WILLIAM W.S. WEI

OFFICE ADDRESS

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Fox School of Business
Temple University
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EDUCATION

Ph.D. (Statistics), 1974, University of Wisconsin-Madison
M.S. (Statistics), 1972, University of Wisconsin-Madison
B.A. (Mathematics), 1969, University of Oregon
B.A. (Economics), 1966, National Taiwan University

WORK HISTORY

Professor, 1986-Present
Department of Statistics, Temple University

Visiting Professor, 2010-2011
Department of Economics, National Taiwan University

Visiting Professor, 2010-2011
Institute of Statistics, National Chiao Tung University

Visiting Professor, 1988-1989
Department of Mathematics, Nankai University

Chairman, 1982-1987
Department of Statistics, Temple University

Associate Professor, 1978-1986
Department of Statistics, Temple University

Assistant Professor, 1974-1978
Department of Statistics, Temple University

HONORS and AWARDS

Listed in *American Men and Women of Science*, *Who's Who in Technology Today*, and *Who's Who Among Asian Americans*

Fellow of the Royal Statistical Society, 1980

Elected Member of the International Statistical Institute, 1993 Fellow of the American

Statistical Association, 2002

Fox School Lifetime Achievement Award, 2014

Russer Excellence in Leadership Award for Research, 2016

Professional Medal from Taiwan Hakka Affairs Council, 2019

TEACHING

Undergraduate Courses Taught:

Quantitative Methods for Business I & II
Statistical Business Analytics
Selected Statistical Topics
Forecasting Methods and Applications
Intermediate Business Statistics

Graduate Courses Taught:

Mathematical Analysis
Statistical Analysis
Probability and Statistical Theory I and II
Statistical Methods I and II
Matrix Theory for Statistics
Probability and Statistical Theory for Business Applications
Regression, Time Series, and Forecasting for Business Applications
Statistical Methods for Business Applications
Regression Analysis
Multivariate Analysis
Managerial Statistics
Univariate Time Series
Analysis
Multivariate Time Series Analysis
Time Series Analysis and Forecasting

New Courses Developed:

Probability and Statistical Theory for Business Applications (Stat. 550)
Regression, Time Series, and Forecasting for Business Applications (Stat. 551, Stat. 8109)
Statistical Methods for Business Applications (Stat. 552)
Forecasting Methods and Applications (Stat. 318)
Managerial Statistics (Stat. 802, Executive MBA)
Univariate Time Series Analysis (Stat. 518, Stat. 8105)
Multivariate Time Series Analysis (Stat. 618, Stat. 9101)
Time Series Analysis and Forecasting (Stat. 8123)

UNIVERSITY, SCHOOL AND DEPARTMENT SERVICE

Have served as department chair, director of graduate programs in statistics, member and committee chair on numerous committees for the Department, the School, and the University (the details are skipped); and have also made several donations to the School and the University new building constructions and established William W.S. Wei Scholarship Fund to support students. A $50,000 award fund is established to support the time series research of Fox School PhD students. In appreciation of my Fox School building funding support, Fox School has agreed to establish Wei's Statistics Reading Room at the Department of Statistics, which is now renamed as Department of Statistical Science.

PROFESSIONAL ACTIVITIES & SERVICE

Memberships:

American Statistical Association (ASA, Fellow)
Royal Statistical Society (RSS, Fellow)
International Chinese Statistical Association (ICSA)
International Statistical Institute (ISI, Elected Member)

Editorships:

Associate Editor, *Journal of Applied Statistical Science*
Associate Editor, *Journal of Forecasting*
Member of Editorial Board, *Advances in Quantitative of Finance and Accounting*
Guest Editor, *Selected Papers from the ICSA 1999 Applied Statistics Symposium, Communications in Statistics,* Volume 29, 5&6, 2000.

Professional Committees and Offices:

Member, ASA Institutional Membership Committee, 1985
Board Member, International Chinese Statistical Association (ICSA), 1990-1993, 2001-2003
Organizer of Business Statistics Section of 1992 ICSA Applied Statistics
Symposium Organizer of Business Statistics Section of 1993 ICSA Applied Statistics Symposium

Vice-President, ASA Philadelphia Chapter, 1996-1997
President, ASA Philadelphia Chapter, 1997-1998
Member, the American Statistical Association Committee on International Relations in Statistics, Jan. 1, 2000 – Dec. 31, 2005
Chair, the 2002 ICSA Applied Statistics Symposium Program Committee President-Elect, ICSA, 2001
President, ICSA, 2002
Past President, ICSA, 2003
Board Member, North America Taiwanese Professors' Association, 2006-2007
ASA Council of Section Representative, 2007-2009
Executive Member, ASA Business and Economic Statistics Section, 2007-2009
ASA Fiscal Oversight Committee, 2008-2012

COMMUNITY SERVICE

Member, Educational Advisory Committee of the School District of Upper Dublin, 1993-1994
Invited Discussant at the Strategic Goals Convention of the School District of Upper Dublin, 1993-1994
Received a certificate of appreciation from the School District of Upper Dublin (Dec., 1995)
Founding President, Taiwanese Hakka Association of Greater Philadelphia, 1999-2000
President-Elect, Taiwanese Association of America, Greater Philadelphia Chapter, 2000
President, Taiwanese Association of America, Greater Philadelphia Chapter, 2001
President, FAPA Pennsylvania Chapter, 2002-2003
Chair, Selection Committee, Community High School Scholarship Program (10 scholarships offered to Greater Philadelphia Area high school graduating seniors), Taiwanese Association of America, Greater Philadelphia Chapter, 2003, 2004
President, Taiwan Hakka Association for Public Affairs in North America, 2005-2006
Vice President, Taiwanese Hakka Association of the World, 2012-2015
President, Taiwanese Hakka Associations of America, 2014-2015.
Taiwan Hakka Affairs Advisory Committee Member, 2003-2005, 2017-2019, 2020-2021

STATISTICAL CONSULTATION

Forecasting Methods for Professional Development Center
Analysis of the Air Pollution Data of the Los Angeles Metropolitan Area
Forecasting Project for the Boston Edison Co.
Scoring Methods of the Captain's Test in Philadelphia
Evaluation of Time Series and Forecasting Software Packages for the IBM PC
The Dose Bioavailability Study for Sandoz Inc.

Applied Statistics and the SAS Programming Language, Atlantic Electric Co.
Time Series Analysis and Forecasting Methods, Atlantic Electric Co.
DC Heath and Company
SmithKline Beecham

RESEARCH INTERESTS

Aggregation effects, time unit selection, multivariate GARCH, repeated measurements, space-time modelling, and high dimension reduction in multivariate time series analysis.

PUBLICATIONS

I. BOOKS

***Time Series Analysis: Univariate and Multivariate Methods*, 1st Edition, 1990; 2nd Edition, 2006; Classic Version, 2019**
Pearson Addison-Wesley, Reading, Massachusetts. https://www.pearson.com/us/higher-education/program/Wei-Time-Series-Analysis-Univariate-and-Multivariate-Methods-Classic-Version-2nd-Edition/PGM2043181.html

The book was translated into Chinese by a group of faculty members of the School of Statistics at Renmin University of China (People's University of China) in Beijing, China, and published by People's University Press of China.
https://book.douban.com/subject/3704339/
The book was also translated into traditional Chinese and published by Best-Wise Publishing Co., LTD, in Taipei, Taiwan.
http://www.bestwise.com.tw/book/book.aspx?ib=5113
Although both people in China and Taiwan speak mandarin Chinese, their written languages are quite different especially in the use of academic terms and phrases. The book has also been translated into Spanish and Portuguese.

***Multivariate Time Series Analysis and Applications*, 1st Edition, 2019 John Wiley and Sons, Inc.**
https://www.wiley.com/en-us/Multivariate+Time+Series+Analysis+and+Applications-p-9781119502937

II. REFEREED ARTICLES

Effect of Temporal Aggregation on Dynamic Relationships of Two Time Series Variables (with G.C. Tiao), 1976, *Biometrika*, 63 (3), 513-523.

Effect of Temporal Aggregation on Parameter Estimation in the Distributed Lag Model, 1978, *Journal of Econometrics*, 8, 237-246.

Some Consequences of Temporal Aggregation in Seasonal Time Series Models, 1978, *Seasonal Analysis of Economic Time Series*, ed. A. Zellner, 433-444.
This is one of 12 papers selected by the Steering Committee for the special NBER-

CENSUS Conference on Seasonal Economic Time Series Analysis. The attendants included 6 Nobel Price and National Medal of Science recipients and many endowed chair professors. In addition to the full travel support, the author received an award of $1,500, which was a big award in 1978.

Temporal Aggregation and Information Loss in a Distributed Lag Model (with J. Mehta), 1980, *Analyzing Time Series*, 391-400.

Forecasting Contemporal Time Series Aggregates (with Bovas Abraham), 1981, *Communications in Statistics*, A10 (13), 1335-1344.

Effect of Systematic Sampling on ARIMA Models, 1981, *Communications in Statistics*, A10 (23), 2389-2398.

The Effect of Systematic Sampling and Temporal Aggregation on Causality - A Cautionary Note, 1982, *Journal of the American Statistical Association*, 77 (378), 316-319.

Inferences about the Parameters of a Time Series Model with Changing Variance (with Bovas Abraham), 1984, *Metrika*, 31, 183-194.

The Effects of Time Aggregation on the AR(1) Process (with M. Ahsanullah), 1984, *Computational Statistics Quarterly*, 4, 343-352.

Modeling the Advertising-Sales Relationship Through Use of Multiple Time Series Techniques (with Joseph F. Heyse), 1985, *Journal of Forecasting*, 4, 165-181.

Temporal Aggregation in the ARIMA Process (with Daniel Stram), 1986, *Journal of Time Series Analysis*, 7, 279-292.

Seasonal Adjustment of Time Series Using One-Sided Filters (with Leonard Cupingood), 1986, *Journal of Business and Economic Statistics*, 4 (4), 473-484.

A Methodological Note on the Disaggregation of Time Series Totals (with Daniel Stram), 1986, *Journal of Time Series Analysis*, 7 (4), 293-302.

Forecasting Aggregated Vector ARMA Processes, 1988, *Journal of Economic literature*, XXVI, 1193-1195.
This is an invited review article by American Economic Association.

An Eigenvalue Approach to the Limiting Behavior of Time Series Aggregates (with D. Stram), 1988, *Annals of the Institute of Statistical Mathematics*, 40 (1), 101-110.

Comments on Shumway's Applied Statistical Time Series Analysis, 1990, *Journal of the American Statistical Association*, 85 (409), 258.
This is an invited review article by *Journal of the American Statistical Association.*

Disaggregation of Time Series Models (with D. Stram), 1990, *Journal of the Royal Statistical Society* B, 52 (3), 453-467.

Comments on Chatfield's *The Analysis of Time Series*, 1991, *Journal of the American Statistical Association*, 86 (413), 246-247.
This is an invited review article by *Journal of the American Statistical Association.*

A Comparison of Some Estimates of Time Series Autocorrelations (with W. Chan), 1992, *Computational Statistics and Data Analysis*, 14, 149-163.

A Model Independent Outlier Detection Procedure (with J.H. Lee), 1995, *Journal of Applied Statistical Science, 4,* 311-318.

A Note on the Representation of a Vector ARMA Model (with S.Y. Shen), 1995, *Journal of Applied Statistical Science, 4,* 345-359.

On Likelihood Distance for Outlier Detection (with S. Chow and W. Wang), 1995, *Journal of Biopharmaceutical Statistics, 5,* 307-322.

Temporal Disaggregation of Time Series (with E. Hodgess), 1996, *Applied Statistical Science I, 33-44*.

Iterative Least-Squares Estimation and Identification of the Transfer Function Model (with D. Muller), 1997, *Journal of Time Series Analysis*, 18, 579-592.

Comparison of Some Estimates of Autoregressive Parameters (with S. Wei), 1998, *Journal of Applied Statistical Science*, 8, 51-58.

The Use of Aggregate Series in Testing for Long Memory (with P. Teles and N. Crato), 1999, *Bulletin of the International Statistical Institute*, 3, 341-342.

Temporal Disaggregation of Stationary Bivariate Time Series (with E. Hodgess), 2000, *Linear Algebra and Its Applications*, 321, 175-196.

The Effects of Temporal Aggregation on Tests of Linearity of a Time Series (with P. Teles), 2000, *Computational Statistics & Data Analysis,* 34, 91-103.

An Autoregressive Disaggregation Method (with E. Hodgess), 2001, *Applied Statistical Science V,* 221-235.

The Use of Aggregate Time Series in Testing for Gaussianity (with P. Teles), 2002, *Journal of Time Series Analysis*, 23, 95-116.

Outline for Multivariate Time Series Analysis, 2007, *Recent Advances in Statistics*, ed. H. Oztas Ayhan and Inci Batmaz, 117-128.

Spectral Analysis, 2008, *Hand Book of Longitudinal Research,* ed. Scott Menard,

Academic Press, 601-620.

Testing a Unit Root Based on Aggregate Time Series (with P. Teles and E. Hodgess), 2008, *Communications in Statistics-Theory and Methods*, 37, 565-590.

Representation of Multiplicative Seasonal Vector Autoregressive Moving Average Models (with C. Yozgatligil), 2009, *The American Statistician*, *63 (4), 328-334*.

Forecasting with ARIMA Processes, 2011, *International Encyclopedia of Statistical Sciences*, ed. Miodrag Lovric, Springer, New York, 534-536.

Time Series Regression, 2011, *International Encyclopedia of Statistical Sciences*, ed. Miodrag Lovric, Springer, New York, 1607-1609.

Weighted Scatter Estimation Method of the GO-GARCH Models (with L. Zheng), 2012, *Journal of Time Series Analysis, 33,* 82-95.

Time Series Analysis, 2013, *The Oxford Handbook of Quantitative Methods*, ed. Todd D. Little, Oxford University Press, 458-485.

Robust Estimation of the Linkage Matrix in O-GARCH Model (with L. Zheng), 2014, *Journal of Applied Statistical Science*, 21(1), 43-62.

Multiplicative Spatio-Temporal Models for Remotely Sensed Normalized Difference Vegetation Index Data (with N. Clements and S. Sarkar), 2014, *Journal of International Energy Policy*, 3(1), 1-14.

Issues Related to the Use of Time Series in Model Building and Analysis: Review Article. 2015, *Communications for Statistical Applications and Methods*, 22(3), 209- 222.

The Use of Temporally Aggregated Data on Detecting a Mean Change of a Time Series Process (with B.Y. Lee), 2017, *Communications in Statistics-Theory and Methods*, 46(12), 5851-5871.

Dimension Reduction in High Dimensional Multivariate Time Series Analysis, 2019. *Contemporary Biostatistics with Biopharmaceutical Applications,* 33-59.

Optimal Spatial Aggregation of Space-Time Models and Applications (with A.J. Gehman), 2020, *Computational Statistics and Data Analysis,* published in Vol. 145 (C), 2020.

Testing for Poolability of the Space-Time Autoregressive Moving-Average Model (with A. J. Gehman), 2020, *Communications in Statistics-Theory and Methods,* published online, 2020.

The Use of Temporally Aggregated Data in Modeling and Testing a Variance Change in a Time Series (with B.Y. Lee), 2021, *Communications in Statistics - Simulation and*

***Computation*, published online, 2021.**

Investigating Seasonality, Policy Intervention and Forecasting in the Indian Gold Futures Market: A Comparison Based on Modeling Non-constant Variance Using Two Different Methods (with R. Nargunam and N. Anuradha), *Financial Innovation,* 2021, Volume 7, Article number: 62 (2021), published on August 16, 2021. https://doi.org/10.1186/s40854-021-00283-9.

Analyses of the Impact of Country Specific Macro Risk Variables on Gold Futures Contract and its Position as an Asset Class: Evidence from India (with Rupel Nargunam and N. Anuradha), 2021, to appear in *Statistics and Its Interface*.

III. PUBLISHED PROCEEDINGS

The Effect of Temporal Aggregation on Forecasting in the Dynamic Model (with G.C. Tiao), 1975, *Business and Economic Statistics Proceedings of the American Statistical Association*, 613-617.

Contemporal Aggregation of Time Series, 1978, *Business and Economic Statistics Proceedings of the American Statistical Association*, 815-819.

The Census X-11 Program and Quarterly Seasonal Adjustment (with Ralph Lee), 1979, *Business and Economic Statistics Proceedings of the American Statistical Association*, 427-431.

Model Based Seasonal Adjustment and Temporal Aggregation (with Ralph Lee), 1980, *Business and Economic Statistics Proceedings of the American Statistical Association*, 427-431.

Change of Model Form under Temporal Aggregation in the ARIMA Process (with Daniel Stram), 1981, *Business and Economic Statistics Proceedings of the American Statistical Association*, 313-317.

Disaggregation of a Time Series, 1982, *Business and Economic Statistics Proceedings of the American Statistical Association*, 468-473.

Effect of Temporal Aggregation on Forecasts in an ARMA (1, 1) Process (with M. Ahsanullah), 1984, *Business and Economic Statistics Proceedings of the American Statistical Association,* 297-302.

Inverse and Partial Lag Autocorrelation for Vector Time Series (with Joseph F. Heyse), 1986, *Business and Economic Statistics Proceedings of the American Statistical Association*, 233-237.

The Measurement of Time Delay between Input and Output Processes (with L. Cupingood), 1987, *Business and Economic Statistics Proceedings of the American Statistical Association,* 706-711.

A Robust Procedure for Detecting Outliers in Time Series, (with J.H. Lee), 1988, Bu*siness and Economic Statistics Proceedings of the American Statistical Association*, 522-526.

ARIMA Estimates of the Stock Option Prices, (with L. Cupingood), 1991, *Business and Economic Statistics Proceedings of the American Statistical Association*, 213 - 217.

On Vector Autoregressive Moving Average Representations (with S.Y. Shen), 1991, *Business and Economic Statistics Proceedings of the American Statistical Association*, 161-166.

Effect of Data Disaggregation (with Erin Hodgess), 1992, *Business and Economic Statistics Proceedings of the American Statistical Association*, 78-81.

Graphical Representation of Molecular Modeling Simulation Data (with S. Wei and G. Famini), 1992, *Business and Economic Statistics Proceedings of the American Statistical Association*, 83-88.

A Dynamic View of a Distribution (with S. Wei and G. Famini), 1992, *Statistical Graphics Proceedings of the American Statistical Association*, 77-79.

The Use of Aggregate Series in Time Series Testing (with P. Teles), 1999, *NBER/NSF Time Series Conference Proceedings*, 1-29.

Representation of Multiplicative Vector Autoregressive Moving Average Processes (with Ceylan Yozgatligil), 2004, *Business and Economic Statistics Proceedings of the American Statistical Association*.

Effects of Temporal Aggregation on Cointegration Tests (with Ceylan Yozgatligil), 2005, *Business and Economic Statistics Proceedings of the American Statistical Association*, 1382-1387.

Temporal Aggregation and Causality Tests in Cointegrated System (with Ceylan Yozgatligil), 2006, *Business and Economic Statistics Proceedings of the American Statistical Association*, 1162-1167.

Outline for Multivariate Time Series Analysis, 2007, Recent Advances in Statistics, ed. H. Oztas Ayhan and Inci Batmaz, 117-128.

Estimating Missing Observation of the Antarctic Ozone Hole (with B. H. Lee), 2012, 84 – Environmental Monitoring, sponsored by Section on Statistics and the Environment, 2012 JSM Proceeding, 3014-3024.

Temporal Aggregation Effects on a Mean-Change in Time Series (with B.H. Lee), JSM-2013 Proceeding, *Business and Economic Statistics of the American*

Statistical Association, 1940-1946.

Temporal Aggregation Effects on a Structural Mean-Change of Time Series (with B.H. Lee), JSM-2014 Proceeding, Business and Economic Statistics of the American Statistical Association, 3990-4004.

IV. OTHER RESEARCH ARTICLES

Los Angeles Aerometric Ozone Data (with G.C. Tiao, G.E.P. Box, M. Grupe, S.T. Liu, and S. Hillmer), 1973, Tech. Report No. 346, Department of Statistics, University of Wisconsin.

Forecasting Method by Box-Jenkins Time Series Approach, 1975, Executive Seminar Series, Center for Executive Development.

An Optimal Approach for Forecasting Time Series Aggregates, (with John L. Stanton and Jeffrey A. Lowenhar), 1977.

Application of the Spectral Analysis in Editing Electric Power Data (with K. Dinh), 1985.

Recursive Algorithms for M-Estimates of Autoregressive Coefficients and Scaler Parameters in AR (p) Models (with Y. Chen and Z. Bai), 1994.

V. INVITED LECTURES AND PRESENTATIONS

(Contributed papers at other professional meetings omitted)

Box-Jenkins Time Series Approach and Its Applications in Forecasting. The Center for Executive Development, 1975.

Temporal Aggregation Effect on the Dynamic Time Series Model. The Econometrics and Statistics Colloquium, Graduate School of Business, University of Chicago, 1975.

Some Consequences of Temporal Aggregation in Seasonal Time Series Models. The Special NBER-CENSUS Conference on Seasonal Analysis of Economic Time Series, Washington, DC, 1976.

Aggregation and Sampling Interval Problems in Time Series Analysis. Department of Statistics, University of Waterloo, Canada, 1978.

Forecasting Contemporal Aggregates. NBER-NSF Seminar on Time Series, Sponsored by the Bureau of the Census, May 4-5, 1979.

Temporal Aggregation and Information Loss in a Distributed Lag Model. The International Time Series Meeting, Guernsey, United Kingdom, Oct. 22-26, 1979.

Comments on the Measurement of Linear Dependence and Feedback between Multiple Time Series. Invited discussant on the special selected paper of J.A.S.A. Theory and Methods Section at the American Statistical Association Annual Meeting, Detroit, Michigan, August, 1981.

Modeling the Advertising-Sales Relationship Through the Use of Multiple Time Series Techniques. The Third International Symposium of Forecasting, Philadelphia, PA, June 6-7, 1983.

Temporal Aggregation in the ARIMA Process. NBER-NSF Seminar on Time Series, University of Chicago Graduate School of Business, Oct. 7-8, 1983.

On the Disaggregation of Time Series Totals. NBER-NSF Seminar on Time Series, Carnegie-Mellon University, Nov. 1-2, 1985.

Recent Advances of Time Series analysis. Department of Mathematics, University of Virginia, April 12, 1986.

Aggregation and Related Problems in Time Series. The Fourth Korea and Japan Joint Statistical Conference, Seoul, Korea, July 10-12, 1986.

Time Series Analysis and Forecasting. Department of Statistics, Korea University, Seoul, Korea, July 14-15, 1986.

Time Series, Kalman Filter, and Transfer Functions. Institute of Statistics, Academia Sinica, Taipei, Taiwan, July 28-August 1, 1986.

Box-Jenkins Approach to Time Series Analysis. The Annual Joint National Meetings of the Operations Research Society of America and the Institute of Management Science, October, 25-28, 1987.

Time Series Analysis and Its Applications. Department of Mathematics, Nankai University, Tianjin, China, Sept. 13-Oct. 7, 1988.

Recent Advances in Time Series Analysis. Department of Probability and Statistics, Peking University, Beijing, China, Oct. 10, 1988.

Statistics Education in the U.S. Department of Management Science, Beijing University of Science and Technology, Beijing, China, Oct. 11, 1988.

Applications of Statistics. Department of Mathematical Statistics, East China Normal University, Shanghai, China, Oct. 13-14, 1988.

Time Series Analysis. Institute of Applied Mathematics, National Sun Yat-Sen University, Taiwan, July 1-31, 1990.

Time Series Analysis and Forecasting. Institute of Statistics, Academia Sinica, Taipei, Taiwan, July 8-12, 1991.

Vector Time Series, Cointegration, and State Space Models. Department of Mathematics, National University of Colombia, Bogota, Colombia, July 25-29, 1994.

Representations of Time Series Models. National Bank of Colombia, Bogota, Colombia, July 29, 1994.

Statistics and Statistics Professions. Department of Mathematics, Nankai University, Tianjin, China, August 18, 1995.

The Effects of Temporal Aggregation on the Bispectral Tests. NBER-NSF Seminar on Time Series, Duke University, NC, Oct. 10-11, 1997.

The Use of Aggregate Series in Time Series Testing. NBER/NSF Time Series Conference, Academia Sinica, Taipei, Taiwan, August 23-25, 1999.

Aggregation Problems in Time Series Analysis. Department of Mathematics and Statistics, University of Maryland- Baltimore County, September 5, 2003.

The Use of Aggregate Series in Time Series Analysis, Department of Biostatistics, University of Pennsylvania, September 26, 2005.

Time Series Regression and GARCH Models. Department of Statistics, Middle East Technical University, Ankara, Turkey, August 20, 2007.

Recent Advances in Multivariate Time Series Analysis. Department of Statistics, Middle East Technical University, Ankara, Turkey, August 21, 2007.

Aggregation and Disaggregation Problems in Time Series Analysis. Turkish Statistical Association, Ankara, Turkey, August 22, 2007.

Use of Time Series in Building Models and Making Inferences, Institute of Statistical Science, Academia Sinica, Taipei, Taiwan, November 18, 2010.

Issues in Vector Time Series Modeling and Analysis, Center of Mathematical Modeling and Scientific Computing, National Chiao Tung University, Hsinchu, Taiwan, November 25, 2010.

The Use of Aggregate Series in Time Series Analysis, the joint seminar of the Institute of Statistics, National Chiao Tung University, and the Institute of Statistics, National Tsing Hua University, Hsinchu, Taiwan, November 26, 2010.

Time Series Models and Their Applications, Department of Applied Mathematics with MA Program, National Hsinchu University of Education, Hsinchu, Taiwan, December 10, 2010.

Time Series Models and Their Applications, Department of Statistics and Actuarial

Science, Aletheia University, Danshui, New Taipei City, Taiwan, December 16, 2010.

Issues Related to Time Series Modeling and Analysis, Department of Statistics, National Cheng Kung University, Tainan, Taiwan, December 30, 2010.

Estimation of Multivariate GARCH Models, a joint seminar of National Chiao Tung University and National Tsing Hua University in Hsinchu, Taiwan, which have the two most established statistics Ph.D. programs in Taiwan, January 4, 2013.

Issues Related to the Use of Time Series in Model Building and Analysis, an invited presentation at the 2014 Joint Chinese International Statistical Association/Korea International Statistical Association, held in Portland, Oregon, between June 15 and 18, 2014.

The Effect of Spatial Aggregation on STARMA Models, the joint seminar of the Institute of Statistics, National Chiao Tung University, and the Institute of Statistics, National Tsing Hua University, Hsinchu, Taiwan, December 26, 2014.

Dimension Reduction in High Dimensional Multivariate Time Series Analysis, 2017 ICSA (International Chinese Statistical Association) Symposium, Chicago, June 25-28, 2017.

The Study Life of a Statistician, the Institute of Statistics, National Chiao Tung University, Hsinchu, Taiwan, May 23, 2018.

The Use of Contemporal Aggregation for Dimension Reduction in High Dimensional Time Series, Department of Statistics, National Cheng Kung University, Tainan, Taiwan, May 30, 2018.

Issues Related to Time Series Analysis and Applications, the TEQIP III, MHRD sponsored webinar on "Reliability and Applied Time Series Analysis (RATSA-2021)" scheduled during March 19 - 20, 2021 in the Department of Mathematics, National Institute of Technology Calicut as part of the Golden Jubilee year celebrations of NIT Calicut.

PH.D. DISSERTATIONS SUPERVISED

Ralph Lee
"Seasonal Adjustment and Temporal Aggregation," June 1981.
Affiliation: the National Center for Education Statistics, the U.S. Department of Education, Washington, D.C.

Daniel Stram
"Temporal Aggregation and Disaggregation in the ARIMA Process," April 1983.
Affiliation: Professor of the Department of Preventive Medicine, the University of

Southern California, Los Angles, California.
Dan is Fellow of American Statistical Association.

Joseph Heyse
"Partial Lag Autocorrelation and Partial Process Autocorrelation for Vector Time Series with Applications," March 1985.
Affiliation: Vice President, Merck Research Labs, West Point, Pennsylvania.
Joe is Fellow of American Statistical Association.

Leonard Cupingood
"Linear Filters and Their Applications to Seasonal Adjustment and Stock Option Pricing," November 1985.
Affiliation: Director of LECG Corp., and Vice President of the Center for Forensic Economic Studies.

Juan Ramos (Co-adviser: Dr. Dayal)
"Statistical Procedures for Evaluating Disease Clusters and Their Epidemiologic Interpretations," 1986.
Affiliation: Professor of the Department of Statistics, the National University of Columbia, Bogota, Columbia.

Jong-Hyup Lee
"Outlier Analysis in Time Series," May 1989.
Affiliation: Professor and Chair of the Department of Statistics, Sungshin Women's University, Seoul, Korea.

Wai-sum Chan
"Some Robust Methods for Time Series Modeling," June 1989.
Affiliation: Professor of the Department of Finance, School of Business Administration, the Chinese University of Hong Kong, Hong Kong.

Yusong Chen
"M-and GM-Recursive Algorithms for AR (p) Models and Robust Identification Methods," July 18, 1994.
Affiliation: Senior Director, AstraZeneca Inc., Wilmington, Delaware.

Erin Marie Hodgess
"Temporal Disaggregation of Time Series," August 19, 1994.
Affiliation: Associate Professor of the Department of Computer & Mathematical Sciences, the University of Houston, Houston, Texas.

Paulo Teles
"The Effects of Temporal Aggregation on Time Series Tests," September 4, 1998.
Affiliation: Professor of Statistics, School of Economics, University of Portor, Portugal.

Ceylan Yogatligil

"Temporal Aggregation and Related Problems in Multivariate Time Series Analysis," August 28, 2006.
Affiliation: Vice Chair of Statistics Department at Middle East Technical University, Ankara, Turkey.

Lingyu Zheng
"Estimation of the Linkage Matrix in the O-GARCH Model and the GO-GARCH Model," August 13, 2010.
Affiliation: Lingyu is presently Vice President of Merrill Lynch, Bank of America.

Andrew Gehman
"The Effects of Spatial Aggregation on Spatial Time Series Modeling and Forecasting," December 8, 2015.
Affiliation: Principal Statistician, GlaxoSmithKline, Collegeville, PA.

Bu Hyoung Lee
"The Use of Temporally Aggregated Data on Detecting Structural Change of a Time Series Process," March 17, 2016.
Affiliation: Tenure-Track-Assistant Professor, Department of Mathematics and Statistics, Loyola University Maryland.

Zeda Li
"New Methods on Nonstationary and high Dimensional Multivariate Time Series Analysis," March 30, 2018.
Affiliation: Tenure-Track-Assistant Professor, Baruch College, City University of New York.

Hang Chu Kim
"Time Series Block Bootstrap Application and Effect of Aggregation and Systematic Sampling," April 9, 2018.
Affiliation: Managing Director of Investment at Daishin Securities in Seoul Korea.

OTHER COMPLETED DOCTORAL ADVISORY COMMITTEES

Jorge Martinez, Statistics, 1981.

Jennifer Li-Ling Wang, Risk Management and Insurance
"An Analysis of Pension Trends in the Provision of Retirement Income: From Defined Benefit to Defined Contribution Plans," May, 1998.

Radha Railkar, Statistics
"Alternative Strategies for Analyzing Stratified Comparative Binomial Trials," 2000.

Sharmila Banerjee, Statistics, 2002.

Haiyan Zhou, Accounting

"Economic Consequences of Increased Accounting Disclosure Evidence from Emerging Market," May 2003.

Nicolle T. Clements, Statistics
"Multiple Testing in Grouped Dependent Data," March 2013.

Kathleen T Campbell, Statistics
"Extension of Kendall's τ Using Rank-Adapted SVD to Identify Correlation and Factions among Rankers and Equivalence Classes among Ranked Elements," May, 2014.

Angela Minster, Statistics
"Model-Free Variable Selection through Sufficient Dimension Reduction," April, 2016.

ChaoZheng Yang, Statistics
"Two Topics on Dimension Reduction," May, 2016.

Yongxu Zhang, Statistical Science
"On Two New Estimators for the CMS through Extensions of OLS," April, 2017.

Xia Qi, Statistical Science
"Sufficient dimension reduction with Missing Data," May, 2017.

Douglas Fletcher, Statistical Science
"Generalized empirical Bayes: theory, methodology, and application," December 7, 2018.

Lili Zhu, Statistical Science
"A Predictive Time-to-event Modeling Approach with Longitudinal Measurements and Missing Data," Feb. 8, 2019.

FULBRIGHT STUDENT RESEARCHER SUPERVISED

Ms. Rupel Nargunam, a PhD Research Scholar from Department of Mathematics & Actuarial Science, BSA Crescent Institute of Science and Technology, Chennai, in India, requested to study under my supervision during her 2019-2020 awarded fellowship study from the Fulbright-Nehru Doctoral Research Fellowship between August 2019 and June 2020. Ms. Nargunam received her B.Sc. in Mathematics and M.Sc. (Gold medalist) in Actuarial Science. She is pursuing her PhD in Actuarial Science with Indira Gandhi PG Scholarship for Single Girl Child and is a member of the Institute and Faculty of Actuaries. I have been helping her through weekly research discussion meetings from August 2019 to June 2020. Two research articles, (1) Forecast Comparison between Two Different Methods of Non-constant Variance for the Gold Futures Prices in the India Market

(2) Analyses of the impact of country specific macro risk variables on gold futures contract and its position as an asset class: Evidence from India.