TEVFIK AKTEKIN
Professor of Decision Sciences
Department of Decision Sciences
University of New Hampshire
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APPOINTMENTS

UNIVERSITY OF NEW HAMPSHIRE   September 2023 – Present
Professor of Decision Sciences
Director of Master of Science in Business Analytics   August 2020 – Present

UNIVERSITY OF NEW HAMPSHIRE   September 2016 – August 2023
Associate Professor of Decision Sciences

UNIVERSITY OF NEW HAMPSHIRE   September 2010 – August 2016
Assistant Professor of Decision Sciences

THE GEORGE WASHINGTON UNIVERSITY   July 2009 – July 2010
Visiting Assistant Research Professor, Institute for Integrating Statistics in Decision Sciences

EDUCATION

The George Washington University, Washington, D.C.   September 2004 – May 2009
PhD in Decision Sciences with a Minor in Statistics/OR
Dissertation Topic: Three Essays in Bayesian Call Center Modeling

The George Washington University, Washington, D.C.   September 2002 - May 2004
MBA, Management Decision Making

Yildiz Technical University, Istanbul, Turkey   September 1998 - June 2002
BSc, Mechanical Engineering

AREAS OF EXPERTISE: Bayesian inference, state space time series analysis, Bayesian queueing, Markov chain Monte Carlo methods

RESEARCH

Statistics and Operations Research:

1. Irie, K., Glynn, G. and Aktekin, T. (2022) "Sequential Modeling, Monitoring, and Forecasting of Streaming Web Traffic Data", **Annals of Applied Statistics**, Vol 16 (1), 300-325.
2. Ekin, T. and Aktekin, T. (2021), "Decision Making under Uncertain and Dependent System Rates in Service Systems", **European Journal of Operational Research**, Vol 291 (1), pp. 335-348.
3. Aktekin, T., Polson, N., and Soyer, R. (2020) "A Family of Multivariate Non-Gaussian Time Series Models", **Journal of Time Series Analysis,** Vol 41 (5), pp. 691-721.
4. Aktekin, T., Polson, N., and Soyer, R. (2018) "Sequential Bayesian Analysis of Multivariate Count Data", **Bayesian Analysis**, Vol 13 (2), pp. 385-409.
5. Aktekin, T. and Ekin, T. (2016), "Stochastic Call Center Staffing with Uncertain Arrival, Service and Abandonment Rates: A Bayesian Perspective", **Naval Research Logistics,** Vol 63 (6), pp. 460-478.
6. Aktekin, T. and Musal, M. (2015) "Analysis of Income Inequality Measures on the HIV Mortality: a Spatio-Temporal Bayesian Perspective", **Journal of the Royal Statistical Society: Series A**, Vol 178 (2), pp. 383-403.
7. Aktekin, T. and Soyer, R. (2014) "Bayesian Analysis of Abandonment in Call Center Operations", **Applied Stochastic Models,** Vol 30 (2), pp. 141-156.
8. Aktekin, T. (2014) "Call Center Service Process Analysis: Bayesian Parametric and Semi-parametric Mixture Modeling", **European Journal of Operational Research,** Vol 234 (3), pp. 709-719.
9. Aktekin, T., Soyer, R. and Xu F. (2013) "Assessment of Mortgage Default Risk via Bayesian State Space Models", **Annals of Applied Statistics**, Vol 7 (3), pp. 1450-1473.
10. Aktekin, T. and Caglar, T. (2013) "Imperfect Debugging in Software Reliability: A Bayesian Perspective", **European Journal of Operational Research,** Vol 227 (1), pp. 112-121.
11. Musal, M. and Aktekin, T. (2013) "Bayesian Spatial Modeling of HIV Mortality via Zero-inflated Poisson Models", **Statistics in Medicine,** Vol 32 (2), pp. 267-281.
12. Aktekin, T. and Soyer, R. (2012) "Bayesian Analysis of Queues with Impatient Customers: Applications to Call Centers", **Naval Research Logistics,** Vol 59(6), pp. 441-456.
13. Aktekin, T. and Soyer, R. (2011) "Call Center Arrival Modeling: A Bayesian State Space Approach", **Naval Research Logistics,** Vol 58(1), pp. 28-42.

Business Applications:

14. Yalcinkaya, G., Aktekin, T., Yeniyurt, S. (2020), "Out with the Old: A Bayesian Approach to Estimating Product Modification Rates", **Journal of Business Research**, Vol 118, pp. 141-149.
15. Aktekin, T., Dutta, D., and Sohl, J. (2018), "Entrepreneurial firms and financial attractiveness for securing debt capital: a Bayesian analysis", **Venture Capital**, Vol 20 (1), pp. 27-50.
16. Yalcinkaya, G., Aktekin, T., Yeniyurt, S., and Umar, S. (2017), "How Often Should a Firm Modify its Products? A Bayesian Analysis of Automobile Modification Cycles", **Marketing Letters**, Vol 28 (1), pp. 85-97.
17. Yalcinkaya G. and Aktekin T. (2015)," Brand Extension Effects and Core Attributes of Experience Product Franchises: A Bayesian Approach", **Journal of Product Innovation Management,** Vol 32 (5), pp. 731-746.

Book Chapters (peer reviewed):

18. Soyer, R., Aktekin, T., and Kim, B. (2015), Bayesian Modeling of Time Series of Counts with Business Applications, **Handbook of Discrete-Valued Time Series**.

Under Review and Working Papers:

1. Bayesian Sequential Learning and Decision Making in Bike-Sharing Systems (with Babak Zafari, Bumsoo Kim, and Luis Novoa de Oro), **Journal of the Operational Research Society** (under review).
2. Bayesian Spatial Analysis of Socioeconomic Determinants on COVID-19 Mortality (with Muzaffer Musal, Tahir Ekin), **Journal of Applied Statistics** (under review).
3. Zero-Inflated Poisson State Space Models: Application to Consumer Good Demand Purchasing (with Refik Soyer), working paper.
4. Bayesian Modeling of COVID-19 Mortality using Hidden Markov Processes (with Muzaffer Musal and Tahir Ekin), working paper.

CONFERENCE PRESENTATIONS (Presenter)

- "State Space Analysis of Non-Gaussian Time Series Models", at INFORMS, Indianapolis, IN, October 2022.
- "Sequential Modeling, Monitoring, and Forecasting of Streaming Web Traffic Data", at ISI (Virtual), July 2021.
- "Staffing in Service Systems with Dependent and Uncertain Rates", at INFORMS-Advances in Decision Analysis, Milan, Italy, June 2019
- "Bayesian Analysis of Multivariate Dynamic Transformed Exponential Family Models", at GDRR, Washington, DC, May 2019
- "A Bayesian Family of Multivariate Non-Gaussian State Space Models", at NESS, Hartford, CT, May 2019
- "Sequential Bayesian Analysis of Multivariate Count Data", at JSM, Vancouver, Canada, August 2018
- "Bayesian analysis of a general class of dynamic multivariate non-Gaussian family of models", at ASA-Boston Chapter, November 2017
- "General Class of Multivariate Exponential Family of State Space Models", at BISP, Italy, June 2017
- "Bayesian Inference and Augmented Probability Simulation in Call Center Staffing", at INFORMS, Nashville, November 2016
- "A Generalized Exponential Family of Multivariate State Space Models and Particle Learning", at ISBA, Italy, June 2016.
- "Bayesian State Space Modeling of Multivariate Poisson Time Series using Particle Filtering" at GDRR, Istanbul, Turkey, June 2015
- "Bayesian State-Space Modeling of Poisson Processes" at IWAP, Antalya, Turkey, June 2014
- "Bayesian Imperfect Debugging in Software Reliability" at GDRR, Cork, Ireland, July 2013 (Young Bayesian Scholar Travel Award for GDDR-Ireland Conference)
- "The Drivers of Product Modification Cycles: A Bayesian Approach" at INFORMS-Marketing, Istanbul, Turkey, July 2013
- "Bayesian Parametric and Semi-parametric Modeling of Call Center Abandonment" at INFORMS, Phoenix, October 2012
- "Bayesian State Space Modeling of Poisson Time Series" at INFORMS, Charlotte, November 2011
- "Imperfect Debugging in Software Reliability: A Bayesian Approach" at JSM, Miami, August 2011
- "Bayesian Analysis of Mortgage Default Risk" at INFORMS, Austin, November 2010
- "Bayesian State Space Approach to Mortgage Default Risk" at ISBA, Alicante, Spain, May 2010
- "Bayesian Modeling of Queues in Call Centers" at INFORMS, San Diego, October 2009
- "Computational Issues in Bayesian Call Center Modeling" at INFORMS, San Diego, October 2009
- "Bayesian Inference of Abandonment Processes in Call Centers" at JSM, Washington DC, August 2009
- "Bayesian Queue Modeling in Call Centers" at BISP, Bressanone / Brixen, Italy, June 2009

- "Call Center Arrival Modeling: A Bayesian State Space Approach" at INFORMS, Washington DC, October 2008
- "Bayesian Software Reliability" at INFORMS, Seattle, November 2007
- "Imperfect Debugging in Software Reliability: A Bayesian Perspective" at NDSI, Baltimore, March 2007

CONFERENCE PRESENTATIONS (Non-Presenter)

- "Bayesian Analysis of Spatio-Temporal Disease Mapping Models: Applications to COVID-19 in California" at INFORMS, October 2022.
- "Sequential Forecasting for Bursty Count Data" at EcoSta, June 2022
- "A Class of Bayesian Multivariate Time Series Models for Counts" at JSM, Chicago, August 2016
- "Poisson-Hyper Geometric Beta Models" at ISBA 2016, Sardinia, Italy, June 2016
- "Call Center Staffing Optimization with Uncertainty in Arrival, Service and Abandonment Rates" at INFORMS, San Francisco, November 2014
- "Short Life Cycle of an Experience Product's Long Life: A Bayesian Approach via Signaling Strategy" at INFORMS-Marketing Science, Istanbul, Turkey, July 2013
- "Entrepreneurial Firms and Signaling for Creditworthiness: A Bayesian Modeling Approach", at Babson College Entrepreneurship Research Conference, June 2013

INVITED TALKS

- "A Family of Multivariate Non-Gaussian Time Series Models", University of Tokyo, Department of Economics, October 2021.
- "Sequential Modeling, Monitoring, and Forecasting of Streaming Web Traffic Data", The George Washington University, Department of Decision Sciences, March 2021.
- "Sequential Bayesian Analysis of Multivariate Count Data", Texas State University, Department of QDM, April 2017.
- "Sequential Bayesian Analysis of Multivariate Count Data", The George Washington University, Department of Decision Sciences, February 2017.
- "Sequential Bayesian Analysis of Multivariate Count Data", University of New Hampshire, Department of Economics, January 2017.
- "Sequential Bayesian Analysis of Multivariate Count Data", University of New Hampshire, Department of Mathematics and Statistics, December 2016.
- "Bayesian Learning and Water-Quality Research", University of California - Santa Barbara, LTER, December 2016.
- "Bayesian State Space Modeling of Poisson Time Series", University of New Hampshire, Paul College Scholar Series, February 2014.
- "Teaching Business Statistics: Best Wisdom and Biggest Challenges", Boston University, New England Statistics Symposium, April 2012.
- "Bayesian State Space Modeling of Mortgage Default Risk", University of Connecticut, Department of Statistics Colloquium, April 2011.
- "Bayesian Analysis of Queueing Systems", University of New Hampshire, Department of Decision Science Research Series, April 2011.

SERVICE

Department Level:
- Course Coordinator for ADNM 420 – Business Statistics Fall 2010 to Spring 2013
- Committee Member - Business Analytics Option Taskforce – Fall 2013 to Spring 2015
- Committee Member - Decision Science Faculty Recruiting – Fall 2013, Fall 2015 (3 positions), Fall 2017
- Chair - Decision Science Faculty Recruiting – Fall 2017, Spring 2020, Fall 2020, Fall 2021 (2 positions)
- Committee Member - Merit/Equity Allocation – AY 2015 - 2016
- Faculty Advisor – ISMA student group – Fall 2015 – Spring 2017
- Lead - New ISBA MBA Specialization Proposal – Spring 2016
- Course Coordinator/Designer - New MBA Statistics Course – Fall 2017
- Organizer - Decision Sciences Departmental Seminar Series – AY 2017-2018
- Committee Member - Third Year Review – Spring 2018, Spring 2019, Spring 2021
- Chair - Third Year Review – Spring 2019, Spring 2020, Spring 2021
- Chair - MS in Business Analytics Program Task Force – Spring 2019 to Fall 2019
- Committee Member - Decision Science Summer Research Funding – Spring 2020, Spring 2023
- Committee Member - ISBA Revision Taskforce – AY 2020-2021
- Committee Member - Departmental Promotion and Tenure Committee – AY 2020-2021 and AY 2022-2023
- Chair - MSBA Curriculum and Admissions Committee – Spring 2020 to Spring 2021

- Chair - MSBA Admissions Committee – AY 2020 to present

College Level:
- Committee Member - Paul College Strategic Planning Taskforce – AY 2013-2014
- Committee Member - Paul College Business Analytics Taskforce – Spring 2014 to Spring 2015
- Committee Member - Paul College IT Committee – Fall 2013 to Fall 2016
- Chair - Paul College IT Committee – Fall 2014 to Fall 2016
- Undergraduate Research Conference Judge – Spring 2014, Spring 2015
- Search Committee Member - the PAUL College IT Position – Spring 2015
- Committee Member - Paul College Promotion and Tenure Committee – AY 2017-2019
- Co-Chair – Center for Business Analytics Executive Director Search – Spring 2021 to Summer 2022
- Committee Member - Paul College Dean Search – AY 2021-2022
- Chair - Business Analytics Faculty Advisory Board – Spring 2021 to present

University Level:
- Committee Member - UNH Writing Committee – Fall 2013 to Spring 2015
- Committee Member - UNH Master's in Analytics Curriculum Committee – Spring 2014 to Spring 2016
- Committee Member - Analytics and Data Science Faculty Recruiting – AY 2017-2018
- Organizer - UNH Interdisciplinary Data Science Seminar Series – AY 2017-2018
- Committee Member - Data Science Undergraduate Curriculum (CEPS) Fall 2018
- Committee Member - Graduate Analytics and Data Science Steering Committee – AY 2018-2019
- Reviewer for UNH CoRE Grants – Spring 2019 (4 cases)
- Committee Member - Creating a Data Science PhD Program – AY 2017-2021

Professional:
- Treasurer for International Society of Bayesian Inference – Industrial Statistics– Fall 2012 to Spring 2014
- Secretary for International Society of Bayesian Inference – Industrial Statistics– Fall 2017 to Spring 2019
- Reviewer for National Science Foundation, Journal of the American Statistical Association, Annals of Applied Statistics, Bayesian Analysis, Statistics in Medicine, Journal of Royal Statistical Society – Series A, European Journal of Operational Research, Annals of Operations Research, Naval Research Logistics, Applied Stochastic Models, Scandinavian Journal of Statistics, Brazilian Journal of Probability and Statistics, Computational Statistics and Data Analysis, Omega, Reliability Engineering and System Safety, IEEE Transactions on Pattern Analysis and Machine Intelligence, Expert Systems with Applications, Journal of Production Innovation Management, IIE Transactions, Handbook for Time Series Analysis
- Track Chair and Session Organizer at INFORMS – 2010, 2011, 2012, 2022, 2023
- Track Chair at ISBA (2 Sessions) – 2018
- Discussant at ISBA – 2018
- Program Committee (UNH representative) for NESS – 2019
- Track Chair and Session Organizer at NESS – 2019
- Track Chair – GDRR – 2019
- Scientific Committee Member for ISBIS/y-BIS Analytics Workshop – 2019
- Track Chair and Session Organizer at IFORS – 2020 (postponed)
- Guest Editor for Entropy on Special Issue "Bayesian Statistics and Applied Probability for Games and Decisions" – 2021 to 2022.
- External Graduate Program Reviewer, American University – Jordan, MBA/BA – 2022
- National Research Foundation Faculty Reviewer, Rhodes University - South Africa – 2022

OTHER WORK EXPERIENCE

THE GEORGE WASHINGTON UNIVERSITY   September 2005 – July 2010
Adjunct Faculty, Decision Sciences Department
- Taught graduate level courses such as Forecasting and Time Series Analysis, Management Science, Statistical Analysis for Managers and Operations Management

THE GEORGE WASHINGTON UNIVERSITY   September 2004 – May 2009
Teaching Assistant (PhD), Decision Sciences Department
Decision Sciences Doctoral Candidate Representative

WORLDWIDE SOLUTIONS INC.   June 2007 – August 2008
Instructor
Developed and instructed the following weeklong seminars to executives of international government agencies and private organizations:
- Decision Analysis (Summer 2007)

- Management Decision Making (Fall 2007 and Summer 2008)

STRATEGIC MANAGEMENT HEALTH CARE CONSULTING   July 2007- September 2007
Research Consultant for the Institute for Integrating Statistics in Decision Sciences at GWU
- Developed fraud/anomaly detection statistical models for the Medicaid New York, Medicaid Pennsylvania and Medicare projects using SAS
- Presented findings to upper management and provided regular reports

THE GEORGE WASHINGTON UNIVERSITY   September 2003 - May 2004
Teaching Assistant (MBA), Management Science Department

FUTUREPIPE SRL, Paris   May 2003 - August 2003
Intern, Research Analyst

SODIMAS S.A.,Turkey Corporation   September 1998 – May 2002
(Agency of SODIMAS S.A. France in Turkey)
Operations/Supply Chain Analyst, (part-time)

AWARDS

- **University of New Hampshire, Peter T. Paul College, MSBA Excellence in Teaching Award, 2022.**
- **University of New Hampshire, Peter T. Paul College, Excellence in Research Award, 2021.**
- **University of New Hampshire, Peter T. Paul College, MSBA Excellence in Teaching Award, 2021.**
- **University of New Hampshire, Peter T. Paul College, MBA Excellence in Teaching Award, 2017.**
- **University of New Hampshire, Outstanding Assistant Professor Award of Teaching, Research and Service (University level), 2016.**
- **University of New Hampshire, Peter T. Paul College, Excellence in Teaching Award for Tenure Track Faculty, 2015.**
- **University of New Hampshire, Peter T. Paul College, MBA Excellence in Teaching Award, 2014.**
- **The George Washington University, Philip Amsterdam Graduate Teaching Assistant Award for Outstanding Teaching 2009,** (No: 1 in the school of business, Top 5 university wide-honorable mention).
- **Young Bayesian Scholar Travel Award for GDDR-Ireland Conference 2013.**
- **International Beta Gamma Sigma Honor Society Member** (worldwide highest recognition in a business program accredited by AACSB International).