet, The Journal of Physical Chemistry C, 122 (24), 12819–12830 (2018) DOI: [10.1021/acs.jpcc.8b03004](https://doi.org/10.1021/acs.jpcc.8b03004)

ERIC BORGUET

Publications (Undergraduate co-authors)

128. Relating Interfacial Order to Sum Frequency Generation with Ab-Initio Simulations of the Aqueous $\text{Al}_2\text{O}_3(0001)$ and $\text{Al}_2\text{O}_3(11\bar{2}0)$ Interfaces, Mark DelloStritto, Stefan M. Piontek, Michael Klein and Eric Borguet, *The Journal of Physical Chemistry C* 122 (37), 21284–21294 (2018) DOI: [10.1021/acs.jpcc.8b02809](https://doi.org/10.1021/acs.jpcc.8b02809)
129. Ultrabroadband Mid-Infrared Noncollinear Difference Frequency Generation in a Silver Thiogallate Crystal, Yaroslav V. Aulin, Aashish Tuladhar, and Eric Borguet, *Optics Letters* 43(18), 4402-4405 (2018) DOI: [10.1364/OL.43.004402](https://doi.org/10.1364/OL.43.004402)
130. Synergistic In-layer Cobalt Doping and Interlayer Iron Intercalation Into Layered MnO_2 Produces an Efficient Water Oxidation Electrocatalyst, Ian G. McKendry, Mohamad Loveyy, Akila C. Thenuwara, Tim Marshall, Eric Borguet, Daniel R. Strongin and Michael J. Zdilla, *ACS Energy Letters* 3 (9), 2280–2285 (2018) DOI: [10.1021/acsenergylett.8b01217](https://doi.org/10.1021/acsenergylett.8b01217)
131. Structural evolution and electrical properties of metal ion-containing polydopamine, Haoqi Li, Tim Marshall, Yaroslav Aulin, Akila Thenuwara, Yao Zhao, Eric Borguet, Daniel Strongin and Fei Ren, *Journal of Materials Science*, 54(8), 6393-6400 (2019). DOI: [10.1007/s10853-019-03337-7](https://doi.org/10.1007/s10853-019-03337-7)
132. Effect of Functional and Electron Correlation on the Structure and Spectroscopy of the $\text{Al}_2\text{O}_3(001)$ - H_2O Interface, Mark DelloStritto, Stefan M. Piontek, Michael Klein and Eric Borguet, *The Journal of Physical Chemistry Letters*, 10, 2031–2036 (2019) DOI: [10.1021/acs.jpclett.9b00016](https://doi.org/10.1021/acs.jpclett.9b00016)
133. Synthesis and Properties of Au Hydride, Devika Sil, Christopher Lane, Ethan Glor, Kyle Gilroy, Safiya Sylla, Bernardo Barbiellini, Robert Markiewicz, Maryam Hajfathalian, Svetlana Neretina, Arun Bansil, Zahra Fakhraai, and Eric Borguet, *ChemistrySelect* 4 (14) 4287-4292 (2019) DOI: [10.1002/slct.201900925](https://doi.org/10.1002/slct.201900925)
134. Bond-Dependent Thole Model for Polarizability and Spectroscopy, Mark DelloStritto, Michael Klein and Eric Borguet, *The Journal of Physical Chemistry A*, 123 (25) 5378-5387 (2019) DOI: [10.1021/acs.jpca.8b12011](https://doi.org/10.1021/acs.jpca.8b12011)
135. Sodium Halide Adsorption and Water Structure at the α -Alumina(0001)/Water Interface, Ruiyu Wang, Mark DelloStritto, Richard Remsing, Vincenzo Carnevale, Michael Klein and Eric Borguet, *The Journal of Physical Chemistry C*, 123(25), 15618-15628 (2019) DOI: [10.1021/acs.jpcc.9b03054](https://doi.org/10.1021/acs.jpcc.9b03054)
136. Potential-induced high-conductance transport pathways through single-molecule junctions, Parisa Yasini, Sepideh Afsari, Haowei Peng, Piret Pikma, John Perdew and Eric Borguet, *Journal of the American Chemical Society* 141, 25, 10109-10116 (2019) DOI: [10.1021/jacs.9b05448](https://doi.org/10.1021/jacs.9b05448) (Featured on JACS front cover)
137. Anisotropic conductivity at the single molecule scale, Sepideh Afsari, Parisa Yasini, Haowei Peng, John Perdew and Eric Borguet, *Angewandte Chemie* 58 (40), 14275-14280 (2019) DOI: [10.1002/anie.201903898](https://doi.org/10.1002/anie.201903898) (Featured on Angew. Chem. cover)

Publications ([Undergraduate co-authors](#))

138. Design, Synthesis, and Characterization of Metal-Organic Frameworks for Enhanced Sorption of Chemical Warfare Agent Simulants, Jonathan Ruffley, Isabella Goodenough, Tianyi Luo, Melissandre Richard, Eric Borguet, Nathaniel L. Rosi and J. Karl Johnson, *The Journal of Physical Chemistry C* 123 (32) 19748-19758 (2019) DOI: [10.1021/acs.jpcc.9b05574](https://doi.org/10.1021/acs.jpcc.9b05574)
139. Monovalent and Divalent Cations at the α -Al₂O₃(001)-H₂O Interface: How Cation Identity Affects Interfacial Ordering and Vibrational Dynamics, Stefan M. Piontek, Aashish Tuladhar, Tim Marshall and Eric Borguet, *The Journal of Physical Chemistry C* 123(30), 18315-18324 (2019) DOI: [10.1021/acs.jpcc.9b01618](https://doi.org/10.1021/acs.jpcc.9b01618)
140. First Principles Calculation of Water pKa Using the Newly Developed SCAN Functional, Ruiyu Wang, Vincenzo Carnevale, Michael Klein and Eric Borguet, *The Journal of Physical Chemistry Letters*, 11, 54-59 (2020) DOI: [10.1021/acs.jpclett.9b02913](https://doi.org/10.1021/acs.jpclett.9b02913)
141. Ions Induce Order in the Interfacial Water Structure and Modulate Hydrophobic Interactions at Silica Surfaces, Aashish Tuladhar, Shalaka Dewan, Simone Pezzotti, Flavio Siro Brigiano, Fabrizio Creazzo, Marie-Pierre Gageot, and Eric Borguet, *Journal of the American Chemical Society* 142(15) 6991-7000 (2020) DOI: [10.1021/jacs.9b13273](https://doi.org/10.1021/jacs.9b13273)
142. Combined Impact of Denticity and Orientation on Molecular-Scale Charge Transport, Parisa Yasini, Stuart Shepard, Tim Albrecht, Manuel Smeu and Eric Borguet, *The Journal of Physical Chemistry* 124(17) 9460-9469 (2020) DOI: [10.1021/acs.jpcc.9b10566](https://doi.org/10.1021/acs.jpcc.9b10566)
143. Probing Heterogeneous Charge Distributions at the α -Al₂O₃(0001)/H₂O Interface, Stefan M. Piontek, Mark DelloStritto, Bijoya Mandal, Tim Marshall, Michael Klein and Eric Borguet, *Journal of the American Chemical Society* 142, 28, 12096–12105 (2020) DOI: [10.1021/jacs.0c01366](https://doi.org/10.1021/jacs.0c01366)
144. Modeling of Diffusion of Acetone in UiO-66, Jacob Wardzala, Jonathan Ruffley, Isabella Goodenough, Allie Schmidt, Priyanka Shukla, Xin Wei, Abhishek Bagusetty, Mattheus De Souza, Prasenjit Das, Dorian Thompson, Christopher Karwacki, Christopher Wilmer, Eric Borguet, Nathaniel L. Rosi and J. Karl Johnson, *The Journal of Physical Chemistry C* 124, 52, 28469–28478 (2020) DOI: [10.1021/acs.jpcc.0c07040](https://doi.org/10.1021/acs.jpcc.0c07040)
145. Interplay between Intrinsic Thermal Stability and Expansion Properties of Functionalized UiO-67 Metal-Organic Frameworks, Isabella Goodenough, Venkata Swaroopa Datta Devulapalli, Wenqian Xu, [Mikaela Boyanich](#), Méliissandre Richard, Tianyi Luo, Mattheus De Souza, Nathaniel L. Rosi and Eric Borguet, *Chemistry of Materials*, 33 (3) 910–920 (2021) [10.1021/acs.chemmater.0c03889](https://doi.org/10.1021/acs.chemmater.0c03889) ([Featured on the front cover](#))
146. Optimizing the Nodes of Metal-Organic Frameworks for the Hydrolysis of a Nerve Agent Simulant, Venkata Swaroopa Datta Devulapalli, Melissandre Richard, Tianyi Luo, Mattheus De Souza, Nathaniel L. Rosi and Eric Borguet, *Dalton Transactions*, 50 (9), 3116-3120 (2021) DOI: [10.1039/D1DT00180A](https://doi.org/10.1039/D1DT00180A) ([Featured on the front cover](#))
147. Investigation of Water/Oxide Interfaces by Molecular Dynamics Simulations, Ruiyu Wang, Michael Klein, Vincenzo Carnevale, and Eric Borguet, *WIREs Computational Molecular Science*, 11(6) e1537 (2021) DOI: [10.1002/wcms.1537](https://doi.org/10.1002/wcms.1537)

Publications (Undergraduate co-authors)

148. Reimagining the e_g^1 electronic state in oxygen evolution catalysis: Oxidation-state-modulated superlattices as a new type of heterostructure for maximizing catalysis, Ran Ding, Parisa Yasini, Haowei Peng, John P. Perdew, Eric Borguet, and Michael J. Zdilla, *Advanced Energy Materials*, 11(41) 2101636 (2021) DOI: [10.1002/aenm.202101636](https://doi.org/10.1002/aenm.202101636)
149. Vibrational Dynamics at Aqueous-Mineral Interfaces, Stefan M. Piontek and Eric Borguet, *The Journal of Physical Chemistry C* 126(5) 2307–2324 (2022) DOI: [10.1021/acs.jpcc.1c08563](https://doi.org/10.1021/acs.jpcc.1c08563)
150. Identifying UiO-67 Metal-Organic Framework Defects and Binding Sites through Ammonia Adsorption, Venkata Swaroopa Datta Devulapalli, [Ryan McDonnell](#), Jonathan P. Ruffley, Priyanka B. Shukla, Tian-Yi Luo, Mattheus L. De Souza, Prasenjit Das, Nathaniel L. Rosi, J. Karl Johnson and Eric Borguet, *ChemSusChem* 15(1) e202102217 (2022) DOI: [10.1002/cssc.202102217](https://doi.org/10.1002/cssc.202102217)
151. Layer by Layer Deposition of 1T'-MoS₂ for the Hydrogen Evolution Reaction, Farbod Alimohammadi, Parisa Yasini, Tim Marshall, Nuwan Attanayake, Eric Borguet and Daniel R. Strongin, *ChemistrySelect* 7(7) e202103386 (2022) DOI: [10.1002/slct.202103386](https://doi.org/10.1002/slct.202103386)
152. Synergistic Electronic Effects in AuCo Nanoparticles Stabilized in Triazine Covalent Organic Framework - Catalyst for Methyl Orange Reduction, Venkata Swaroopa Datta Devulapalli, Rinku Kushwaha, [Edwin Ovalle](#), Himan Dev Singh, Pragalb Shekhar, Debanjan Chakraborty, Chathakudath Prabhakaran Vinod, Ramanathan Vaidhyanathan, and Eric Borguet, *ACS Applied Nano Materials* 5(4) 4744–4753 (2022) DOI: [10.1021/acsanm.1c04212](https://doi.org/10.1021/acsanm.1c04212)
153. Superhydrophilicity of α -Alumina Surfaces Results from Tight Binding of Interfacial Waters to Specific Aluminols, Ruiyu Wang, Yunqian Zou, Richard C. Remsing, [Naomi O. Ross](#), Michael L. Klein, Vincenzo Carnevale, and Eric Borguet, *Journal of Colloid & Interface Science* 628, Part A, 943-954 (2022) DOI: [10.1016/j.jcis.2022.07.164](https://doi.org/10.1016/j.jcis.2022.07.164)
154. Oxide- and Silicate-Water Interfaces and Their Roles in Technology and the Environment, Banuelos, Jose; Borguet, Eric; Brown, Gordon; Cygan, Randall; De Yoreo, James; Dove, Patricia; Gageot, Marie-Pierre; Geiger, Franz; Gibbs, Julianne; Grassian, Vicki; Ilgen, Anastasia; Jun, Young-Shin; Kabengi, Nadine; Katz, Lynn; Kubicki, James; Lutzenkirchen, Johannes; Putnis, Christine; Remsing, Richard; Rosso, Kevin; Rother, Gernot; Sulpizi, Marialore; Villalobos, Mario; Zhang, Huichun, *Chemical Reviews* 123 (10), 6413–6544 (2023) DOI: <https://pubs.acs.org/doi/full/10.1021/acs.chemrev.2c00130>
155. COF Supported Zirconium Oxyhydroxide as a Versatile Heterogeneous Catalyst for Knoevenagel Condensation and Nerve Agent Simulant Hydrolysis, Pragalb Shekhar, Venkata Swaroopa Datta Devulapalli, [Reshma Reji](#), Himan Dev Singh, Aleena Jose, Arun Torris, Chatakudath P. Vinod, John A. Tokarz, John J. Mahle, Gregory W. Peterson, Eric Borguet and Ramanathan Vaidhyanathan, *iScience* 26 (11) 108088 (2023) DOI: [10.1016/j.isci.2023.108088](https://doi.org/10.1016/j.isci.2023.108088)
156. Vibrational Spectroscopy of Geochemical Interfaces, Stefan M. Piontek and Eric Borguet, *Surface Science Reports* 78 (4), 100606 (2023) DOI: [10.1016/j.surfrep.2023.100606](https://doi.org/10.1016/j.surfrep.2023.100606)

Publications (Undergraduate co-authors)

157. Anomalous Infrared Intensity Behavior of Acetonitrile Diffused into UiO-67, [Ryan McDonnell](#), Venkata Swaroopa Datta Devulapalli, Tae Hoon Choi, [Laura McDonnell](#), Prasenjit Das, Nathaniel L. Rosi, J. Karl Johnson and Eric Borguet, *Chemistry of Materials* 35 (21), 8827–8839 (2023) DOI: [10.1021/acs.chemmater.3c00639](https://doi.org/10.1021/acs.chemmater.3c00639)
158. Modulation of Charge Transport through Single Molecules Induced by Solvent-Stabilized Intramolecular Charge Transfer, Parisa Yasini, Stuart Shepard, Manuel Smeu, and Eric Borguet, *Journal of Physical Chemistry B* 127 (45), 9771–9780 (2023) DOI: [10.1021/acs.jpcc.3c03576](https://doi.org/10.1021/acs.jpcc.3c03576)
159. Reversible Solvent Interactions with UiO-67 Metal Organic Frameworks, Isabella Goodenough, [Mikaela Boyanich](#), [Ryan McDonnell](#), [Lauren Castellana](#), Venkata Swaroopa Datta Devulapalli, Tian-Yi Luo, Prasenjit Das, Méliandre Richard, Nathaniel Rosi, and Eric Borguet, *Journal of Chemical Physics* 160, 044711 (2024) DOI: [10.1063/5.0180924](https://doi.org/10.1063/5.0180924)
160. Cation Modifies Interfacial Water Structures on Platinum during Alkaline Hydrogen Electrocatalysis, Pengtao Xu, Ruiyu Wang, Haojian Zhang, Vincenzo Carnevale, Eric Borguet, and Jin Suntivich, *Journal of the American Chemical Society* 146, 4, 2426–2434 (2024) DOI: [10.1021/jacs.3c09128](https://doi.org/10.1021/jacs.3c09128)
161. Tribute to Dong Qin, G Hartland, E Borguet, SE Skrabalak, *Chemistry of Materials* 36 (6), 2599-2601 (2024) DOI: [10.1021/acs.chemmater.4c00414](https://doi.org/10.1021/acs.chemmater.4c00414)
162. Steric effects on single-molecule conductance in flat-lying phenanthrene, Kevin Batzinger, Qinghai Zhou, Xiang Ye, Shengxiong Xiao, Eric Borguet, and Manuel Smeu, *Chemistry - A European Journal* 30 (34) e202400422 (2024) DOI: [10.1002/chem.202400422](https://doi.org/10.1002/chem.202400422)
163. Influence of charged site density on local electric fields and polar solvent organization at oxide interfaces, Somaiyeh Dadashi, Shyam Parshotam, Bijoya Mandal, Benjamin Rehl, Julianne Gibbs, and Eric Borguet, *Journal of Physical Chemistry C* 128 (23) 9683–9692 (2024) DOI: [10.1021/acs.jpcc.4c00306](https://doi.org/10.1021/acs.jpcc.4c00306)
164. Bridging Molecular-Scale Interfacial Science with Continuum-Scale Models" by Anastasia Ilgen, Eric Borguet, Franz Geiger, Julianne Gibbs, Vicki Grassian, Young-Shin Jun, Nadine Kabengi, and James Kubicki, *Nature Communications* 15, 5326 (2024) DOI: [10.1038/s41467-024-49598-y](https://doi.org/10.1038/s41467-024-49598-y)
165. Topological properties of interfacial hydrogen bond networks, Ruiyu Wang, Mark DelloStritto, Michael L. Klein, Eric Borguet, and Vincenzo Carnevale, *Physical Review B* 110, 014105 (2024) DOI: [10.1103/PhysRevB.110.014105](https://doi.org/10.1103/PhysRevB.110.014105)
166. Chemical Modulation of Charge Transport Perpendicular to the Molecular Plane, Parisa Yasini, Stuart Shepard, Manuel Smeu, and Eric Borguet, *Journal of Physical Chemistry C* 128 (29), 12178–12185 (2024) DOI: [10.1021/acs.jpcc.4c02372](https://doi.org/10.1021/acs.jpcc.4c02372)
167. Simplified Approach for Dynamic Contact Angle Measurements, Yunqian Zou, [Naomi O. Ross](#), and Eric Borguet, *Journal of Chemical Education* 101 (9), 3883–3890 (2024) DOI: [10.1021/acs.jchemed.4c00146](https://doi.org/10.1021/acs.jchemed.4c00146)

Publications ([Undergraduate co-authors](#))

168. Detecting Centrosymmetric Molecular Ions at an Interface with Vibrational Sum Frequency Generation Spectroscopy, Bijoya Mandal, Somaiyeh Dadashi, Koichi Kumagai, Tomonori Hirano, Tatsuya Ishiyama, Salsabil Abou-Hatab, Yunqian Zou, Spiridoula Matsika, Akihiro Morita, and Eric Borguet, *Journal of Physical Chemistry C*, 128 (50), 21508–21517 (2024) DOI: [10.1021/acs.jpcc.4c05318](https://doi.org/10.1021/acs.jpcc.4c05318)
169. Comparison of meta-GGAs, DFT+*U* corrections, and hybrid functionals for polaronic point defects in layered MnO₂, NiO₂ and KCoO₂, RK Sah, MJ Zdilla, E Borguet, and JP Perdew, *Physical Review B* 110, 184114 (2024) DOI: [10.1103/PhysRevB.110.184114](https://doi.org/10.1103/PhysRevB.110.184114)
170. On the Role of α -Alumina in the Origin of Life: Surface Driven Assembly of Amino Acids, Ruiyu Wang, Richard C. Remsing, Michael L. Klein, Eric Borguet, and Vincenzo Carnevale, *Science Advances*, 11(15) eadt4151 (2025) DOI: [10.1126/sciadv.adt4151](https://doi.org/10.1126/sciadv.adt4151)
171. Directional Isothermal Diffusion of Acetone in UiO-66 Metal Organic Frameworks, Isabella Goodenough, [Ryan McDonnell](#), [Binh-An Nguyen](#), Matheus De Souza, Nathaniel Rosi and Eric Borguet, *Journal of Physical Chemistry C* 129 (35), 15662–15671 (2025) DOI: [10.1021/acs.jpcc.5c02827](https://doi.org/10.1021/acs.jpcc.5c02827)
172. All Trapped Electrons in Metal Oxides Are Equivalent in Dark Photocatalysis, Hao Li, Sharan Dhar, [Jessica Kolora](#), Venkata Swaroopa Datta Devulapalli, and Eric Borguet, *ACS Catalysis* 15, 19768-19776 (2025) DOI: [10.1021/acscatal.5c04622](https://doi.org/10.1021/acscatal.5c04622)
173. Near Infrared Vibrational Second Harmonic Generation: a New Nonlinear Interfacial Vibrational Spectroscopy, Somaiyeh Dadashi, Ziyad Thekkayil, and Eric Borguet, *Faraday Discussions* 265, 270–283 (2026) DOI: [10.1039/D5FD00124B](https://doi.org/10.1039/D5FD00124B)
174. The Vibrational Relaxation of a Charged Solute Probes the Vibrational Density of States at Oxide/Water Interfaces, Bijoya Mandal, Yunqian Zou, Somaiyeh Dadashi, Mark DelloStritto, Richard C. Remsing, Stefan M. Piontek, Michael Klein and Eric Borguet, *Journal of Chemical Physics*, 164, 144703 (2026) DOI: [10.1063/5.0317085](https://doi.org/10.1063/5.0317085)
175. Determining the Dielectric Constant of Solid/Liquid Interfaces, Somaiyeh Dadashi, Narendra M. Adhikari, Hao Li, Stefan M. Piontek, Zheming Wang, Kevin M. Rosso, and Eric Borguet, *Physical Review Letters* 136, 136201 (2026) DOI: [10.1103/39cn-9drt](https://doi.org/10.1103/39cn-9drt)
176. Microscopic Characteristics of Acetonitrile-Water Mixtures on α -Al₂O₃(0001) Surface: A Combined Experimental and Theoretical Study, Subhajit Dan, Somaiyeh Dadashi, Eric Borguet and Amalendu Chandra, *Journal of Physical Chemistry Letters* 17 (24) 6752–6762 (2026) DOI: [10.1021/acs.jpclett.6c00891](https://doi.org/10.1021/acs.jpclett.6c00891)
177. Fundamentals, Measurement & Regulation of the Conductance of Single Molecule Junctions, Parisa Yasini, Kevin Batzinger, Manuel Smeu and Eric Borguet, *Angewandte Chemie* (2026) DOI: [10.1002/anie.202522129](https://doi.org/10.1002/anie.202522129)
178. Tribute to J. Karl Johnson, NL Rosi, E Borguet, D Sholl, and P Choudhury, *The Journal of Physical Chemistry C* 130 (27), 9299-9300 (2026) DOI: [10.1021/acs.jpcc.6c03682](https://doi.org/10.1021/acs.jpcc.6c03682)

Publications ([Undergraduate co-authors](#))

179. Vibrations at interfaces: general discussion, Rakesh Arul, Ellen HG Backus, Hermione Beer, Rafal Bialek, Eric Borguet, Rohit Chikkaraddy, Angel Cuesta, Philip R Davies, Camilla Di Mino, Paul M Donaldson, Serena Nur Erkizan, Alexander P Fellows, Davide Ferri, Marie-Pierre Gaigeot, Laurence J Hardwick, Zsuzsanna Heiner, Nathaniel JD Hill, Dennis Hore, Sergio Kogikoski Junior, Xia Li, Cassio Lima, Peter McBreen, Matteo Monai, Jacob K Patterm, Poul B Petersen, Simone Pezzotti, Rasmita Raval, Emilie Ringe, Günther Rupprechter, Clara Saak, Anton Tamtögl, Daniela Täuber, Martin Thämer, Bert M Weckhuysen, Wolf Widdra, Faraday Discussions 265, 176–222 (2026) DOI: [10.1039/d6fd90012g](https://doi.org/10.1039/d6fd90012g)
180. Tracking change: general discussion, Samah Alsidran, Rakesh Arul, Ellen HG Backus, Christopher Baddeley, Eric Borguet, Sana Bougueroua, Angel Cuesta, Philip R Davies, Camilla Di Mino, Paul M Donaldson, Serena Erkizan, Alexander P Fellows, Davide Ferri, Adrian M Gardner, Ana M Gómez-Marín, Elad Gross, Laurence J Hardwick, Nils Hertl, Nathaniel JD Hill, Sergio Kogikoski, David Lennon, Xia Li, Matteo Monai, David Morgan, Andrew R Mount, Matthew Oakes, Ciarán O'Brien, Poul B Petersen, Simone Pezzotti, Rasmita Raval, Günther Rupprechter, Clara-Magdalena Saak, Nicolas Spiesshofer, Anton Tamtögl, Daniela Täuber, Martin Thämer, Bert M Weckhuysen, Faraday Discussions 265, 452–489 (2026) DOI: [10.1039/d6fd90013e](https://doi.org/10.1039/d6fd90013e)
181. What is the question, what is the technique?: general discussion, Rakesh Arul, Ellen HG Backus, Eric Borguet, Connor L Box, Rohit Chikkaraddy, Angel Cuesta, Philip R Davies, Paul M Donaldson, Serena N Erkizan, Alexander P Fellows, Davide Ferri, Renee R Frontiera, Marie-Pierre Gaigeot, Laurence J Hardwick, Zsuzsanna Heiner, Nils Hertl, Manuel Hofmann, Dennis K Hore, Sergio Kogikoski, Matteo Monai, Jacob K Patterm, Poul B Petersen, Simone Pezzotti, Rasmita Raval, Emilie Ringe, Nicolas Spiesshofer, Anton Tamtögl, Daniela Täuber, Caleb Todd, Bert M Weckhuysen, Wolf Widdra Faraday Discussions 265, 590–632 (2026) DOI: [10.1039/d6fd90015a](https://doi.org/10.1039/d6fd90015a)
182. The surface in silico: general discussion, Rakesh Arul, Ellen HG Backus, Christopher Baddeley, Eric Borguet, Connor L Box, Rohit Chikkaraddy, Álvaro Cimas, Angel Cuesta, Philip R Davies, Paul M Donaldson, Alexander P Fellows, Davide Ferri, Renee R Frontiera, Marie-Pierre Gaigeot, Adrian M Gardner, Ana M Gómez-Marín, Zsuzsanna Heiner, Nils Hertl, Nathaniel JD Hill, Dennis K Hore, Lasse Jensen, Sergio Kogikoski Jr, David Lennon, Xia Li, Matthew Oakes, Ciarán O'Brien, Poul B Petersen, Simone Pezzotti, Rasmita Raval, Emilie Ringe, Günther Rupprechter, Nicolas Spiesshofer, Anton Tamtögl, Daniela Täuber, Martin Thämer, Caleb Todd, Bert M Weckhuysen, Wolf Widdra, Tao Yang, Faraday Discussions 265, 319–347 (2026) DOI: [10.1039/d6fd90014c](https://doi.org/10.1039/d6fd90014c)
183. The Conductivity of MnO₂ Nanosheets Synthesized via the Thermal Decomposition of KMnO₄, Farbod Alimohammadi, Uddipana Kakati, Parisa Yasini, Benjamin Roe, Eric Borguet and Daniel R. Strongin (submitted)
184. Dual-Active Site Zirconium Oxyhydroxide Functionalized Covalent Organic Framework for Selective Disulfide Bond Formation, Sharan Dhar, Hao Li, Venkata Swaroopa Datta Devulapalli, Caitlin My Hanh Le, Ayan Bhattacharyya, Pragalb Shekhar, Ramanathan Vaidhyathan and Eric Borguet (submitted).

ERIC BORGUET

Publications ([Undergraduate co-authors](#))

185. Oxygen Vacancies in WO₃: Enhancement or Deactivation in Photocatalytic Detoxification of Phosphate Toxins?, Thanuka Sandeepa Ranatunga Henaka Ralalage, Sharan Dhar, Hao Li, Kai Shen, John Vohs, and Eric Borguet (submitted).
186. Spatial modulation of average oxidation state in layered metal oxides enhances oxygen evolution catalysis, Ran Ding, Raj Sah, Rohan Maniar, Amuthan Dekshinamoorthy, Saranyan Vijayaraghavan, Eric Borguet, John P. Perdew, Michael J. Zdilla (submitted)
187. Biomimetic Catalysis of Carboxylic Esters Hydrolysis by Metal Oxyhydroxides, Adrian Mykhnych, Thanuka Sandeepa Ranatunga Henaka Ralalage, Pragalb Shekhar, Ramanathan Vaidhyanathan and Eric Borguet (submitted).

Patents

1. Methods and Devices for Generation of Broadband Pulsed Radiation. International Application No.:PCT/US2009/035434; US Patent Application PCT/US2009/035434 (publication date 12/23/2010). US Patent approved May 14, 2013. US Patent number 8,441,720
2. Purification of Single Walled Carbon Nanotubes by Dynamic Annealing, Nikolay Dementev, and Eric Borguet. US Patent approved December 3, 2013. US Patent number 8,597,605

ERIC BORGUET

Invited Talks (345 total; 19 in 1996 -2000, 21 in 2001, 15 in 2002, 20 in 2003, 12 in 2004, 7 in 2005, 10 in 2006, 14 in 2007, 9 in 2008, 12 in 2009, 19 in 2010, 6 in 2011, 13 in 2012, 12 in 2013, 7 in 2014, 14 in 2015, 14 in 2016, 16 in 2017, 11 in 2018, 19 in 2019, 9 in 2020, 3 in 2021, 17 in 2022, 10 in 2023, 15 in 2024, 12 in 2025, 9 in 2026)

Invited Talks (Universities, Colleges, National and Industrial Laboratories)

(199 total; 15 in 1996-2000, 18 in 2001, 7 in 2002, 15 in 2003, 9 in 2004, 4 in 2005, 5 in 2006, 10 in 2007, 7 in 2008, 6 in 2009, 14 in 2010, 2 in 2011, 5 in 2012, 7 in 2013, 1 in 2014, 4 in 2015, 6 in 2016, 9 in 2017, 5 in 2018, 14 in 2019, 7 in 2020, 1 in 2021, 9 in 2022, 3 in 2023, 9 in 2024, 3 in 2025, 4 in 2026)

1. "Chemical and Physical Processes at the Surfaces of Particles in Bulk Solution"
Department of Geology & Planetary Science, University of Pittsburgh September 1996
2. "Spectroscopie et Dynamique des Interfaces Liquides"
LURE, Université de Paris-Sud (XI), Orsay, France June 1997
3. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Department of Chemistry, Norfolk State University November 1997
4. "Spectroscopie et Dynamique des Interfaces Liquides"
Ecole Supérieure de Chimie et Physique, Paris, France June 1997
5. "Spectroscopie et Dynamique des Interfaces Liquides"
Laboratoire de Chimie Théorique, Orsay, France June 1997
6. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Department of Chemistry, Wellesley College September 1998
7. "Probing Molecular Behavior at Liquid Interfaces with Ultrafast Lasers"
NASA, Lewis Research Center March 1998
8. "Spectroscopie et Dynamique des Interfaces Liquides"
CPMOH, Université de Bordeaux, France June 1999
9. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Department of Chemistry, College of Franklin and Marshall September 1999
10. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Department of Chemistry, James Madison University October 1999
11. "Nonlinear Optical Investigations of Structure and Dynamics at Buried Interfaces"
Condensed Matter Group, University of Pittsburgh October 1999
12. "Nonlinear Optical Investigations of Structure and Dynamics at Buried Interfaces"
WINS Series, Department of Chemistry, University of Pittsburgh October 1999

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

13. "Nonlinear Optical Spectroscopy and Dynamics at Semiconductor Interfaces"
CPMOH, Université de Bordeaux, France June 2000
14. "STM and AFM studies of Nanoscale Dynamics and Photochemistry at Surfaces"
University of Notre Dame, Chemistry Department November 2000
15. "STM and AFM studies of Nanoscale Dynamics and Photochemistry at Surfaces"
University of Chicago, Chemistry Department November 2000
16. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
Ohio State University, Chemistry Department January 2001
17. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Allegheny College, Chemistry Department January 2001
18. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Case Western Reserve University, Chemistry Department March 2001
19. "Nanoscale Dynamics at Electrode Interfaces"
Carnegie Mellon University-CINR Nanotechnology Summit 2001 May 2001
20. "Chemical Control of Hot Electron Behavior at Semiconductor Interfaces"
Stanford University, Chemistry Department May 2001
21. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
University of California-Santa Cruz, Chemistry Department May 2001
22. "Chemical Control of Hot Electron Behavior at Semiconductor Interfaces"
University of California-Irvine, Chemistry Department May 2001
23. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Department of Chemistry, Calvin College, MI September 2001
24. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Department of Chemistry, Hope College, MI September 2001
25. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
University of Pennsylvania, Chemistry Department October 2001
26. "Chemical Control of Hot Electron Dynamics at Semiconductor Interfaces"
University of Delaware, Chemistry Department October 2001

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

27. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
University of Maryland, Chemistry Department October 2001
28. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
The Pennsylvania State University, Chemistry Department November 2001
29. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
The State University of West Georgia, Chemistry Department November 2001
30. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
University of Georgia, Chemistry Department November 2001
31. "Probing Chemical and Topological Heterogeneity of Carbonaceous Surfaces via
Temperature Programmed Desorption of Simple Molecules from Model Carbonaceous
Surfaces"
National Energy Technology Laboratory, Pittsburgh November 2001
32. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
University of Akron, Physics Department December 2001
33. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
Princeton University, Chemistry Department December 2001
34. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
Colorado State University, Chemistry Department February 2002
35. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
University of Colorado-Boulder, Chemistry Department March 2002
36. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
University of Utah, Chemistry Department September 2002
37. "Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM"
University of Guelph, Canada, Chemistry Department November 2002
38. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Photonics Research Ontario Seminar Series: Frontiers in Photonics
University of Toronto, Canada November 2002
39. "Nanoscale Dynamics at Electrochemical Interfaces"
University of Illinois at Urbana-Champaign, Chemistry Department December 2002
40. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Naval Research Laboratory, Washington, D.C December 2002

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

41. "Nanoscale Dynamics at Electrochemical Interfaces"
Northwestern University, Chemistry Department January 2003
42. "Nanoscale Dynamics at Electrochemical Interfaces"
Temple University, Chemistry Department January 2003
43. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Bennett College, Chemistry Department January 2003
44. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
North Carolina A&T State University, Chemistry Department January 2003
45. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
University of North Carolina at Greensboro, Chemistry Department January 2003
46. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Emory University, Chemistry Department March 2003
47. "Nanoscale Dynamics at Electrochemical Interfaces"
Georgia Institute of Technology, Chemistry Department March 2003
48. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Université Laval, Quebec Canada April 2003
49. "Nanoscale Dynamics at Electrochemical Interfaces"
Université de Sherbrooke, Quebec Canada April 2003
50. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
IBM Research, Yorktown Heights, NY May 2003
51. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Temple University, Chemistry Department October 2003
52. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
University of Virginia, Chemistry Department November 2003
53. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
Mc Gill University, Chemistry Department November 2003
54. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
Kansas State University, Chemistry Department November 2003

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

55. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
University of Ottawa, Chemistry Department December 2003
56. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
Ohio State University, Chemistry Department January 2004
57. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
University of British Columbia, Chemistry Department January 2004
58. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
Case Western Reserve University, Chemistry Department January 2004
59. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
University of Connecticut, Chemistry Department February 2004
60. "Nanoscale Dynamics at Electrochemical Interfaces"
Auburn University, Chemistry Department April 2004
61. "Fluorescence Labeling of Surface Species (FLOSS): a Key to Understanding the UV
Photoreactivity of Alkylsiloxane SAMs"
University of Pittsburgh, ACS Student Affiliates September 2004
62. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Susquehanna University, Chemistry Department October 2004
63. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Temple University, Physics Department October 2004
64. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
Trinity College, Dublin, Ireland Institute for Nanoscience December 2004
65. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis,
Electronics, Environmental and Biological Function"
Philadelphia University of the Sciences, Chemistry Department January 2005
66. "Nanoscale Dynamics at Electrochemical Interfaces"
Rutgers University, Surface Science Center January 2005
67. "Nanoscale Dynamics at Charged Solid-Liquid Interfaces"
Georgetown University, Chemistry Department September 2005
68. "Nanoscale Dynamics of Molecular Processes at Electrode Interfaces"
Université de Bordeaux, France, Chemistry Department December 2005

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

69. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis, Electronics, Environmental and Biological Function"
St. Joseph's University, Chemistry Department January 2006
70. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis, Electronics, Environmental and Biological Function"
Villanova University, Chemistry Department February 2006
71. "Chemical and Physical Processes at Interfaces: A Key to Understanding Catalysis, Electronics, Environmental and Biological Function"
Lebanon Valley College, Chemistry Department March 2006
72. "Fluorescence Labeling of Surface Species (FLOSS) As a Probe of Chemical Composition of Complex Interfaces"
SCHOTT North America, Inc., Research Laboratories July 2006
73. "Fluorescence Labeling of Surface Species (FLOSS) As a Probe of Chemical Composition of Complex Interfaces"
Exxon Research Laboratories, Annandale NJ September 2006
74. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Materials Science & Engineering, Rutgers University, New Brunswick, NJ February 2007
75. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Osaka University, Osaka, Japan June 2007
76. "Ultrafast nonlinear optical studies of semiconductor (Si, Ge and $\text{Si}_x\text{Ge}_{1-x}$) and molecular interfaces"
Kyoto University, Kyoto, Japan June 2007
77. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Nagoya University, Nagoya, Japan June 2007
78. "Ultrafast nonlinear optical studies of semiconductor (Si, Ge and $\text{Si}_x\text{Ge}_{1-x}$) and molecular interfaces"
RIKEN, Wako, Japan June 2007
79. "Ultrafast nonlinear optical studies of semiconductor (Si, Ge and $\text{Si}_x\text{Ge}_{1-x}$) and molecular interfaces"
Tokyo University, Tokyo, Japan June 2007
80. "Ultrafast nonlinear optical studies of semiconductor (Si, Ge and $\text{Si}_x\text{Ge}_{1-x}$) and molecular interfaces"
Hokkaido University, Sapporo, Japan June 2007

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

81. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Materials Science Department, Drexel University, Philadelphia October 2007
82. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Chemistry Department, Lincoln University, PA October 2007
83. "Ultrafast nonlinear optical studies of semiconductor (Si, Ge and $\text{Si}_x\text{Ge}_{1-x}$) and molecular interfaces"
Optics Center, Delaware State University, DE October 2007
84. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Chemistry Department, Rutgers-Camden, NJ February 2008
85. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
City University of New York-Staten Island, NY February 2008
86. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Chemistry Department, Brigham Young University, UT March 2008
87. "Dynamics of Self-Assembly and Nanomaterial Growth at Electrode Interfaces"
Chemistry Department, Washington State University, WA April 2008
88. "Self-Assembly, Nanomaterial Growth and Charge Transfer at Electrochemical Interfaces"
Chemistry Department, Bloomsburg University, PA September 2008
89. "Self-Assembly, Nanomaterial Growth and Charge Transfer at Electrochemical Interfaces"
Chemistry Department, Bucknell University, PA September 2008
90. "Charge Transfer Through and Between Single Molecules at Electrochemical Interfaces"
Chemistry Department, University of Delaware, DE October 2008
91. "The vibrational dynamics of ordered water at solid interfaces"
RIKEN, Wako, Japan March 2009
92. "Nonlinear optical studies of structure and dynamics at aqueous interfaces"
Laboratory for Surface Modification, Rutgers-New Brunswick, NJ April 2009
93. "Single Molecule Charge Transfer at Interfaces"
Département de Chimie, Université de Genève, Suisse June 2009
94. "Single Molecule Charge Transfer and Localization at Interfaces"
Chemistry Department, Carnegie Mellon University, Pittsburgh PA September 2009
95. "Single Molecule Charge Transfer and Localization at Interfaces"
Ecole Normale Supérieure, Cachan France December 2009

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

96. "The vibrational dynamics of ordered interfacial water"
Laboratoire de Photophysique Moléculaire,
Université de Paris-Sud (XI-Orsay), France PA December 2009
97. "Single Molecule Charge Transfer and Localization at Interfaces"
Chemistry Department, Boston University, Boston MA January 2010
98. "Ultrafast Vibrational Dynamics and Spectroscopy of Water at a Charged Interface"
Chemistry Department, Tohoku University, Sendai, Japan April 2010
99. "Vibrational Dynamics of Water at a Charged Solid/Liquid Interface"
Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan April 2010
100. "Fluorescence Labeling of Surface Species as an Efficient Tool for Detection, Identification and Quantification of Oxygen Containing Functionalities on Carbon Materials"
Department of Applied Chemistry, Tohoku University, Sendai, Japan April 2010
101. "Single molecule redox chemistry at a solid-liquid interface"
Department of Applied Chemistry, Tohoku University, Sendai, Japan April 2010
102. "Single molecule redox chemistry at a solid-liquid interface"
CEA-SACLAY, Gif-sur-Yvette, France June 2010
103. "Single Molecule Charge Transfer and Localization at Interfaces"
Laboratoire PMC, CNRS - Ecole Polytechnique, Palaiseau, France June 2010
104. "Single Molecule Charge Transfer and Localization at Interfaces"
Chemistry Department, National Taras Shevchenko University, Kiev September 2010
105. "Single Molecule Charge Transfer and Localization at Interfaces"
Institute of Surface Chemistry, National Academy of Sciences of Ukraine October 2010
106. "Single Molecule Charge Transfer and Localization at Interfaces"
Chemistry Department, Ursinus College, Collegeville PA October 2010
107. "Single Molecule Charge Transfer and Localization at Interfaces"
Chemistry Department, Messiah College, Grantham PA October 2010
108. "Fluorescence Labeling of Surface Species; an Efficient Tool for Detection, Identification and Quantification of Oxygen Containing Functionalities on Complex Materials including Nanocarbons"
Exxon-Mobil, Baytown, TX November 2010
109. "Single Molecule Charge Transfer and Localization at Interfaces"
Chemistry Department, University of Houston, Houston, TX November 2010

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

110. "Fluorescence Labeling of Surface Species; an Efficient Tool for Detection, Identification and Quantification of Oxygen Containing Functionalities on Complex Materials including Nanocarbons"
Smalley Institute, Rice University, Houston, TX November 2010
111. "Single Molecule Charge Transfer and Localization at Interfaces"
Nano/Bio Interface Center, University of Pennsylvania, Philadelphia, PA November 2011
112. "Ultrabroadband Vibrational Sum Frequency Spectroscopy at Mineral-Aqueous Interfaces"
Exxon Research Laboratories, Annandale NJ December 2011
113. "Charge Transport through Single Molecules"
Chemistry Department, Hokkaido University, Sapporo, Japan May 2012
114. "Ultra-broadband & Ultrafast Vibrational Spectroscopy & Dynamics of Mineral/Aqueous Interfaces"
Catalysis Research Center, Hokkaido University, Sapporo, Japan May 2012
115. "Structure and dynamics of water at charged solid interfaces"
Chemistry Department, University of Maryland, College Park September 2012
116. "Ultra-broadband Vibrational Spectroscopy & Ultrafast Dynamics at Mineral/Aqueous Interfaces"
Chemistry Department, Bowling Green State University, Ohio November 2012
117. "Detection, Identification and Quantification of Chemical Functionalities on Complex Materials"
National Institute of Standards and Technology (NIST), Gaithersburg, MD December 2012
118. "Charge Transport through Single Molecules"
Chemistry Department, University of Alberta, Edmonton, AB, Canada April 2013
119. "La conductivité à l'échelle de la molécule unique"
Department de Chimie, Ecole Polytechnique, Palaiseau, France October 2013
120. "Charge Transport through Single Molecules at Interfaces"
Chemistry Department, Sungkyunkwan University, Korea November 2013
121. "Nanoscale Dynamics of Physical and Chemical Processes at Electrochemical Interfaces"
CEMES, Toulouse, France December 2013
122. "La conductivité à l'échelle de la molécule unique"
Laboratoire de Chimie de Coordination, Toulouse, France December 2013

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

123. "Ultra-broadband Vibrational Spectroscopy & Ultrafast Dynamics at Mineral/Aqueous Interfaces"
Institut Charles Gerhardt, Montpellier, France December 2013
124. "Development of Ultra-broadband Infrared Optical Parametric Sources and Applications in Ultrafast Vibrational Spectroscopy & Dynamics of Interfaces"
Laboratoire Collisions, Agrégats, Réactivité, Toulouse France December 2013
125. "Charge Transport and Conductance Switching in Single Molecules"
Chemistry Department, Queens College-CUNY, New York, NY December 2014
126. "Ultrafast Vibrational Sum Frequency Spectroscopy & Ultrafast Dynamics at Mineral/Aqueous Interfaces"
Institut des Nanosciences (INSP), Paris, France March 2015
127. "Charge Transport through Single Molecules at Interfaces"
Xinjiang Technical Institute of Physics & Chemistry, Chinese Academy of Sciences
Urumqi, Xinjiang, China September 2015
128. "Ultrafast Vibrational Sum-Frequency Spectroscopy and Dynamics at Mineral/Aqueous Interfaces"
Institute of Chemistry, Chinese Academy of Sciences, Beijing China September 2015
129. "Ultrafast Vibrational Sum-Frequency Spectroscopy and Dynamics at Mineral/Aqueous Interfaces"
Tata Institute of Fundamental Research (TIFR), Mumbai India December 2015
130. "Single Molecule Switching and Sensing"
Chemistry Department, University of California-Davis April 2016
131. "Single Molecule Switching and Sensing"
Chemistry Department, University of California-Merced April 2016
132. "Single Molecule Switching and Sensing"
Hefei National Laboratory for Physical Sciences at Microscale, University of Science and Technology, Hefei, China July 2016
133. "Ions and ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Department of Chemistry, University of Washington, Seattle, WA October 2016
134. "Ions and ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Frontiers in Geochemistry Lecture
Pacific Northwest National Laboratory, WA October 2016
135. "Water at Interfaces"
Physics Department, Drexel University November 2016

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

136. "Single Molecule Switching and Sensing"
Department of Chemistry, St. John's University, Queens NY February 2017
137. "Water at Interfaces"
Department of Chemistry, University of Chicago, Chicago IL May 2017
138. "Ions and ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Elettra Synchrotron, Trieste, Italy May 2017
139. "Single Molecule Switching and Sensing"
Department of Chemistry, West Chester University, West Chester PA September 2017
140. "Single Molecule Switching and Sensing"
Faculty of Science, Lebanese University, Hadath, Lebanon October 2017
141. "Single Molecule Switching and Sensing"
Department of Chemistry, American University of Beirut, Lebanon October 2017
142. "Single Molecule Switching and Sensing"
Department of Chemistry, Lebanese American University, Beirut, Lebanon October 2017
143. "Ions and ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Indian Institute of Science Education and Research, Bhopal, India October 2017
144. "Ions and ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Indian Institute of Science, Bangalore, India December 2017
145. "Single Molecule Switching and Sensing"
Materials Science Program, Binghamton University, Binghamton, NY February 2018
146. "Ions and ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Rutgers University, New Brunswick, NJ April 2018
147. "Ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Universitaet Duisburg-Essen, Duisburg, Germany May 2018
148. "Single Molecule Switching and Sensing"
Department of Chemistry, College of Franklin and Marshall October 2018
149. "Water at Interfaces"
Indian Institute of Science Education & Research, Thiruvananthapuram, India October 2018
150. "Ultrabroadband vibrational spectroscopy and dynamics at aqueous interfaces"
Max Born Institute, Berlin, Germany January 2019
151. "The impact of ions on ultrafast vibrational spectroscopy & dynamics at aqueous interfaces"
Fritz Haber Institute, Berlin, Germany January 2019

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

152. "Ultrabroadband vibrational spectroscopy and dynamics at aqueous interfaces"
Max Planck Institute for Polymer Research, Mainz, Germany January 2019
153. "Single Molecule Switching and Sensing"
Indian Institute of Science Education & Research, Mohali, India February 2019
154. "Single Molecule Switching and Sensing"
Department of Chemistry, Fudan University, Shanghai, China April 2019
155. "Ultrabroadband vibrational spectroscopy and dynamics at aqueous interfaces"
Department of Physics, Fudan University, Shanghai, China April 2019
156. "Single Molecule Switching and Sensing"
Department of Chemistry, Xiamen University, Shanghai, China April 2019
157. "Ultrabroadband vibrational spectroscopy and dynamics at aqueous interfaces"
Department of Chemistry, Xiamen University, Shanghai, China April 2019
158. "Single Molecule Switching and Sensing"
Department of Chemistry, SUSTech, Shenzhen, China April 2019
159. "Single Molecule Switching and Sensing"
Harbin Institute of Technology, Shenzhen, China April 2019
160. "Single Molecule Switching and Sensing"
NIMS, Tsukuba, Japan September 2019
161. "Ultrabroadband vibrational spectroscopy and dynamics at aqueous interfaces"
Department of Chemistry, Korea University, Seoul, Korea September 2019
162. "Understanding water organization at charged surfaces"
Department of Physics, Sogang University, Seoul, Korea September 2019
163. "Impact of ions on structure and dynamics at aqueous interfaces"
Department of Chemistry, Boston College, Boston, MA October 2019
164. "Single Molecule Switching and Sensing"
Osaka University, Osaka, Japan January 2020
165. "Single Molecule Switching and Sensing"
Institute for Molecular Science -IMS, Okazaki, Japan January 2020
166. "Impact of ions on structure and dynamics at aqueous interfaces"
RIKEN, Wako, Japan January 2020
167. "Single Molecule Switching and Sensing"
Chemistry Department, Rowan University, NJ January 2020

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

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| 168. "Single Molecule Switching and Sensing" | Chemistry Department, Washington State University, WA | February 2020 |
| 169. "Single Molecule Switching and Sensing" | Chemistry Department, Indiana University, IN | March 2020 |
| 170. "Understanding water organization at geochemical surfaces" | Chemistry Department, Ball State University, IN | March 2020 |
| 171. "Understanding water organization at charged surfaces" | Chemistry Department, Queens College-CUNY, New York, NY | February 2021 |
| 172. "Single Molecule Switching and Sensing" | Chemistry Department, Lancaster University, UK | April 2022 |
| 173. "Single Molecule Switching and Sensing" | Chemistry Department, University of Liverpool, UK | April 2022 |
| 174. "Single Molecule Switching and Sensing" | Chemistry Department, University of Oviedo, Spain | May 2022 |
| 175. "Single Molecule Switching and Sensing" | Chemistry Department, University of Santiago de Compostella, Spain | May 2022 |
| 176. "Single Molecule Switching and Sensing" | Chemistry Department, University of the Basque Country, Bilbao, Spain | September 2022 |
| 177. "Single Molecule Switching and Sensing" | Universidad Nacional Autónoma de México, Mexico City, Mexico | October 2022 |
| 178. "The impact of hydrogen bonding on vibrational relaxation at aqueous interfaces" | Indian Institute of Technology-Bombay, India | November 2022 |
| 179. "Single Molecule Switching and Sensing" | Indian Institute of Technology-Madras, India | November 2022 |
| 180. "Single Molecule Switching and Sensing" | Indian Institute of Science Education & Research, Tirupati, India | November 2022 |
| 181. "Understanding water organization and the impact of ions at oxide-aqueous interfaces" | Department of Geosciences, Princeton University, NJ | February 2023 |
| 182. "Structure and ultrafast dynamics at aqueous-oxide interfaces" | Departments of Chemistry and Physics, Ohio State University, OH | April 2023 |
| 183. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces" | Ecole Normale Supérieure, Paris, France | July 2023 |

ERIC BORGUET

Invited Talks (Universities, Colleges, National and Industrial Laboratories) (contd.)

184. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
Chemistry Department, Duke University, NC February 2024
185. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
Chemistry Department, Missouri University of Science & Technology February 2024
186. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
Chemistry Department, Bonn University, Germany February 2024
187. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
Chemistry Department, Bochum University, Germany March 2024
188. "Single Molecule Switching and Sensing"
Xi'an Xiaotong University, Xi'an, China May 2024
189. "Nuclear quantum effects in ultrafast vibrational relaxation at aqueous interfaces"
Harbin Institute of Technology, Shenzhen, China May 2024
190. "Nuclear quantum effects in ultrafast vibrational relaxation at aqueous interfaces"
Université Claude Bernard, Lyon, France June 2024
191. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
University of Buffalo, NY September 2024
192. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
Indian Institute of Technology-Ropar, India December 2024
193. "Vibrational sum frequency spectroscopy of centrosymmetric molecular ions at aqueous-oxide interfaces"
RIKEN, Wako, Japan July 2025
194. "WO₃ nanoparticle polarons for dark photocatalysis"
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore India September 2025
195. "Vibrational sum frequency spectroscopy of centrosymmetric molecular ions at aqueous-oxide interfaces"
Indian Institute of Science, Bangalore, India September 2025
196. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
Tufts University, Medford MA May 2026
197. "Detection and transport of analytes in nanoporous organic materials"
École Normale Supérieure, Paris, France June 2026
198. "Dark photocatalysis driven by WO₃ nanoparticle polarons"
Institut Néel, Université de Grenoble-Alpes, France June 2026
199. "Host-guest interactions and transport in nanoporous materials"
SANDIA National Laboratory (online) July 2026

ERIC BORGUET

Invited Talks at Conferences and Workshops

(146 total; 1 in 1997, 1 in 1998, 2 in 2000, 3 in 2001, 8 in 2002, 5 in 2003, 4 in 2004, 3 in 2005, 5 in 2006, 4 in 2007, 2 in 2008, 6 in 2009, 5 in 2010, 4 in 2011, 8 in 2012, 5 in 2013, 6 in 2014, 10 in 2015, 8 in 2016, 7 in 2017, 6 in 2018, 5 in 2019, 2 in 2020, 2 in 2021, 8 in 2022, 6 in 2023, 6 in 2024, 9 in 2025, 5 in 2026)

1. “Phénomènes Ultrarapides aux Interfaces Liquides”
“Phénomènes Ultrarapides” Conférence, Bordeaux, France June 1997
2. “Probing Molecular Behavior at Liquid Interfaces with Ultrafast Lasers”
Spectroscopy Society, Cleveland Section March 1998
3. “Nonlinear Optical Spectroscopy and Dynamics at Semiconductor Interfaces”
ACS 32nd Central Regional Meeting, Cincinnati May 2000
4. “Photoinduced Nonlinear Optical Response of Semiconductor Interfaces”
Pacifichem 2000, Honolulu HI December 2000
5. “Dynamics of Metastable Nanoscale Islands and Effect of Local Environment by Time-Resolved STM at Electrochemical Interfaces”,
International Conference on Electrified Interfaces, Nova Scotia July 2001
6. “Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces”
Interdisciplinary Laser Science Conference, Long Beach CA, Fall 2001 October 2001
7. “Chemical Control of Physical Processes at Semiconductor Interfaces”
NSF Materials Chemistry Workshop, University of Wisconsin, Madison October 2001
8. “Time-Resolved Second Harmonic Generation at Semiconductor Interfaces”
SPIE Photonics West, San Jose CA January 2002
9. “Effect of Local Environment on Nanoscale Dynamics at Electrochemical Interfaces”
at Faraday Discussion # 121, “The Dynamic Electrode Surface”, Fritz-Haber
Institute, Berlin, Germany April 2002
10. “Nanoscale Dynamics at Electrochemical Interfaces by Time-Resolved STM” 2002
Midwest Thermodynamics and Statistical Mechanics Meeting, Pittsburgh, PA May 2002
11. “Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces”
SPIE “Physical Chemistry of Interfaces and Nanomaterials”, Seattle, WA July 2002
12. “Hot Electrons, Charge Transfer and Trapping in Chemically Modified Semiconductor
Surfaces”
Telluride Workshop on Semiconductor Surface Chemistry, Telluride, CO August 2002
13. “Photochemistry of SAMs on Silica”
Telluride Workshop on Semiconductor Surface Chemistry, Telluride, CO August 2002

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

14. "Nonlinear Optical Response and Stability of Chemistry of Si and Ge "
Telluride Workshop on Semiconductor Surface Chemistry, Telluride, CO August 2002
15. "Environmental Applications of Nanoporous Carbons"
Pennsylvania Nanotechnology 2002 Workshop, Harrisburg, PA October 2002
16. "STM Studies of Potential Modulated Surface Mobility and Molecular Self-Assembly"
Electrochemistry Gordon Research Conference, Ventura CA January 2003
17. "Nanoscale Dynamics of Molecular Self Assembly at Electrochemical Interfaces"
ACS Symposium in Honor of Mike Weaver, New Orleans, LA March 2003
18. "Potential Modulated Surface Mobility and Molecular Self-Assembly at Electrode Interfaces"
American Physical Society National Meeting, Austin, Texas March 2003
19. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
35th Central Regional Meeting, Pittsburgh PA October 2003
20. "Nanoscale Dynamics of Molecular Assembly at Electrochemical Interfaces"
204th Electrochemical Society National Meeting Orlando, Florida October 2003
21. "Fluorescence Labeling of Surface Species (FLOSS): a Key to Understanding the UV
Photoreactivity of Alkylsiloxane SAMs"
226th ACS National Meeting, Anaheim CA April 2004
22. "Fluorescence Labeling of Surface Species (FLOSS): a Key to Understanding the UV
Photoreactivity of Alkylsiloxane SAMs"
2006 DOE-BES Analysis Research Meeting, Annapolis, Maryland April 2004
23. "Dynamique Nanométrique d'Auto-Assemblage Moléculaire à l'Interface Solide Liquide"
Nanosciences: défis et prospectives - 72^e Congrès de l'ACFAS, Quebec, Canada May 2004
24. "Nonlinear Optical Studies of Hot Electrons at Semiconductor Interfaces"
Gordon Conference on Laser Materials Interactions, Proctor Academy, NH August 2004
25. "Probing single molecule oxidation at electrochemical interfaces: TPyP at Au(111)"
229th ACS National Meeting, San Diego CA March 2005
26. "Sonication induced chemisorption of solvents on single walled carbon nanotubes: infrared
spectroscopy and temperature programmed desorption study"
229th ACS National Meeting, San Diego CA March 2005
27. "Probing chemical functionality on carbonaceous materials"
230th ACS National Meeting, Washington DC August 2005

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

28. "Fluorescence Labeling of Surface Species (FLOSS) As a Probe of Chemical Composition of Complex Interfaces"
231st ACS National Meeting, Atlanta, GA March 2006
29. "Fluorescence Labeling of Surface Species (FLOSS) As a Probe of Chemical Composition of Complex Interfaces"
2006 DOE-BES Analysis Research Meeting, Warrenton, Virginia April 2006
30. "Probing dynamics at the single molecule level at electrochemical interfaces"
International Symposium on Surface Imaging/Spectroscopy at the Solid/Liquid Interface
Krakow, Poland May 2006
31. "Probing redox dynamics at the single molecule level at electrochemical interfaces"
2006 Joint International Meeting of The Electrochemical Society,
Cancun, Mexico October 2006
32. "Nanoscale Dynamics at Electrochemical Interfaces for Rewritable Devices"
Eastern Analytical Symposium Somerset, New Jersey November 2006
33. "Probing the dynamics of interfacial electron transfer at the single molecule level"
Mesilla Conference "Electron Transfer and Molecular Devices" February 2007
34. "High Resolution Interfacial Spectroscopy on an Ultrafast Timescale"
MARM 2007, ACS Mid-Atlantic Regional Meeting, Collegeville, PA May 2007
35. "Nanostructured Materials by Electrodeposition onto Molecular Scale Templates"
Fundamental Aspects on Nanostructured Materials and Electrocatalysis Symposium
Hokkaido University, Sapporo, Japan June 2007
36. "Two Dimensional Charge Diffusion in a Self Assembled Monolayer of Redox Active Porphyrins"
ICEI 2007 (International Conference on Electrified Interfaces 2007) Sahoro, Japan June 2007
37. "Charge Transfer Through and Between Single Molecules"
235th ACS National Meeting, New Orleans, LA April 2008
38. "Ultrafast Vibrational Sum-Frequency Spectroscopy and Dynamics at Interfaces"
EAS 2008, Eastern Analytical Symposium, Somerset, NJ November 2008
39. "Single Molecule Charge Transfer at Interfaces"
WPI International Workshop, Sendai, Japan March 2009
40. "Surface Vibrational Spectroscopy of the HDO:D₂O/silica interface"
Ali Eftekhari-Bafrooei, Eric Borguet,
237th ACS National Meeting, Salt Lake City, UT March 2009

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

41. "The Vibrational Dynamics of Ordered Interfacial Water"
13th International Conference on Surface and Colloid Science and the 83rd ACS Colloid & Surface Science Symposium, New York, NY June 2009
42. "Single Molecule Charge Transfer at Interfaces"
5th International Symposium on Molecular Materials: Electronics, Photonics and Spintronics, Rennes, France October 2009
43. "Electrochemistry at the Nanoscale"
MONALISA Interdisciplinary Day, Temple University, Philadelphia November 2009
44. "Single Molecule Charge Transfer and Localization at Interfaces"
1st Winter Workshop on Functional SPM in Bio and Chemical Physics, Modena, Italy December 2009
45. "Single Molecule Redox Chemistry at a Solid-Liquid Interface"
239th ACS National Meeting, San Francisco, CA March 2010
46. "The Ultrafast Vibrational Dynamics of Interfacial Water"
13th International Conference on Vibrations at Surfaces, Orlando, FL March 2010
47. "Ultrafast Vibrational Dynamics and Spectroscopy of Water at a Charged Interface"
ECONOS, Bremen, Germany June 2010
48. "Charge Transfer Through Single Molecules at Interfaces"
61th ISE Annual Meeting, Nice, France September 2010
49. "The vibrational spectroscopy and ultrafast dynamics of water at a charged solid interface"
Pacifichem 2010, Honolulu HI December 2010
50. "The vibrational spectroscopy and ultrafast dynamics of water at a charged solid-liquid interface"
Canadian Society for Chemistry Meeting, Montréal, Canada June 2011
51. "Charge Transfer and Localization in Single Molecules at Interfaces"
Canadian Society for Chemistry Meeting, Montréal, Canada June 2011
52. "Charge Transfer and Localization in Single Molecules at Interfaces"
6th International Toulouse-Kiev Chemistry Conference, Toulouse, France June 2011
53. "Thermal analysis to find molecules hiding from photons in carbon nanotubes"
Thermal Analysis Forum of Delaware Valley Annual Meeting, Claymont DE December 2011
54. "Ultrabroadband Vibrational Spectroscopy at a Mineral-Aqueous Interfaces"
243th ACS National Meeting, San Diego, CA March 2012

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

55. "Development and characterization of hybrid carbon nanotube based materials for solar energy conversion and microscopy applications"
243th ACS National Meeting, San Diego, CA March 2012
56. "Ultrabroadband Vibrational Sum Frequency Spectroscopy at a Charged Solid-Aqueous Interface"
221st Electrochemical Society Meeting, Seattle WA May 2012
57. "Charge Transport through Single Porphyrins at Interfaces"
221st Electrochemical Society Meeting, Seattle WA May 2012
58. "Dramatic Reduction of IR Vibrational Cross-sections of Molecules Encapsulated in Carbon Nanotubes, "
221st Electrochemical Society Meeting, Seattle WA May 2012
59. "Sum-frequency vibrational spectroscopy of amorphous silica surfaces in presence of water molecules adsorbing from the vapor phase"
244th ACS National Meeting, Philadelphia, PA August 2012
60. "Sum-frequency generation spectroscopy of the combination band vibrations of water molecules at silica surfaces"
244th ACS National Meeting, Philadelphia, PA August 2012
61. "Ultrabroadband Vibrational Sum Frequency Spectroscopy at Solid-Aqueous Interfaces"
Eastern Analytical Symposium, Somerset NJ November 2012
62. "Effect of salt and pH on the water/silica interface"
245th ACS National Meeting, New Orleans, LA April 2013
63. "Quasi-Ohmic Single Molecule Charge Transport through Highly Conjugated meso-to-meso Ethyne-Bridged Porphyrin Wires"
223rd Electrochemical Society Meeting, Toronto, Canada May 2013
64. "Effect of Endohedrally Adsorbed Molecules on S₁₁ Electronic Transitions of Single Wall Carbon Nanotubes "
223rd Electrochemical Society Meeting, Toronto, Canada May 2013
65. "Charge Transport through Single Porphyrins at Interfaces"
Temple-NIMS Symposium, Tsukuba, Japan November 2013
66. "Charge Transport through Single Porphyrins at Interfaces"
Temple-Yonsei Symposium, Yonsei University, Korea November 2013
67. "Ultrafast vibrational sum-frequency spectroscopy and dynamics of OH groups at mineral/aqueous interfaces"
247th ACS National Meeting, Dallas, TX March 2014

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

68. "Hot Electron Based Gold Nanoplasmonic Optical Hydrogen Sensor"
UNESCO MATECSS Workshop, Montréal, Canada April 2014
69. "Electronic Transport Properties of Molecular Graphyne"
225th Electrochemical Society Meeting, Orlando, Florida May 2014
70. "Spectroscopie et Dynamique Vibrationnelle aux Interfaces Aqueuses"
"Journée Photonique aux Interfaces" Orsay, France May 2014
71. "Ultrafast vibrational sum-frequency spectroscopy and dynamics at mineral/aqueous interfaces"
97th Canadian Chemistry Conference, Vancouver, Canada June 2014
72. "Anisotropy of Charge Transport through Single Molecules at Interfaces"
2014 Joint International Meeting of the Electrochemical Society,
Cancun, Mexico October 2014
73. "Plasmonic Detection of Simple Molecules and Ions with Gold Nanostructures"
45th Winter Colloquium on the Physics of Quantum Electronics,
Snowbird, Utah January 2015
74. "Plasmonic Detection of Simple Molecules and Ions with Gold Nanostructures"
ACS 249th National Meeting, Denver, CO March 2015
75. "Electrochemical Gating of Charge Transport in Single Macrocyclic Molecules"
225th Electrochemical Society Meeting, Chicago, Illinois May 2015
76. "Plasmonic Detection of Simple Molecules and Ions with Metal Nanostructures"
Mexico MRS Meeting, Cancun, Mexico August 2015
77. "Supramolecular gateways to single molecule electronic properties"
Chinanano 2015, Beijing China September 2015
78. "Ultrafast dynamics at mineral/water interfaces"
Chemistry and Physics of Advanced Materials Symposium, Pune, India December 2015
79. "Ultrabroadband vibrational spectroscopy & ultrafast dynamics of aqueous/solid interfaces"
ICMS-Temple University Workshop
International Centre for Materials Science, Bangalore, India December 2015
80. "Charge Transport through Single Molecules at Interfaces"
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore India
Cambridge-JNCASR Winter School on "Frontiers in Materials Science" December 2015
81. "Ultrafast dynamics at mineral/water interfaces"
Pacifichem 2015, Honolulu HI December 2015

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

82. "Supramolecular gateways to single molecule electronic properties"
Pacifichem 2015, Honolulu HI December 2015
83. "Plasmonic Sensing with Nanostructures"
46th Winter Colloquium on the Physics of Quantum Electronics,
Snowbird, Utah January 2016
84. "Ultrabroadband vibrational spectroscopy & ultrafast dynamics of aqueous/solid interfaces"
CECAM Workshop "Liquid/Solid interfaces", Lausanne, Switzerland January 2016
85. Spectroscopy and vibrational dynamics of strongly hydrogen bonded OH species at the α -
 $\text{Al}_2\text{O}_3(110)/\text{H}_2\text{O}$ interface
ACS 251st National Meeting, San Diego, CA March 2016
86. "Single Molecules Switching and Sensing"
MARM 2016, ACS Mid-Atlantic Regional Meeting, Riverdale, NY June 2016
87. "Ultrabroadband & ultrafast vibrational sum frequency generation spectroscopy and
dynamics of aqueous/solid interfaces"
Nonlinear Optics at Interfaces, Telluride Research Workshop June 2016
88. "Supramolecular gateways to single molecule porphyrin electronic properties"
9th International Conference on Porphyrins and Phthalocyanines (ICPP-9)
Nanjing, China July 2016
89. "Ultrabroadband vibrational spectroscopy & ultrafast dynamics of aqueous/solid interfaces"
Vibrational Spectroscopy, Gordon Research Conference July 2016
90. "Hydrogen sensing platforms for a sustainable fuel economy"
ACS 252nd National Meeting, Philadelphia, PA August 2016
91. "Plasmonic Sensing with Nanostructures"
46th Winter Colloquium on the Physics of Quantum Electronics,
Snowbird, Utah January 2017
92. "Capturing the Ultrafast Vibrational Decoherence of Water at Mineral Interfaces"
ACS 253rd National Meeting, San Francisco, CA April 2017
93. "Ions and the ultrafast vibrational spectroscopy & dynamics at mineral-aqueous interfaces"
MARM 2017, ACS Mid-Atlantic Regional Meeting, Hershey, PA June 2017
94. "Single molecule switching and sensing"
MARM 2017, ACS Mid-Atlantic Regional Meeting, Hershey, PA June 2017
95. "Plasmonic Detection of Reactions on Nanostructures"
ACS 254th National Meeting, Washington, DC August 2017

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

96. "Design, Synthesis and Characterization of Hybrid Stratified Plasmonic Nanoparticles for Detection and Destruction of Chemical Agents"
DTRA Surface Science Review, NC State University, Raleigh, NC September 2017
97. "Ions and the ultrafast vibrational spectroscopy and dynamics at mineral-aqueous interfaces"
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore India
Cambridge-JNCASR Winter School on "Frontiers in Materials Science" December 2017
98. "Single molecule switching and sensing"
2nd FRIMS International Symposium, NITech, Nagoya, Japan February 2018
99. "Ions and solvent structure at mineral- aqueous interfaces"
ACS 255th National Meeting, New Orleans, LA March 2018
100. "Development of Ultrabroadband Infrared Optical Parametric Amplifiers for Ultrafast Nonlinear Optical Spectroscopy"
Drexel Engineering Symposium, Drexel University, Philadelphia April 2018
101. "Thermal and Spectroscopic Analysis of Porous-Organic Framework Interactions with Simple Chemical Species"
ACS 256th National Meeting, Boston, MA August 2018
102. "Single molecule switching and sensing"
14th JNC Conference "Chemistry of Materials-2018", Trivandrum, India October 2018
103. "Single molecule switching and sensing"
Chemistry and Physics of Advanced Materials Symposium, Pune, India October 2018
104. "Single molecule switching and sensing"
IIT Bombay, Diamond Jubilee Symposium, Mumbai, India February 2019
105. "Ultrafast vibrational spectroscopy and dynamics at aqueous interfaces"
16th Spectroscopy & Dynamics of Molecules and Clusters Discussion Meeting,
Shimla, India February 2019
106. "Ion adsorption and perturbations of solvent structure at mineral-aqueous interfaces"
ACS 257th National Meeting, Orlando, FL April 2019
107. "Ion solvation at mineral-aqueous interfaces"
ACS 258th National Meeting, San Diego, CA August 2019
108. "Ultrabroadband vibrational spectroscopy & ultrafast dynamics of aqueous/solid interfaces"
Annual Meeting of the Japan Society for Molecular Science, Nagoya September 2019
109. "Single Molecule Switching and Sensing"
Symposium on Electrified Interfaces, Hokkaido University, Sapporo, Japan January 2020

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

110. "Probing local surface potentials at oxide-water interfaces"
Mesilla "Aqueous Solution/Oxide Interfaces" workshop
Mesilla, New Mexico February 2020
111. "Probing the vibrational density of states at aqueous interfaces"
ACS National Meeting, Atlanta, GA August 2021
112. "Local potentials at mineral-aqueous interfaces"
ACS National Meeting, Atlanta, GA August 2021
113. "Single Molecule Switching and Sensing"
Chemistry Day, Dublin City University, Ireland April 2022
114. "Charged solutes show faster vibrational relaxation at oxide/water interfaces"
Nonlinear Optics at Interfaces, Telluride Research Workshop June 2022
115. "The impact of hydrogen bonding on vibrational relaxation at aqueous interfaces"
24th International Conference on Horizons in Hydrogen Bond Research, Bilbao, Spain
September 2022
116. "Solute vibrational relaxation probes the vibrational density of states at oxide/water interfaces"
International Conference: Exploring the Nonequilibrium Properties of Condensed Matter,
San Sebastian, Spain September 2022
117. "Solute vibrational relaxation probes the vibrational density of states at oxide/water interfaces"
20th European Conference on Non-linear Optical Spectroscopy (ECONOS), Kiruna, Sweden
September 2022
118. "Single Molecule Switching and Sensing"
Sociedad Mexicana de Electroquímica (SMEQ), Puebla, Mexico October 2022
119. "The impact of hydrogen bonding on vibrational relaxation at aqueous interfaces"
9th Theme meeting on Ultrafast Sciences (UFS 2022) IISER Thiruvananthapuram, Kerala,
India November 2022
120. "The impact of hydrogen bonding on vibrational relaxation at aqueous interfaces"
Spectroscopy & Dynamics of Molecules and Clusters Discussion Meeting (SDMC 2022)
Malpe, Karnataka, India November 2022
121. "Hydrogen bonding at aqueous-oxide interfaces"
Mesilla "Aqueous Solution/Oxide Interfaces" workshop
Mesilla, New Mexico February 2023
122. "Hydrogen bonding at aqueous interfaces"
ACS National Meeting, Indianapolis, IN March 2023

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

123. "The impact of hydrogen bonding on vibrational relaxation at aqueous interfaces"
International Conference on Nonlinear Optics at Interfaces, Rome, Italy June 2023
124. "Hydrogen bonding at aqueous-oxide interfaces"
Goldschmidt Conference, Lyon, France July 2023
125. "Undergraduate research – from laser pointers to ultrafast lasers"
ACS National Meeting, San Francisco, CA August 2023
126. "Molecular Interactions with Nanoporous Materials"
Molecularly Designed Functional Materials 2023 (MDFM 23) India September 2023
127. "Hydrogen bonding and ultrafast dynamics at aqueous-oxide interfaces"
WE-Heraeus-Seminar on Solid-Water Interfaces at the Molecular Level February 2024
128. "Vibrational intensity anomalies upon nano-confinement"
ACS National Meeting, New Orleans, LA March 2024
129. "Nuclear quantum effects in ultrafast vibrational relaxation at aqueous interfaces"
International symposium on laser spectroscopy and photochemistry in chemical,
biological, and materials research, Guangxi Normal University, Guilin, China May 2024
130. "Near infrared vibrational sum frequency generation (NIR-vSHG): A new nonlinear
vibrational spectroscopy of interfaces"
Eastern Analytical Symposium, Somerset, NJ November 2024
131. "Nuclear quantum effects in ultrafast vibrational relaxation at aqueous interfaces"
Ultrafast Nonlinear Optics & Optical Spectroscopy (UNOOS) IISER-Mohali December 2024
132. "Afterglow photocatalysis – using the sun's energy in the dark"
Africa Materials Research Society, Kigali, Rwanda December 2024
133. "The Interfacial Dielectric Constant"
Conference on "Frontiers in Computational & Experimental Research on Membranes and
Interfaces" honoring Michael Klein and Yuen Ron Shen, Taipei, Taiwan March 2025
134. "Vibrational sum frequency spectroscopy of centrosymmetric molecular ions at aqueous-
oxide interfaces"
ACS National Meeting, San Diego, CA March 2025
135. "Plasmonic resonance in metal oxide nanoparticles"
ACS National Meeting, San Diego, CA March 2025
136. "Determining the Dielectric Constant and other Properties at Aqueous Interfaces"
Interfaces for Energy and the Environment Conference, PNNL May 2025
137. "Afterglow photocatalysis – using the sun's energy in the dark"
Nordic Inorganic Materials, Uppsala, Sweden June 2025

ERIC BORGUET

Invited Talks at Conferences and Workshops (contd.)

138. "Nuclear quantum effects in ultrafast vibrational relaxation at H₂O, D₂O and HOD/Al₂O₃ interfaces"
82nd Okazaki Conference, Okazaki, Japan July 2025
139. "WO₃ nanoparticles for dark photocatalysis"
ACS National Meeting, Washington, DC August 2025
140. "Imaging Electrochemistry with Single Molecule Resolution using Scanning Tunneling Microscopy"
ACS National Meeting, Washington, DC August 2025
141. "Nuclear quantum effects in ultrafast vibrational relaxation at H₂O, D₂O and HOD/Al₂O₃ interfaces"
9th Asian and Oceanian Spectroscopy Conference, Goa, India September 2025
142. "Detection and transport of analytes in nanoporous organic materials"
Mesilla "Chemistry in Nanoconfined Aqueous Systems" Workshop
Mesilla, New Mexico February 2026
143. "Near Infrared Vibrational Second Harmonic Generation: a New Nonlinear Interfacial Vibrational Spectroscopy"
Vibrations at Interfaces Faraday Discussion, Manchester, United Kingdom April 2026
144. "Thermal analysis of host-guest interactions and transport in nanoporous materials"
Thermal Analysis Forum of Delaware Valley Annual Meeting May 2026
145. "The impact of nuclear quantum effects on vibrational relaxation at aqueous interfaces"
International Conference on Membranes and Interfaces in Biology and the Environment,
Rome, Italy June 2026
146. "Detection and transport of analytes in nanoporous organic materials"
"Environmental contaminants: become the experts" Summer School
Grenoble, France June 2026

ERIC BORGUET

Contributed Papers (Presenter Underlined, [Undergraduate author](#))

(312 in total, 1 in 1999, 7 in 2000, 26 in 2001, 10 in 2002, 15 in 2003, 12 in 2004, 4 in 2005, 14 in 2006, 16 in 2007, 21 in 2008, 21 in 2009, 16 in 2010, 10 in 2011, 15 in 2012, 3 in 2013, 10 in 2014, 10 in 2015, 8 in 2016, 10 in 2017, 9 in 2018, 8 in 2019, 1 in 2020, 12 in 2021, 11 in 2022, 17 in 2023, 7 in 2024, 7 in 2025, 8 in 2026)

1. “Nonlinear Optical Probes of Structure and Dynamics at Semiconductor/Oxide Interfaces”, D. Bodlaki, V. Fomenko, A. Ngo and E. Borguet, Gordon Research Conference on Dynamics at Surfaces, August 1999
2. “Second Harmonic Spectroscopic and Dynamic Studies of Semiconductor Interfaces” V. Fomenko, D. Bodlaki and E. Borguet, American Physical Society, Minneapolis, March 2000
3. “Combined Theoretical and Experimental Investigation of Mechanisms and Kinetics of Vapor-Phase Mercury Uptake by Carbonaceous Surfaces” S. Kwon, R. Vidic, and E. Borguet, DOE Contractor Meeting, Pittsburgh, June 2000
4. “Second Harmonic Spectroscopy of Buried Semiconductor Interfaces” V. Fomenko and E. Borguet, Physical Electronics Conference, Baton Rouge, June 2000
5. “Phase Separation in Two Dimensions on Carbonaceous Surfaces: Implications for Atmospheric Chemistry”, S. Kwon, J. Russell, R.D. Vidic, and E. Borguet, Annual Chemistry Conference - Duquesne University, Pittsburgh, PA, July 2000
6. “Photoinduced Nonlinear Optical Response of Semiconductor Interfaces”, V. Fomenko, D. Bodlaki and E. Borguet, Pacifichem, Honolulu, December 2000
7. “Photoinduced Degradation of Self Assembled Monolayers on Semiconductor Oxide Surfaces”, T. Ye, R. Dudek, D. Wynn, E. Borguet, Pacifichem, Honolulu, Dec. 2000
8. “Dynamics at Electrochemical Interfaces with Molecular/Atomic Resolution”, Y. He, T. Ye and E. Borguet, Pacifichem, Honolulu, December 2000
9. “Charge Transfer, Trapping and Detrapping Dynamics at Semiconductor Interfaces Probed by Second Harmonic Generation”, V. Fomenko, C. Faler and E. Borguet, American Physical Society, Seattle, March 2001
10. “Time-Resolved Second Harmonic Generation Investigations of Carrier Dynamics at Semiconductor Interfaces”, D. Bodlaki and E. Borguet, American Physical Society, Seattle, March 2001
11. “Nanoscale Dynamics at Electrochemical Interfaces”, Y. He, T. Ye and E. Borguet, American Physical Society, Seattle, March 2001
12. “Charge Transfer, Trapping and Detrapping Dynamics at Semiconductor Interfaces Probed by Second Harmonic Generation”, V. Fomenko, D. Bodlaki, C Faler and E. Borguet, Electrochemical Society 199th Meeting - Washington, DC, March 25-30, 2001

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

13. "Dynamics of Metastable Nanoscale Island Growth and Dissolution at Electrochemical Interfaces by Time-Resolved STM", Y. He and E. Borguet Electrochemical Society 199th Meeting Washington, DC, March 25-30, 2001
14. "Propane Adsorption on Graphite Wall: Experiment and Simulation", Xiongce Zhao, J. Karl Johnson, Seokjoon Kwon, Radisav D. Vidic and Eric Borguet, 2001 Midwest Thermodynamics and Statistical Mechanics Conference Michigan State University, East Lansing, MI, May 2001
15. "Second Harmonic Spectroscopy of Chemically-Modified Ge Interfaces", Vasiliy Fomenko, Dora Bodlaki, [Catherine Faler](#) and Eric Borguet, Optical Spectroscopy at Interfaces (OSI-2001) Bad Honnef, Germany, May 2001
16. "Photoinduced Nonlinear Optical Response of Semiconductor Interfaces", V. Fomenko, D. Bodlaki and E. Borguet, Optical Spectroscopy at Interfaces (OSI-2001) Bad Honnef, Germany, May 2001
17. "Photoinduced Processes in Self Assembled Monolayers on Semiconductor Oxide Surfaces", Tao Ye, [E. McArthur](#) and E. Borguet, ACS Colloid and Surfaces Conference, Pittsburgh, June 2001
18. "Surface Vibrational Spectroscopy of Photoreactivity of Self Assembled Monolayers on Semiconductor Oxide Surfaces", T. Ye, [E. McArthur](#) and E. Borguet, Vibrations at Surfaces X, St. Malo, France, June 2001
19. "Impact of Pore Structure and Surface Oxygen on Elemental Mercury Uptake by Virgin Activated Carbon", Seokjoon Kwon, Aiguo Chen, Eric Borguet, and Radisav D. Vidic, Carbon2001, Lexington KY, July 2001
20. "Probing Carbonaceous Surface Chemical and Topological Heterogeneity by Temperature Programmed Propane Adsorption/Desorption", Seokjoon Kwon, Radisav Vidic and Eric Borguet, Carbon2001, Lexington KY, July 2001
21. "Investigation of Polar Organic Adsorption/Desorption from a Model Carbonaceous Surface: Acetone on Graphite", Seokjoon Kwon, [Justin Russell](#), Radisav Vidic and Eric Borguet, Carbon2001, Lexington KY, July 2001
22. "Molecular Self-Assembly and Control of Growth and Dissolution of Surface Structures at Electrochemical Interfaces", Y. He and E. Borguet, International Conference on Electrified Interfaces, Nova Scotia, July 2001
23. "Photoinduced Processes in Self-Assembled Monolayers on Semiconductor Surfaces", T. Ye, [E. McArthur](#) and E. Borguet, Science 2001, University of Pittsburgh, September 2001

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

24. "Growth, Dissolution and Stabilization of Nanoscale Surface Structures by Electrochemical Control of Molecular Self-Assembly", Y. He, T. Ye and E. Borguet, Science 2001, University of Pittsburgh, September 2001
25. "Chemically-Modified Semiconductor Interfaces - A Pathway to Molecular Electronics", Dora Bodlaki, Vasiliy Fomenko, [Catherine Faler](#), [Lindsay Bombalski](#) and Eric Borguet, Science 2001, University of Pittsburgh, September 2001
26. "Charge Transfer, Trapping and Detrapping Dynamics in Nanometer Films at Semiconductor Interfaces Probed by Second Harmonic Generation", V. Fomenko and E. Borguet, Science 2001, University of Pittsburgh, September 2001
27. "Probing Carbonaceous Surface Chemical and Topological Heterogeneity by Temperature Programmed Propane Adsorption/Desorption", S. Kwon, R. Vidic, and E. Borguet, Science 2001, University of Pittsburgh, September 2001
28. "Dynamics of Photo Excited Carrier Trapping and Recombination at Si(111) Interfaces Probed by Time-Resolved Second Harmonic Generation", D. Bodlaki, and E. Borguet, AVS conference, San Francisco, October 2001
29. "In situ Measurements of the Stability of H terminated Si Surfaces and Kinetics of Oxide Regrowth in Ambien", V. Fomenko, D. Bodlaki, [C. Faler](#) and E. Borguet, AVS conference, San Francisco, October 2001
30. "Growth and Dissolution of Surface Structures by Electrochemical Control of Molecular Self-assembly" T. Ye, Y He and E. Borguet, AVS conference, San Francisco, October 2001
31. "Probing Chemical and Topological Heterogeneity of Carbonaceous Surfaces via Temperature Programmed Desorption of Simple Molecules from Model Carbonaceous Surfaces", S. Kwon, R. Vidic, and E. Borguet, AVS conference, San Francisco, October 2001
32. "Photoinduced Processes in Self-Assembled Monolayers on Semiconductor Surfaces", T. Ye, [E. McArthur](#) and E. Borguet, AVS conference, San Francisco, October 2001
33. "Nonlinear Spectroscopy of Electron Trapping at Si-oxide Interfaces", D. Bodlaki, V. Fomenko and E. Borguet, Interdisciplinary Laser Science Conference, Long Beach CA, October 2001
34. "Photoinduced Processes in Self Assembled Monolayers on Semiconductor Surfaces", Tao Ye, [Eric McArthur](#) and Eric Borguet, Organic Thin Films, Long Beach CA, October 2001
35. "Growth and Dissolution of Surface Structures by Electrochemical Control of Molecular Self-Assembly", Y. He, T. Ye and E. Borguet, Gordon Research Conference, Ventura CA, January 2002

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

36. "Tuning the Binding Energy: Electrochemical Control of Molecular Self-Assembly", Y. He, T. Ye and E. Borguet, American Physical Society, Indianapolis, March 2002
37. "Separating Bulk and Surface Contributions to the Second Order Nonlinear Optical Response of Chemically-Modified Ge Interfaces", Vasiliy Fomenko, Dora Bodlaki, and Eric Borguet, American Physical Society, Indianapolis, March 2002
38. "Tunneling Through Novel Ultrathin Dielectrics for Semiconductor Interfaces Probed by Second Harmonic Generation", E. Borguet, D. Bodlaki, and V. Fomenko, American Physical Society, Indianapolis, March 2002
39. "Potential Dependence of the Dynamics of Nanoscale Island Growth and Dissolution at Electrochemical Interfaces by Time-Resolved STM", Y. He and E. Borguet, Electrochemical Society 201th Meeting - Philadelphia, PA, May 12-17, 2002
40. "Molecular Dynamics at Electrochemical Interfaces by Time-Resolved STM", T. Ye, Y. He and E. Borguet, Electrochemical Society 201th Meeting - Philadelphia, PA, May 12-17, 2002
41. "Growth and Dissolution of Surface Structures by Electrochemical Control of Self-Assembly of Insoluble Molecular Monolayers", Y. He, T. Ye and E. Borguet, Electrochemical Society 201th Meeting - Philadelphia, PA, May 12-17, 2002
42. "Self-Assembly at Electrochemical Interfaces: Role of Potential Modulated Surface Mobility", Y. He, T. Ye, and E. Borguet, 224th ACS, National Meeting, Boston, MA, August 18-22, 2002
43. "Impact of Surface Heterogeneity on Mercury Uptake by Carbonaceous Sorbents: Bridging the Pressure Gap from UHV to Atmospheric Conditions", R.D. Vidic., S. Kwon, and E. Borguet, 19th Annual Pittsburgh Coal Conference, Pittsburgh, PA, September 23-27, 2002.
44. "Impact of Chemical and Topological Heterogeneity of Single Walled Carbon Nanotubes (SWNT) on Uptake and Binding Simple Molecules?", S. Kwon, R. Vidic, and E. Borguet, Annual Meeting for the University/NETL Student Partnership Program Pittsburgh, PA October 22, 2002
45. "Second Harmonic Generation Probing of Band Bending, Dopant Type and Density at Buried Semiconductor Interfaces" [Julie Fiore](#), Vasiliy Fomenko, and Eric Borguet, American Physical Society National Meeting, Austin, Texas, March 2003
46. "Femtosecond Time-Resolved Second Harmonic Generation Investigations of Carrier Dynamics at Ge Interfaces", A. McClelland, V. Fomenko, E. Borguet, American Physical Society National Meeting, Austin, Texas, March 2003
47. "Effects of Surface Chemical Heterogeneity on Molecular Adsorption in and on Single Walled Carbon Nanotubes", S. Kwon, X. Feng, [T. Newsome](#), E. Borguet, and R. Vidic, Nanotechnology and the Environment symposium, 225th ACS National Meeting, New Orleans, March 2003

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

48. "Role of Surface Chemical and Topological Heterogeneity on Adsorption on Carbonaceous Surfaces", S. Kwon, R. Vidic, and E. Borguet, 225th ACS National Meeting, New Orleans, March 2003
49. "Bridging the Pressure Gap from UHV to Atmospheric Conditions: Adsorption of Mercury by Graphite and Activated Carbon", Kwon, S., Borguet, E., and Vidic, R.D., Proceedings of the 26th Biennial Conference on Carbon, Oviedo, Spain, July 6-10, 2003
50. "Catalysis of Hydrogen Sulfide Oxidation by Carbonaceous Surfaces for Effective Sulfur Impregnation", R.D. Vidic, W. Feng, X. You, X. Feng, E. Borguet, Proceedings of the 26th Biennial Conference on Carbon, Oviedo, Spain, July 6-10, 2003
51. "Time-Resolved Second Harmonic Generation Investigations of Hot Carrier Dynamics at Buried Semiconductor Interfaces", [A. McClelland](#), [J. Fiore](#), V. Fomenko, E. Borguet, SPIE Annual Meeting, San Diego, August 2003
52. "Self-assembled Molecular Scale Templates at Electrochemical Interfaces", Tao Ye, Yufan He and Eric Borguet, the Chemistry of Electronic Materials Gordon Conference, July 13-18, 2003
53. "Effect of Surface Chemistry on the Behavior of Hot Electrons at Semiconductor Interfaces.", [A. McClelland](#), [J. Fiore](#), V. Fomenko, E. Borguet, 226th ACS National Meeting, New York, NY September 2003
54. "Second Harmonic Generation as a Probe of Adsorption at Colloidal Particle Surfaces", R. Kramer Campen and Eric Borguet, ACS Regional Meeting, Pittsburgh, October 2003
55. "How Do Surface Functional Groups on Single Walled Carbon Nanotubes (SWNTs) Affect Molecular Adsorption?", Xue Feng, Radisav Vidic, Eric Borguet, ACS Regional Meeting, Pittsburgh, October 2003
56. "Adsorption of Hydrogen Sulfide on Activated Carbon Fibers: Effect of Pore Structure and Surface Treatment", Wenguo Feng, Radisav Vidic, Xue Feng and Eric Borguet, ACS Regional Meeting, Pittsburgh, October 2003
57. "Molecular Scale Templates at Electrochemical Interfaces", [Jasmine Ma](#), Tao Ye, Yufan He and Eric Borguet, ACS Regional Meeting, Pittsburgh, October 2003
58. "Fluorescence Detection of Surface Bound Intermediates Produced from UV Photoreactivity of Alkylsiloxane SAMs", [Eric A. McArthur](#), Tao Ye, [Kessler McCoy-Simandle](#), Jason Cross, Stéphane Petoud and Eric Borguet, ACS Regional Meeting, Pittsburgh, October 2003
59. "Separating Nanoscale Island Dynamics from Phase Transitions at the Au(111) Electrochemical Interface using Asymmetric Potential Pulse Perturbation STM", Y. He and E. Borguet, ACS Regional Meeting, Pittsburgh, October 2003

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, Undergraduate author)

60. "Understanding the Adhesion of Gram Negative Bacteria to Mineral Surfaces", R. Kramer Campen, James D. Kubicki, Eric Borguet, CEMS Graduate Student Conference, Stony Brook University, Long Island New York, February 2004
61. "A Vibrational Spectroscopy Study of the Fate of Oxygen Containing Functional Groups on Carbon Single Walled Nanotube Surfaces during Thermal Treatment", Xue Feng, Radisav Vidic, Eric Borguet, Vibrations at Surfaces 11, Bangor, Maine, June, 2004
62. "Influence of Surface Functional Groups on Molecular Adsorption by Single Walled Carbon Nanotubes (SWNTs)", Xue Feng, Wenguo Feng, Radisav Vidic, Eric Borguet, Carbon 2004, Providence, RI, July, 2004
63. "Fluorescence Labeling of Surface Functionalities on Carbon Materials: Activated Carbon Fiber and Single Walled Carbon Nanotubes", Xue Feng, Wenguo Feng, Radisav Vidic, Eric Borguet, Carbon 2004, Providence, RI, July, 2004
64. "Vibrational Spectroscopy of Oxygen Containing Functional Groups and Their Influence on the Adsorption of Small Molecules on Single Walled Carbon Nanotubes", X. Feng, C. Matranga, R. Vidic, E. Borguet, 228th ACS National Meeting, Philadelphia, PA, August 22-26, 2004
65. "Molecular Adsorption and Electrode Reactions of Porphyrins at the Au(111)-electrolyte Interface" Y. He, T. Ye, and E. Borguet, 228th ACS National Meeting, Philadelphia, PA, August 22-26, 2004
66. "Adsorption of H₂S onto Activated Carbon Fibers under Dry and Anoxic Conditions", W. Feng, X. Feng, R. Vidic, E. Borguet, 228th ACS National Meeting, Philadelphia, PA, August 22-26, 2004
67. "Sulfur Impregnation on Activated Carbon Fibers through H₂S Oxidation for Vapor Phase Mercury Removal", W. Feng, S. Kwon, X. Feng, R. Vidic, E. Borguet, 228th ACS National Meeting, Philadelphia, PA, August 22-26, 2004
68. "Second Harmonic Generation as a Probe of Adsorption at Colloidal Particle Surfaces", R. Kramer Campen, James D. Kubicki, Eric Borguet, 228th ACS National Meeting, Philadelphia, PA, August 22-26, 2004
69. "Second Harmonic Generation as a Probe of Adsorption at Colloid Particle Surfaces", R. Kramer Campen, James D. Kubicki, Eric Borguet, Environmental Symposium, Pennsylvania State University, University Park, March 2004.
70. "Study of Ammonia Adsorption on Single walled Carbon Nanotubes (SWNTs) by Infrared Spectroscopy", Xue Feng, Radisav Vidic, Eric Borguet AICHE 2004, Austin, TX, November 2004

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

71. "Infrared Spectroscopy Study of Functionalities on Single Walled Carbon Nanotubes (SWNTs)", Xue Feng, Christopher Matranga, Radisav Vidic, Eric Borguet, AIChE 2004, Austin, TX, November 2004
72. "Sulfur Impregnation on Activated Carbon Fibers through H₂S Oxidation for Mercury Control", W. Feng, S. Kwon, E. Borguet, R. Vidic, 229th ACS National Meeting, San Diego CA, March 2005
73. "Using Second Harmonic Generation to Understand the Aqueous Colloid Interface" R. Kramer Campen, Hongfei Wang, James D. Kubicki, Eric Borguet, Environmental Chemistry Symposium, Pennsylvania State University, April 2005.
74. "Second harmonic generation as a probe of adsorption at colloidal particle surfaces", R. Kramer Campen, Ali Eftekhari, Satoshi Nihonyanagi, James D. Kubicki, Hong-fei Wang, and Eric Borguet 230th ACS National Meeting, Washington DC, August 2005
75. "Optical Studies of Adsorption of Functionalized Colloidal Polystyrene Spheres", [Allison Pymer](#), [Fuyuo Nagayama](#), R. Kramer Campen, Eric Borguet OSA/APS-DLS Conference, Frontiers in Optics, Tucson, AZ, October 2005.
76. "The Specificity and Sensitivity of Fluorescence Labeling of Surface Species", Yangjun Xing, Eric U Borguet, ACS Philadelphia Local Meeting, Villanova PA, January 2006
77. "A Surface Charge of Colloidal Particles as a function of solution pH using Second Harmonic Generation", [Allison K. Pymer](#), [Fuyuo Nagayama](#), R. Kramer Campen, Eric Borguet, ACS Philadelphia Local Meeting, Villanova PA, January 2006
78. "A New Phase of the Au(111) Surface in Electrolyte Revealed by STM and Asymmetric Potential Pulse Perturbation", Yufan He and Eric Borguet, American Physical Society National Meeting, Baltimore, Maryland, March 2006
79. "Nanolithographic Write, Read and Erase via Reversible Nanotemplated Nanostructure Electrodeposition on Alkanethiol Modified Au(111) in an Aqueous Solution", Kyoungja Seo and Eric Borguet, American Physical Society National Meeting, Baltimore, Maryland, March 2006
80. "Growth of Electrodeposited Ag Nanowires in Anionic Surfactant Nanotemplates on Au(111)", Eric Borguet, Kyoungja Seo, and Tao Ye, American Physical Society National Meeting, Baltimore, Maryland, March 2006
81. "Using ultrafast lasers for nonlinear optical studies of surface charge on mesoscopic particles in solution." [Allison Pymer](#), [Fuyou Nagayama](#), Oleksandr Isaienko, Satoshi Nihonyanagi, R. Kramer Campen, Eric Borguet. Temple Undergraduate Research Forum (TURF), March 2006
82. "Using ultrafast lasers for nonlinear optical studies of surface charge on mesoscopic particles in solution.", [Allison Pymer](#), [Fuyou Nagayama](#), Oleksandr Isaienko, Satoshi Nihonyanagi, R. Kramer Campen, Eric Borguet. Intercollegiate Student Chemist Convention, Ursinus College, April 2006

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

83. "Mechanisms of H₂S adsorption onto carbonaceous surfaces under dry and anoxic conditions" W. Feng, E. Borguet, and R.D Vidic, International Conference on Carbon, Aberdeen, Scotland, July 16-21, 2006
84. "Sulfurization of carbon surface for vapor phase mercury removal" W. Feng, E. Borguet, and R.D Vidic, International Conference on Carbon, Aberdeen, Scotland, July 16-21, 2006
85. "Towards an Experimental Determination of The Interfacial Potential at the Colloidal Silica Water Interface using Second Harmonic Generation: R. Kramer Campen, Alison K Pymer, Satoshi Nihonyanagi and Eric Borguet, Geological Society of America, Annual Meeting, Philadelphia, PA, October 2006
86. "Potential-Induced Structural Change in a Self-Assembled Monolayer of 4-Methylbenzenethiol on Au(111)", Kyoungja Seo and Eric Borguet, 98th Meeting of the Korean Chemical Society, Gwangju, Korea, October 2006
87. "Nonlinear Optical Studies of Mesoscopic Particle Surface Charge" [Allison Pymer](#), R. Kramer Campen, Satoshi Nihonyanagi, Oleksandr Isaienko and Eric Borguet OSA/APS-DLS Conference, Frontiers in Optics, Rochester NY, October 2006
88. "Potential-Induced Structural Change in a Self-Assembled Monolayer of 4-Methylbenzenethiol on Au(111)" Eric Borguet and Kyoungja Seo, 2006 Joint International Meeting of The Electrochemical Society, Cancun, Mexico, November 2006
89. "Fluorescence Labeling of Surface Species (FLOSS) As a Probe of Chemical Composition of the Interfaces of Complex Nanoporous Carbon Materials" Eric Borguet, Nikolay Dementev, Radisav Vidic, 2006 Joint International Meeting of The Electrochemical Society, Cancun, Mexico, November 2006
90. "Probing porphyrin redox dynamics at the single molecule level at electrochemical interfaces" Yangjun Xing, Yufan He, Tao Ye and Eric Borguet Electrochemistry Gordon Research Conference, Ventura CA, January 2007
91. "Two Dimensional Charge Diffusion in a Self-Assembled Monolayer of Redox Activated Porphyrins" Yangjun Xing, Yufan He, Tao Ye and Eric Borguet ACS Poster Session at LaSalle University, Philadelphia PA, January 2007
92. "Determining Functionalities on the Surface of Carbon Nanotubes by Fluorescence Labeling" Nikolay Dementev, Xue Feng, Eric Borguet. ACS Poster Session at LaSalle University, Philadelphia PA, January 2007
93. "High resolution spectroscopy using ultra-fast, time domain sum frequency generation" Satoshi Nihonyanagi, Ali Eftekhari-bafrooei, Eric Borguet ACS Poster Session at LaSalle University, Philadelphia PA, January 2007

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

94. "Nonlinear Optical Studies of Mesoscopic Colloidal Particle Surface Charge" [Allison K. Pymer](#), R. Kramer Campen, Satoshi Nihonyanagi, Eric Borguet.
ACS Poster Session at LaSalle University, Philadelphia PA, January 2007
95. "Ultrafast Vibrational Dynamics at Water Interfaces by Sum-Frequency Generation", [Ali Eftekhari-Bafrooei](#), Satoshi Nihonyanagi, and Eric Borguet
ACS Poster Session at LaSalle University, Philadelphia PA, January 2007
96. "High Resolution Surface Vibrational Spectroscopy using Ultrashort Laser Pulses," [S. Nihonyanagi](#), A. Eftekhari-Bafrooei E. Borguet, 87th Spring Meeting of the Chemical Society of Japan, Kansai University, Osaka, Japan, March 2007
97. "Two Dimensional Charge Diffusion in a Self-Assembled Monolayer of Redox Active Porphyrins," by [E. Borguet](#), Y. Xing, Y. He and T. Ye
211th Meeting of the Electrochemical Society, Chicago Illinois, May 2007
98. "Interaction of acetone with single wall carbon nanotubes: FTIR and TPD study" [Dmitry Kazachkin](#), Xue Feng, Seokjoon Kwon, Nikolay Dementev, Radisav Vidic, Eric Borguet.
MARM Conference, May 2007
99. "Nonlinear Optical Studies of the Surface Charge of Mesoscopic Colloidal Silica Particles" [Allison K. Pymer](#), R. Kramer Campen, Satoshi Nihonyanagi, Eric Borguet. MARM conference, May 2007
100. "Time- and Frequency Resolved Sum-Frequency Generation Studies of Free OH at Solid/Aqueous Interfaces", [Satoshi Nihonyanagi](#), Ali Eftekhari-Bafrooei and Eric Borguet
ICEI 2007 (International Conference on Electrified Interfaces 2007), Sahoro, Japan, June 2007
101. "High resolution spectroscopy using ultra-fast, time domain sum frequency generation at biologically relevant interfaces." [Eric Borguet](#), Satoshi Nihonyanagi, Ali Eftekhari-Bafrooei,
234th ACS National Meeting, Boston MA, August 2007
102. "High Resolution Surface Vibrational Spectroscopy in the Ultrafast Time Domain, [Ali Eftekhari-Bafrooei](#), Satoshi Nihonyanagi, and Eric Borguet, Dynamics at Surfaces, Gordon Research Conference, Proctor Academy, Andover MA, August 2007
103. "Reconciling potentiometric titration and Second Harmonic Generation Measured Diffuse Layer Potential in Aqueous Silica Suspension", [R. K. Campen](#), [A. K. Pymer](#), S. Nihonyanagi and E. Borguet 17th V. M. Goldschmidt Conference, Cologne Germany, 19th-24th August 2007
104. "Thermoanalysis as a tool for the evaluation of chemical composition, purity and purification protocols of carbon nanotubes", [Nikolay Dementev](#) (1st prize award), Dmitry Kazachkin, and Eric Borguet Thermal Analysis Forum of Delaware Valley, Annual Poster Session, December 2007

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

105. "TPD-MS analysis of carbon materials: temperature induced chemistry", D. Kazachkin, N. Dementev, R. Vidic, and E. Borguet. Thermal Analysis Forum of Delaware Valley, Annual Poster Session, December 2007
106. "Characterization of thin metal film growth on an organic self-assembled-monolayer using current-sensing atomic force microscopy", [Sean E. Keuleyan](#), Yangjun Xing, Eric Borguet ACS Poster Session, Philadelphia, PA, January 2008
107. "Nanoshaving and nanoscale current sensing atomic force microscopy of metal films on organic self-assembled monolayers", [Sean Keuleyan](#), Yangjun Xing, Jacqueline Hines, and Eric Borguet, ACS Poster Session, Philadelphia, PA, January 2008.
108. "Ultrafast vibrational dynamics and spectroscopy of a terminal methylene group in a siloxane self-assembled monolayer", Ali Eftekhari-Bafrooei, Satoshi Nihonyanagi, and Eric Borguet ACS Poster Session, Philadelphia, PA, January 2008
109. "Production of infrared pulses for ultra-broadband sum-frequency generation spectroscopy of interfaces", Oleksandr Isaienko, Eric Borguet, ACS Poster Session, Philadelphia, PA, January 2008
110. "Measurement of Single Molecule Conductivity of Conjugated Organic Oligomers with Conjugated Thiol Linkers", Yangjun Xing, Tae-Hong Park, Michael J. Therien, and Eric Borguet, ACS Poster Session, Philadelphia, PA, January 2008
111. "Measurement of Single Molecule Conductivity of Conjugated Organic Oligomers with Conjugated Thiol Linkers", Yangjun Xing, Tae-Hong Park, Michael J. Therien, and Eric Borguet, ACS Poster Session, Philadelphia, PA, January 2008
112. "Nanoscience for Novel Hydrogen Sensors: Nanoshaving and nanoscale current sensing atomic force microscopy of metal films on organic self-assembled monolayers" [Sean Keuleyan](#), Yangjun Xing Jacqueline Hines, and Eric Borguet, Temple Undergraduate Research Poster Presentation, Harrisburg, PA, January 2008
113. "Quantum Modeling of Hg adsorption on carbon surfaces in the presence of HCl, NO₂ or SO₂", Huiying Zhu, Joseph RV. Flora, Radisav Vidic, and Eric Borguet, ACS National Meeting, New Orleans, LA, April 2008
114. "Impact of fly ash composition and flue gas components on mercury speciation" Xihua Chen, Ravi Bhardwaj, Jason Monnell, Joseph RV. Flora, Eric Borguet, and Radisav Vidic, ACS National Meeting, New Orleans, LA, April 2008
115. "Characterization of Thin Metal Film Growth on an Organic Self-Assembled-Monolayer using Current-Sensing Atomic Force Microscopy" [Sean E. Keuleyan](#), Yangjun Xing, Jacqueline Hines, and Eric Borguet, ACS National Meeting, New Orleans, LA, April 2008
116. "Characterization of Thin Metal Film Growth on an Organic Self-Assembled-Monolayer using Current-Sensing Atomic Force Microscopy", [Sean E. Keuleyan](#), Yangjun Xing, and Eric Borguet, ECS National Meeting, Phoenix, AZ, May 2008

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, Undergraduate author)

117. "Near-Infrared Non-Collinear Optical Parametric Amplification in Bulk Potassium-Titanyl Phosphate with $>2500\text{ cm}^{-1}$ Bandwidth", Oleksandr Isaenko and Eric Borguet. Conference on Lasers and Electro-Optics (CLEO) in conjunction with Quantum Electronics and Laser Science Conference (QELS), San Jose, CA, May 2008
118. "Ultra-Broadband Infrared Pulses from a Potassium-Titanyl Phosphate Optical Parametric Amplifier for VIS-IR-SFG Spectroscopy", Oleksandr Isaenko and Eric Borguet, 16th International Conference on Ultrafast Phenomena (UP2008), Stresa, Lago Maggiore (Italy), June 2008
119. "Ultrafast time and frequency domain vibrational dynamics of the $\text{CaF}_2/\text{H}_2\text{O}$ interface", Ali Eftekhari-Bafrooei, Satoshi Nihonyanagi and Eric Borguet, 16th International Conference on Ultrafast Phenomena (UP2008), Stresa, Lago Maggiore (Italy), June 2008
120. "Mercury Speciation in Coal-Fired Power Plant Flue Gas - Experimental Studies and Model Development", Sun, W., Bhardwaj, R., Chen, X., Flora, J.R.V., Borguet, E., Vidic, R.D. University Coal Research Contractors Review Conference, Pittsburgh, PA, June 10-11, 2008
121. "Charge transfer study through single stranded and double stranded peptide nucleic acid (PNA) films", Amit Paul, Waldeck David, Richard Watson, Paul Lund, Catalina Achim, Yangjun Xing, and Eric Borguet, National ACS Meeting, Philadelphia, PA, August 2008
122. "Quantum Chemical Simulations of Acetone Adsorption on SWCNTs." Y. Nishimura, D. Kazachkin, K. Morokuma, E. Borguet, and S. Irle, World Association of Theoretical and Computational Chemists (September 14-19, 2008) Sydney, Australia
123. "Controlling and Determining Purity of Carbon Nanotubes" Nikolay Dementev and Eric Borguet, EAS 2008, Eastern Analytical Symposium, Somerset, NJ, November 2008
124. "Pressure gap in carbon nanomaterials? The effect of temperature and pressure on the binding of simple molecules to carbon nanotubes." D. Kazachkin, Y. Nishimura, S. Irle, K. Morokuma, R. Vidic, and E. Borguet, AIChE (November 18, 2008) Philadelphia, PA
125. "Recent achievements in the purification of carbon nanotubes: dynamic annealing in air", Nikolay Dementev and Eric Borguet, Thermal Analysis Forum of Delaware Valley, Claymont, DE, December 2008
126. "Thermal study of hydrogen desorption from the surface of Pd deposited on multiwall carbon nanotubes (MWCNTs)" Andrii Buvailo, Dmitry Kazachkin, Nikolay Dementev, and Eric Borguet, Thermal Analysis Forum of Delaware Valley, Claymont, DE, December 2008
127. "Using Temperature Programmed Desorption for the Investigation of Solvent Interactions with Carbon Materials. Revealing the Pressure Gap" Dmitry V. Kazachkin, Xue Feng, Radisav Vidic, and Eric Borguet, Thermal Analysis Forum of Delaware Valley, Claymont, DE, December 2008

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

128. "Thermal oxidation to produce carbon nanotubes free of carbon impurities" Nikolay Dementev, Sebastian Osswald, Yury Gogotsi, Eric Borguet, ACS Ninth Annual Graduate Student and Fourth Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2009
129. "Synthesis of SnO₂-based nanomaterials doped with Pd additives for hydrogen sensor applications" Andrii I. Buvailo, Eric U. Borguet, Igor P. Matushko, Nelly P. Maksimovich, Ludmila P. Oleksenko, ACS Ninth Annual Graduate Student and Fourth Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2009
130. "Elimination of the Visible Luminescence of Carbon Nanotubes" [Cheuk Fai Chiu](#), Nikolay Dementev, Eric Borguet, ACS Ninth Annual Graduate Student and Fourth Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2009
131. "Vibrational Spectroscopy and Dynamics of the CaF₂/H₂O Interface" Poster at Molecular Energy Transfer", Ali Eftekhari-Bafrooei, Satoshi Nihonyanagi and Eric Borguet, Gordon Research Seminar, Ventura, CA, January 2009
132. "The Vibrational Dynamics of Interfacial Water at a Charged Interface" Ali Eftekhari-Bafrooei and Eric Borguet, Molecular Energy Transfer, Gordon Research Conference, Ventura, CA, January 2009
133. "Synthesis of PdO-doped SnO₂ nanomaterial for creation of an absorption-semiconductor hydrogen sensor operating at a low temperature" Andrii Buvailo, Ludmila P. Oleksenko, Nelly P. Maksimovich, Igor P. Matushko, and Eric Borguet, 237th National ACS meeting, Salt Lake, UT, March 2009
134. "Ultra-Broadband Vibrational Sum-Frequency Spectroscopy of Hydroxyl Overtones at Mineral/Aqueous Interfaces, Oleksandr Isaienko, Eric Borguet, 237th National ACS Meeting, Salt Lake, March 2009
135. "Recent achievements in the purification of carbon nanotubes: dynamic oxidation in air" Nikolay Dementev, Sebastian Osswald, Yury Gogotsi, and Eric Borguet, Thermal Analysis Forum of Delaware Valley, Drexel University, PA, March 2009
136. "Temperature and pressure dependence of solvent molecule adsorption on single wall carbon nanotubes: the existence of a 'pressure gap'", Dmitry V. Kazachkin, Yoshifumi Nishimura, Stephan Irle, Xue Feng, Radisav Vidic, and Eric Borguet, Thermal Analysis Forum of Delaware Valley, Drexel University, PA, March 2009
137. "TPD study of hydrogen desorption from the surface of a hydrogen sensor material based on Pd/MWCNTs composite", Andrii Buvailo, Dmitry Kazachkin, Nikolay Dementev, and Eric Borguet, Thermal Analysis Forum of Delaware Valley, Drexel University, PA, March 2009
138. "Quenching of Luminescence of Fluorophores on Carbon Nanotubes", [Cheuk Fai Chiu](#), Nikolay Dementev, Eric Borguet, 2009 Intercollegiate Student Chemists Convention, Franklin & Marshall College, Lancaster, PA, April 2009

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, Undergraduate author)

139. "The effect of ordering on the vibrational dynamics of interfacial water", Ali Eftekhari-Bafrooei, and Eric Borguet, Fourteenth International Conference on Time-Resolved Vibrational Spectroscopy (TRVS-XIV), Meredith, NH, May 2009
140. "Tuning and Switching the Visible Luminescence of Carbon Nanotubes", Cheuk Fai Chiu, Nikolay Dementev, Eric Borguet, ECS National Meeting, San Francisco, May 2009
141. "The use of metal oxide and polymer based composite materials for SAW sensor applications", Andrii Buvailo, Yangjun Xing, Jacqueline Hines, Eric Borguet, ECS National Meeting, San Francisco, May 2009
142. "Single Molecular Redox Reaction of Porphyrin in a Self-Assembled Monolayer", Yangjun Xing, Yufan He, Eric Borguet, ECS National Meeting, San Francisco, May 2009
143. "Dynamic Annealing: A Route toward Analytically Pure Carbon Nanotubes", Nikolay Dementev, Sebastian Osswald, Yury Gogotsi, Eric Borguet, ECS National Meeting, San Francisco, May 2009
144. "Measurement of Charge Transfer through Single Molecules", Yangjun Xing and Eric Borguet, The 69th Physical Electronics Conference on the Physics and Chemistry of Surfaces and Interfaces, Rutgers University, June 2009
145. "Ultrafast Vibrational Dynamics of Interfacial Water", Ali Eftekhari-Bafrooei and Eric Borguet, The 69th Physical Electronics Conference on the Physics and Chemistry of Surfaces and Interfaces, Rutgers University, June 2009
146. "Identification and Quantification of Oxygen-Containing Functionalities on the Surface of Carbon Nanotubes by Fluorescence Labeling of Surface Species (FLOSS)", Nikolay Dementev, Xue Feng and Eric Borguet, 69th Physical Electronics Conference on the Physics and Chemistry of Surfaces and Interfaces, Rutgers University, June 2009
147. "Carbon Nanotube Based Solar Cell Using Dye-Sensitized Technology", Cheuk Fai Chiu, Nikolay Dementev, Eric Borguet, Eastern Analytical Symposium, Somerset, NJ, November 2009
148. "Surface Characterization of Piezoelectric Microcantilever Sensor (PEMS) via Atomic Force Microscopy and Fluorescence", Aseem Malhotra, LiNa Loo, Wei Wu, Wei-Heng Shih, Wan Y. Shih, Gregory P. Adams, Hossein Borghaei, and Eric Borguet, Philadelphia Section ACS 10th Annual Graduate Student and 5th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2010
149. "Dye-sensitized Carbon Nanotubes for Light Energy Conversion", Gordon (Cheuk Fai) Chiu, Nikolay Dementev and Eric Borguet, Philadelphia Section ACS 10th Annual Graduate Student and 5th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2010

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, Undergraduate author)

150. "Electrochemical Detection of Nitric Oxide by Carbon Nanopipettes", Fei Li, Nikolay Dementev, Roozbeh Ghavami, Riju Singhal, Yury Gogotsi and Eric Borguet, Philadelphia Section ACS 10th Annual Graduate Student and 5th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2010
151. "Influence of surface chemistry and nanoscale morphology on neuronal adhesion and differentiation", Guillaume Lamour, Ali Eftekhari-Bafrooei, Eric Borguet, Sylvie Souès, and Ahmed Hamraoui, Philadelphia Section ACS 10th Annual Graduate Student and 5th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2010
152. "Electrochemical Grafting of Amines to Carbon Nanopipettes", Roozbeh Ghavami, Fei Li, Nikolay Dementev, and Eric Borguet, Philadelphia Section ACS 10th Annual Graduate Student and 5th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2010
153. "Identification and quantification of functional groups on carbon nanopipettes via fluorescence labeling, Nikolay Dementev, Cheuk Fai Chiu, Roozbeh Ghavami, Fei Li, and Eric Borguet, Philadelphia Section ACS 10th Annual Graduate Student and 5th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, January 2010
154. "Detection of antibody binding events via atomic force and fluorescence microscopy for calibration of piezoelectric microcantilever sensor (PEMS) response", Aseem Malhotra, Lina Loo, Wei Wu, Wei-Heng Shih, Wan Y. Shih, Gregory P. Adams, Hossein Borghaei, Eric Borguet, American Medical Student Association 2010 Annual Convention, Anaheim, CA, March 2010
155. "The effect of hydrogen bond strength on the vibrational relaxation of interfacial water", Ali Eftekhari-Bafrooei and Eric Borguet, ACS 239th National Meeting, San Francisco, March 2010
156. "Detection of Antibody Binding Events via AFM and Fluorescence Microscopy for Calibration of Piezoelectric Microcantilever Sensor (PEMS) Response", Aseem Malhotra and Eric Borguet, Temple University Access to Excellence, Harrisburg, PA March 2010
157. "A New Method for Supersolubilization of Ultrapure Carbon Nanotubes" N. Dementev and E. Borguet, ECS National Meeting, Vancouver, Canada, April 2010
158. "Electrochemical Detection of Nitric Oxide by Carbon Nanopipettes", F. Li, N. Dementev, R. Ghavami, R. Singhal, Y. Gogotsi and E. Borguet, ECS National Meeting, Vancouver, Canada, April 2010
159. "Non-Collinear Optical Parametric Amplification of Near-IR pulses in KTiOPO₄ at a High Repetition Rate", Oleksandr Isaienko, Eric Borguet and Peter Voehringer, 17th International Conference on Ultrafast Phenomena (UP20010), Snowmass, CO, June 2010
160. "Spectroscopy and dynamics of the multiple free OH species at the aqueous/hydrophobic SAMs interface", Ali Eftekhari-Bafrooei, Satoshi Nihonyanagi, and Eric Borguet, Vibrational Spectroscopy Gordon Research Conference, University of New England, August 2010

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

161. "Interfacial depth profiling and effect of electric fields at a charged solid-liquid interface via vibrational relaxation of water", Ali Eftekhari-Bafrooei, Shalaka Dewan, and Eric Borguet, Vibrational Spectroscopy Gordon Research Conference, University of New England, August 2010
162. "Ultra-broadband sum-frequency generation spectroscopy of silica – water interfaces", Oleksandr Isaenko and Eric Borguet, Vibrational Spectroscopy Gordon Research Conference, University of New England, August 2010
163. "Ultrafast vibrational relaxation of interfacial water", Ali Eftekhari-Bafrooei and Eric Borguet, Water and Aqueous Solutions Gordon Research Conference, University of New Holderness, NH, August 2010
164. "In Situ Vibrational Sum Frequency Spectroscopy of the Electrolyte/Electrode Interface for Modeling Structure, Dynamics and Reactivity of a Working Fuel Cell", [Heather Vanselous](#), Shalaka Dewan, Oleksandr Isaenko, and Eric Borguet. Philadelphia Section ACS 11th Annual Graduate Student and 6th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, February 2011
165. "Purification of Multiwalled Carbon Nanotubes by Dynamic Oxidation", [Lan Nguyen](#), Nikolay Dementev, Eric Borguet, Philadelphia Section ACS 11th Annual Graduate Student and 6th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, February 2011
166. "In situ Observation of Morphological Changes of Pd Nanoparticles Under Hydrogen Exposure", Devika Sil, Douglas Hausner and Eric Borguet, Philadelphia Section ACS 11th Annual Graduate Student and 6th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, February 2011
167. "Vibrational Sum-Frequency Generation Spectroscopy of Mineral/Water Interfaces". Shalaka Dewan, Oleksandr Isaenko, Ali Eftekhari-Bafrooei and Eric Borguet, Philadelphia Section ACS 11th Annual Graduate Student and 6th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, February 2011
168. "Purification of Multiwalled Carbon Nanotubes by Dynamic Oxidation", [Lan Nguyen](#), Nikolay Dementev, Eric Borguet, Thermal Analysis Forum of Delaware Valley, ASTM Headquarters, Conshohocken PA, March 2011
169. "Interfacial depth profiling and the effect of electric fields at a charged solid-aqueous interface on the ultrafast vibrational relaxation of water", Ali Eftekhari-Bafrooei and Eric Borguet, Fifteenth International Conference on Time-Resolved Vibrational Spectroscopy (TRVS-XV), Ascona, Switzerland, June 2011
170. "Surface energy and its spatial variation: A new criterion to study nanoscale surface effects on cell adhesion and differentiation" Guillaume Lamour, Ali Eftekhari-Bafrooei, Eric Borguet, Sylvie Souès, and Ahmed Hamraoui, Science of Adhesion Gordon Research Conference, Bates College Lewiston, ME, July 2011

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

171. "In situ vibrational sum frequency spectroscopy of the electrolyte/electrode interface for modeling structure, dynamics and reactivity of a fuel cell" [Heather Vanselous](#), Shalaka Dewan, Oleksandr Isaienko, and Eric Borguet, ACS 242nd National Meeting, Denver, CO, August 2011
172. "From Molecular Imaging to Single Molecule Electrical Properties" [Zhihai Li](#) and Eric Borguet, NBIC Symposium: Local Probes at the Frontiers of Energy Systems and Biotechnology, University of Pennsylvania, October 2011
173. "IR Stealth Effect for Molecules Adsorbed on Single-Walled Carbon Nanotubes", [Yoshifumi Nishimura](#), Dmitry V. Kazachkin, Henryk A. Wirek, Eric Borguet, and Stephan Irle, Nagoya University Global COE International Symposium on Elucidation and Design of Materials and Molecular Functions, Nagoya, Japan, November, 2011.
174. "Ordering of water molecules near a silica surface as function of bulk water pH" [Shalaka Dewan](#) and Eric Borguet, Philadelphia Section ACS 12th Annual Graduate Student and 7th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, February 2012
175. "Application of Pd Nanoparticles for Rapid H₂ Detection", Devika Sil, [Uduak Udeoyo](#), [Aseem Malhotra](#), Olivier Katz, Jacqueline Hines and Eric Borguet, Philadelphia Section ACS 12th Annual Graduate Student and 7th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, February 2012
176. "Thin Films of Organic Semiconductors for Hydrazine Detection", [Ashley Truxal](#), [Nicole Haloupek](#), Devika Sil, Jacqueline Hines and Eric Borguet, Philadelphia Section ACS 12th Annual Graduate Student and 7th Annual Undergraduate Poster Sessions, Temple University, Philadelphia, PA, February 2012
177. "Application of Pd Nanoparticles for Rapid H₂ Detection", [Uduak Udeoyo](#), Devika Sil, [Aseem Malhotra](#), Olivier Katz, Jacqueline Hines and Eric Borguet, Temple Undergraduate Research Forum (TURF), April 2012
178. "Broadband Sum-Frequency Generation Spectroscopy of High-Frequency Vibrations of Water Molecules at Silica Surfaces", [Oleksandr Isaienko](#), Satoshi Nihonyanagi, Devika Sil and Eric Borguet, "Spectroscopy of Liquid and Cluster Interfaces" mini-symposium, Ohio State International Symposium on Molecular Spectroscopy, June 2012
179. "Structure of water at charged surfaces", [Shalaka Dewan](#), Ali Eftekhari-Bafrooei, Vincenzo Carnevale, Michael Klein and Eric Borguet, Water and Aqueous Solutions Gordon Research Conference, University of New Holderness, NH, August 2012
180. "Thin Films of Organic Semiconductors for Hydrazine Detection", [Ashley Truxal](#), [Nicole Haloupek](#), Devika Sil, Jacqueline Hines and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012
181. "Nonlinear Vibrational Spectroscopy of Overtones of Interfacial Species", [Devika Sil](#), Aziz Boulesbaa and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined, [Undergraduate author](#))

182. "Vibrational dynamics of interfacial water by free induction decay sum-frequency generation (FID-SFG)", Aziz Boulesbaa and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012
183. "Fabrication of two-dimensional supramolecular structures via pH-induced hydrogen-bonding: An electrochemical scanning tunneling microscopy study", Sepideh Afsari Mamaghani, Zhihai Li, and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012
184. "Effect of salt and pH on water arrangement at the water/silica interface", Shalaka Dewan, Mohsen S Yeganeh and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012
185. "Structure of water at charged surfaces: a molecular picture", Shalaka Dewan, Ali Eftekhari-Bafrooei, Vincenzo Carnevale, Giacomo Fiorin, Michael L. Klein, and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012
186. "Synthesis and characterization of functionalized graphite nanofibers", Robert M Giuliano, Tim Pellenbarg, John A Hull, and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012
187. "Charge transport pathways through single porphyrins in electrode-molecule-electrode junctions", Zhihai Li and Eric Borguet, ACS 244th National Meeting, Philadelphia, PA, August 2012
188. "Quantitative Analysis of Impurities in Carbon Nanotubes using Thermo Gravimetric Analysis", My Hoang, [Lan Nguyen](#) and Eric Borguet, Thermal Analysis Forum of Delaware Valley, University of Pennsylvania, Philadelphia PA, December 2012
189. Electrochemical Scanning Tunneling Microscopy Study of Porphyrins on Au (111) and HOPG Substrates under Control of Potential, Sedigheh Sadegh Hassani, Youn-Geun Kim and Eric Borguet, 19th Iranian seminar of analytical chemistry, Ferdowsi University of Mashhad, Iran, February 2013
190. "Impact of Fresnel Factors on SFG Spectra from Solid-Liquid Interfaces", A. Tuladhar, and E. Borguet; 8th Annual Chautauqua on Nonlinear Optics, Purdue University, West Lafayette, Indiana, USA, June 2013
191. "The Application of Au, Au-Pd Nanoparticle Films to Hydrogen Sensing", Devika Sil, Kyle Gilroy, Svetlana Neretina, Eric Borguet, 2013 MRS Fall Meeting, Boston, MA, December 2013
192. "Bottom-up Construction of Surface Nano-Materials toward Functional Molecular Devices", Zhihai Li, Thomas Wandlowski and Eric Borguet, 88th ACS Colloid and Interface Science Symposium, Philadelphia PA, June 2014
193. "Potential Induced On/Off Single Molecule Switch", Sepideh Afsari and Eric Borguet, 88th ACS Colloid and Interface Science Symposium, Philadelphia PA, June 2014

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. Undergraduate author)

194. "Hot Electron Based Gold Nanoplasmonic Optical Hydrogen Sensor", Devika Sil, Kyle D. Gilroy, [Aurelia Niaux](#), Abdelaziz Boulesbaa, Svetlana Neretina and Eric Borguet, Plasmonics Gordon Research Seminar and Conference, Newry, ME, July 2014
195. "IR-Second Harmonic Generation Spectroscopy of Mineral-Water Interfaces Probing Overtones", Aashish Tuladhar, [James J. Choi](#), Devika Sil, Shalaka Dewan, Daniel P. Cherney, Shawn M. Dougal, Mohsen S. Yeganeh, and Eric Borguet, Vibrational Spectroscopy Gordon Research Seminar and Conference, University of New England, ME August 2014
196. "Orientation-Controlled Single Molecule Junctions", Sepideh Afsari, Zhihai Li and Eric Borguet, Electron Donor-Acceptor Interactions Gordon Research Seminar and Conference, Newport RI, August 2014
197. "Hot Electron Induced Dissociation of Hydrogen on Gold Nanoparticles", [Aurelia Niaux](#), Devika Sil, Kyle D. Gilroy, Abdelaziz Boulesbaa, Svetlana Neretina and Eric Borguet, Mid-Atlantic Seaboard Inorganic Symposium (MASIS), Temple University, Philadelphia, PA, July 2014
198. "Hot Electron Induced Hydrogenation of Acridine Orange", [Colin Murphy](#), [Aurelia Niaux](#), Devika Sil and Eric Borguet, Mid-Atlantic Seaboard Inorganic Symposium (MASIS), Temple University, Philadelphia, PA, July 2014
199. "In-situ investigation of calcite dissolution in aqueous environments", Aashish Tuladhar, [James J Choi](#), Daniel P. Cherney, Shawn M. Dougal, Mohsen S. Yeganeh and Eric Borguet, ACS 248th National Meeting, San Francisco, August 2014
200. "The Effect of Electrochemical Potential on Single Molecule Conductance", Esteban Sanchez, Rocio Aguilar, Sepideh Afsari, Zhihai Li and Eric Borguet, AVS 61st International Symposium, Baltimore, MD, November 2014
201. "Shape Engineering Periodic Arrays of Substrate-Based Plasmonic Nanostructures", Kyle D. Gilroy, Pouyan Farzinpour, Aarthi Sundar, Devika Sil, Eric Borguet, Robert A. Hughes, Svetlana Neretina, 2014 MRS Fall Meeting, Boston, MA, December 2014
202. "Localized Surface Plasmon Resonance (LSPR) Optical Detection of Hydrogen", Devika Sil, Kyle D. Gilroy, [Safiya Sylla](#), Svetlana Neretina and Eric Borguet, ACS 249th National Meeting, Denver, CO, March 2015
203. "Localized Surface Plasmon (LSPR) Based Optical Detection of Ions in Aqueous Solution", Devika Sil, Kyle D. Gilroy, [Safiya Sylla](#), Svetlana Neretina and Eric Borguet, ACS 249th National Meeting, Denver, CO, March 2015
204. "Ultrafast Laser Induced Synthesis of Narrowly Distributed Sub-5 nm Surfactant-Free Au-Pd Nanoparticles", Devika Sil, Katharine Moore Tibbetts, Johanan H. Othman, Robert J. Levis and Eric Borguet, ACS 249th National Meeting, Denver, CO, March 2015

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. [Undergraduate author](#))

205. "Sensitivity of ultrafast vibrational dynamics of interfacial water to cations at silica/water interfaces", Shalaka Dewan, Aashish Tuladhar, and Eric Borguet, APS March Meeting, San Antonio, Texas, March 2015
206. "Potential induced on/off single molecule electromechanical switch", Loranne Vernisse, Sepideh Afsari and Eric Borguet, Gordon Research Seminar and Conference on Artificial Molecular Switches & Motors, Stonehill College, Easton, MA, June 2015
207. "Fabricating single molecule switches based on anisotropic conductivity at the molecular scale", Sepideh Afsari and Eric Borguet, Gordon Research Seminar and Conference on Artificial Molecular Switches & Motors, Stonehill College, Easton, MA, June 2015
208. "Vibrational Dynamics of Chemisorbed Species at α -Al₂O₃(11-20)/H₂O", A. Tuladhar, S. Dewan, J.D. Kubicki, and E. Borguet; Time-Resolved Vibrational Spectroscopy (TRVS-XVII), June 21-26, 2015, University Wisconsin-Madison, WI, USA
209. "Pump-Probe Transient Optical Reflectivity to Measure Coherent Optical Phonons in Two-Dimensional Materials", Jason Tran, Natalia Molina, Laszlo Frazer, and Eric Borguet, 99th Annual Meeting of the Optical Society of America, San Jose CA, October 2015
210. "Investigation of Manganese Dioxide Nanosheets by STM and AFM", Loranne Vernisse, Sepideh Afsari, Samantha L. Shumlas, Akila C. Thenuwara, Daniel R. Strongin, Eric Borguet, AVS 62nd International Symposium, San Jose, CA, October 2015
211. "Mechanism of Hot Electron Mediated Optical Detection of Hydrogen", Devika Sil, Christopher Lane, Kyle Daniel Gilroy, Ethan Glor, Safiya Sylla, Stefan Piontek, Maryam Hajfathalian, Svetlana Neretina, Bernardo Barbiellini, Zahra Fakhraai, Arun Bansil, Eric Borguet, 2015 MRS Fall Meeting, Boston, MA, December 2015
212. "Optical Characterization of Functional Layered Materials", Frazer, L., McKendry, I., Pellegrino, A., Shumlas, S., Thenuwara, A., Trainer, D., Iavarone, M., Karapetrov, G., Strongin, D., Wolak, M., Zdilla, M., Borguet, E. International Conference on Nanoscience and Nanotechnology, Canberra, Australia, February 7 - February 11, 2016.
213. "Structure and Dynamics of Water Next to Mineral Surfaces", A. Tuladhar, S. Dewan, S.M Piontek, J.D. Kubicki, and E. Borguet; 2016 Gordon Research Conference/Seminar on Vibrational Spectroscopy, July 16-21, 2016, University of New England, Biddeford, Maine, USA
214. "Control of exciton and trion dynamics in a molybdenum disulfide monolayer with interfacial dielectrics", Yaroslav V. Aulin, Dan Trainer, Laszlo Frazer, Johanan H. Odhner, Robert J. Levis, Richard Schaller, Maria Iavarone and Eric Borguet, ACS 252nd National Meeting, Philadelphia, PA, August 2016

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. Undergraduate author)

215. "Interaction of Hydrogen with Au under optical plasmonic excitation", Safiya Sylla, Devika Sil, Christopher Lane, Ethan Glor, Kyle D. Gilroy, Bernardo Barbiellini, Robert Markiewicz, Svetlana Neretina, Arun Bansil, Zahra Fakhraai, and Eric Borguet, ACS 252nd National Meeting, Philadelphia, PA, August 2016
216. "Structure and dynamics of water at alumina surfaces", Aashish Tuladhar, Shalaka Dewan, James D. Kubicki and Eric Borguet, ACS 252nd National Meeting, Philadelphia, PA, August 2016
217. "Effects of cations on the structure and vibrational dynamics of mineral/water interfaces", Stefan Piontek, Aashish Tuladhar, Shalaka Dewan, James D. Kubicki and Eric Borguet, ACS 252nd National Meeting, Philadelphia, PA, August 2016
218. "Single molecule electronics: Fabricating an on/off electromechanical single molecule conductance switch", P. Yasini, S. Afsari, L. Vernisse, P. Pikma, and Eric Borguet, ACS 252nd National Meeting, Philadelphia, PA, August 2016
219. "Optimization of an Ultrashort Pulse Prism Compressor for Plasmon Dephasing Experiments", Ares Aguilera, Yaroslav V. Aulin, Stefan Piontek, and Eric Borguet, 100th Annual Meeting of the Optical Society of America, Rochester NY, October 2016
220. "Interaction of atomic hydrogen with Au under optical plasmonic excitation", Christopher Lane, Devika Sil, Ethan Glor, Kyle D. Gilroy, Safiya Sylla, Bernardo Barbiellini, Robert Markiewicz, Svetlana Neretina, Arun Bansil, Zahra Fakhraai, and Eric Borguet, APS March Meeting, New Orleans, LA, March 2017
221. "Monitoring the oxidation kinetics and size evolution of sapphire-immobilized hemispherical Ag nanoparticles at aqueous interfaces" Thao U. Duong, Isabella Goodenough, Méli ssandre Richard, Stefan Piontek, Maryam Hajfathalian, Eredzhep Menumorov, Svetlana Neretina, and Eric Borguet. ACS 254th National Meeting, Washington, DC, August 2017
222. "Catalytic applications of Cu_{2-x}Se nanoparticles in redox reactions", Méli ssandre Richard, Xing Yee Gan, Jill Millstone, Eric Borguet. ACS 254th National Meeting, Washington, DC, August 2017
223. "Effect of the interlayer spacing and charge of 1T-MoS₂ on the electrocatalytic activity for the hydrogen evolution reaction", Akila Thenuwara, Abhirup Patra, Yaroslav Aulin, Himanshu Chakraborty, Eric Borguet, Michael Klein, John Perdew, Daniel Strongin, ACS 254th National Meeting, Washington, DC, August 2017
224. "Molecular dynamics simulations of alkali halide adsorption to water-alumina interfaces", Ruiyu Wang, Kevin Millan, Richard Remsing, Stefan Piontek, Aashish Tuladhar, Leah Magidson, Vincenzo Carnevale, Michael Klein, Eric Borguet, ACS 254th National Meeting, Washington, DC, August 2017

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. Undergraduate author)

225. “Monovalent and divalent cations at the α -Al₂O₃(0001)/water interface: How cation identity affects interfacial ordering and vibrational dynamics”, Stefan Piontek, Ruiyu Wang, Kevin Millan, Aashish Tuladhar, Richard Remsing, Vincenzo Carnevale, Michael Klein, Eric Borguet, ACS 254th National Meeting, Washington, DC, August 2017
226. “Second Harmonic Generation Spectroscopy of Substrate- Based Surfactant Free Gold and Silver Nano-Hemispheres”, Tim Marshall, Yaroslav Aulin, Kyle Gilroy, Svetlana Neretina, Eric Borguet, ACS 254th National Meeting, Washington, DC, August 2017
227. “Interaction of UiO-67 MOF with Industrial Solvents and CWA Simulants: TPD and FTIR Study”, Isabella Goodenough, Mélessandre Richard, Tian-Yi Luo, Nathaniel L. Rosi, Eric Borguet, DTRA Surface Science Review, NC State University, Raleigh, NC, September 2017
228. “Single Molecule Junction: Chemical Optimization of Charge Transport through Single Benzene Derivatives”, Parisa Yasini, Sepideh Afsari, Piret Pikma and Eric Borguet, AVS 64th International Symposium, Tampa, FL, October 2017
229. “Design of Stratified Hybrid Metal Organic Frameworks for Chemical Detection and Destruction”, Jonathan Ruffley, Tianyi Luo, Isabella Goodenough, Mélessandre Richard, Eric Borguet, Nathaniel L. Rosi and J. Karl Johnson, 2017 AIChE Annual Meeting, Minneapolis, MN, October 2017
230. “Effect of Structure and Functional on the SFG Spectrum at the Alumina-Water Interface”, Mark DelloStritto, Stefan M. Piontek, Eric Borguet and Michael Klein, APS March Meeting, Los Angeles, CA, March 2018
231. “Fabrication of Single Molecule Polycyclic Aromatic Hydrocarbon Switches at an Electrochemical Interface”, Piret Pikma, Parisa Yasini, and Eric Borguet, 22nd Topical Meeting of the ISE, Tokyo, Japan, March 2018
232. “A Combined Thermal and Spectroscopic Analysis of UiO-67 Metal-Organic Frameworks”, Mikaela Boyanich, Isabella Goodenough, Mélessandre Richard, Tianyi Luo, Nathaniel L. Rosi and Eric Borguet, Thermal Analysis Forum of the Delaware Valley, Rutgers Camden, NJ, April 2018
233. “Thermal Analysis of Hazardous Chemical Agent Interactions with Metal-Organic Frameworks under Ultra-High Vacuum”, Isabella Goodenough, Mikaela Boyanich, Mélessandre Richard, Tianyi Luo, Nathaniel L. Rosi and Eric Borguet, Thermal Analysis Forum of the Delaware Valley, Rutgers Camden, NJ, April 2018
234. “A thermal study of interactions between covalently bonded organic frameworks and industrially important analytes”, Venkata Swaroopa Datta Devulapalli, Isabella Goodenough, Mélessandre Richard, Debanjan Chakraborty, Dinesh Mullangi, Ramanathan Vaidhyathan, Eric Borguet. Thermal Analysis Forum of Delaware Valley, April 2018, Rutgers University, Camden, NJ, USA.

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. [Undergraduate author](#))

236. "Catalytic Degradation of Methyl Orange by Robust Nanoparticle Covalent Organic Framework (NP-COF) Hybrid", Venkata Swaroopa Datta Devulapalli, [Edwin Ovalle](#), Debanjan Chakraborty, Ramanathan Vaidhyanathan, Eric Borguet, Philadelphia Inorganic Colloquium, Spring 2018, Philadelphia, PA, USA.
237. "Nerve-agent Simulant Interactions with Functionalized UiO-67 Metal-Organic Frameworks: A TPD, FTIR and Catalytic Study", Isabella Goodenough, Venkata Swaroopa Datta Devulapalli, Méliandre Richard, Tian-Yi Luo, Jonathan Ruffley, J. Karl Johnson, Nathaniel L. Rosi, Eric Borguet, DTRA Surface Science Review, Harvard University, Boston, MA, August 2018
238. "Combining vibrational sum frequency generation and molecular dynamics simulations to probe the effect of ions on solvent structure at mineral-aqueous interfaces" Eric Borguet, ACS 256th National Meeting, Boston, MA, August 2018
239. "Thermal stability of zirconium MOFs and their interactions with ammonia: A temperature programmed in-situ IR study", Venkata Swaroopa Datta Devulapalli, Isabella Goodenough, [Mikaela Boyanich](#), Tian-Yi Luo, Nathaniel L. Rosi, Eric Borguet, Thermal Analysis Forum of Delaware Valley, University of Pennsylvania, Philadelphia, PA, December 2018,
240. "Volume-Dependent Atomic Polarizabilities for Vibrational Spectroscopy", Mark DelloStritto, Ruiyu Wang, Michael Klein and Eric Borguet, APS March Meeting, Boston, MA, March 2019
241. "Ions Induce Order in the Interfacial Water Structure and Change Dynamics at Silica Surfaces, Aashish Tuladhar, Shalaka Dewan, Simone Pezzotti, Flavio Siro Brigiano, Marie-Pierre Gageot, and Eric Borguet, ACS 257th National Meeting, Orlando, FL, April 2019 (A. Tuladhar as invited speaker)
242. "Nerve Agent Simulant Interactions with Functionalized UiO-67 Metal-Organic Frameworks: An TPD, FTIR and Catalytic Study", Isabella Goodenough, Venkata Swaroopa Datta Devulapalli, Melissandre Richard, Tianyi Lou, Jonathan Ruffley, J. Karl Johnson, Nathaniel L. Rosi, Eric Borguet, Philadelphia Inorganic Colloquium, Temple University, Philadelphia PA, May 2019
243. "Thermal stability of UiO-67 zirconium MOFs: the effects of linker functionalization", Venkata Swaroopa Datta Devulapalli, Isabella Goodenough, [Mikaela Boyanich](#), Tianyi Luo, Nathaniel L. Rosi and Eric Borguet, Thermal Analysis Forum of the Delaware Valley, University of Pennsylvania, PA, May 2019
244. "Functionalized UiO-67 Metal-Organic Frameworks: An Ultra-High Vacuum Study", Isabella Goodenough, Venkata Swaroopa Datta Devulapalli, [Mikaela Boyanich](#), Tianyi Luo, Méliandre Richard Nathaniel L. Rosi and Eric Borguet, Nanoporous Materials and Their Application Gordon Research Seminar, Proctor Academy, Andover, NH, August 3, 2019.

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. [Undergraduate author](#))

245. “Interactions between ammonia and UiO-67 zirconium MOFs”, Venkata Swaroopa Datta Devulapalli, Isabella Goodenough, Tianyi Luo, Nathaniel L. Rosi and Eric Borguet, Nanoporous Materials and Their Application Gordon Research Seminar, Proctor Academy, Andover, NH, August 3, 2019.
246. “Interactions of the Chemical Warfare Agent Simulant, Dimethyl Methylphosphonate, with Functionalized UiO-67 Metal-Organic Frameworks”, Isabella Goodenough, Jonathan Ruffley, Tianyi Lou, Méliandre Richard, Nathaniel L. Rosi, J. Karl Johnson and Eric Borguet, Nanoporous Materials and Their Application Gordon Research Conference, Proctor Academy, Andover, NH, August 4-9, 2019.
247. “Hydrolysis of nerve agent simulant DMNP by zirconium MOFs – Identification of active species”, Venkata Swaroopa Datta Devulapalli, Méliandre Richard, Tianyi Lou, Nathaniel L. Rosi, and Eric Borguet, Nanoporous Materials and Their Application Gordon Research Conference, Proctor Academy, Andover, NH, August 4-9, 2019
248. Probing the Acidity and Basicity of Thermally Activated Zirconium Metal-Organic Frameworks, McDonnell, R.P., Devulapalli, V.S.D., De Souza, M., Luo, T-Y., Rosi, N.L., Borguet, E. 1st Eastern Analytical Symposium September Virtual Student Symposium (EAS 2020), September 2020
249. “On the Role of α -Alumina in the Origin of Life: Surface Driven Assembly of Amino Acids”, Ruiyu Wang, Rick Remsing, Michael Klein, Eric Borguet, and Vincenzo Carnevale, ACS National Meeting, April 2021
250. “Water hydrophilic behavior at water/alumina interfaces”, Ruiyu Wang, Rick Remsing, Michael Klein, Eric Borguet, and Vincenzo Carnevale, ACS National Meeting, April 2021
251. “An In-Situ Investigation of the Binding Preferences of Polar Molecules with the UiO-type Metal-Organic Framework”, Binh-An Nguyen, Isabella Goodenough, [Mikaela Boyanich](#), Venkata Swaroopa Datta Devulapalli, Matheus De Souza, Nathaniel Rosi, and Eric Borguet, ACS National Meeting, April 2021
252. “Effect of Denticity and Orientation Control on Single Molecule Charge Transport”, Parisa Yasini, Tim Albrecht, Manuel Smeu, Eric Borguet, ACS National Meeting, April 2021
253. “An In-Situ Investigation of the Binding Preferences of Polar Molecules with the UiO-type Metal-Organic Framework”, Binh-An Nguyen, Isabella Goodenough, [Mikaela Boyanich](#), Venkata Swaroopa Datta Devulapalli, Matheus De Souza, Nathaniel Rosi, Eric Borguet, ACS National Meeting, April 2021
254. “Probing UiO-67 Metal-Organic Framework Defects through the Diffusion of Acetonitrile”, Ryan McDonnell, Venkata Swaroopa Datta Devulapalli, Isabella Goodenough, Prasenjit Das, Nathaniel L. Rosi, Eric Borguet, ACS National Meeting, April 2021

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. Undergraduate author)

255. "Tuning the Lewis Acidity of Metal-Organic Frameworks for Enhanced Catalysis", Venkata Swaroopa Datta Devulapalli, Melissandre Richard; Tian-Yi Luo; Mattheus L. De Souza; Nathaniel. L. Rosi; Eric Borguet, ACS National Meeting, April 2021
256. "Catalytic degradation of organic pollutants using hybrid covalent organic frameworks", Venkata Swaroopa Datta Devulapalli, Edwin Ovalle; Debanjan Chakraborty; Ramanathan Vaidhyanathan; Eric Borguet, ACS National Meeting, April 2021
257. "The Intrinsic Thermal Framework Stability of UiO-67 Metal-Organic Frameworks", Isabella Goodenough, Venkata Swaroopa Datta Devulapalli, Wenqian Xu, Mikaela Boyanich, Tian-yi Luo, Mattheus L. De Souza, Melissandre Richard, Nathaniel L. Rosi, Eric Borguet, ACS National Meeting, April 2021
258. "Influence of the spatially heterogeneous charge distribution on α -Al₂O₃(0001) on the interfacial organization of acetonitrile-water mixtures", Somaiyeh Dadashi, Bijoya Mandal and Eric Borguet, ACS National Meeting, April 2021
259. "Probing the interfacial solvent environment by measuring the vibrational lifetime of SCN⁻ at the α -Al₂O₃(0001)-aqueous interface", Bijoya Mandal, Somaiyeh Dadashi, Mark DelloStritto, Michael Klein, Eric Borguet, ACS National Meeting, April 2021
260. "In Situ Thermal Analysis of Zirconium Metal-Organic Frameworks: A Complementary Approach", Goodenough, I., Borguet, E., 2021 North American Thermal Analysis Society Virtual Conference, virtual meeting, August 2021
261. "In Situ Infrared Study of Acetonitrile Diffusion into UiO-67 Metal-Organic Frameworks" L. McDonnell, E. Perkins, R.P. McDonnell, V.S.D. Devulapalli, I. Goodenough, P. Das, N.L. Rosi, E. Borguet, Eastern US YCC Partnership Research Symposium and Chemistry Career Expo, August 2021
262. "Simple Analytical Tools to Understand and Evaluate the Impact of Lewis Acidity on the Catalytic Activity of Metal Oxyhydroxides", Venkata Swaroopa Datta Devulapalli and Eric Borguet, Fall Eastern Analytical Symposium, Crowne Plaza Princeton-Conference Center, Plainsboro, NJ, November 2021
263. "Probing Thermally Activated Defects in UiO-67 Metal-Organic Frameworks Using Temperature-Programmed Spectroscopy", L. McDonnell, E. Perkins, R.P. McDonnell, V.S.D. Devulapalli, I. Goodenough, P. Das, N.L. Rosi, E. Borguet, TAFDV Virtual Student Poster Session and Business Meeting, January 2022
264. "Probing the vibrational density of states (VDOS) at oxide aqueous interfaces", Yunqian (Joy) Zou, Bijoya Mandal, Somaiyeh Dadashi, Mark DelloStritto, Michael Klein, Eric Borguet, ACS National Meeting, San Diego, CA, March 2022
265. "Detecting centrosymmetric molecules at interfaces by vibrational sum frequency generation spectroscopy", Bijoya Mandal, Somaiyeh Dadashi, and Eric Borguet, ACS National Meeting, San Diego, CA, March 2022

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. [Undergraduate author](#))

266. "Impact of nuclear quantum effects on interfacial hydrogen bonding network", Somaiyeh Dadashi, Bijoya Mandal, Aashish Tuladhar and Eric Borguet, ACS National Meeting, San Diego, CA, March 2022
267. "Understanding Binding Sites and Defects in UiO-67 Metal-Organic Frameworks: An in-situ Infrared Spectroscopic Study", Venkata Swaroopa Datta Devulapalli, [Ryan McDonnell](#), Isabella Goodenough, Prasenjit Das, Nathaniel L. Rosi, Eric Borguet, Summer ACS-Middle Atlantic Regional Meeting, New Jersey Institute of Technology, Trenton, NJ, June 2022
268. "Charged solutes show faster vibrational relaxation at oxide/water interfaces" Bijoya Mandal, Somaiyeh Dadashi, Mark DelloStritto, Michael Klein, Eric Borguet, 10th International Conference on Coherent Multidimensional Spectroscopy (CMDS), UT Austin, Texas, June 2022
269. "Charged solutes show faster vibrational relaxation at oxide/water interfaces" Bijoya Mandal, Somaiyeh Dadashi, Mark DelloStritto, Michael Klein, Eric Borguet, 2022 Early Career Symposium at CMDS, UT Austin, Texas, June 2022
270. "Determining interfacial refractive index of water using surface specific vibrational sum frequency spectroscopy" Somaiyeh Dadashi, Aashish Tuladhar, Bijoya Mandal, Olivia Martin, Rick Remsing and Eric Borguet; 2022 Gordon Research Seminar on Vibrational Spectroscopy, University of New England, Biddeford, Maine, July 2022
271. "Nuclear quantum effects on vibrational relaxation of interfacial water", Somaiyeh Dadashi, Narendra M Adhikari, Stefan Piontek, Zheming Wang and Eric Borguet; 2022 Gordon Research Conference on Vibrational Spectroscopy, University of New England, Biddeford, Maine, July 2022
272. "Understanding the pH dependence of hydroxyls stretch at CaF₂/H₂O interfaces", Yunqian (Joy) Zou, Ali Eftekhari-Bafrooe and Eric Borguet; 2022 Gordon Research Seminar on Water and Aqueous Solutions, Holderness, NH, July 2022
273. "The dynamics of solutes modulated by the interface solvent density of states", Yunqian (Joy) Zou, Bijoya Mandal, Somaiyeh Dadashi, Mark DelloStritto, Michael Klein, and Eric Borguet; 2022 Gordon Research Conference on Water and Aqueous Solutions, Holderness, NH, July 2022
274. "Zirconium oxyhydroxide catalyzed oxidation of cysteine," [Caitlin My Hanh Le](#), Venkata Swaroopa Datta Devulapalli, Ayan Bhattacharyya, Sharan Dhar, Pragalb Sekhar, Ramanathan Vaidhyanathan, and Eric Borguet, Philadelphia Inorganic Colloquium. The College of New Jersey, NJ, April 2023.
275. "Sorption Capacity of DMMP on an Amino-Functionalized UiO-68 Metal-Organic Framework", [Lauren Towers](#), Hao Li, Sharan Dhar, [Edward Jang](#), and Eric Borguet, Philadelphia Inorganic Colloquium. The College of New Jersey, NJ, April 2023
276. "Amine-group engineering of UIO-68 towards sorption of nerve-agent simulant", Hao Li, Sharan Dhar, [Lauren Towers](#), [Edward Jang](#), and Eric Borguet, Philadelphia Inorganic Colloquium. The College of New Jersey, NJ, April 2023

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. Undergraduate author)

277. "Temperature programmed desorption study to evaluate MOFs potential for CO₂ capture", Sharan Dhar, Venkata Swaroopa Datta Devulapalli, [Giao Vu](#), Hao Li, Eric Borguet, Philadelphia Inorganic Colloquium. The College of New Jersey, NJ, April 2023
278. "Self-Assembled Monolayers of Alkanethiols on SiO₂", Wasim Nawaj, Ayan Bhattacharyya, Somaiyeh Dadashi, [Belinta Naomi Simiyu](#), and Eric Borguet, Philadelphia Inorganic Colloquium. The College of New Jersey, NJ, April 2023
279. "Zirconium oxyhydroxide catalyzed oxidation of cysteine," [Caitlin My Hanh Le](#), Venkata Swaroopa Datta Devulapalli, Ayan Bhattacharyya, Sharan Dhar, Pragalb Sekhar, Ramanathan Vaidhyanathan, and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC). Lebanon Valley College, Annville, PA, April 2023.
280. "Using Acetone to Probe Changes in Adsorption Properties of UiO-68-(NH₂)₂ Caused by Water Diffusion", [Edward Jang](#), Hao Li, Sharan Dhar, [Lauren Towers](#), and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC). Lebanon Valley College, Annville, PA, April 2023.
281. "Deposition and Self-Assembly of Thiols on SiO₂ Surfaces", [Belinta Simiyu](#), Wasim Nawaj, Ayan Bhattacharyya, Somaiyeh Dadashi, and Eric Borguet Intercollegiate Student Chemists Convention (ISCC). Lebanon Valley College, Annville, PA, April 2023.
282. "Adsorption of polymers at carbon surfaces probed by vibrational sum frequency generation spectroscopy", [Max Thurm](#), Somaiyeh Dadashi, Ziyad Thekkayil, and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC). Lebanon Valley College, Annville, PA, April 2023.
283. Developing Cost-Effective Homemade Goniometer of Static and Dynamic Contact Angles, [Naomi Ross](#), Yunqian (Joy) Zou and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC). Lebanon Valley College, Annville, PA, April 2023.
284. "Sorption Capacity of DMMP on an Amino-Functionalized UiO-68 Metal-Organic Framework", [Lauren Towers](#), Hao Li, Sharan Dhar, [Edward Jang](#), and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC). Lebanon Valley College, Annville, PA, April 2023.
285. "Zirconium oxyhydroxide catalyzed oxidation of cysteine," [Caitlin My Hanh Le](#), Venkata Swaroopa Datta Devulapalli, Ayan Bhattacharyya, Sharan Dhar, Pragalb Sekhar, Ramanathan Vaidhyanathan, and Eric Borguet, ACS National Meeting, San Francisco, CA August 2023.
286. "Afterglow Photocatalysis using Titanium Metal Organic Framework (Ti-MOF): An Approach to Degrade Chemical Warfare Agents", [Jessica Azele Kolora](#), Hao Li, Sharan Dhar, and Eric Borguet, American Chemical Society & the Younger Chemists Committee (YCC) Philadelphia Society Poster Session. Philadelphia, PA, August 2023.
287. "Development of ultrafast broadband tunable repetition rate mid-IR sources", Ziyad Thekkayil, Somaiyeh Dadashi, Eric Borguet, American Chemical Society & Younger Chemists Committee (YCC) Philadelphia Society Poster Session. Philadelphia, PA, August 2023

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. [Undergraduate author](#))

288. “NIR-vSHG: A new nonlinear vibrational spectroscopy of interfaces”, Somaiyeh Dadashi, Hao Li, Bijoya Mandal, Eric Borguet, Advanced Solid State Lasers 2023, Tacoma, WA, October 2023
289. “Afterglow Photocatalysis using Titanium Metal Organic Framework (Ti-MOF): An Approach to Degrade Chemical Warfare Agents”, [Jessica Azele Kolora](#), Hao Li, Sharan Dhar, and Eric Borguet, Philadelphia AMP Research Symposium and Mentoring Conference, Philadelphia, PA, October 2023.
290. “Second Harmonic Generation Spectroscopic Study of Weyl Semimetal Mn₃Sn with Broken Time-Reversal Symmetry”, Ziyad Thekkayil, Somaiyeh Dadashi, Prajwal Laxmeesha, Steven May and Eric Borguet, MRS Fall 2023 Meeting, Boston, MA, November 2023
291. “Hydrogen Bonding Induced Nonlinear ν (CD) Infrared Cross Sections”, [Ryan McDonnell](#), Venkata Swaroopa Datta Devulapalli, Tae Hoon Choi, Laura McDonnell, Isabella Goodenough, Prasenjit Das, Nathaniel Rosi, Karl Johnson, and Eric Borguet, APS March Meeting, Minneapolis, MN, March 2024
292. “Ultrafast Vibrational Sum Frequency Dynamics of SCN⁻ and the Impact of Interfacial Hydrogen-Bonding Networks on the Vibrational Density of States”, Y Zou, B Mandal, M DelloStritto, H Li, S Dadashi, and E Borguet, APS March Meeting, Minneapolis, MN, March 2024
293. “Redox properties of transition metal oxides NiO₂ and CoO₂ from a defect perspective”, R Sah, M Zdilla, E Borguet and JP Perdew, APS March Meeting, Minneapolis, MN, March 2024
294. “Underestimated Impact of Solvent Exchange on the Adsorption Capacity of Metal-Organic Frameworks”, [Lauren Towers](#), Hao Li, Sharan Dhar, and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Lincoln University, PA, April 2024.
295. “Surface Modification of SiO₂ with Alkanethiols”, [Belinta Simiyu](#), Wasim Nawaj, Somaiyeh Dadashi, Ayan Bhattacharyya and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Lincoln University, PA, April 2024.
296. “WO₃ as afterglow photocatalyst for degradation of Azo dyes to Combat Water Pollution”, [Jessica Azele Kolora](#), Hao Li, Sharan Dhar, and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Lincoln University, PA, April 2024.
297. “Improvement of water oxidation catalysis by modulation of electronic structure in layered materials”, Michael Zdilla, Ran Ding; Parisa Yasini, Haowei Peng, John Perdew, Raj Sah; Jose Mendoza-Cortes, Daniel Maldonado-Lopez, Eric Borguet, Jacob Henebry, Amuthan Dekshinamoorthy, ACS National Meeting, Denver, CO, August 2024.
298. “Metal Oxyhydroxides for Glycosidic Bond Hydrolysis”, [Stephen Autieri](#), Thanuka Ralalage, Hao Li, and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Muhlenberg College, Allentown, PA, March 2025.

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. Undergraduate author)

299. "Catalytic Role of Transition Metals in ATP Hydrolysis", Randy Espinal, Thanuka Ralalage, Hao Li, and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Muhlenberg College, Allentown, PA, March 2025.
300. "Lewis Acidity and Role of pH on Phosphate Bond Hydrolysis", Eliza Madden, Sharan Dhar, Hao Li, and Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Muhlenberg College, Allentown, PA, March 2025.
301. "Impact Of Nuclear Quantum Effects on the Vibrational Relaxation of Interfacial Water"; Ziyad Thekkayil, Somaiyeh Dadashi, Aashish Tuladhar, Eric Borguet, ISMS 2025, University of Illinois at Urbana-Champaign, IL, June 2025
302. "Dual-Site Active Zirconium Oxyhydroxide Functionalized Covalent Organic Framework for Efficient Di-sulfide Bond Formation", Sharan Dhar, Hao Li, Venkata Swaroopa Datta Devulapalli, and Eric Borguet, American Conference on Inorganic Nanoscience Mount Snow Resort, West Dover, Vermont, July 2025
303. "Dehydroxylation and Deuteration of Buried Free-OH in Muscovite Mica", Ziyad Thekkayil, Somaiyeh Dadashi, Sharan Dhar, and Eric Borguet, YCC 2025, University of Pennsylvania, Philadelphia, PA September 2025
304. "Effective and Safer Visible-Light-Active Photocatalytic Strategy for CWA Detoxification Based on Modified WO₃ Nanoparticles", Thanuka S. R. H. Ralalage, and Eric Borguet, YCC 2025, University of Pennsylvania, Philadelphia, PA September 2025
305. "Effects of surface defects and the addition of transition metal on the reactivity of manganese oxide for the electrochemical oxygen evolution reaction", Farbod Alimohammadi Uddipana Kakati, Parisa Yasini, Benjamin Roe, Eric Borguet, Daniel Strongin, ACS National Meeting, Atlanta, GA, March 2026
306. "Utilizing Metal Oxyhydroxides as Nanozymes for Epoxide Ring-Opening Reactions", Stephen Autieri, Thanuka Ralalage, Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Ursinus College, Collegeville, PA, April 2026
307. "Cross-aldol Condensation of Benzaldehyde and Acetone to Benzalacetone Catalyzed by Metal Oxyhydroxides", Emma Battista, Sharan Dhar, Thanuka Ranatunga, Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Ursinus College, Collegeville, PA, April 2026
308. "Hydrolysis of Carboxylic Esters Biomimetically Catalyzed by Metal Oxyhydroxides", Adrian Mykhnych, Thanuka Ralalage, Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Ursinus College, Collegeville, PA, April 2026
309. "Application of Metal Oxyhydroxides Nanozymes for Catalytic ATP Hydrolysis", Camilla Tahirova, Thanuka Ralalage, Eric Borguet, Intercollegiate Student Chemists Convention (ISCC), Ursinus College, Collegeville, PA, April 2026

ERIC BORGUET

Contributed Papers (contd.) (Presenter Underlined. [Undergraduate author](#))

310. “Are Defects Always Beneficial in Photocatalysis? Insights from Organophosphate Detoxification”, Thanuka Ranatunga, Sharan Dhar, Eric Borguet, Catalysis Club of Philadelphia, Springfield, PA, April 2026
311. “Framework-Free M(IV) Oxyhydroxide Species Outperform Zr₆-Based MOFs in Peptide Hydrolysis”, Sharan Dhar, Augustin Braun, Hao Li, [Haydn Sage](#), Ayan Bhattacharyya, Ramanathan Vaidhyanathan, Eric Borguet, Catalysis Club of Philadelphia, Springfield, PA, April 2026
312. “Dark photocatalysis driven by WO₃ nanoparticle polarons” Hao Li, Sharan Dhar, [Jessica Azele Kolora](#), Venkata Swaroopa Datta Devulapalli, Eric Borguet, Groupe d’Etude en Catalyse, La Londe-les-Maures, France, May 2026

ERIC BORGUET

External Research Collaborations

Professor Marie-Pierre Gageot (Université Paris-Saclay, France) is an expert in the simulations of the structure of the solid-aqueous interfaces. We are collaborating on understanding how ions affect the organization of water molecules and the resulting vibrational Sum Frequency spectra. We have published one joint paper.

Dr. Mohsen Yeganeh, a Senior Scientist at Exxon-Mobil and expert in nonlinear optical studies of surfaces, has been collaborating with us on the effect of ions on solvent structure and reactivity at of aqueous mineral interfaces. We have published one joint paper.

Professor J. Karl Johnson (Chemical Engineering, University of Pittsburgh) and I have been investigating the role of chemical functionality and topological heterogeneity on adsorption of simple gases on carbon materials. We have 3 joint papers. Together with Jill Millstone, Nat Rosi (Chemistry, Pitt) we are collaborating on a DTRA funded project on plasmonic catalysis and sensing that has yielded 3 additional joint papers.

Professor Svetlana Neretina (Temple, Engineering) is an expert in creating sophisticated supported metal nanostructures. We have used these for plasmonic catalysis and sensing. We have published three joint papers.

Professor Manuel Smeu (Binghamton University) is expert in electronic structure and transport calculations. Together we have investigated how molecular orientation and denticity electronic properties of molecular junctions can influence charge transport. We have published four joint papers and have others in preparation.

Dr. Jacqueline H. Hines (Applied Sensor Research & Development Corporation, Arnold, MD) and my group have been investigating the development of chemical and biological sensors based on surface acoustic wave sensor devices. We have obtained NASA STTR and DTRA funding to support this work. We have published four joint papers.

External Research Collaborations (contd.)

Former collaborations:

- Dr. Eric Freysz (CPMOH, CNRS, Bordeaux, France) and my group used nonlinear optics to probe the spectroscopy and dynamics of interfaces. A particular focus of common interest was the development of Infrared Second Harmonic Generation (IR SHG) spectroscopy, an extension of spectroscopic SHG to the IR. We used this to probe semiconductor interfaces (as reported in our 2003 JCP paper) near the bandgap.
- Dr. Evgeni Gousev (IBM, Advanced Gate Dielectrics Microelectronics Division, TJ Watson Research Center now at Qualcomm) is an expert in the development of novel high k dielectrics for the next generation of microelectronic devices. Our collaboration combines our expertise in the organic and inorganic modification semiconductor interfaces as well as optical probing of interfacial charge and electric fields with IBM and Qualcomm's materials development capabilities. A manuscript reporting our results was published in the Journal of Applied Physics in 2005.
- Professor James Kubicki's group (Penn State, Geosciences) structure and dynamics at charged mineral/liquid interfaces. We jointly advised a student, Kramer Campen (PSU), who used SHG to probe adsorption on charged colloidal particles in suspension. We published several publications combining experiment and theory.
- Professors Stephan Irle (Nagoya) and Keiji Morokuma (Emerson Center for Scientific Computation at Emory University) perform theoretical investigations of single-walled carbon nanotube (SWNT) oxidization and its influence on nanotube adsorption capacity in close collaboration with our experiments. Their objective is the development of a thorough understanding of SWNT oxidization at the atomic level, and the elucidation of the strong influence of oxidization on nanotube adsorption properties observed in our experiments. We published 4 joint papers.
- Professor Robert Giuliano's group (Villanova, Chemistry) is interested in the chemical functionalization of graphitic carbon nanofibers. We have used Fluorescence Labeling of Surface Species (FLOSS) to determine the oxygen functionality present and how it evolves as a function of chemical treatment. We published one joint paper.
- Professor Radisav Vidic (Civil and Environmental Engineering, University of Pittsburgh) and I investigated the role of chemical functionality and topological heterogeneity of nanoporous carbon materials, including single-walled carbon nanotubes (SWNTs), on adsorption and capture of volatile species. Our DOE funded research focused on environmental applications. We co-advised three Ph.D. students: Dr. Seokjoon Kwon, Dr. Xue Feng and Dr. Wenguo (Wayne) Feng. We have more than ten joint papers.
- Professor Remi Chauvin and Dr. Valérie Maraval (Laboratoire de Chimie de Coordination du CNRS, Toulouse) are experts in the synthesis of *carbo*-mers, intrinsically interesting chemical species with potential nanoelectronics applications. We are exploring their properties at the single molecule level and have published one joint paper.

External Research Collaborations (contd.)

Former collaborations:

- Professor Mike Therien's group (Duke, Chemistry) has synthesized novel molecular wires focusing on the optimization of the molecular core and the functional groups that connect the molecular wires to electrodes. Our group is measuring the single molecule conductivity of these wires. Together we are refining the structure of the molecular wires to optimize conductivity and other functions. We have published three joint papers.
- Professor Mark Ratner and Dr. Manuel Smeu (Northwestern University) are providing computational insight into the microscopic details of our single molecule measurements. We have published four joint papers.

Internal Collaborations

Professor Michael Klein and Dr. Vincenzo Carnevale are experts in molecular dynamics simulations of aqueous systems. Together we have investigated how charge localization can influence water structuring and ion adsorption at interfaces. We have published nine joint papers.

Professor Robert Levis (Temple, Chemistry) is an expert in the coherent control of laser driven process. We have used this for making tailored nanoparticles. We have one joint paper published.

Professors Daniel Strongin and Michael Zdilla (Temple, Chemistry) are expert in the catalytic properties of layered metal oxides. We have used these to understand oxygen evolution reaction catalysis. We have published eight joint papers.

Professor John Perdew and Dr. Haowei Peng (Temple, Physics) are experts in electronic structure calculations. Together we have investigated how the electronic properties of molecular junctions can influence charge transport. We have published two joint papers.

ERIC BORGUET

Teaching Activities

Undergraduate Teaching at Temple University

SCTC 1002 STEM Scholars Seminar	Fall 2017-2021, Spring 2018-2022
Chem 0821 Chemistry of Wine (co-instructor R. J. Levis in 2012)	Fall 2012, 2013, 2014
Chem 1951 Honors General Chemistry	Fall 2008
Chem 1952 Honors General Chemistry	Spring 2009
Chem 2891 Introduction to Undergraduate Research (co-instructor R. J. Levis)	Fall 2012
Chem 3302 (232) Physical Chemistry II	Fall 2005, 2009, 2010, 2018-2021, Spring 2026
Chem 3301 (231) Physical Chemistry I	Fall 2004, 2006, 2007, 2023, 2024 - Spring 2011, 2012
SCTC 1001 CST First Year Seminar	Fall 2019

Graduate Teaching at Temple University

Chem 5305 Chemical Kinetics	Fall 2017, 2025, 2026 Spring 2016, 2017, 2018, 2025
Chem 8301 Molecular Spectroscopy	Spring 2006-08, Fall 2011, Spring 2013-14, 2020-24
Chem 8310 Fundamentals of Condensed Phase Behavior	Spring 2018, 2019

(co-instructors Dr. Vincenzo Carnevale and Dr. Richard Remsing)

Undergraduate Teaching at the University of Pittsburgh

Chem 0810 Contemporary Issues and Public Policy	Spring 1997
Chem 1410 Physical Chemistry I	Fall 1998, 1999, 2001, 2002, Spring & Fall 2003
Chem 1420 Physical Chemistry II	Spring 1999, 2000, 2001, 2002, 2004
Chem 1710 Independent Undergraduate Research	1996-2003
Phys 1160 Photonics	Fall 2000

(co-instructors Professors David Snoke, David Waldeck, Hong Koo Kim)

NSF-REU Research Experience for Undergraduates	Summer 1998-2003
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Graduate Teaching at the University of Pittsburgh

Chem 2420 Graduate Quantum Mechanics	Fall 1996, 1997
Chem 2490 Seminar in Physical Chemistry	1997-2003
Chem 3520 Frontiers in Surface Science	Spring 1999, 2000, 2001, 2002, 2003

(co-instructor Professor John T. Yates, Jr.)

Perspectives in Chemical Science	1998-2003
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ERIC BORGUET

Student Mentoring and Advising

•Undergraduate Student Research Associates (125 total – 21 are co-authors on papers*, 47 continued to graduate/professional school#)

8 Temple CARAS awards, 6 Temple Diamond Scholars, 8 Temple President's Scholars, 2 Temple Provost's Scholars, 3 Temple University Frances Velay Fellowships

- 1) Mr. Robert Bartosh ('96-'97) Pitt B.Sc. ('97) Working in chemical industry.
- 2) Mr. Richard Query ('98) Pitt B.Sc. ('98) Consultant
- 3) #Dr. Andy Vagdani (Physics-REU '98 from Cornell) PhD. Harvard Applied Physics. Associate Technology Officer, MIT Lincoln Laboratory
- 4) #Dr. Bill Lokar (Chemistry-REU '98) B.Sc. Allegheny College ('99), Ph.D. in Chemistry Virginia Tech. Assistant Professor Chemistry, Lynchburg College
- 5) Mr. Michael James ('98) Pitt B.Sc. ('99)
- 6) #Ms. Ella Moore ('98-'99) Pitt B.Sc. ('99) Graduate School of Education Pitt
- 7) *Mr. Russ Dudek ('99) Pitt B.Sc. ('99) R&D scientist at Compunetics.
- 8) #Dr. An Ngo Thien (Physics REU '99) Ph.D. Chemistry McGill (2010) Postdoc NRC Ottawa
- 9) #Mr. Christopher Lea (Chemistry REU '99) B.Sc. Hampton Sidney ('01) Chemistry graduate studies at UIUC
- 10) *Mr. Darren Wynn (Spring & Summer '00) Pitt B.Sc. ('00) Working in chemical industry.
- 11) *#Dr. Cédric Hurth (Summer '00) Ecole Normale Supérieure de Cachan, France. Ph.D. in Chemistry from Texas A&M/Bordeaux ('05) Post-Doctoral Fellow at the University of Texas ('06), Post-Doctoral Fellow at Arizona State University ('08)
- 12) *Mr. Justin Russell (Physics REU '00) B.Sc. University of West Georgia ('01)
- 13) *#Dr. Catherine Faler ('00-'01) Pitt B.Sc. ('01) Ph.D. in Chemistry from Penn ('07) Research position with ExxonMobil in Houston TX ('07)
- 14) *#Dr. Eric McArthur ('00-'02) Pitt B.Sc., Ph.D. in Chemistry from Columbia University ('08) Post-Doctoral Fellow at Northwestern University ('08)
- 15) #Dr. Lindsay Bombalski ('01-'02) Pitt B.Sc. PhD in Chemistry from CMU ('07) Post-Doctoral fellow at NETL ('08)
- 16) *#Dr. Julie Fiore ('01-'02) Pitt B.Sc. Chemistry graduate studies at U. Colorado - Boulder. (Fall'03) Ph.D. Chemical Physics (2011)

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

- 17) *#Dr. Arthur McClelland ('02) Pitt B.Phil. Ph.D. in Applied Physics, University of Michigan. (2009) Postdoctoral fellow Northeastern University (2009-)
Arthur defended a B.Phil. thesis, Pitt's undergraduate Honors thesis, "Femtosecond Time-Resolved Second Harmonic Generation Investigations of Hot Carrier Dynamics at Germanium Interfaces".
- 18) #Dr. Florent Dauchy ('02) Université Paris VI-Jussieu, France. Ph.D. in Materials Chemistry Cranfield England ('08)
- 19) #Ms. Tiffany Newsome (Physics REU '02) B.S. in Computer Science from Bennett College ('07) MS in Computer Science
- 20) #Ms. Jasmine Ma (Physics REU '03 and Fall '03) Senior at Carnegie Mellon University. Ph. D. graduate studies in Physics at U Texas-Austin.
- 21) #Dr. Kessler McCoy-Simandle (Fall '03) Northwestern University School of Medicine ('07), IRACDA Postdoctoral Research and Teaching Fellow at Albert Einstein College of Medicine
- 22) #Ms. Jennifer O'Patchen (Spring & Summer '04) Post-bac at Pitt. Chemistry graduate studies at Colorado State University. (Fall '04)
- 23) Ms. Ian Won Law (Fall 2004) B.Sc. Temple
- 24) #Dr. Roozbeh Ghavami (Fall 2004, Spring 2005) B.Sc. Temple 2007, M.Sc. Philadelphia College of Osteopathic Medicine (2009). Medical School (2010-)
- 25) #Ms. Kishwer Vikaas (Spring 2005) Diamond Scholar, B.A. English Temple (2007),
- 26) *#Dr. Allison Pymer (Summer 2005 – Summer 2008), B.Sc. Temple ('08), Diamond Scholar. Philadelphia Section Poster Prize awardee (2006). Henry A. Sloviter Student Research Award in Chemistry (2006) First place at 70th Intercollegiate Student Chemists Conference (2006). Chemistry Graduate School at Berkeley (Fall 2008) Ph.D. 2014. Advanced Chemist at Eastman Chemical Company (2014-)
- 27) Mr. Daniel Ritterback (Summer 2005, Fall 2005), Diamond Scholar, B.Sc. Temple ('08)
- 28) #Dr. Hai Le (Summer 2005) Sophomore at Hartwick College, Emerson Scholarship, Chemistry Graduate School at Boston College (Fall 2008). Research chemist at Adesis, DE.
- 29) Mr. Fuyuo Nagayama (Summer 2005, Fall 2005) High School student (Central High School Philadelphia). Undergraduate studies at Harvard (Fall 2007)
- 30) Mr. Richard C. Drach (Spring 2006) B.S. in Biochemistry from Temple ('07)
- 31) Mr. Oleg Grapp (Summer 2006) Sophomore at Temple, Diamond Scholar

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

- 32) Mr. Victor Browne (Summer 2006) High School student participant in Physician Scientist Training Program at Temple
- 33) [#]*Dr. Sean Keuleyan (Fall 2006 - Summer 2008, REU) Started research while a junior at Temple. Richard Asher Paclin Memorial Prize winner (2008). Chemistry Graduate School at the University of Chicago (Fall 2008). Ph.D. (2013). Research Scientist at Voxel Nano, Oregon (2014-)
- 34) [#]Dr. Elom Amoussou-Kpeto (Spring, Summer 2007, REU) Biochemistry B.Sc. (*magna cum laude*) Temple 2009. Double recipient of the 2007-08 Hazel M. Tomlinson, Ph.D. Memorial Scholarship in Chemistry, Beau and Shirley Brown Scholarship in Chemistry (2008). Awarded Camille and Bill Cosby Scholarship in Science (2008). Medical School at Penn State (Fall 2009). M.D. (2013). Family Medicine Erie, PA (2014-)
- 35) Mr. Heidar J Albandar (Temple'07).
- 36) ^{*}Mr. Vivek Prakash (Summer 2007, 2008, 2009) High School student participant in Physician Scientist Training Program at Temple. Undergraduate at Northwestern University (Fall 2010).
- 37) [#]Dr. Aseem Malhotra (Summer 2008-Spring 2011) Medical Scholars program. Started research in freshman year at Temple. URIF awardee (2010). Diamond Scholar (Summer 2009). Double CARAS grant awardee (2009, 2010). URIF Travel Grant (2010) Medical School at Temple (Fall 2012). Urology Resident University of Pennsylvania (2016)
- 38) [#]*Dr. Gordon (Cheuk Fai) Chiu (Summer 2008 - Summer 2010) Started research after sophomore year at Temple. Temple Chemistry B.Sc. 2010. Richard Asher Paclin Memorial Prize (2010). EAS Student Award (2009). Poster prize at the Nanotechnology Institute and The Energy Commercialization Institute Conference (2009). First prize at First prize at Intercollegiate Student Chemists Conference (2009). Awarded CARAS grant (2009). Chemistry graduate program at University of Pittsburgh (Fall 2010). Postdoctoral Research Associate (ORISE) at National Energy Technology Laboratory (2017). Research Scientist PPG Pittsburgh
- 39) ^{*}*Dr. Richard Ronca (Summer 2008) B.Sc. Temple ('08). Attending Temple Medical School (Fall 2008).
- 40) Ms. Baofang Zhao (Summer 2009-Spring 2010) Started research after sophomore year at Temple. Awarded CARAS grant (2010). Temple Pharmacy (Fall 2010).
- 41) Ms. Gwenn Pallier (Summer 2009) Ecole Supérieure d'Optique, France.
- 42) [#]Dr. Aurélie Chenel, École Normale Supérieure de Cachan, France. (Spring 2010). Ph.D. Theoretical Chemistry, Université de Paris-Sud (2014)
- 43) [#]Ms. Shanshan Wu (Fall 2009-Summer 2010) Started research in junior year at Temple. Temple Pharmacy (Fall 2010)
- 44) [#]Ms. Lan Pham Nguyen (Summer 2010-Spring 2012) Temple Chemistry B.Sc. 2011 Chemistry M.Sc. at Temple University. Temple MBA program

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

45) Ms. Vivian Liu (Summer 2010)

46) Mr. Aleksey Shubin (Summer 2010)

47) #Dr. Heather Vanselow (Fall 2010-Spring 2011) Temple Chemistry B.Sc. 2011 Awarded CARAS grant (2011). Beau and Shirley Brown Scholarship in Chemistry (2011). Invited to ACS Physical Chemistry Symposium Workshop for Undergraduate Chemistry Majors (2011) Temple VPUS Travel Grant (2011). Worked with US Food and Drug Administration. Chemistry graduate program Cornell (Fall 2012). Research Scientist (Corning)

48) *#Ms. Uduak F. Udoeyo (Summer 2011-Spring 2013) Temple Chemistry B.Sc. 2013 Temple University NIH MARC Program (2011), REU at U. of Michigan (Summer 2012), EAS Student Award (2012). PREP program at UNC Chapel Hill (Summer 2013). Public Health Graduate program (Drexel, Fall 2014)

49) Ms. Chigoziem Oguh (Summer 2011-Fall 2011) Hazel M. Tomlinson, Ph.D. Memorial Scholarship (2011).

50) #Dr. Nicole Haloupek (Summer 2011-Spring 2012) Hazel M. Tomlinson, Ph.D. Memorial Scholarship (2011). Awarded CARAS grant (2011). Philadelphia ACS Section Scholastic Achievement Award (2012). Temple Biochemistry B.Sc. 2012. Biosciences graduate program Berkeley (Fall 2012).

51) #Dr. Ashley Truxal (Summer 2011-Spring 2013) Awarded CARAS grant (2011). REU at U. of Michigan (Summer 2012). TASSEP at UPMC, Paris France (Fall 2012). Scholarship from Master's Program of Chemistry (Université Pierre et Marie Curie) as first TASSEP exchange student in their undergraduate chemistry program (September 2012). Temple University Albert B. Brown Chemistry Scholarship (September 2012). Temple University Study Abroad Scholarship (September 2012). Honorable mention at ACS YCC Philadelphia poster session (February 2013). Philadelphia ACS Section Scholastic Achievement Award (2013). Temple Chemistry B.Sc. 2013. Chemistry graduate program Berkeley (Fall 2013).

52) Mr. Navin Rao, Penn State Abington (Summer 2012)

53) Mr. Pádraig B. Glenn (Summer 2011-Fall 2012)

54) Mr. Vu Nguyen (Summer 2011)

55) Ms. My Hoang (Summer 2012-Spring 2013)
Awarded CARAS grant (2011). Poster prize at TAFDV conference, December 2012.
Temple Chemistry B.Sc. 2013. Technical Services Technician at Biocoat (2013-2015),
Laboratory Technologist at Dow Chemical Company (2015-2017)

56) Ms. Linh Duong (Winter 2013)

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

- 57) Ms. Ellen Jaeseon Kim (Winter 2013-Spring 2014)
Diamond Scholar (Summer 2013).
- 58) *Ms. Safiya Sylla (Spring 2014-Summer 2016)
Temple University President's Scholar. Chemist at Arkema
- 59) Mr. James Choi (Spring 2014 - Spring 2015)
Temple University President's Scholar.
- 60) #Dr. Chey Jones (Spring 2014)
Temple University Provost's Scholar. Chemistry graduate student at Stanford.
- 61) Mr. Colin Murphy (Spring 2014- Spring 2015)
Temple Undergraduate Summer Research Program
- 62) Mr. Gregory Forkin (Spring 2015)
Temple University President's Scholar
- 63) Mr. Sev Leskin (Spring 2015 - Summer 2016)
Temple University President's Scholar
- 64) #Mr. Jason Dinh Tran (Summer 2015 - Fall 2015)
Temple Undergraduate Summer Research Program. Awarded CARAS travel grant (2015).
Physics graduate student at UMd
- 65) Mr. HoJun Yu (Summer 2015)
Temple Undergraduate Summer Research Program
- 66) Mr. Matthew A. Johnson (Winter 2016-Summer 2016)
- 67) #Ms. Thao Duong (Spring 2016 –Fall 2017)
Temple University President's Scholar
Temple Chemistry B.Sc. 2019. Analytical Department at Frontage Laboratories, Exton, PA
Chemistry Graduate student at UCSB
- 68) *#Ms. Thi Tran (Spring 2016 – Fall 2017)
Temple University President's Scholar
Temple Chemistry B.Sc. 2019. Chemistry Graduate student at UCSB
- 69) Mr. Spencer Yeager (Spring 2016)
Summer 2016 REU at University of Mississippi
- 70) Mr. Ares Aguilera (Spring 2016 – Spring 2017)
Awarded CARAS travel grant (2016).
- 71) Ms. Leah Magidson (Summer 2016-Spring 2017)
Temple Undergraduate Summer Research Program joint with Dr. Vincenzo Carnevale

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

- 72) Mr. Josh Carey (Fall 2016)
Temple University Provost's Scholar
- 73) Ms. Monica Lessen (Fall 2017-Summer 2018)
Diamond Scholar (Summer 2018)
- 74) #*Ms. Mikaela Boyanich (Spring 2018- Spring 2020)
Temple University Summer Merit Scholarship (Summer 2018)
Temple Chemistry B.Sc. 2020. Chemistry graduate student at VaTech.
- 75) #Mr. Edwin Ovalle (Spring 2018- Spring 2020)
Temple Undergraduate Summer Research Program (Summer 2018)
Temple University NIH MARC Program (2018-2020)
Temple Chemistry B.Sc. 2020. PhD Program in Biomedical Sciences (PPBS) at U. Buffalo
- 76) #Mr. Khoi Tuan Hoang (Spring 2018-Spring 2020)
Temple University Provost's Scholar, German Academic Exchange Service (DAAD) research fellowship (Summer 2018)
Temple Chemistry & Physics B.Sc. 2020. Physics graduate student at U. of Maryland.
- 77) Ms. Shaivya Choudhary (Spring 2018-Fall 2018)
Temple University Summer Merit Scholarship (Summer 2018)
- 78) #*Ms. Lauren Castellana (Summer 2018-Spring 2019)
Temple University Frances Velay Fellowship
Temple Chemistry B.Sc. 2019. M.Sc. Georgetown University 2020
- 79) #Ms. Lidia Gebre, West Chester University (Summer 2018)
Temple University NSF Research Experience for Undergraduates
Chemistry graduate student at SUNY Binghamton.
- 80) Ms. Emily Reiner (Fall 2018)
Temple University Research Program (Fall 2018)
- 81) #*Mr. Ryan McDonnell (Spring 2019-Spring 2021)
Temple Undergraduate Summer Research Program (Summer 2019, 2020)
Temple Chemistry B.Sc. 2021 Chemistry graduate student at U Wisconsin - Madison.
- 82) Ms. Cheyanna Harris (Summer 2019-Fall 2019)
Temple Undergraduate Summer Research Program (Summer 2019)
Temple Chemistry B.Sc. 2020 Scientist at Johnson & Johnson
- 83) Mr. Paul Svitak (Summer 2019- Spring 2020)
Temple Undergraduate Summer Research Program (Summer 2019)
Temple Chemistry B.Sc. 2020
- 84) Mr. Connor Rolleston (Summer 2019-Fall 2020)
Temple Undergraduate Summer Research Program (Summer 2019)
Temple Chemistry B.Sc. 2021 R&D Process Chemist at Gelest, Inc.

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

- 85) Ms. Binh-An Nguyen (Spring 2020-Fall 2021)
Temple University Research Program (Spring 2020)
Temple Undergraduate Summer Research Program (Summer 2020)
Temple Chemistry B.Sc. 2022, Magna Cum Laude
Graduate Fellow of Winterthur/University of Delaware Program in Art Conservation
- 86) Mr. Truman Metz (Spring 2020)
Temple University Research Program (Spring 2020)
Scientist at Thorlabs
- 87) Ms. Jordan Wenning (Summer 2020-Fall 2020)
Temple University President's Scholar
Temple University Summer Merit Scholarship (Summer 2020)
- 88) Mr. Ismail Sahraoui (Spring 2021-Fall 2021)
Temple Undergraduate Summer Research Program (Summer 2021)
- 89) Ms. Emma Perkins (Summer 2021)
Temple University President's Scholar
Temple Undergraduate Summer Research Program (Summer 2021)
- 90) #Mr. Sean Savage (Summer 2021- Spring 2022)
Temple Undergraduate Summer Research Program (Summer 2021)
Temple Physics B.Sc. 2022 Physics graduate student at Purdue U.
- 91) *#Ms. Naomi Ross (Summer 2021-Spring 2023)
Temple University NIH MARC Program (2021-2023)
NSF REU at CUNY (Summer 2022)
Temple Biophysics B.Sc. 2023 Chemistry graduate student at Georgia Tech
- 92) *#Ms. Laura McDonnell (Summer 2021-Spring 2024)
Temple Undergraduate Summer Research Program (Summer 2021)
Temple Chemistry B.Sc. 2024 Graduate studies, Carnegie Mellon U. (Fall 2024)
- 93) #Ms. Tyler-Rayne Nero (Fall 2021-Fall 2022)
NSF REU at U. of Rochester (Summer 2022)
Temple Chemistry B.Sc. 2022 Chemistry graduate student at GeorgiaTech.
- 94) Ms. Nayoung Ko (Fall 2021-Spring 2022)
- 95) Mr. Sanaan Mehmood (Spring 2022)
- 96) Ms. Caitlin My Hanh Thi Le (Spring 2022-Spring 2024)
Temple Chemistry B.Sc. 2024 Temple Dental School
- 97) #Ms. Giao Vu (Spring 2022-Fall 2022)
Temple Chemistry B.Sc. 2022 Chemistry graduate student at Emory University.
- 98) Ms. Samhitha Balaji (Spring 2022-Summer 2022)
Temple University Frances Velay Fellowship Summer 2022

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

- 99) Mr. Jose Mendez-Guerra (part of Summer 2022)
- 100) Mr. Max Thurm (Fall 2022-Spring 2023)
Exchange Student from Universität Hamburg
- 101) Mr. Edward Jang (Fall 2022-Spring 2023)
Temple Chemistry B.Sc. 2024
- 102) Mr. Logan Myers (part of Fall 2022)
- 103) Ms. Belinta Naomi Simiyu (Spring 2023 -)
Temple University Frances Velay Fellowship Summer 2024, Chemistry B.Sc. 2025
- 104) #Ms. Lauren Towers (Spring 2023-Spring 2024)
Temple Chemistry B.Sc. 2024 Chemistry graduate studies U. of Maryland (Fall 2024)
- 105) *Ms. Jessica Kolora (Summer 2023 – Spring 2024)
Temple Chemistry B.Sc. 2024
- 106) Ms. Amelia Haines (Summer 2023) High School student
- 107) Ms. Samy Mohan (Fall 2023 – Spring 2024)
- 108) Mr. Robert Castillo (Fall 2023 – Summer 2024)
- 109) Mr. Liam Gannon (Fall 2023- Spring 2024)
- 110) Ms. Eliza Madden (Fall 2024 – Spring 2025)
B.Sc. Health Professions and Related Clinical Sciences 2025
Emergency Department Technician at Pennsylvania Hospital
- 111) Mr. Randy Espinal (Spring 2024, Fall 2024-Spring 2025)
Temple Chemistry B.Sc. 2025
- 112) Ms. Noam Amitay (Fall 2024)
Exchange Student from Ben Gurion University
- 113) Ms. Paula Fernandez Pisonero (Fall 2024)
Exchange Student from Oviedo
- 114) Ms. Zeinab Mohammad (Fall 2024)
Exchange Student from Ain Shams University
- 115) Mr. Trevor Long (Spring 2025) Research Scholars Program
- 116) Mr. Stephen Autieri (Spring 2025-)
- 117) Ms. Camilla Tahirova (Spring 2025-)
- 118) Ms. Nina Alfieri (Spring 2025)
- 119) Mr. Adrian Mykhnych (Spring 2025-Summer 2026) Temple Chemistry B.Sc. 2026

ERIC BORGUET

Undergraduate Student Mentoring and Advising (Contd.)

- 120) Mr. Brandon Fisher (Summer 2025)
High School Student
- 121) Mr. Dylan Byrne (Fall 2025)
Intern from Trinity College, Dublin, Ireland
- 122) Ms. Rosa Tighe (Fall 2025)
Intern from Trinity College, Dublin, Ireland
- 123) Ms. Emma Battista (Spring 2026-)
- 124) Ms. Marwa Abusenenh (Spring 2026-)
- 125) Ms. Anna Kravchuk (Summer 2026-)

ERIC BORGUET

Graduate Students (32 advised total, 24 graduated with Ph.D., 4 graduated with M.Sc., 4 in group at present):

In addition, my group has welcomed visiting Ph.D. students for visits several months long.

Former Graduate Students

Dr. Seokjoon Kwon (1998-2002) University of Pittsburgh

Civil & Environmental Engineering. Co-Advisor: Prof. Radisav Vidic

Dissertation: “*Surface Chemistry of Carbonaceous Surfaces for Environmental Remediation*”

7 papers published, 4 as first author.

Supported by National Energy Technology Laboratory (NETL) student partnership program.

Subsequent position: Post-doctoral Research Fellow with Prof. Pignatello, Yale University, New Haven, CT.

Subsequent position: Research associate with Prof. Upal Ghosh, Civil & Environmental Engineering, University of Maryland, Baltimore County (UMBC), Baltimore, MD.

Dr. Dora Bodlaki (1997-2002) University of Pittsburgh

Dissertation: “*Nonlinear Optical Spectroscopy, Dynamics and Reactivity of Buried Semiconductor Interfaces*”

8 papers published, 6 as first author.

Subsequent position: Post-doctoral Research Fellow with Prof. R.J. Hamers and L. M. Smith, University of Wisconsin, Madison, developing new surface attachment chemistry for biomolecules.

Present position: Lecturer, Lebanon Valley College, PA

Dr. Vasily Fomenko (1997-2003) University of Pittsburgh

Dissertation: “*Optical second harmonic generation studies of charge transfer and trapping and chemical control of these phenomena at semiconductor interfaces*”

7 papers published, 4 as first author.

Subsequent position: Post-doctoral Research Fellow with Prof. D. Nesbitt, University of Colorado and JILA-NIST, Boulder, on near field optical microscopy of single quantum dots.

Present position: Research Scientist with Landauer in Stillwater, OK.

Dr. Tao Ye (1998-2003) University of Pittsburgh

Dissertation: “*Structure, Dynamics, and Reactivity of Molecular Assemblies at Interfaces*”

9 papers published, 4 as first author.

Subsequent position: Post-doctoral Research Fellow with Prof. P. Weiss, Pennsylvania State University, studying molecular motors.

Present position: Associate Professor, University of California at Merced

Dr. Xue Feng (2002-2005) University of Pittsburgh

Civil & Environmental Engineering (Pitt). Co-Advisor: Prof. Radisav Vidic

Dissertation: “*Applications of Carbon Nanotubes in Environmental Engineering: Adsorption and Desorption of Environmentally Relevant Species*”

6 papers published, 3 as first author.

Post-graduation position: Environmental Compliance Engineer with Compliance Management International in Philadelphia

Present position: Senior Engineer with Cummins near Minneapolis.

ERIC BORGUET

Graduate Students (Cont'd)

Former Graduate Students (Cont'd)

Dr. Wenguo (Wayne) Feng (2002-2005) University of Pittsburgh
Civil & Environmental Engineering (Pitt). Co-Advisor: Prof. Radisav Vidic
Dissertation: *Surface Chemistry of Carbonaceous Surfaces for Environmental Remediation*
5 papers published. 4 as first author.
Present position: Engineer with CDM, an engineering consulting firm.

Dr. Kramer Campen (2002-2007)
Joint with Prof. Jim Kubicki from the Pennsylvania State University, Geosciences
Dissertation: *"From Angstroms to Microns: Studies of Interfaces and Macromolecules with Geochemical Implications using Computational and Nonlinear Optical Tools"*
2 papers published from research in Borguet group.
Subsequent positions: Post-doctoral Research Fellow (2007-2010) with Professor Misha Bonn at the Institute of Atomic and Molecular Physics (AMOLF) in Amsterdam studying the physical chemistry of the membrane/liposome/water and mineral/water interfaces.
Leader of Interfacial Molecular Spectroscopy Group, Fritz Haber Institute of the Max Planck Society, Berlin, Germany
Present position: W3 Professor at University of Duisberg-Essen, Germany

Dr. Dmitry Kazachkin (2006-2009)
Ph.D. in Chemical Engineering from the University of Pittsburgh. Dmitry did his research in Borguet group at Temple. Co-Advisor: Prof. Radisav Vidic
Award: Prize for his poster at TAFDV conference, December 2008.
Dissertation: *"Investigation of chemical and adsorption properties of carbon nanotubes: building a bridge for technological applications of carbon nanotubes"*
4 papers published, 3 as first author.
Subsequent position Research Scientist for Sriya Innovations Inc (Atlanta, GA)
Present position: Senior Engineering Associate at Ingredion Inc.

Dr. Yangjun Xing (2004-2009) Temple University
Dissertation: *"Measurement and Visualization of Electron Transfer at the Single Molecule Level"*
Awards: Daniel Swern Fellowship, Temple University, Summer 2006
Prize for his poster at Philadelphia ACS conference, January 2007.
Temple College of Science and Technology Graduate Research Award, 2009
Eleven papers published, three as first author.
Subsequent position: Research Scientist with Ethicon (a Johnson & Johnson company)
Present position: Advanced Packaging R&D Engineer, Starkey Laboratories, Eden Prairie MN

Ms. Habibe Durmaz Ates (2008-2010) Temple University, Physics
Graduated with M.Sc. (Fall 2010)
Project: Nanoscale imaging

ERIC BORGUET

Graduate Students (Cont'd)

Former Graduate Students (Cont'd)

Dr. Ali Eftekhari-bafrooei (2005-2010) Temple University

Dissertation: “*Ultrafast Vibrational Spectroscopy and Dynamics of Water at Interfaces*”

Awards: Prize for his poster at Philadelphia ACS conference, January 2007.

Daniel Swern Fellowship, Temple University, Summer 2009

Temple University, College of Science & Technology Graduate Research Award 2010

Coblentz Society Fateley Graduate Student Award, 2010

Eight papers published, four as first author.

Subsequent position: Post-doctoral fellow in the group of Professor Richard Saykally at University of California, Berkeley, focusing on interfacial electronic spectroscopy.

Subsequent position: Applications Engineer at Newport Corporation

Present position: Applications Engineer at Apple Corporation

Dr. Nikolay Dementev (2004-2010) Temple University

Dissertation: “*Fluorescence Labeling of Surface Species as an Efficient Tool for Detection, Identification and Quantification of Oxygen Containing Functionalities on Carbon Materials*”

Awards: Prize for his poster at TAFDV conference, January 2007.

Francis H. Case Fellowship for Outstanding Research, Fall 2009.

Seven papers published, three as first author.

Subsequent position: Japan Society for the Promotion of Science post-doctoral fellow in the laboratory of Professor Naotoshi Nakashima, Kyushu University, Japan.

Dr. Oleksandr Isaienko (2006-2011) Temple University

Dissertation: “*Development of Ultra-Broadband Ultrafast Infrared Sources and Applications to Nonlinear Vibrational Spectroscopy of Interfaces*”

Awards: Temple University, College of Science and Technology Graduate Research Award

Temple University, College of Science and Technology Graduate Travel Award

Daniel Swern Fellowship, Temple University, Summer 2010

Ultrafast Phenomena XVI Graduate Travel Award

German Academic Exchange Service (DAAD) research fellowship with

Professor Peter Vöhringer at the University of Bonn

Ten papers published, nine as first author. Two papers in preparation.

Subsequent position: Laser Development Scientist at Quantronix (Santa Clara, CA)

Post-doctoral fellow with Dr. Victor Klimov, Los Alamos National Laboratory (NM)

Present position: Research scientist at IPG Photonics, CA

Ms. Lan Pham Nguyen (2011-2012) Temple University

Graduated with M.Sc. (Fall 2012)

Project: Nanoscale imaging

ERIC BORGUET

Graduate Students (Cont'd)

Former Graduate Students (Cont'd)

Dr. Aziz Boulesbaa (2011-2013) Temple University

Dissertation: "*Ultrafast vibrational dynamics at the solid/water interface*"

Four papers published, three as first author.

Subsequent position: Post-doctoral fellow at Oak Ridge National Laboratory

Present position: Faculty member California State University, Northridge.

Dr. Shalaka Dewan (2010-2015) Temple University

Dissertation: "*Ions and the Structure and Dynamics of Interfacial Water at Charged Surfaces*"

Awards: Coblenz Society Graduate Student Award, 2015

Five papers published, three as first author.

Subsequent position: Post-doctoral fellow at Johns Hopkins University, Research scientist at IPG Photonics, CA

Present position: Research scientist at Spectra Physics MKS, CA

Dr. Sepideh Afsari (2010-2015) Temple University

Dissertation: "*The Formation of Two Dimensional Supramolecular Structures and their Use in Studying Charge Transport at the Single Molecule Level at the Liquid-Solid Interface*"

Six papers published, three as first author.

Subsequent position: Post-doctoral fellow at University of California-Irvine, University of Colorado-Boulder

Present position: Post-doctoral fellow at University of Arizona

Dr. Devika Sil (2010-2015) Temple University

Dissertation: "*Synthesis and Applications of Plasmonic Nanostructures*"

Awards: ECS Colin Garfield Fink Summer Fellowship 2012.

Six papers published, three as first author.

Subsequent position: Post-doctoral fellow at National Institutes of Standards and Technology
Unit Process Engineer at IBM TJ Watson Research, NY

Engineer at TESLA Research, CA

Present position: Engineer at Applied Materials, CA

Dr. Aashish Tuladhar (2011-2016) Temple University

Dissertation: "*Structure and Dynamics of Water Next to Mineral Surfaces*"

Seven papers published, five as first author. Two papers in preparation.

Awards: Coblenz Society Graduate Student Award, 2016

Temple University Dissertation Completion Grant, 2016

Subsequent position: Post-doctoral fellow at Pacific Northwest National Laboratory

Present position: Product Engineer at HORIBA Scientific

ERIC BORGUET

Graduate Students (Cont'd)

Former Graduate Students (Cont'd)

Dr. Stefan Piontek (2014-2019)

Dissertation: “*Characterizing Heterogeneously Charged Mineral Oxide Surfaces Using Nonlinear Spectroscopy*”

Seven papers published, three as first author. Two submitted. One in preparation.

Subsequent position: Post-doctoral fellow of FP-RESOLV German cluster of Excellence with Prof. Poul Petersen at Ruhr University Bochum

Present position: Laser Service Engineer at Light Conversion Inc. based in Munich, Germany.

Dr. Parisa Yasini (2015-2021) Temple University

Dissertation: “*Measurement and Modulation of Charge Transport Through Small Benzene Derivatives*”

Awards: Temple University, College of Science and Technology Graduate Research Award
Daniel Swern Fellowship, Temple University
Dissertation Completion Award, Temple University

Seven papers published, four as first author/co-first author. One submitted.

Subsequent position: Post-doctoral fellow with Professor Marija Drndic at the University of Pennsylvania.

Present position: Process Development Engineer at Wolfspeed

Dr. Isabella A Goodenough (2016-2021) Temple University

Dissertation: “*Response of UiO Metal-Organic Frameworks to Thermal Perturbations and Molecular Interactions*”

Awards: Daniel Swern Fellowship, Temple University
Dissertation Completion Award, Temple University
North American Thermal Analysis Society (NATAS) Best Student Paper Award, 2021
Coblentz Society Graduate Student Award, 2021

Four papers published, two as first author/co-first author. Two in preparation.

Present position: Project Management Specialist at Boeing Defense, Space & Security

Dr. Ruiyu Wang (2017-2022) Temple University

Dissertation: “*Understanding Aqueous Solutions at α -Alumina Surfaces using Molecular Dynamics Simulations*”

Awards: Temple University, College of Science and Technology Graduate Research Award
Daniel Swern Fellowship, Temple University
Dissertation Completion Award, Temple University

Six papers published, five as first author. One paper submitted. One in preparation.

Present position: Post-doctoral fellow with Professor Pratyush Tiwary at the University of Maryland.

ERIC BORGUET

Graduate Students (Cont'd)

Former Graduate Students (Cont'd)

Dr. Bijoya Mandal (2018-2023) Temple University

Dissertation: “*Understanding Aqueous/Mineral Oxide Interfaces Using Ultrafast Nonlinear Vibrational Spectroscopy and Dynamics of IR Probe Molecules*”

Awards: Daniel Swern Fellowship, Temple University

Dissertation Completion Award, Temple University

Four papers published, two as first author..

Present position: Applications scientist at Thorlabs

Dr. Venkata Swaroopa Datta Devulapalli (Datta) (2018-2023) Temple University

Dissertation: “*The Chemistry of Metal Oxyhydroxides and their 3D Porous Hybrid Materials for the Capture, Transport and Degradation of Toxic Chemicals*”

Awards: Daniel Swern Fellowship, Temple University

Final Summer Award, Temple University

Francis H. Case Fellowship for Outstanding Research

Six papers published, three as first author. Three papers in preparation.

Present position: Analytical characterization scientist at Eurofins

Mr. Wasim Dhar (2022-2024) Temple University

Graduated with M.Sc. (Spring 2024)

Project: Surface Chemistry

One paper published. One paper in preparation.

Present position: Eurofins

Ms. (Joy) Zou (2020-2024) Temple University

Graduated with M.Sc. (Spring 2024)

Project: Nonlinear Optical Spectroscopy and Dynamics of Interfaces

Three papers published, one as first author.

Present position: Doctoral student AUFRANDE (Université Claude Bernard Lyon and The Royal Melbourne Institute of Technology)

Dr. Somaiyeh Dadashi (2019-2025) Temple University

Dissertation: “*Development of Multi-modal Nonlinear Spectroscopy for Interfacial Studies*”

Awards: Daniel Swern Fellowship, Temple University

Temple University, College of Science and Technology Graduate Research Award

Coblentz Society Graduate Student Award, 2025

Five papers published, three as first author. One paper submitted. Two papers in preparation.

Subsequent position: Post-doctoral fellow with Professor Caitlin Davis at Yale University.

Present position: R&D Engineer & Optical Scientist, Fiber Lasers at Lightera.

ERIC BORGUET

Graduate Students (Cont'd)

Current Graduate Students (4)

Mr. Sharan Dhar (2022-present) Temple University

5th year – Chemistry

Project: Molecular Interactions with Porous Organic Frameworks and their Catalytic Properties

One paper published. Two papers submitted. Four papers in preparation.

Mr. Ziyad Thekkayil (2023-present) Temple University

4th year – Chemistry

Project: Nonlinear Optical Spectroscopy and Dynamics of Interfaces

One paper published. Four papers in preparation

Mr. Souvik Pramanick (2024-present) Temple University

2nd year – Chemistry

Project: Nonlinear Optical Spectroscopy and Dynamics of Interfaces

One paper in preparation

Mr. Thanuka Ralange (2025-present) Temple University

2nd year – Chemistry

Two papers submitted. Four papers in preparation

Project: Molecular Interactions with Porous Organic Frameworks and their Catalytic Properties

ERIC BORGUET

Graduate Students (Cont'd)

Current Visiting Students (0)

Former Visiting Students (20)

Ms. Sandrine Cussat-Blanc (2002)

Ph.D. student from Université de Bordeaux, France

Ph.D. Advisor: Dr. Eric Freysz

Mr. Taro Uematsu (Winter 2008)

Ph.D. student from Graduate School of Engineering, Osaka University, Japan.

Ph.D. Advisor: Professor Susumu Kuwabata

Mr. Guillaume Lamour, (Summer 2008)

PhD Student in Cellular Neuro-Physics Laboratory at Université Paris Descartes (Paris 5), France. Ph.D. Advisor: Dr. Ahmed Hamraoui

Two first author papers published from research in Borguet group.

Graduated 2010. Currently post-doctoral fellow at University of British Columbia, Canada

Mr. Andrii Buvailo, (Fall 2008 –Summer 2009)

PhD student in Chemistry at Taras Shevchenko University, Kiev, Ukraine.

Ph.D. Advisor: Dr. Nelli Maksymovych

Three papers published, two as first author, from research in Borguet group.

Ms. Aurélie Chenel (2010)

M.Sc. student from Ecole Normale Supérieure de Cachan, France.

Mr. Aziz Boulesbaa (2010)

Graduate student from Emory University

Subsequently, a graduate student at Temple. (Fall 2010-Fall 2013)

Mr. Olivier Katz (Spring –Summer 2011)

M.Sc. student at Université Pierre et Marie Curie (Paris 6)

Ms. Malika EL KRYMY (Spring –Summer 2012)

M.Sc. student at Université Pierre et Marie Curie (Paris 6)

Ms. Aurelia Niaux (Spring –Summer 2014)

M.Sc. student at Université Pierre et Marie Curie (Paris 6)

ERIC BORGUET

Graduate Students (Cont'd)

Former Visiting Graduate Students (contd.)

Mr. Kevin Millan (Spring – Summer 2017)
Licence Université Paul Sabatier Toulouse

Mr. Esteban Sanchez (2014)
Graduate student from Beneméríta Universidad Autónoma de Puebla, Mexico
Ph.D. Advisor: Dra. Rocío Aguilar Sánchez

Mr. Yaroslav Aulin, Delft University of Technology (2015-2016)
Ph.D. Advisor: Dr. Ferdinand C. Grozema and Prof. Laurens D.A. Siebbeles
Subsequently, a post-doc in Borguet group at Temple. (Spring 2016 – Fall 2017)

Mr. D. V. S. Datta (Fall 2017)
M.Sc. student from IISER-Pune as part of Dual Masters Doctoral Degree program

Mr. Dorian Louaas (Fall 2019)
Student from Ecole Centrale de Lyon, France.

Mr. Ziyad Thekkayil (Summer-Fall 2022)
M.Sc. student from IISER-Pune as part of Dual Masters Doctoral Degree program

Mr. Amuthan Dekshinamoorthy (2023)
Ph.D. student from CSIR-Central Electrochemical Research Institute, Karaikudi, India
Ph.D. Advisor: Dr. Saranyan Vijayaraghavan

Mr. Maxime Zitouni (Spring – Summer 2024)
M.Sc. student at Université de Bordeaux, France

Mr. David Pinel (Spring – Summer 2025)
M.Sc. student at Université Paris-Sorbonne

Mr. Dylan Byrne (Summer – Fall 2025)
B.Sc. student at Trinity College, Dublin Ireland

Ms. Rosa Tighe (Fall 2025)
B.Sc. student at Trinity College, Dublin Ireland

Mr. Kevin Malecamp (Spring – Summer 2026)
Student at École Centrale de Lille, France.

ERIC BORGUET

Postdoctoral Research Associates (17 advised total, 0 in group at present):

Current Postdoctoral Research Associates

Former Postdoctoral Research Associates (17)

Dr. Jean-Frédéric Lami (1997-1998)

Nonlinear Optical Spectroscopy of Interfaces

Co-author on 1 publication from Borguet group

Present position: Software engineer in Germany ('00- present).

Dr. Yufan He (2000- 2006)

Surface Probe Microscopy of Electrochemical Interfaces

Co-author on 5 publications from Borguet group, 4 as first author

Present position: Post-doctoral Research Fellow with Prof. P. Lu at Bowling Green State University.

Dr. Kyoungja Seo (2004-2006)

KOSEF Fellowship

Surface Probe Microscopy and Nanolithography of Interfaces

Co-author on 4 publications from Borguet group, 3 as first author

Subsequent position: Post-doctoral Research Fellow at Center for Smart Molecular Memory, Electronics and Telecommunications Research Institute, Daejeon, Korea

Present position: Research Faculty, Chemistry Department, Sungkyunkwan University, Korea

Dr. Satoshi Nihonyanagi (2004-2007)

Nonlinear Optical Spectroscopy and Dynamics of Interfaces

Co-author on 6 publications from Borguet group

Awarded PCCP Research Prize for his poster on Ultrafast Interfacial Dynamics Research at ICEI conference, June 2007.

Present position: Research scientist at RIKEN Institute (Molecular Spectroscopy Lab), Japan

Dr. Qun-Hui Yuan (2008- 2009)

Surface Probe Microscopy of Electrochemical Interfaces

Co-author on 1 publication from Borguet group as first author

Present position: Professor in China

Dr. Xiaoting Hong (2009 – 2010)

Sensors and Atomic Force Microscopy

Present position: Professor in China

ERIC BORGUET

Former Postdoctoral Research Associates (contd.)

Dr. Fei Li (2009 – 2010)

Nanoscale Electrochemistry

Present position: Professor at Xi'an Jiaotong University, China

Dr. Youn-Geun Kim (July 2009 – September 2010) Research Assistant Professor

Surface Probe Microscopy

Co-author on 1 publication from Borguet group

Present position: Research faculty at Caltech

Dr. Doug Hausner (March 2010 – May 2011) Research Assistant Professor

Surface Probe Microscopy of Electrochemical Interfaces

Present position: Associate Director for Industrial Relations and Business Development at Rutgers University

Dr. Zhihai Li (August 2010 – July 2013) Research Assistant Professor

Surface Probe Microscopy and Single Molecule Conductivity

Co-author on 9 publications from Borguet group, 7 as first author

Present position: Associate Professor, Department of Chemistry, Ball State University, Muncie, IN

Dr. Lorraine Vernisse (2014- August 2016)

Surface Probe Microscopy of Two-Dimensional Materials

Co-author on 1 publication from Borguet group

Present position: Maître de conférences, Université de Poitiers, France

Dr. Laszlo Frazer (2015)

Development and Use of Ultrabroadband Infrared Optical Parametric Amplifiers

Co-author on 5 publications from Borguet group

Present position: Post-doctoral Research Associate, University of New South Wales, Australia

Dr. Piret Pikma (February 2016 – June 2017)

Surface Probe Microscopy and Single Molecule Conductivity

Co-author on 1 publication from Borguet group

Present position: Research Fellow of Physical Chemistry, University of Tartu, Estonia

Dr. Yaroslav Aulin (March 2016 – August 2017)

Development and Use of Ultrabroadband Infrared Optical Parametric Amplifiers

Co-author on 6 publications from Borguet group, including one as first author

Present position: Post-doctoral Research Associate, Rutgers University

Dr. Mélissandre Richard (October 2016 - July 2018)

Plasmonic Catalysis and Sensing

Co-author on 3 publications from Borguet group. One submitted and more in preparation.

Present position: Maître de conférences, Université de Lille, France

ERIC BORGUET

Former Postdoctoral Research Associates (contd.)

Dr. Ayan Bhattacharyya (October 2022 – July 2023)

Development of Sensing Platforms

Two papers in preparation

Present position: Project Consultant Alien Technology Transfer, India

Dr. Hao Li (November 2022 – July 2025)

One paper submitted. 4 papers in preparation.

Nonlinear Optics and Catalysis

1 publication from Borguet group, including one as first author. Four papers in preparation

Present position: Post-doctoral fellow with Prof. Kramer Campen at Essen University, Germany

Visiting Scholars (5):

Dr. Eric Freysz (CPMOH, CNRS, Bordeaux, France)

Professor Jianguo Wang (2009-2010) Professor of Chemistry at Liaoning University, China
Electrochemistry of carbon materials

Professor Robert Giuliano (2008-2009) Professor of Chemistry at Villanova University
Covalent chemistry of carbon materials

Ms. Sedigheh Sadegh Hassani (2010)
In situ electrochemical STM

Dr. Mohsen Yeganeh (2010-) Senior Scientist Exxon-Mobil
Nonlinear optical studies of aqueous mineral interfaces

Graduate Student Committees

Ph.D. Comprehensive Exam, University of Pittsburgh

Anya Kuznetsova (December 1997)
Jason Scharf (June 1998)
Irene Popova (July 1999)
Sabah Al-Maawali (March 2000)
Sergey Mezheny (March 2000)
Dora Bodlaki (April 2000)
Vasiliy Fomenko (September 2000)
Tykhon Zubkov (September 2000)
Jae-Gook Lee (October 2000)
Cheolhwa Kang (January 2001)
Tao Ye (February 2001)
Olivier Guise (April 2001)
Alexei Tivanski (February 2002)
Jianjun Wei (September 2002)
Larissa Stebounova (November 2002)
Tracy Thompson (January 2003)
Oleg Byl (February 2003)

Ph.D. Proposal, University of Pittsburgh

Zdenek Dohnálek (October 1997)
Edward Wovchko (July 1998)
Anthony Nicola (July 1998)
Zhenhuan Chi (August 1998)
Michael Schaeberle (1998)
Alexander Sukharevsky (January 1999)
Natasha Balabay (March 1999)
Jason Ribblett (July 1999)
Xia Dong (September 1999)
Chengfei Wang (January 2000)
Tim Korter (April 2001)
Seokjoon Kwon, Civil & Environmental Engineering (June 2001)
Patricia Secrest (November 2001)
Wei Shi, Chemical Engineering (March 2002)
Jason Bemis (June 2002)
Andrew Napper (September 2002)
Vasiliy Fomenko (February 2003)
Feng Wang (March 2003)
Tao Ye (August 2003)
Wenguo Feng, Civil & Environmental Engineering (September 2004)
Xue Feng, Civil & Environmental Engineering (September 2004)

ERIC BORGUET

Graduate Student Committees (Contd.)

M.S. Defense, University of Pittsburgh

Seokjoon Kwon, Civil & Environmental Engineering (March 1999)
Jason Scharf (May 1999)
James Worthington (July 1999)
Ke Shen (August 2002)

Ph.D. Defense, University of Pittsburgh

Guisheng Pan (1998)
Nithya Vaidyanathan (December 1998)
Wei Liu, Civil & Environmental Engineering (December 1998)
Brian K. Mohny (July 1999)
Emil Tripa (October 2000)
Camelia Rusu (October 2000)
Anyia Kuznetsova (April 2001)
David Borst (April 2001)
Seokjoon Kwon, Civil & Environmental Engineering (May 2002)
Irene Popova (July 2002)
Hiromichi Yamamoto (September 2002)
Sabah Al-Maawali (October 2002)
Dora Bodlaki (November 2002)
Sergey Mezheny (April 2003)
Wei Shi, Chemical Engineering (May 2003)
Vasiliy Fomenko (May 2003)
Tao Ye (December 2003)
Jae-Gook Lee (April 2004)
Tykhon Zubkov (May 2004)

Graduate Student Committee, Temple University

Natalia Molina Vazquez (Willets group), Chemistry (Spring 2016-)
Taryn Anthony (Willets group), Chemistry (Spring 2016-)
Liu Juehuan (Levis group), Chemistry (Spring 2016-)
Yu Wang (Levis group), Chemistry (Spring 2016-)
Mohammad Sharifian Gh. (Dai group), Chemistry (Spring 2015-Summer 2018)

Graduate Student Committees (Contd.)

Ph.D. Proposal, Temple University

Jun Hao, Chemistry (Fall 2008)
Andro-Marc Pierre-Louis, Chemistry (April 2012)
Aziz Boulesbaa, Chemistry (January 2013)
Erin McCole, Chemistry (February 2014)
Shalaka Dewan, Chemistry (May 2014)
Devika Sil, Chemistry (June 2014)
Sepideh Afsari, Chemistry (June 2014)
Kyle Gilroy, Mechanical Engineering (February 2015)
Yiling Chen, Civil and Environmental Engineering (August 2015)
Maryam Hajfathalian, Mechanical Engineering (May 2016)

Ph.D. Defense, Temple University

Mohammad Aly, Physics (May 2006)
Patricia Solvignon, Physics (May 2006)
Jun Hao, Chemistry (January 2009)
Omer Salihoglu, Physics (February 2009)
Yangjun Xing, Chemistry (August 2009)
Ali Eftekhari-bafrooei, Chemistry (September 2010)
Nikolay Dementev, Chemistry (October 2010)
Oleksandr Isaienko, Chemistry (April 2011)
Matthew Coughlan, Chemistry (April 2012)
Johanan Odhner, Chemistry (June 2012)
Aziz Boulesbaa, Chemistry (November 2013)
Andro-Marc Pierre-Louis, Chemistry (July 2014)
Tim Bohinski, Chemistry (March 2015)
Shalaka Dewan, Chemistry (May 2015)
Kyle Gilroy, Mechanical Engineering (June 2015)
Sepideh Afsari, Chemistry (December 2015)
Devika Sil, Chemistry (December 2015)
Aashish Tuladhar, Chemistry (September 2016)
Maryam Hajfathalian, Mechanical Engineering (February 2017)
Aashish Tuladhar, Chemistry (September 2016)
Mohammad Sharifian Gh., Chemistry (July 2018)

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External Examiner on Graduate Committees

- Ph.D. Defense Committee for Mr. Wenguo Feng, Civil & Environmental Engineering, University of Pittsburgh (November 2005)
- Ph.D. Defense Committee for Ms. Xue Feng, Civil & Environmental Engineering, University of Pittsburgh (November 2005)
- Ph.D. Defense Committee for Mr. Cedric Hurth, Université de Bordeaux, France, Chemistry Department (December 2005)
- Ph.D. Proposal Defense Committee for Mr. Dmitry Kazachkin, Chemical Engineering, University of Pittsburgh (April 2007)
- Ph.D. Defense Committee for Mr. Kramer Campen, The Pennsylvania State University, Geosciences (May 2007)
- Ph.D. Defense Committee for Ms. Elina Vitol, Drexel University, Electrical Engineering (May 2010)
- Ph.D. Defense Committee for Mr. Guillaume Lamour, Université de Paris V, France, Biophysics (June 2010)
- Ph.D. Proposal Defense Committee for Mr. Riju Singhal, Drexel University, Materials Science and Engineering (October 2010)
- Ph.D. Defense Committee for Mr. Riju Singhal, Drexel University, Materials Science and Engineering (January 2013)
- Ph.D. Defense Committee for Mr. Shafiul Azam, University of Alberta, Canada, Chemistry Department (April 2013)
- Ph.D. Defense Committee for Mr. Tomoyasu Mani, University of Pennsylvania, Biochemistry and Molecular Biophysics Graduate Program (August 2013)
- Ph.D. Defense Committee for Mr. Guillaume-Goubert, Laval University, Quebec, Chemistry Department (August 2014)
- Ph.D. Defense Committee for Ms. Morgane Pfeiffer-Laplaud, Université Paris-Saclay, Evry, France (September 2016)
- Ph.D. Defense Committee for Mr. Simone Pezzotti, Université Paris-Saclay, Evry, France (May 2019)
- Ph.D. Defense Committee for Ms. Janna Domenico, Drexel University, Chemistry (May 2019)

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Professional Activities and Service:

- Proposal reviewer for National Science Foundation (NSF), Office of Naval Research (ONR), Air Force Office of Scientific Research (AFOSR), Department of Energy (DOE), Research Corporation, ACS-Petroleum Research Fund.
- Publication reviewer for Langmuir, Chemical Physics Letters, Journal of Applied Physics, Applied Physics Letters, Review of Scientific Instruments, Journal of Electroanalytical Chemistry, Analytical Chemistry, Journal of the American Chemical Society, Journal of Chemical Physics, Journal of Physical Chemistry,...
- Panel reviewer for Quebec Nanotechnology Canadian Innovation Fund
August 2001, Montréal, Québec, Canada
- Symposium co-organizer, with H. Petek, "Electron Dynamics at Interfaces", Interdisciplinary Laser Science Conference, Long Beach CA, October 2001
- Participant NSF Materials Chemistry Workshop, University of Wisconsin, Madison October 2001
- Symposium organizer "Physics of Chemically Modified Interfaces", American Physical Society, Indianapolis, IN, March 2002
- Participant Telluride Workshop on Semiconductor Surface Chemistry, Telluride, CO August 2002
- Symposium co-organizer, with D. Scherson, "Dynamics at Surfaces", 224th American Chemical Society National Meeting, Boston, MA, August 2002
- Participant Pennsylvania Nanotechnology 2002 Workshop, Harrisburg PA, October 2002
- Symposium organizer "Semiconductor Surfaces", 226th American Chemical Society National Meeting, New York, NY, September 2003
- Program Committee member for "Physical Chemistry of Interfaces and Nanomaterials", SPIE Annual Meeting, San Diego CA, August 2003
- Symposium co-organizer, with T. Kowalewski, "Nanoscience", 35th Central Regional Meeting, Pittsburgh PA, October 2003
- Program Committee member for "Physical Chemistry of Interfaces and Nanomaterials", SPIE Annual Meeting, Denver CO, August 2004
- Symposium co-organizer, with Gang-Yu Liu "Scanning Probe Microscopy at Solid-Liquid Interfaces", 229th American Chemical Society National Meeting, San Diego, CA March 2005
- Panel reviewer for NSF, Washington DC, November 2005
- Symposium co-organizer with Yuh-Lin Wang "Surface and Interfaces in Electronic Materials and Electrochemical Processes", American Physical Society, Baltimore, MD, March 2006
- Panelist, Career/Graduate School Panel Discussion
MARM 2006, ACS Mid-Atlantic Regional Meeting, Hershey, June 4-7, 2006
- Panelist, Philadelphia ACS Local Section Graduate School Roundtable Discussion
Villanova University, Chemistry Department November 200

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Professional Activities and Service (contd.):

- Symposium organizer, "Carbon Nanotubes", MARM 2007, ACS Mid-Atlantic Regional Meeting, Ursinus College, Collegeville, PA, May 16-18, 2007
- Temple Coordinator for ACS Philadelphia, Graduate and Undergraduate Poster Session, Temple University, January 24, 2008
- Symposium co-organizer, with David Waldeck "Biological and Biomimetic Interfacial Electron Transfer", 236th American Chemical Society National Meeting, Philadelphia, PA August 2008
- Panelist, Career/Graduate School Panel Discussion
236th American Chemical Society National Meeting, Philadelphia, PA, August 2008
- Advisory Board "In Chemistry", 2008-2009
- Temple Coordinator for ACS Philadelphia, Graduate and Undergraduate Poster Session, Temple University, January 2009
- Symposium organizer, "Nano Carbon", 38^h Annual Conference of North American Thermal Analysis Society, Philadelphia, PA August 2010
- Temple Coordinator for Trans-Atlantic Science Student Exchange Program (TASSEP)
- Panel reviewer for NSF, Washington DC, March 2011
- Panelist, 'What will I do with this degree?' A panel discussion on careers in the sciences
McNair Scholars Forum, Temple University, Philadelphia, PA October 2011
- Panel reviewer for NSF, Washington DC, November 2011
- Panelist, "Summer Research Opportunities for Undergraduates"
College of Science and Technology, Temple University, Philadelphia, PA January 2012
- Member, Franklin Institute Bower Award Pre-Selection Committee, 2012
- Symposium co-organizer, with Andrzej Wieckowski "Structure, Dynamics and Reactivity at Charged Interfaces", 244th American Chemical Society National Meeting, Philadelphia, PA August 2012
- Organizer of Panel, "Teaching Careers at 2 and 4 Year Colleges"
College of Science and Technology, Temple University, Philadelphia, PA December 2012
- Panelist, "Summer Research Opportunities for Undergraduates"
College of Science and Technology, Temple University, Philadelphia, PA January 2013
- Member at Large, Executive Committee of ACS Colloid and Surface Chemistry Division, with responsibilities for promotion of Surface and Colloid programming at Regional ACS meetings, 2013-2016
- Panelist, "Graduate Research and Scientific Careers"
MARC Regional Meeting, Temple University, Philadelphia, PA July 2013
- Symposium co-organizer, with Christopher Matranga "Plasmonic Catalysis and Sensing", 249th American Chemical Society National Meeting, Denver, CO March 2015

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Professional Activities and Service (contd.):

- Participant, Strategic Planning Meeting of the Colloid and Surface Chemistry Division of the American Chemical Society January 2016
- Vice-Chair and Member of Executive Committee of the Colloid and Surface Chemistry Division of the American Chemical Society 2016
- Panel reviewer for NSF, Washington DC October 2016
- Chair-elect and Member of Executive Committee of the Colloid and Surface Chemistry Division of the American Chemical Society 2017
- Workshop co-organizer, with Rick Remsing, "Experimental and Computational Approaches to Understanding Aqueous Interfaces", Temple University March 2017
- Chair and Member of Executive Committee of the Colloid and Surface Chemistry Division of the American Chemical Society 2018
- Past-Chair and Member of Executive Committee of the Colloid and Surface Chemistry Division of the American Chemical Society 2019
- 2020 Mesilla Chemistry Workshop on Aqueous Solution/Oxide Interfaces, co-organizer James Kubicki, Mesilla, New Mexico February 2020
- Symposium co-organizer, with Hai-Lung Dai and Ilja Siepmann "Computer simulations of soft matter and interfaces: Symposium in honor of Michael Klein at 80", American Chemical Society National Meeting, Philadelphia, PA - postponed due to meeting cancellation March 2020
- Director, Mesilla Chemistry Workshop 2019-present
- Committee for COLL - Primarily Undergraduate Institution Student Award, Colloid and Surface Chemistry Division (COLL) of the American Chemical Society 2019-2025
- Discussion Leader for "International Opportunities" forum at Conference for Undergraduate Women in Physics (CUWiP), Temple University, Philadelphia, PA January 2020
- Panel reviewer for NSF, Washington DC May 2020
- Virtual Workshop on Aqueous Solution/Oxide Interfaces, co-organizers Julianne Gibbs (University of Alberta), Vicki H. Grassian (University of California San Diego), Anastasia Ilgen (Sandia National Laboratories), Young-Shin Jun (Washington University in St. Louis), Nadine Kabengi (Georgia State University), James D. Kubicki (University of Texas at El Paso) June 2021
- 2023 Mesilla Chemistry Workshop on Aqueous Solution/Oxide Interfaces, co-organizer James Kubicki, Mesilla, New Mexico February 2023
- 2023 International Conference on Interfacial Nonlinear Optics, co-organizer Hai-Lung Dai, Rome, Italy June 2023
- Panel reviewer for NSF, Washington DC June 2023
- Symposium co-organizer, with Gregory Hartland and Tim Lian "Surfaces and Interfaces in Chemical and Biological Systems - A symposium honoring Hai-Lung Dai", American Chemical Society National Meeting, Denver, CO August 2024

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Professional Activities and Service (contd.):

AMRS2024 Materials for Environment, Water, Sanitation, session co-organizer with Nadine Kabengi Kigali, Rwanda December 2024

Co-organizer, 2025 Interfaces for Energy and the Environment Conference (IEEC) with Mavis Boamah, Sandra D. Taylor, Franz Geiger, Julianne Gibbs, Vicki H. Grassian, Anastasia G. Ilgen, Young-Shin Jun, Nadine Kabengi, James Kubicki, Kevin M Rosso Pacific Northwest National Laboratory May 2025

Editorial Advisory Board: Ceylon Journal of Science, Chemical Physics, Journal of Chemical Physics 2024-

Member APS/DCP Fellows Selection Committee 2025-

Panel reviewer for NSF, Washington DC 2025-

2026 Mesilla Chemistry Workshop on Chemistry in Nanoconfined Aqueous Systems, co-organizers Anastasia G. Ilgen (Sandia National Laboratories) and Nadine Kabengi (Georgia State University) Mesilla, New Mexico February 2026

2026 International Conference on Membranes and Interfaces in Biology and the Environment, co-organizer Hai-Lung Dai, Rome, Italy June 2026

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University and Departmental Service

University of Pittsburgh

Physical Chemistry Colloquium Coordinator	1997- 2003
Organizing Committee, Yates Symposium	2000
Co-director, NSF-REU Physics Program, Focus on Minorities and Women	2000-2004
Safety Committee, Department of Chemistry	1999-2001
Budget and Finance Committee, Department of Chemistry	2002-2003
Faculty Development and Long-Range Planning	2002-2003
Graduate Recruiting Committee, Department of Chemistry	1997-1998
Discussion leader, University of Pittsburgh Grantspersonship Workshop	2000
Undergraduate Advising, University of Pittsburgh	1996-2004

Temple University

Chair, Graduate Recruiting Committee, Department of Chemistry	2004-2008
Graduate Recruiting Committee, Department of Chemistry	2004-2023
Chair, Graduate Admissions Committee, Department of Chemistry	2020-2023
Graduate Admissions Committee, Department of Chemistry	2004-2023
Faculty Advisor to ACS-Student Affiliates, Department of Chemistry	2004-2010
Chair Selection Advisory Committee, Department of Chemistry	2005
Faculty Recruiting Committee, Department of Chemistry	2005-present
Chair, Faculty Recruiting Committee, Department of Chemistry	2008-2009
Departmental Review ad-hoc Committee, Department of Chemistry	2005-2006
Mentor, Temple Diamond Scholars Program	2005-2006
Alliance for Minority Participation Summer Research Faculty Advisor	2005-present
Physician Scientist Training Program Summer Research Faculty Advisor	2006-2008
Department Chair Selection Advisory Committee, Department of Chemistry	2007
Dean's Advisory Committee, College of Science and Technology	2007-2009
Provost's Workgroup on Developing the Academic Community	2007-2009
Ad-Hoc Bylaws Committee, College of Science and Technology	2007-2014
Organizing Committee, CST 10 th Anniversary Celebration Symposium	2008
Organizing Committee, NanoBioMed Symposium	2008
Invention and Patent Committee	2010-2013
Coordinator for Trans-Atlantic Science Student Exchange Program (TASSEP)	2010-present
Mentor, NIH Minority Access to Research Careers (MARC) Program	2011-2025
Founding Member, Provost's Undergraduate Mentors	2012-present
Advisory Committee, Temple Science Scholars	2012-present
Faculty Recruiting Committee, Department of Physics	2011-2012
Faculty Recruiting Committee, Department of Mechanical Engineering	2012-2013
Deputy-director, DOE-EFRC Center for Computational Design of Functional Layered Materials	2015-2020
Provost Committee on Study Abroad	2015-2016
Faculty Senate Committee for International Programs	2016-present
STEM Faculty Advisor for International Affairs	2019-present
Ad-Hoc Departmental Promotion and Tenure Committee	2019, 2021
Chair, Faculty Awards Committee, Department of Chemistry	2023-present
Member, Education Abroad Advisory Committee	2024 - present