Curriculum Vitae December 2020

JOHANNES LEDOLTER

Present Position

Robert Thomas Holmes Professor of Business, University of Iowa

Professor of Management Sciences Professor of Statistics and Actuarial Science

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Education

Ph.D., Statistics University of Wisconsin-Madison, 1975 M.S., Statistics University of Wisconsin-Madison, 1972

M.S., Social and Economic Statistics University of Vienna, 1974

Honors

Elected Fellow, American Society for Quality, 2010 Elected Fellow, American Statistical Association, 1991 Elected Member, International Statistical Institute, 1991 Fulbright Scholar, 1971-1974

Professional Experience

1987 –
2011 –
2002-2015
1997–2002
2016
2014
2011
1994–1995

University of Iowa	1982–1987
Visiting Associate Professor, Princeton University (academic year)	1985-1986
Visiting Professor, Institute for Advanced Studies, Vienna, Austria (summer)	1985
Assistant Professor of Statistics/Actuarial Science and Management Sciences,	
University of Iowa	1978-1982
Research Associate, University of Wisconsin, Madison	1977-1978
Research Scholar, International Institute for Applied Systems Analysis (IIASA)	1976–1977
Consultant, Austrian Institute of Economic Research, Vienna, Austria	1976–1977

Grants and Fellowships

Austrian National Bank, 1976-1978

NIH Junior Faculty Seed Grant, 1979

US Environmental Protection Agency, 1980-1981

Old Gold Fellowships, University of Iowa

US Department of Navy, 1985-1988

Ford Motor Company, 1988-1989

US Department of Health & Human Services, 1988-1990

Midwest Transportation Center, 1990-1991

US National Science Foundation, 1990-1991

Austrian National Bank, July 1999 - July 2001

Austrian National Science Foundation, 2000-2002

US Department of Health & Human Services, 2005-2008

US Department of Veterans Affairs, continuous support since 5/2011

Dissertation Supervision

Sushila Umashankar, 1980 (University of Arizona)

Mark L. Power, 1981 (Iowa State University)

Douglas R. Kahl, 1981 (University of Akron)

Mookda Manmin, 1983 (University of Thammasat, Thailand)

Richard Anderson-Sprecher, 1990 (University of Wyoming)

Chang-Soo Lee, 1991 (Soong Sil University, Korea)

Michael T. Suelzer, 1991 (Technical Director, Baxter Healthcare Corp)

Carmen Arteaga, 1993 (Winona State University)

John Tsimikas, 1994 (University of the Aegean, Greece)

Patricia Neri, 1995 (United Parcel Service)

Alessandra Alfieri, 2001 (United Nations)

Xiexin Liu, 2020 (anticipated)

Books

- [B1] Ledolter, J., Schebeck, F. and Thury, G.: <u>Forecasting Using Leading Indicators: Some Empirical Evidence for Austria</u>, Vandenhoeck and Ruprecht, Göttingen, 1981 (110 pages).
- [B2] Abraham, B. and Ledolter, J.: <u>Statistical Methods for Forecasting</u>, Wiley & Sons, 1983. Second edition, 2005 (445 pages).

- [B3] Hogg, R. V. and Ledolter, J.: <u>Engineering Statistics</u>, Macmillan, 1987 (420 pages). Hogg, R. V. and Ledolter, J.: <u>Solutions Manual</u> for Engineering Statistics, Macmillan, 1987 (52 pages).
- [B4] Hogg, R. V. and Ledolter, J.: <u>Applied Statistics for Engineers and Physical Scientists</u>,
 Macmillan, 1992 (472 pages).
 Hogg, R. V. and Ledolter, J.: <u>Solutions Manual Applied Statistics for Engineers and Physical Scientists</u>, Macmillan, 1992 (99 pages).
- [B5] Ledolter, J. and Burrill, C. W.: <u>Statistical Quality Control: Strategies and Tools for Continual Improvement</u>, Wiley & Sons, 1999 (526 pages)
 Ledolter, J. and Burrill, C. W.: <u>Instructor's Manual</u> for Statistical Quality Control: Strategies and Tools for Continual Improvement, Wiley & Sons, 1999 (99 pages).
- [B6] Burrill, C. W. and Ledolter, J.: <u>Achieving Quality Through Continual Improvement</u>, Wiley & Sons, 1999 (630 pages).
 Burrill, C. W. and Ledolter, J.: <u>Instructor's Manual</u> for Achieving Quality Through Continual Improvement, Wiley & Sons, 1999 (187 pages).
- [B7] Abraham, B. and Ledolter, J.: <u>Introduction to Regression Modeling</u>, Duxbury Press, 2006 (433 pages).
 Abraham, B. and Ledolter, J.: <u>Student Solutions Manual</u> for Introduction to Regression Modeling, Duxbury Press, 2006 (120 pages).
- [B8] Ledolter, J. and Swersey, A.J.: <u>Testing 1 2 3: Experimental Design with Applications in Marketing and Service Operations</u>, Stanford University Press, 2007 (300 pages).
- [B9] Ledolter, J. and Hogg, R. V.: <u>Applied Statistics for Engineers and Physical Scientists</u>,
 Third Edition, Prentice Hall, 2010 (589 pages).
 Ledolter, J.: <u>Student's Solutions Manual</u> for Applied Statistics for Engineers and Physical Scientists, Third Edition, Prentice Hall, 2010 (120 pages).
- [B10] Ledolter, J.: <u>Data Mining and Business Analytics with R</u>. Wiley & Sons, June 2013 (351 pages). Chinese translation, 2016.
- [B11] Ledolter, J. and Vandervelde, L.: <u>From Words to Meanings through Numbers:</u>
 <u>Analyzing Textual Information</u>. Sage Publishing (Quantitative Applications in the Social Sciences), 2020 (forthcoming).

Journal Articles and Book Chapters

- [J1] Ledolter, J., Thury, G., and Schebeck, F.: "Box-Jenkins Methoden: Alternative Verfahren zur Prognose Ökonomischer Zeitreihen" (in German), <u>Empirica</u> (1977), 25-55.
- [J2] Ledolter, J.: "Adaptivity and Stability of Time Series Models," Empirica (1977),

- 179-195.
- [J3] Ledolter, J.: "A Multivariate Time Series Approach to Modelling Macroeconomic Sequences," <u>Empirical Economics</u>, 2(1977), 225-243.
- [J4] Ledolter, J.: "A General Class of Stochastic Models for Hydrological Sequences," Journal of Hydrology, 36(1978), 309-325.
- [J5] Ledolter, J: "The Analysis of Multivariate Time Series with a View to Applications in Hydrology," <u>Journal of Hydrology</u>, 36(1978), 327-352.
- [J6] Ledolter, J. and Box, G.E.P.: "Conditions for the Optimality of Exponential Smoothing Forecast Procedures," <u>Metrika</u>, 25(1978), 77-93.
- [J7] Ledolter, J.: "Inference Robustness of ARIMA Models under Non-normality: Special Application to Stock Price Data," <u>Metrika</u>, 26(1979), 43-56.
- [J8] Abraham, B. and Ledolter, J.: "A Note on the Multiple Indicator-Multiple Cause Model with Several Latent Variables," Metrika, 26(1979), 215-217.
- [J9] Ledolter, J.: "A Note on the Estimation of Polynomial Distributed Lags," <u>Behavioral Science</u>, 24(1979), 221-222.
- [J10] Ledolter, J.: "A Recursive Approach to Parameter Estimation in Regression and Time Series Models," <u>Communications in Statistics</u>, A8(1979), 1227-1245.
- [J11] Ledolter, J. and Tiao, G. C.: "Statistical Models for Ambient Air Pollutants, with Special Reference to the Los Angeles Catalyst Study (LACS) Data," Environmental Science & Technology, 13(1979), 1233-1240.
- [J12] Ledolter, J. and Tiao, G. C.: "A Statistical Analysis of New Jersey CO Data," <u>Quality Assurance in Air Pollution Measurement</u>, (Air Pollution Control Association, publisher), 1979, 282-291.
- [J13] Ledolter, J.: "Recursive Estimation and Adaptive Forecasting in ARIMA Models with Time Varying Coefficients," <u>Applied Time Series II</u>, (D.F. Findley, editor), Academic Press, 1981, 449-472.
- [J14] Ledolter, J. and Abraham, B.: "Parsimony and its Importance in Time Series Forecasting," <u>Technometrics</u>, 23(1981), 411-414.
- [J15] Cryer, J. D. and Ledolter, J.: "Small Sample Properties of the Maximum Likelihood Estimator in the First Order Moving Average Model," <u>Biometrika</u>, 68(1981), 691-694.
- [J16] Tiao, G. C., Ledolter J., Hudak, G. B.: "A Statistical Analysis of the Effect of Car Inspection and Maintenance Programs on the Ambient CO Concentrations in Oregon," Environmental Science & Technology, 16(1982), 328-335.

- [J17] Abraham, B. and Ledolter, J.: "Forecast Efficiency of Systematically Sampled Time Series," <u>Communications in Statistics</u>, A11(1982), 2857-2868.
- [J18] Umashankar, S. and Ledolter, J.: "Forecasting with Diagonal Multiple Time Series Models: An Extension of Univariate Models," <u>J. of Marketing Research</u>, 20(1983), 58-63.
- [J19] Kahl, D. R. and Ledolter, J.: "A Recursive Kalman Filter Forecasting Approach," <u>Management Science</u>, 29(1983), 1325-1333.
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- [J21] Ledolter, J. and Abraham, B.: "Some Comments on the Initialization of Exponential Smoothing," <u>J. of Forecasting</u>, 3(1984), 79-84.
- [J22] Ledolter, J. and Kahl, D.R.: "Adaptive Filtering: An Empirical Evaluation," <u>J. of the Operational Research Society</u>, 35(1984), 337-345.
- [J23] Ledolter, J. and Power, M.L.: "A Study of ERISA's Impact on Private Retirement Plan Growth," <u>Journal of Risk and Insurance</u>, 51(1984), 225-243. (Feature Article Award for 1984)
- [J24] Abraham, B. and Ledolter, J.: "A Note on Inverse Autocorrelations," <u>Biometrika</u>, 71(1984), 609-614.
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- [J34] Anderson-Sprecher, R. and Ledolter, J.: "State-Space Analysis of Wildlife Telemetry Data," <u>Journal of the American Statistical Association</u>, 86(1991), 595-602.
- [J35] Ledolter, J., Klugman, S., and Lee, C.S.: "Credibility Models with Time-Varying Trend Components," <u>ASTIN Bulletin</u>, 21 (1991), 73-91.
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- [J38] Mulford, H.A., Ledolter, J. and Fitzgerald, J.L.: "Scientific Discovery or Reality Construction? A Response to Wagenaar and Holder," <u>Journal of Studies on Alcohol</u>, 54(1993), 252-253.
- [J39] Hackl, P. and Ledolter, J.: "A New Nonparametric Quality Control Technique," Communications in Statistics, Simulation and Computation, 21(1992), 423-443.
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- [J42] Chan, K.S. and Ledolter, J.: "Monte Carlo EM Estimation for Time Series Models Involving Counts," <u>Journal of the American Statistical Association</u>, 90(1995), 242-252.
- [J43] Ledolter, J.: "Projects in Introductory Statistics Courses," <u>The American Statistician</u>, 49(1995), 364-367.
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- [J45] Arteaga, C. and Ledolter, J.: "Control Charts Based on Order-Restricted Tests,"

- Statistics and Probability Letters, 32(1997), 1-10.
- [J46] Ledolter, J. and Swersey, A.: "An Evaluation of PRE-Control," <u>Journal of Quality Technology</u>, 29(1997), 163-171. Reprinted in: Cunningham, J. and Wood, M.C.: <u>Joseph M. Juran: Critical Evaluations In Business And Management</u>. Routledge, 2005.
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 Zeitschrift für Personalforschung, 18(2004), 164-182.
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 Hospital Using Market Segments Including Procedure, Payer, and Locations of
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Book Reviews and Invited Comments

- [R1] Ledolter, J.: Book review of Anderson, O.D.: Time Series Analysis and Forecasting. The Box-Jenkins Approach. Metrika, 24(1977), 56
- [R2] Ledolter, J.: Book review of Kendall, M. G.: Time Series. Metrika, 25(1978), 124-125
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- [R4] Ledolter, J.: Book review of Bowerman, B. L. and O'Connell, R. T.: Time Series and Forecasting: An Applied Approach. <u>Journal of the American Statistical Association</u>, 76(1981), 1017-1018
- [R5] Ledolter, J.: Comments on "Model Checking in Time Series Analysis," by Paul Newbold. In <u>Proceedings of ASA-CENSUS-NBER Conference on Applied Time</u> Series Analysis of Economic Data, (A. Zellner, ed.), 1983, 144-149

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- [R8] Ledolter, J.: Comments on "A Unified View of Statistical Forecast Procedures," by A.C. Harvey. <u>Journal of Forecasting</u>, 3(1984), 278-281
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 <u>Model-Oriented Data Analysis 5</u> (Atkinson, A.C., Pronzato L., Wynn, H.P., editors)
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- [R15] Ledolter, J.: Comment on the paper "An Overview of the Shainin SystemTM for Quality Improvement," by Stefan H. Steiner, R. Jock MacKay, and John S. Ramberg. Quality Engineering, 20(2008), 38-39.
- [R16] Swersey, A.J., Ledolter, J., Reid, E.: "In Estimating COVID-19 Infection Risk, Frequency of an Activity Is Key." <u>Yale Insights: Ideas from the Yale School of Management</u>. July 27, 2020. https://insights.som.yale.edu/insights/in-estimating-covid-19-infection-risk-frequency-of-an-activity-is-key

Work Submitted / Work in Progress

[P1] Lin, J., Ledolter, J.: "A Simple and Practical Approach to Improve Misspellings in OCR Text." Submitted to the <u>2020 Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)</u>, March 2020.

[P2] Kuehn, M.H., Vranka, J., Wadkins, D., Jackson, T., Cheng, L., Ledolter, J.: "Circumferential Trabecular Meshwork Cell Density in the Human Eye." Submitted to Current Eye Research, July 2020; revised December 2020.

Professional Service

Finalist (one of four) for Rektor (University President), Vienna University of Economics and Business, Vienna, Austria, 2014

Associate Editor, Journal of Business and Economic Statistics, 2012 - 2015

Associate Editor, Quality Engineering, 2005 – 2013

Associate Editor, Statistical Modelling: An International Journal, 2000 - 2017

Associate Editor, Journal of the Austrian Statistical Society, 1996 - present

Associate Editor, Journal of Forecasting, 1989 - present

Departmental Editor, Journal of Forecasting, 1985-1988

Associate Editor, Journal of the American Statistical Association, 1989-1991

ASQ Shewhart Medal Committee, 2008 - 2015

Review team (World Bank Trust Fund for Statistical Capacity Building; ISI 2011 World Statistics Congress, Dublin)

Local Organizer/Scientific Steering Committee, NBER-NSF Seminar on Time Series Analysis, Vienna University of Economics and Business, Austria, September 2015

Local Organizer/Scientific Steering Committee, NBER-NSF Seminar on Time Series Analysis, University of Iowa, September 2007

Program Committee, Annual Conference on "Making Statistics More Effective in Schools of Business," 1989-1998

Co-organizer of the 1998 Annual Conference on "Making Statistics More Effective in Schools of Business," Iowa City, June 1998

Steering Committee for Applications of Statistics, EURANDOM (Institute for Statistics, Probability, Operations Research and their Applications in Europe), Eindhoven, Netherlands, 1998.

Local Organizer (with T. Moore of Grinnell College), "Exploring Data Workshop for Elementary Classroom Teachers K-6," Grinnell College, June 1994.

Overall Program Chair, 1992 Joint Statistical Meetings, Boston

Program Chair, Business and Economic Statistics Section, American Statistical Association, Washington D.C., 1989

Short course (2-day) on "Forecasting and Applied Time Series Analysis," Joint Statistical Meetings, Philadelphia, 1984

Iowa Chapter President, American Statistical Association, 1983. Secretary, 1981, 1982 Executive Committee, Program in Quality Management and Productivity, University of Iowa, 1987 - 1997

Colloquia Presentations

University of Wisconsin, Florida State University, American University, University of Iowa, University of Maryland, University of Chicago, University of Vienna, Technical University Vienna, Austrian Institute of Economic Research, International Institute for Applied Systems Analysis, Institute for Advanced Studies Vienna, Vanderbilt University, University of Waterloo, Grinnell College, University of Pennsylvania, Princeton University, Temple University, Southern Methodist University, Texas A&M University, New York University,

Vienna University of Economics and Business Administration, Northern Illinois University, Winona State University, Case Western Reserve University, University of Hong Kong, Academia Sinica-Beijing, Yale University Statistics Department, Yale School of Management, Columbia University, Central European University in Budapest, University of Sao Paulo, ASA Milwaukee Chapter, University of Linz (Austria), Northern Iowa University, University of Peking (China), Yale University (School of Management), National Research University-Higher School of Economics (Moscow, Russia), Yale University (School of Management), University of Valparaiso (Chile).

Conference Presentations

World Congress of the Econometric Society, Toronto, 1975

European Meeting of the Econometric Society, Helsinki, 1976

International Meeting of the Institute of Management Sciences, Honolulu, 1979

Annual Meeting of American Association for the Advancement of Science, Houston, 1979

Applied Time Series Conference, Tulsa, 1980

ASA/CENSUS/NBER Conference on Applied Time Series, Washington D.C., 1981

Environmetrics 81, Washington D.C., 1981

IMS Regional Meeting, Iowa City, 1980

International Symposium on Forecasting, Quebec City, 1981

Joint Statistical Meetings, Houston, 1981

Annual Meeting of the American Institute of Decision Sciences, San Francisco, 1982

NBER/NSF Seminar on Time Series Analysis, Chicago, 1983

International Symposium on Forecasting, London, 1984

Joint Statistical Meetings, Philadelphia, 1984

Conf. on Statistical and Economic Identification of Structural Change, Lodz, Poland, 1985

ORSA/TIMS Meeting, Miami, 1986

Conference on Economic Growth and Structural Change, IIASA, Austria, 1986

Conference on "Making Statistics More Effective in Business Schools," NYU, 1987

Joint Statistical Meetings, San Francisco, 1987

Joint Statistical Meetings, New Orleans, 1988

Joint Statistical Meetings, Washington D.C., 1989

Conference on "Robustness and Diagnostics in Statistics," IMS, Minneapolis, 1989

Joint Statistical Meetings, Atlanta, 1991

Joint Statistical Meetings, Boston, 1992

NBER/NSF Seminar on Time Series Analysis, Vienna, 1993

Joint Iowa MAA and ASA Meeting, Grinnell College, 1994

International Symposium on Forecasting, Istanbul, 1996

Austrian Statistical Society, May 1998

International Workshop on Statistical Modelling, Bilbao, Spain, 2000

Workshop on Model-Oriented Design and Analysis (Moda6), Austria, 2001

Telecoms Market Forecasting Conference, Brussels (Belgium), 2001

Conference on Professional Science Master's Programs, University of Northern Iowa, 2004

Joint Statistical Meetings, Minneapolis, 2005

ENBIS 2010, Antwerp, 2010

ASQ Fall Technical Conference, St. Louis, 2012

Frontiers of Statistics and Forecasting in Celebration of the 80th Birthday of George C. Tiao, Taipei, 2013

Milwaukee Section of the American Statistical Association: "Data mining and business analytics with big and small data – it is not always size that matters." April 2014 Conference on the Occasion of George Box's 100th Birthday, University of Wisconsin-Madison, October 2019.

Teaching and Consulting

Academic teaching at the University of Iowa (Department of Statistics and Actuarial Science; Tippie College of Business); Vienna University of Business (WU Wien); Institute for Advanced Studies (Vienna); Princeton University; Yale University; University of Chicago Booth School of Business, Stanford University.

Courses on: Regression Analysis, Analysis and Design of Experiments I, Analysis and Design of Experiments II, Applied Time Series Analysis I, Applied Time Series Analysis II, Recent Topics in Time Series Analysis, Forecasting, Probability and Statistics, Biostatistics, Probability and Statistics for the Engineering and Physical Sciences, Mathematical Statistics, Statistics for Decision Making I, Statistics for Decision Making II, Application of Multivariate Statistical Techniques, Statistical Methods for Quality and Productivity Improvement, Introduction to Statistics for Undergraduate Business Students I and II, Applied Statistical Methods for Students in Forestry and Environmental Studies, Statistics within the Executive MBA Program, Business Analytics for MBA, Data Science for MBA, Design of Experiments for MBA, Introductory and Advanced Statistics Courses (in German).

Numerous short courses for industry on <u>Forecasting</u>, <u>Statistical Methods for Quality and Productivity Improvement</u>, <u>Statistical Design of Experiments</u>, and <u>Business Analytics and Decision Making with Large Data</u>. Courses taught in US and Europe.

Extended consulting arrangements with US and European companies such as Ford Motor Company, Procter and Gamble, Northstar Steel, HON Industries, Meredith Publishing, Iowa Pork Producers, State of California, Ticona/Celanese, American Express, Bemis Corporation, Lenzing Fiber (Austria), Telekom Austria.

Teaching Awards

Great Instructor of the Year Award. Executive MBA Program, Henry B. Tippie College of Business, University of Iowa, 1999

Dean's Teaching Award, Henry B. Tippie College of Business, University of Iowa, 2005 College of Business Nomination for the University of Iowa President/Provost Teaching Award, 2005