Inga Maslova
Department of Mathematics and Statistics
American University,
Washington, DC 20016-8050
Phone: (202) 885-3132
E-mail: Maslova@american.edu

PROFESSIONAL PREPARATION

Utah State University, Statistics	PhD, 2009
Utah State University, Statistics	M.S., 2005
Vilnius University, Mathematical Science	B.S., 2003

APPOINTMENTS

Assistant Professor, American University	Since 2009
Visiting Researcher, Utah Water Research Lab	Mar 2012 – Aug 2012
Graduate Research Assistant, Utah State University	2005 – 2009
Teaching Instructor, Utah State University	2003 – 2005

RESEARCH INTERESTS

Functional data analysis; Time series analysis; Wavelet methods; and their applications to economics, geophysics, and environmental sciences.

HONORS AND AWARDS

- U.S. Bureau of Reclamation Research Grant, 2011
- American University College of Arts and Sciences Mellon Fund Research Award, 2011
- American University International Travel Award, 2011
- NIST, UseR!-2010 conference attendance support, 2010
- American University Center for Teaching, Research & Learning, Small Grants, 2010
- American University, Local conference travel award, 2009-2010
- Utah State University School of Graduate Studies Dissertation Fellowship, 2008

- Utah State University, Department of Mathematics and Statistics Summer Grant, 2008
- Utah State University, Department of Mathematics and Statistics Travel Awards, 2007, 2008
- Utah State University Graduate Student Senate Travel Award,2007
- SOA/CAS/CIA Exam P/1, 2007
- Elected graduate student representative to the Graduate Student Senate, Utah State University, 2006 – 2008
- Industrial Mathematics and Statistical Modeling Workshop Travel Award, 2006
- Utah State University Graduate Research Writing Award, Department of Mathematics and Statistics, 2005
- Dean's List Award for Outstanding Scholastic Achievements, Utah State University, 2003 - 2008
- B.S. Diploma cum laude, Vilnius University, 2003
- Winner of Undergraduate Projects Contest (Statistics section). "Asymptotic properties of the parameter estimators of the H-diffusion processes", Vilnius University, 2003
- Third place winner (no First place awarded) in "Lithuanian strategic plan 2005 - 2010" contest, 2003
- The Scholarship for outstanding academic achievements, Vilnius University, 1999 - 2003

RESEARCH

Publications

Journals (Peer-reviewed)

1. I. Maslova, P. Kokoszka, J. Sojka, and L.Zhu, *Estimation of Sq Variation by Means of Multiresolution and Principal Component Analyses*, Journal of Atmospheric and Solar-Terrestrial Physics, Vol. 72, pages 625 - 632, doi:10.1016/j.jastp.2010.02.005, 2010

2. I. Maslova. P. Kokoszka, J. Sojka, and L.Zhu, *Statistical significance testing for the association of the magnetometer records at high-, mid- and low latitudes during substorm days*, Planetary and Space Science, Vol. 58, pages 437 - 445, doi:10.1016/j.pss.2009.11.004, 2010

3. I. Maslova, P. Kokoszka, J. Sojka, and L. Zhu, *Removal of nonconstant daily variation by means of wavelet and functional data analysis*, Journal of Geophysical Research, Vol. 114, A03202, doi:10.1029/2008JA013685, 2009

4. P. Kokoszka, I. Maslova, J. Sojka, L. Zhu, *Testing for lack of dependence in the functional linear model*, Canadian Journal of Statistics, Vol. 36, No 2, pages 207 - 222, 2008

5. P. Kokoszka, I. Maslova, J. Sojka, L. Zhu, *Probability tails of wavelet coefficients of magnetometer records*, Journal of Geophysical Research-Space Physics, Vol. 111, No. A6, A06202, 10.1029/2005JA011486, 2006

Technical Reports

6. I. Maslova, H. Onder, and A. Sanghi, *Growth and Volatility Analysis Using Wavelets*, Policy Research Working Paper, No. WPS 6578, Washington D.C. - The Worldbank 2013

7. I. Maslova, *Testing and estimation for functional data with applications to magnetometer records*, Doctoral Dissertation, Utah State University, 2009

8. Baker, M. Jung, Ch. Lee, I. Maslova, M. Morton, J. Wang, *Analysis of biological interaction networks for drug discovery*, CRSC Technical Report (CRSC-TR06-23), 2006

9. I. Maslova, *Wavelet analysis of magnetometer data*, Master thesis, Utah State University, 2005

Other

10. Assisted with computations and other preparations in various chapters of the *Inference for Functional Data with Applications* by L. Horvath and P. Kokoszka, Springer, Volume 200, 2012

Work in Progress

11. I. Maslova, A. M. Ticlavilca, and M. McKee, *Adjusting Wavelet-based Multiresolution Analysis Boundary Conditions for Long-term Streamflow Forecasting*, 2013, under review

12. I. Maslova, H. Onder, and A. Sanghi, *Volatility of Growth Across the Nations: A Frequency Domain Approach*, in preparation

13. R. Bachour, I. Maslova, A. M. Ticlavilca, W. Walker, and M. McKee, *Wavelet-Multivariate Relevance Vector Machine Hybrid Model for Forecasting Daily Evapotranspiration*, 2013, submitted

14. R. Bachour, W. Walker, M. McKee, A. M. Ticlavilca, and I. Maslova, *Spatial Distribution of Evapotranspiration Using Relevance Vector Machine*, 2013, submitted

15. A. Ticlavilca, I. Maslova, D. M. Feuz, and M. McKee, *Commodity price modeling and forecasting using wavelet-based multivariate relevance vector machine*, in preparation

16. A. C. Elguindi, I. Maslova, and E. J. Malloy, *Clustering warping functions*, in progress

Presentations at Professional Meetings

Presentations

1. A. M. Ticlavilca, I. Maslova, M. McKee, "Wavelet-based Cross-correlation Analysis and a Hybrid Wavelet-multivariate Bayesian Model for Short-term Streamflow Forecasting Using Local Climatic Data", Spring Runoff Conference, Logan, UT, 2013

2. I. Maslova, "Wavelet Transform Boundary Conditions for Improved Forecasting Model", Invited talk, George Mason University, Fairfax, VA, 2012

3. I. Maslova, "Wavelet Methods for Hydrologic Time Series Analysis", Invited talk, Utah Water Research Laboratory, Utah State University, Logan, UT, 2012

4. I. Maslova and A. M. Ticlavilca, "Long-term Streamflow Forecasting", Invited talk, Utah Water Research Laboratory, Utah State University, Logan, UT, 2012

5. I. Maslova, A. M. Ticlavilca, D. M. Feuz, and M. McKee, "Commodity price modeling and forecasting using wavelet and Bayesian machine learning regression approach", The 31st Annual International Symposium on Forecasting, Prague, Czech Republic, 2011

6. A. M. Ticlavilca, I. Maslova, and M. McKee, "Bayesian learning regression and wavelet approach to forecast river volume in Peru by using El Niño-Southern Oscillation (ENSO) Information", 31st Annual International Symposium on Forecasting, Prague, Czech Republic, 2011

7. A. M. Ticlavilca, I. Maslova, A. F. Torres, and M. McKee, "Application of a Bayesian forecasting model with wavelet decomposition in a real-time river basin monitoring network", 2011 AWRA Spring Specialty Conference, Baltimore, MD, 2011

8. I. Maslova, P. Kokoszka, J. J. Sojka, and L. Zhu, "Removal of Nonconstant Daily Variation by Means of Wavelet and Functional Data Analysis", Invited talk, Syracuse University, Syracuse, NY, 2009

9. I. Maslova, P. Kokoszka, J. J. Sojka, and L. Zhu, "Functional Wavelet-based of Magnetic Storm Activity", Invited talk, California State University, Fullerton, CA, 2009

10. I. Maslova, P. Kokoszka, J. J. Sojka, and L. Zhu, "Removal of Nonconstant Daily Variation by Means of Wavelet and Functional Data Analysis", Graduate Student Seminar, Utah State University, 2008

11. I. Maslova, P. Kokoszka, J. J. Sojka, and L. Zhu, "Improved Functional Wavelet-Based Index of Magnetic Storm Activity", AGU Joint Assembly Meeting, Fort Lauderdale, 2008

12. J. J. Sojka, P. Kokoszka, L. Zhu, and I. Maslova, "Wavelet Decomposition of Magnetometer Measurements to Enable Separation of Non-Linear M-I Currents", 20 Years of Nonlinear Dynamics in Geosciences Meeting, Rhodes, Greece, 2006

13. Baker, M. Jung, Ch. Lee, I. Maslova, M. Morton, J. Wang, Report on "Analysis of biological interaction networks for drug discovery", IMSM 2006 workshop, North Carolina State University, 2006

14. I. Maslova and B. Grigelionis, "Asymptotic properties of H-diffusion parameter estimates", Undergraduate Projects Contest (Statistics section), Vilnius University, Vilnius, 2003

Posters

15. I. Maslova, A. M. Ticlavilca, M. McKee, "Adjusting Wavelet-based Multiresolution Analysis Boundary Conditions for Robust Long-term Streamflow Forecasting Model", AGU Fall 2012, San Francisco, CA, 2012

16. A. M. Ticlavilca, I. Maslova, M. McKee, "A Hybrid Wavelet-Machine Learning Approach for Short- and Long-Term Streamflow Forecasting in Western U.S. by Using Local and Global Climate Patterns", AGU Fall 2012, San Francisco, CA, 2012

17. R. Bachour, I. Maslova, A. M. Ticlavilca, M. McKee, W. Walker, "Wavelet-based Evapotranspiration Forecasts", AGU Fall 2012, San Francisco, CA, 2012

18. A. M. Ticlavilca, I. Maslova, M. McKee, "A Robust Monthly Streamflow Forecasting Model Using a Multivariate Bayesian Regression Model Coupled with Wavelet Decomposition Approach", Spring Runoff Conference, Logan, UT, 2012

19. A. M. Ticlavilca, I. Maslova, M. McKee, "Comparison of Two Machine Learning Regression Approaches (Multivariate Relevance Vector Machine and Artificial Neural Network) Coupled with Wavelet Decomposition to Forecast Monthly Streamflow in Peru", AGU Fall 2011, San Francisco, CA, 2011

20. I. Maslova, "R package wfIMA: Wavelet-Functional Indexes of Magnetic Activity", UseR!-2010, Gaithersburg, MD, 2010

21. I. Maslova, P. Kokoszka, J. J. Sojka, and L. Zhu, "Estimation of Sq Variation by Means of Multiresolution and Principal Component Analyses", AGU Fall 2009, San Francisco, CA, 2009

22. I. Maslova, P. Kokoszka , J. J. Sojka, and L. Zhu, "Study of the Effects of Auroral Substorms on the Low-latitude Currents", AGU Fall 2007 Meeting, San Francisco, CA, 2007

23. I. Maslova and P. Kokoszka, "Testing for lack of dependence in functional linear model", Joint Statistical Meeting, Salt Lake City, UT, 2007

24. I. Maslova, P. Kokoszka , L. Zhu, and J. J. Sojka, "Probability distributions of wavelet coefficients of the ground - based magnetometer data for storm and quiet times", AGU Fall 2005 Meeting, San Francisco, CA, 2005

FUNDING

Awarded

- Utah Water Research Laboratory. "A Robust Monthly Streamflow Forecasting Model Using a Multivariate Bayesian Regression Model Coupled with Wavelet Decomposition Approach". Awarded 2012

- U.S. Bureau of Reclamation. "Robust long-term streamflow forecasting". Submitted 2011; Awarded 2011

- American University, College of Arts and Sciences, Mellon Fund Research Award. Project: "Wavelet analysis of the agricultural commodity prices", 2011

- American University, International Travel Award for The 31st Annual International Symposium on Forecasting. Talk given: "Commodity price modeling and forecasting using wavelet and Bayesian machine learning regression approach", 2011

- National Institute of Standards and Technology, Award for conference UseR!-2010 attendance. Poster presented:"R package wfIMA: Wavelet-Functional Indexes of Magnetic Activity", 2010

- Utah State University, School of Graduate Studies Dissertation Fellowship, 2008

- Utah State University, Department of Mathematics and Statistics, Summer Graduate Research Grant, 2008

- Utah State University, Department of Mathematics and Statistics, Conference Travel Awards, 2007, 2008

- Utah State University, Graduate Student Senate Travel Award. Received, 2007

- Industrial Mathematics and Statistical Modeling Workshop, Travel Award, 2006

Submitted

- USDA, NIFA, "Adapting to Climate Variability and Change in Western US Agroecosystems: Economic Impacts of Improved Water Supply Forecasts". Letter of intent approved. AU Principal Investigator: Inga Maslova, PhD. In collaboration with Utah State University. (Letter of intent accepted; Not submitted; Under revision)

- Principal Investigator: Inga Maslova, PhD. Testing and estimation of financial data using wavelet-based change point detection and machine learning (Submitted 2/2011; Not funded; Under revision)

TEACHING

American University

Courses Taught

STAT 515 Regression, American University, Fall 2011, Fall 2012

STAT 520 Applied Multivariate Analysis, American University, Fall 2013

STAT 524 Data Analysis, American University, Spring 2010, Spring 2011, Spring 2013

STAT 522 Time Series, American University, Spring 2011, Spring 2013

STAT 514 Statistical Methods, American University, Fall 2010

STAT 202 Basic Statistics, American University, Fall 2009 – Fall 2011, Fall 2012, Fall 2013

Independent Studies

STAT 691 Sean Warlick, Internship, Summer 2013

STAT 690 Aaron Zelmanow, Computational Analysis of Hydrologic Data, Spring 2013

STAT 691 Nazanin Dameshghi, Internship, Spring 2013

STAT 590 Janine Bonner, Introduction to Functional Data Analysis, Fall 2011

STAT 590 Nacola Alexander, Introduction to Functional Data Analysis, Fall 2011

STAT 590 Merlin Mpoudeu, Introduction to Functional Data Analysis, Fall 2011

STAT 590 Aaron Zelmanov, Introduction to Functional Data Analysis, Fall 2011

STAT 490 Xinyi Deng, Development of R package, Spring 2011

STAT 690 Parisa Meisami, Data Analysis, Spring 2010

STAT 690 Thomas Nassif, Data Analysis, Spring 2010

Curriculum Development

STAT 590 Introduction to Functional Data Analysis, co-developed with Dr. E. Malloy, Fall 2011

Theses/Dissertations or Substantial Research Projects Supervised

Aaron Zelmanow, MS, Statistics, American University, "*Functional Data Analysis of Hydrologic Data*", Graduate Project, Spring 2013 – present

Eric Valentine, MS, Statistics, American University, "*Economic Modeling: A Time Series Approach*", Graduate Project, Fall 2012 – present

Janine Bonner, MS, Statistics, American University, "*Policy-making for CVM drivers*", Graduate Project, Spring 2013 – present

Roula Bachour, PhD, Civil Engineering, Utah State University, "*Wavelet-based Evapotranspiration Forecasts*", Research paper, Spring 2012

Jiao Yu, Introduction to Functional Data Analysis, Directed reading, Fall 2011

Anahi Rebatta sun han, Introduction to Functional Data Analysis, Directed reading, Fall 2011

David Neale-Lorello, PhD, Clinical Psychology, Committee Member, 2011 – 2013

Clementine Aubry-Blanchard, MS, Statistics, "*Spatial mapping of colon cancer mortality rates*", Committee Member, 2011

Gurudev Gadwale, MS, Statistics, Functional Data Analysis, Graduate Project adviser, 2011

Anne Elguindi, MS, Statistics, "*A comparison of hierarchical and partitioning methods in creating clusters using warping functions*", Committee Member, 2010

Utah State University

Courses Taught

Business Statistics, Summer 2007

Statistical Methods , Spring 2006, Spring 2008

Introduction to Statistics , Summer 2004, Fall 2004, Spring 2005, Spring 2007, Fall 2007

Intermediate Algebra , Fall 2003, Spring 2004

Tutor / Grader

Introduction to Statistics

Introduction to Social Statistics

Statistical Methods

Business Statistics

Trigonometry

Calculus (I, II)

Introduction to Probability

Calculus II

SERVICE

American University

- Graduate Program Director, Department of Mathematics and Statistics, Dec 2012 – present
- Colloquium committee, Department of Mathematics and Statistics, Sept 2011 – Dec 2011
- Educational Policy Committee (EPC) of the College of Arts and Sciences, Jan 2011 – May 2011
- Graduate Studies Committee, Department of Mathematics and Statistics, Sept 2009 – present

Utah State University

- President and co-founder of the Association for Women in Mathematics Student Chapter at Utah State University, 2007 – 2008
- Organizer Graduate student summer seminar, Utah State University, 2008
- Graduate Student Senate Department Representative, Utah State 2006 – 2008

National

- Reviewer for Water Resources Research, Aug 2013
- Reviewer for Advances in Space Research, Apr 2013
- Judge for the AGU Outstanding Student Paper Awards, AGU 2012
- Reviewer for Computational Statistics and Data Analysis, Sept 2012, Aug 2013
- Reviewer for Journal of Atmospheric and Solar-Terrestrial Physics, Aug 2011, Sept 2012
- Judge for the AGU Outstanding Student Paper Awards, AGU 2011
- Session chair, Bayesian Methods (1), The 31st Annual International Symposium on Forecasting, 2011
- Reviewer for Computational Statistics, May 2011
- Reviewer for Journal of Statistical Planning and Inference, Sept 2010

Consulting

- Short Term Consultant at the Econ. Policy and Debt Department, World Bank, Oct, 2012 – Jun, 2013

- A. M. Ticlavilca, Department of Civil Engineering and Utah Water Research Lab, Utah State University, Multivariate Relevance Vector Machine for Multiple Reservoir System Operation, collaboration with Professor Mac McKee, 2009

Professional Affiliations

American Statistical Association; American Mathematical Society; American Geophysical Union; Institute of Mathematical Statistics

Development Activities Attended

- *Write Winning Grant Proposal* workshop, Utah State University, Spring 2012

- *NSF Funding Panel*, Utah State University, Spring 2012

- *Foundation Grant Funding*, American University, Fall 2011

- *Proposal Writing Workshop*, American University, Fall 2011

- *The Teaching and Technology Workshops*, American University, Fall 2011

- *Singular Spectrum Analysis Workshop*, 31st International Symposium on Forecasting, Prague, Czech Republic, Summer 2011

- *Info-Metrics*, American University, Spring 2011

- *How to Prepare a Proposal for the National Science Foundation*, American University, Fall 2009

- *Developing and Funding a Research Plan*, American University, Fall 2009

SKILLS

- Languages: English (fluent), Russian (fluent), Lithuanian (fluent), German (basic).

- Computer skills: R, S-plus, Matlab, SAS, SPSS, Eviews, SQL, Maple, Statistica, Pascal, LaTeX, MS Office.