

# Brani Vidakovic

## Professor

The H. Milton Stewart School of Industrial Engineering and The Wallace H. Coulter  
Department of Biomedical Engineering  
Georgia Institute of Technology and Emory University School of Medicine

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## I. Earned Degrees

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- 5/92 **Ph.D. in Statistics**, Purdue University.  
Research Area: Bayes-Minimax Compromise -  $\Gamma$ -Minimax Statistical Inference.
- 5/81 **MS in Mathematics**, Belgrade University, Serbia.  
Master Thesis: Algorithmic Complexity and Pseudo-Randomness.
- 6/78 **Bachelor of Science, Mathematics**, Belgrade University, Serbia.

## II. Employment

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- 9/2018–present **National Science Foundation, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences**, Alexandria, VA.  
*Program Director for Statistics*
- 4/2004–present **The H. Milton Stewart School of School of Industrial and Systems Engineering, Georgia Tech.**, Atlanta, GA.  
*Professor of Statistics*
- 7/2005–present **The Wallace H. Coulter Department of Biomedical Engineering, Georgia Tech.**, Atlanta, GA.  
*Professor of Biostatistics*
- 8/2000–4/2004 **School of Industrial and Systems Engineering, Georgia Tech.**, Atlanta, GA.  
*Associate Professor of Statistics*
- 4/2000–8/2000 **Institute of Statistics and Decision Sciences, Duke University**, Durham, NC.  
*Associate Professor of Statistics and Decision Sciences with Tenure*
- 7/1992–4/2000 **Institute of Statistics and Decision Sciences, Duke University**, Durham, NC.  
*Assistant Professor of Statistics and Decision Sciences*

## III. Teaching

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### A. Individual Student Guidance

#### PhD advisor: Current

- Marcus Walker, ECE, Georgia Tech. Research Area: *Craniosynostosis Statistical Image Modeling and Processing*.
- Parisa Yousefi Zowj, ISyE, Georgia Tech. Research Area: *Application of Wavelets and Bayesian Statistics in Biology*.

### PhD advisor: Graduated

- Chen Feng, ISyE, Georgia Tech. Co-advising with Yajun Mei, Graduated May 2019. Thesis: *Feature Learning and Personalized Screening Techniques in Healthcare*. Now Senior Data Scientist at Wells Fargo, San Francisco, CA
- Taewoon Kong, ISyE, Georgia Tech, Graduated March 2019. Thesis: *Assesing Self-similarity in Redundant Complex and Quaternion Wavelet Domains: Theory and Applications*. Now Data Scientist, Cox Communications, Atlanta, GA
- German Schnaidt, ISyE, Graduated January 2019. Thesis: *Non-Parametric Statistical Modeling based on Wavelets: Theory and Methods*. Now Senior Data Scientist at Amazon, Seattle, WA
- Mina Georgieva, ISyE, Georgia Tech. Co-advising with Benjamin Haaland. Graduated in May 2018. Thesis: *Techniques for comparing efficacy and cost-effectiveness of cancer therapies, and improved inference tools*. Now Senior Consultant in Data Analytics at EY, Atlanta, GA
- Minkyong Kang, ISyE, Georgia Tech, Graduated in May 2016. Thesis: *Non-decimated Wavelet Transform in Statistical Assessment of Scaling: Theory and Applications*. Now Data Scientist II at Microsoft Research NExT, Seattle, WA
- Tonya Woods (Roberts), ISyE, Georgia Tech, Graduated in May 2015. Thesis: *Extracting Meaningful Statistics for the Characterization and Classification of Biological, Medical, and Financial Data*. Now Statistical Consultant at Equifax, Atlanta, GA
- Erin Hamilton, BME, Georgia Tech, Graduated in February 2013. Co-Advised with Dr Paul Griffin (Purdue University). Thesis: *Multiscale and Metaanalytic Approaches to Inference in Clinical Healthcare Data*. Now Statistician at CDC, Atlanta, GA
- Norbert Reményi, ISyE, Georgia Tech, Graduated in November 2012. Thesis: *Theory and Applications of Bayesian Wavelet Shrinkage*. Now Principal Research Scientist at Sabre Corporation, Southlake, TX
- Hin-Kyeol Woo, ISyE, Georgia Tech, Graduated in August 2012. Co-Advised with Dr J.C. Lu (ISyE). Thesis: *Multiscale Fractality with Applications and Statistical Modeling and Estimation for Computer Experiment of Nano-Particle Fabrication*. Now Data Scientist at Snap Inc., Santa Monica, CA
- Sofia Espinoza, ISyE, Georgia Tech, Graduated in June 2012. Thesis: *Data Mining Methods Applied to Healthcare Problems*. Now Statistician at CDC, Atlanta, GA
- Seonghye Jeon, ISyE, Georgia Tech, Graduated in March 2012. Thesis: *Bayesian Data Mining Techniques in Public Health and Biomedical Applications*. Now Statistician at CDC, Atlanta, GA
- Kichun Sky Lee, ISyE, Georgia Tech, Graduated in June 2010. Thesis: *Functional Data Mining with Multiscale Statistical Procedures*. Now Professor of Statistics, Hanyang University, Seoul, South Korea
- Xavier Le Faucheur, EE, Georgia Tech, Graduated in March 2010. Co-Advised with Dr Allen Tannenbaum. Thesis: *Statistical Methods for Feature Extraction in Shape Analysis and Bioinformatics*. Now Head of Financial Services Strategic Projects at Gerson Lehrman Group, New York, NY
- Willie Brad Jones, ISyE, Georgia Tech, Graduated in June 2009. Thesis: *Exploring a Combined Quantitative and Qualitative Research Approach In Developing a Culturally Competent Dietary Behavior Assessment Instrument*. Research Associate at CDC, Atlanta, GA
- Leanne Metcalfe, BE, Georgia Tech, Graduated in August 2008. Thesis: *Bayesian Predictive Models in Determining the Health Burdens in Employed Populations*. Now Senior Director of Consultative Data Science at Blue Cross and Blue Shield, Dallas, TX
- David Huang, ISyE, Georgia Tech, Co-Advised with Paula Edwards (GaTech), Graduated in May 2008. Thesis: *A New Tool to Measure the Relationship between Health-Related Quality of Life and Workforce Productivity*. Now Associate Service Fellow CDC/NCHS/OAE, Washington, DC
- Ilya Lavrik, ISyE, Georgia Tech, Graduated in November 2005. Thesis: *Novel Wavelet-Based Statistical Methods with Applications in Classification, Shrinkage, and Nano-Scale Image Analysis*. Now

Data Scientist at Norfolk Southern Corporation, Atlanta, GA

- Bin Shi, ISyE, Georgia Tech, Graduated in May 2005. Thesis: *Multiscale Statistical Analysis of Self-similar Process with Applications in Geophysics, Health Informatics and Manufacturing*. Now Senior Vice President, Portfolio Manager, Acadian Asset Management, Boston, MA
- Woojin Chang, ISyE, Georgia Tech, graduated in August 2002. Thesis in Multivariate Wavelet Shrinkage and Statistical Classification. Now Professor at Seoul National University, South Korea.
- Aluisio Pinheiro, *Multi-Resolution Analysis and Applications in Statistics*, Co-Advised with Dr. Chuanshu Li, UNC-Chapel Hill, Graduated in December 1997. Now Professor of Statistics at Universidade Estadual de Campinas, Campinas, BR

### MS advisor

- Choong Ng: *Wavelet-ARMAX Model for Prediction of Air Cargo Traffic*, MS thesis (Dual Program GaTech-Singapore 2003).
- Marcus Walker, BME March 2013, Co-advising with Dr Barbara Boyan: *Cranial suture quantification and intracranial assymetry analysis for craniosynostosis predictive modeling and assessment*.
- Haesong Choi, ISyE, 2017 *Bayes factor wavelet shrinkage with contaminated uniform priors*.

### Undergraduate Advising

- Kumbit Hwang: Georgia Tech Presidents Undergraduate Research Award (PURA), 2016. *Diagnostics of ovarian cancer based on the wavelet analysis of protein mass spectra*.

### Member of PhD committee

- Salman Azhar, CS, Duke University, Fall 1993; Arun Balakrishnan, EE, Duke University, May 1994; Fabrizio Ruggeri, ISDS, Duke University, December 1994; Frank Saishi Lee, ISDS, Duke University, February 1997; Yang Chen, ISDS, Duke University, Spring 1997; Jacob Laading, ISDS, Duke University, Spring 1997; Jane Fang Liu, ISDS, Duke University, Spring 2000; Viridiana Lourdes, ISDS, Duke University, Spring 2000;
- Yongsub Kim, ECE, GaTech, November 2000; Borka Milosević, ECE, GaTech, November 2002; Suk Joo Bae, ISyE, GaTech, December 2003; Aleksandar Pregelj, ECE, GaTech, December 2003; Myong K. Jeong, ISyE, GaTech, March 2004; Steven Laundry, ISyE, GaTech, May 2004; Tithima Kognakorn, ISyE, GaTech, October 2004; Volkan Cevher, ECE, GaTech, January 2005; Heejong Yoo, ISyE, GaTech, January 2005; Brian Sperling, ISyE, GaTech, March 2005; Hongmei Chen, Aerospace Engineering, GaTech, April 2005; Yan Zhang, School of Architecture, GaTech, April 2005; Raymond Mooring, Earth and Atmospheric Sciences, GaTech, April 2005; V. Kathlene Emery, ISyE, GaTech, June 2005; Paul Brooks, ISyE, GaTech, June 2005; Xulei (Sherry) Ni, ISyE, GaTech, November 2005; Jong Phil Kim, ISyE, GaTech, February 2006; Paula Edwards, ISyE, GaTech, April 2006; Demet Batur, ISyE, GaTech, March 2006; Martin Tobias, ECE, GaTech, March 2006; Soner Özgür, ECE, GaTech, April 2006; Dominic Garcia, ISyE, GaTech, April 2006; Ryan E. Mills, Biology, GaTech, April 2006; Chen-Yu Lin, ISyE, GaTech, May 2006; Pelin Pekgün, ISyE, GaTech, August 2006; Rajbabu Velmurugan, ECE, GaTech, March 2007; Onyi Irrechukwu, ME, GaTech, November 2007; Ismail Kasimoglu, ECE, GaTech, November 2007; Milind Borkar, ECE, GaTech, December 2007; Ali Cafer Gurbuz, ECE, GaTech, June 2008; Ji Soo Yi, ISyE, GaTech, June 2008; Shu-Chuan Lin, ISyE, GaTech, August 2008; Zafer Aydin, ECE, GaTech, August 2008; Joshua Perkel, ECE, GaTech, October 2008; Jeremy Lewi, BME, GaTech, February 2009; John Phan, BME, GaTech, March 2009; Tarik Arici, ECE, GaTech, March 2009; Mahima Ashok, BME, GaTech, May 2009; Sevgi Zubeyde, ECE, GaTech, August 2009; Sharon Sonnenblum, ECE, GaTech, August 2009; Christopher Healey, ISyE, GaTech, June 2010; Jessica O'Neal, ME, GaTech, May 2011; Roy Xu, Biostatistics, Emory, October 2011; Ryan Pallki, ECE, GaTech,

October 2011; Amol Borkar, ECE, GaTech, December 2011; Michael Santoro, ECE, GaTech, May 2012; Tedd Wada, ECE, GaTech, June 2012; Devangi Parikh, ECE, GaTech, August 2012; Paul D. Burns, Biology, GaTech, May 2013; Jeong Hwan Bang, ECE, GaTech, Jun 2013; Adeel Yusuf, ECE, GaTech, November 2013; Jason Wung, ECE, GaTech, March 2014; Sue Reynolds, ISyE, GaTech, April 2015; Chanchala Cady, BME, May 2015; Sepideh Dolatshahi, ECE, July 2015; Joshua L. McDonald, ISyE, August 2015; Ross P. Hilton, ISyE, October 2015; Jason H. Dixon, ECE, October 2015; Pierre Isautier, ECE, November 2015; Ryan B. Jacobs, Aerospace Eng., May 2016; Li Gu, ISyE, June 2016; Chitta Ranjan, ISyE, September 2016; Jenny Reed, ECE, October 2016; Sayan Ghosh, Aerospace Eng, October 2016; Van Nguyen, ECE, October 2016; Weijun Ding, ISyE, December 2016; Sujith Mangalathu, CEE, March 2017; Farahnaz Soleimani, CEE, March 2017; Kun Liu, ISyE, March 2018; Babafemi Odelowo, ECE, May 2018; Cloe Johansen Applegate, CEE, July 2018; Tony Yaacoub School, ISyE, July 2018; Chad Glen, BME, July 2018; Shanshan Cao, ISyE, May 2019; Ruizhi Zhang, ISyE, May 2019;

## **B. Other Teaching Activities**

### **Courses taught at Belgrade University**

- 1979 – 1987. A variety of mathematics, statistics, and computer programming courses taught at the School of Mechanical Engineering and School of Mathematics at Belgrade University.

### **Courses taught at Purdue University**

- Introduction to Probability STA 225, Fall 1990.
- Introduction to Statistics (for graduate students) STA 501, Summer 1991, Summer 1992.

### **Courses taught at Duke University**

- STA 110: Statistics and Data Analysis, Fall 1992, Summer 1993, Fall 1993, Spring 1994, Summer 1994, Fall 1994, Spring 1995, Fall 1995, Spring 1996, Fall 1998, and Spring 2000.
- STA 112: Introduction to Applied Statistics, Fall 1992, Spring 1993.
- STA 114/MTH136: Statistics, Spring 1997.
- STA 205: Probability and Measure Theory, Spring 1994.
- STA 213: Introduction to Statistical Methods, Fall 1996.
- STA 214: Probability and Statistical Models, Spring 1998, Spring 1999.
- STA 226: Statistical Decision Theory, Fall 1994.
- STA 242: Applied Regression Analysis, Spring 1993.
- STA 291, 292: Graduate Seminar Courses.
- STA 293, 294: Special Topics in Statistics, Fall 1994, Fall 1995, Spring 1998, Fall 1999.
- STA 395: Readings in Statistical Science, Fall 1998.

### **Courses taught at Georgia Institute of Technology**

- BIOL 8803 × BMED8803 × ISyE 8843; Special Topics: Bayesian Statistics in Health Systems and Bioinformatics, Fall 2005, Summer 2006, Summer 2007.
- BMED1300: Problem Based Learning in Biomedical Engineering, Spring 2006, Spring 2011.
- BMED2300: Elements of BioEngineering Design, Summer 2006.
- BMED2400: Introduction to Bioengineering Statistics, Spring 2008, Fall 2008, Spring 2009, Summer 2009, Spring 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2012, Spring 2013, Fall 2013, Spring 2014, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Summer 2018 (Galway).
- BMED2803: Bioengineering Statistics, Spring 2007, Fall 2007.
- BMED4843: Special Topics (Biostatistics), Spring 2016.

- BMED8813: Graduate Course in Biostatistics (Special Topics), Fall 2006.
- BMED6700: Biostatistics, Spring 2012, Spring 2013, Spring 2014, Spring 2016, Spring 2017.
- ISyE 2027: Introductory Probability, Summer 2002.
- ISyE 2028: Introductory Statistics, Spring 2001, Fall 2001, Fall 2002, Summer 2003, Fall 2003, Summer 2004, Fall 2004, Spring 2005, Summer 2014.
- ISyE 3770: Probability and Statistics for Engineers, Summer 2005, Spring 2016, Fall 2017.
- ISyE 4699BV; Undergraduate Research Seminar, Spring 2002, Summer 2003, Fall 2003, Spring 2004.
- ISyE 6401: Regression and Design of Statistical Experiments, Summer 2001.
- ISyE 6402: Time Series Analysis, Spring 2003, Spring 2004.
- ISyE 6404: Nonparametric Statistics, Fall 2000, Fall 2002, Fall 2003, Fall 2015, Fall 2016, Fall 2017.
- ISyE 6414: Regression Analysis, Summer 2015, Summer 2016, Summer 2017.
- ISyE 6420: Bayesian Statistics, Fall 2004, Spring 2014, Spring 2015, Spring 2018.
- ISyE 6421: Biotatistics (crosslisted with BMED6700), Spring 2016, Spring 2017.
- ISyE 6650: Probabilistic Models, Summer 2002, Summer 2003.
- ISyE 6781: Reliability Theory, Fall 2014.
- ISyE 8801: Special Topics: Wavelets with Applications, Spring 2001.
- ISyE 8841: Special Topics: Multiresolution Aspects of Self-Similar Processes, Spring 2002.
- ISyE 8900BV; Graduate Research Seminar, Spring 2002, Fall 2002, Summer 2003, Fall 2003, Spring 2004.

#### **Courses taught at Emory University**

- BIOS 503: Introductory Graduate Course in Biostatistics, Fall 2004.
- BIOS 760R: Wavelets in Bioinformatics, Fall 2006.
- BIOS 560R: Applied Bayesian Statistics, Fall 2007, Spring 2011.
- BIOS 520R: Design and Analysis of Clinical Trials, Spring 2009.

#### **Courses taught at Hanyang University, Seoul, S. Korea**

- ENG: Advanced Engineering Statistics, Summer 2013.

#### **Courses Developed**

- Statistical Modeling by Wavelets, taught as STA 293, 294 at Duke University and ISyE 8801, 8841, 8843 at Georgia Institute of Technology.
- ISyE6420 (also taught as ISyE 8843) Bayesian Statistics for Engineers at Georgia Institute of Technology.
- ISyE8843 × BIOL8803 Bayesian Statistics in Bioinformatics.
- BMED 2400 Bioengineering Statistics.
- ISyE6421/BMED 6700 Biostatistics
- BMED 4813 Reliability of Medical Devices. A course developed and taught to BMED undergraduate students at *GaTech in Ireland Program - Galway*, Summer 2016.
- ISyE6420-OAN Bayesian Statistics. An online course developed with edX for GaTech MS Analytics Program during Spring/Summer 2018, and first time offered in Fall 2018. The course was offered online in Spring 2019 (80 students registered) and Fall 2019 (216 students registered).

## **IV. Scholarly Accomplishments**

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## A. Published Books and Parts of Books

### As Author, Coauthor, or Editor

- A.1 BANJEVIC, D. and VIDAKOVIC, B. (1986). *Probability and Statistics, The Problem Book with Solutions*. (In Serbian). Naučna Knjiga, Beograd, 290 pp. Second Edition in 1988.
- A.2 VIDAKOVIC, B. (1999). *Statistical Modeling by Wavelets*. John Wiley & Sons, Inc., New York, 384 pp.
- A.3 MÜLLER, P. and VIDAKOVIC, B. (EDITORS) (1999). *Bayesian Inference in Wavelet Based Models*. Lecture Notes in Statistics **141**, Springer-Verlag, New York.
- A.4 KHAM, P. and VIDAKOVIC, B. (2007). *Nonparametric Statistics for Engineers and Scientists*. John Wiley & Sons, Hoboken, NJ, 420 pp.
- A.5 PINHEIRO, A. and VIDAKOVIC, B. (2009). *Wavelets in Functional Data Analysis, X Brazilian School of Time Series and Econometrics*, Sao Carlos, Brazil, 176 pp.
- A.6 BALAKRISHNAN, N., READ, C. B., VIDAKOVIC, B., KOTZ, S., and JOHNSON, N. L. (2010). *Methods and applications of statistics in the life and health sciences*. (English) Wiley, Hoboken, NJ. pp 986p. ISBN 978-0-470-40509-3/hbk).
- A.7 BALAKRISHNAN, N., READ, C. B., VIDAKOVIC, B., KOTZ, S., and JOHNSON, N. L. (2011). *Methods and Applications of Statistics in Engineering, Quality Control, and the Physical Sciences*. Wiley, Hoboken, NJ. pp. 776, ISBN-10: 0-470-40508-2 ISBN-13: 978-0-470-40508-6.
- A.8 VIDAKOVIC, B. (2011). *Statistics for Bioengineering Sciences, With MATLAB and WinBUGS Support*, Springer Verlag, NY., 765 pp.
- A.9 VIDAKOVIC, B. (2017). *Engineering Biostatistics, An Introduction Using MATLAB and WinBUGS*, John Wiley & Sons, Hoboken NJ, 964 pp.
- A.10 MORETTIN, P., PINHEIRO, A., and VIDAKOVIC, B. (2017). *Wavelets in Functional Data Analysis*, Springer Briefs in Mathematics, Springer International Publishing, New York, pp. VIII +106.

### As Chapter Author/Coauthor

- a.1 VIDAKOVIC, B. (1998). Wavelet-based nonparametric Bayes methods. In: *Practical Nonparametric and Semiparametric Bayesian Statistics*. Editors Dey, D., Müller, P., and Sinha, D., Springer-Verlag, Lecture Notes in Statistics **133**, 133–155.
- a.2 VIDAKOVIC, B. and MÜLLER, P. (1999). An introduction to wavelets. In: *Bayesian Inference in Wavelet-Based Models*. Editors Müller, P. and Vidakovic, B., Springer-Verlag, Lecture Notes in Statistics **141**, 1–18.
- a.3 MÜLLER, P. and VIDAKOVIC, B. (1999). MCMC methods in wavelet shrinkage. In: *Bayesian Inference in Wavelet-Based Models*. Editors Müller, P. and Vidakovic, B., Springer-Verlag, Lecture Notes in Statistics **141**, 187–202.
- a.4 VIDAKOVIC, B. (2000). Gamma-minimax: A paradigm for conservative robust Bayesians. In: *Bayesian Robustness*. Editors Rios Insua, D. and Ruggeri, F., Springer-Verlag, Lecture Notes in Statistics **152**, 241–259.

- a.5 ANGELINI, C. and VIDAKOVIC, B. (2003). Some Novel Methods in Wavelet Data Analysis: Wavelet Anova, F-test Shrinkage, and  $\Gamma$ -Minimax Wavelet Shrinkage, In: *Wavelets and their Applications*, Editors Krishna, M., Radha, R., and Thangavelu, S. Allied Publishers Ltd, New Delhi, ISBN 81-7764-493-9, pp. 31–45.
- a.6 VIDAKOVIC, B. (2004). Transforms in Statistics, In: *Handbook of Computational Statistics Concepts and Methods, Chapter II.7*. Editors Gentle, J., Härdle, W., and Mori, Y., Springer-Verlag, Heidelberg, ISBN 3-540-40464-3, pp. 199–236.  
Second Edition of the Handbook in 2012, part 2 Spp. 203–242, DOI: 10.1007/978-3-642-21551-3\_8
- a.7 RUGGERI, F. and VIDAKOVIC, B. (2005). Bayesian Modeling in the Wavelet Domain, Chapter 11 in *Handbook of Statistics, Vol. 25, on Bayesian Statistics* (Editors C.R. Rao and Dipak Dey), 315–338.
- a.8 VIDAKOVIC, B. (2005). Entries for Encyclopedia of Statistical Sciences, *Brownian Bridge, Allan's Variance, Anscombe's Data Sets, Biography of Nathan Mantel*. In Second Edition Encyclopedia of Statistical Sciences, Editors Campbell, Balakrishnan, and Vidakovic, Wiley, 2005.
- a.9 MOLONEY, P. K., LEONARD, V. K., SHI, B., JACKO, A. J., VIDAKOVIC, B., and SAINFORT, F. (2005). From Extraneous Noise to Categorizable Signatures: Using Multi-scale Analyses to Assess Implicit Interaction Needs of Older Adults with Visual Impairments, *Lecture Notes in Computer Science*, Volume 3585, 1108 – 1111. DOI: 10.1007/11555261\_116.
- a.10 VIDAKOVIC, B. (2007). Discussion on “Nonparametric Function Estimation using Overcomplete Dictionaries” by M. Clyde and R. Wolpert, pp. 107–112. In *Bayesian Statistics 8*, Oxford University Press. (ISBN-13) 978-0-19-921465-5
- a.11 SHI, B., MOLONEY, K., LEONARD, K. V., JACKO, J., SAINFORT, F., and VIDAKOVIC, B. (2007). Multifractal Discrimination Model of High-Frequency Pupil-diameter Measurements. In *Quantitative Medical Data Analysis Using Mathematical Tools and Statistical Techniques*, (D. Hong and Y. Shyr Eds), World Scientific Publications, Singapore.
- a.12 DERADO, G., F. BOWMAN, D., PATEL, R., NEWELL, M., and VIDAKOVIC, B. (2007). Wavelet Image Interpolation (WII): A Wavelet-based Approach to Enhancement of Digital Mammography Images, *Bioinformatics Research and Applications*, Editors Mandoiu and Zelikovsky, *Lecture Notes in Bioinformatics*, 4463, 203–214, Springer-Verlag.
- a.13 DERADO, G., LEE, K., NICOLIS, O., BOWMAN, F. D., NEWELL, M., RUGGERI, F., and VIDAKOVIC, B. (2008). Wavelet-based 3-D Multifractal Spectrum with Applications in Breast MRI Images, Eds. I. Mandoiu, R. Sunderraman, A. Zelikovsky, *Lecture Notes in Bioinformatics*, 4983, 281–292, Springer-Verlag, NY.
- a.14 REMÉNYI, N. and VIDAKOVIC, B. (2013). Bayesian Wavelet Shrinkage Strategies - New Developments. Chapter 14 in *Multiscale Signal Analysis and Modeling*, *Lecture Notes in Electrical Engineering*, Editors X. Shen and A. Zayed. Springer-Verlag, 317–346.
- a.15 FENG, C., MEI, Y. and VIDAKOVIC, B. (2018). Mammogram Diagnostics Using Robust Wavelet-Based Estimator of Hurst Exponent. In: *New Frontiers of Biostatistics and Bioinformatics*, Zhao, Y. and Chen, D-G. Eds. Springer International Publishing, pages 109–140. [https://doi.org/10.1007/978-3-319-99389-8\\_5](https://doi.org/10.1007/978-3-319-99389-8_5)

- a.16 KANG, M., AUFFERMANN, W., and VIDAKOVIC, B. (2019). Wavelet-based Scailing Indices for Breast Cancer Diagnostics, To appear in: *IC-SMHD-2016, A Festschrift in Honor of Professor Hamparsum Bozdogan*, Springer. (A revised version accepted)

## B. Peer Refereed Publications

- B.1 VIDAKOVIC, B. (1983). Some characteristics of the process measure of the amount of information. *Publications de l'Institut Mathématique N.S.* **33** 235-238.
- B.2 VIDAKOVIC, B. (1985). An effective measure of complexity of binary words. *Matematički Vesnik* **37**, 327–332.
- B.3 STOJANOVIC, S. and VIDAKOVIC, B. (1987). Some properties of the combinational measure of complexity of binary words. *Publications de l'Institut Mathématique. N.S.* **42**, 143-147.
- B.4 VIDAKOVIC, B. (1993). On the efficiency of affine minimax rules in estimating a bounded multivariate normal mean. *Communications in Statistics - Simulation and Computation* **22** 3, 655-669.
- B.5 VIDAKOVIC, B. (1993). All roads lead to Rome-even in the honeycomb world. *The American Statistician*, **48**, 3, 234–236.
- B.6 VIDAKOVIC, B. and RIOS INSUA, D. (1994). Some efficient simple rules in  $\Gamma$ -minimax estimation. *Communications in Statistics - Simulation and Computation* **23**, 2, 393-414.
- B.7 VIDAKOVIC, B. and DASGUPTA, A. (1995). Lower bounds on Bayes risk for estimating a normal variance: With applications. *The Canadian Journal of Statistics*, **23**, 269–285.
- B.8 NEBEL, E. C. III, LEE J-S., and VIDAKOVIC, B. (1995). Hotel general manager career paths in the United States. *International Journal of Hospitality Management*, **14**, 3-4, 245-260.
- B.9 MUKHOPADHYAY, S. and VIDAKOVIC, B. (1995). Efficiency of linear Bayes rules for a normal mean: Skewed priors class. *The Statistician*, **44**, 3, 389–397.
- B.10 INSUA, D., RUGGERI, F., and VIDAKOVIC, B. (1995). Some results on posterior regret  $\Gamma$ -minimax estimation. *Statistics & Decisions*, **13**, 315–331.
- B.11 VIDAKOVIC, B. (1996). A note on random densities via wavelets. *Statistics & Probability Letters*, **26**, 315–321.
- B.12 VIDAKOVIC, B. and DASGUPTA, A. (1996). Efficiency of linear rules for estimating a bounded normal mean. *Sankhyā A*, **58**, 81–100.
- B.13 KATUL, G. and VIDAKOVIC, B. (1996). The partitioning of attached and detached eddy motion in the atmospheric surface layer using Lorentz wavelet filtering. *Boundary Layer Meteorology*, **77**, 153–172.
- B.14 VIDAKOVIC, B. (1997).  $\Gamma$ -minimax estimation with ordered observations. *Sankhyā A*, **59**, 366-375.
- B.15 DASGUPTA, A. and VIDAKOVIC, B. (1997). Sample size problems in Anova: Bayesian point of view. *Journal of Statistical Planning and Inference*, **65**, 335–347.
- B.16 PINHEIRO, A. and VIDAKOVIC, B. (1997). Estimating the square root of a density via compactly supported wavelets. *Computational Statistics & Data Analysis*, **25**, 399–415.



- B.17 VANNUCCI, M. and VIDAKOVIC, B. (1997). Preventing the Dirac disaster: Wavelet based density estimation. *Journal of Italian Statistical Society*, **6**, 145–159.
- B.18 KATUL, G. and VIDAKOVIC, B. (1998). Identification of low-dimensional energy containing/flux transporting eddy motion in the atmospheric surface layer using wavelet thresholding methods. *Journal of the Atmospheric Sciences*, **55**, 377–389.
- B.19 VIDAKOVIC, B. (1998). Nonlinear wavelet shrinkage with Bayes rules and Bayes factors. *Journal of the American Statistical Association*, **93**, 173–179.
- B.20 VIDAKOVIC, B. (1999). Linear versus nonlinear rules for mixture normal priors. *Annals of Institute of Statistical Mathematics*, **51**, 111–124.
- B.21 CLYDE, M., PARMIGIANI, G., and VIDAKOVIC, B. (1998). Multiple shrinkage and subset selection in wavelets. *Biometrika* **85**, 391–401.
- B.22 VIDAKOVIC, B. and BIELZA LOZOYA, C. (1998). Time-adaptive wavelet denoising. *IEEE Transactions on Signal Processing*, **46**, 2549–2554.
- B.23 KATUL, G., SCHIEDGE, J., KUHN, G., HSIEH, C-I., and VIDAKOVIC, B. (1998). Skin temperature perturbations induced by surface layer turbulence above a grass surface. *Water Resources Research*, **34**, 1265–1274.
- B.24 KATUL, G., GERON, C.D., HSIEH, C.I., VIDAKOVIC, B., and GUENTHER, A. (1998). Active turbulence and scalar transport near the forest-atmosphere interface. *Journal of Applied Meteorology*, **37**, 1533–1546.
- B.25 VIDAKOVIC, B. (1998). On algorithmic complexity, universal priors and Ockham’s razor. *Resenhas de Instituto de Matemática e Estatística da Universidade de São Paulo*, **3**, 4, 359–390.
- B.26 MÜLLER, P. and VIDAKOVIC, B. (1999). Bayesian inference with wavelets: Density estimation. *Journal of Computational and Graphical Statistics*, **7**, 456–468.
- B.27 RUGGERI, F. and VIDAKOVIC, B. (1999). A Bayesian decision theoretic approach to the choice of thresholding parameter. *Statistica Sinica*, **9**, 1, 183–197.
- B.28 VIDAKOVIC, B. and RUGGERI, F. (1999). Expansion estimation by Bayes rules. *Journal of Statistical Planning and Inference*, **79**, 223–235.
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- C.4 VIDAKOVIC, B. (1985). About the sign test from the algorithmic complexity standpoint. *Statistička Revija* **3-4**, 289–291.



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- C.6 KANG, M. and VIDAKOVIC, B. (2016). WavmatND: A MATLAB Package for Non-Decimated Wavelet Transform and its Applications, arXiv:1604.07098
- C.7 KANG, M. and VIDAKOVIC, B. (2016). A note on Bayesian wavelet-based estimation of scaling, arXiv:1605.01146
- C.8 KANG, M. and VIDAKOVIC, B. (2016). MEDL and MEDLA: Methods for Assessment of Scaling by Medians of Log-Squared Nondecimated Wavelet Coefficients, arXiv:1703.04180
- C.9 FENG, C., MEI, Y., and VIDAKOVIC, B. (2017). Estimation of the Hurst exponent using trimean estimators on nondecimated wavelet coefficients, arXiv:1709.08775
- C.10 SCHNAIDT, G. and VIDAKOVIC, B. (2017). An empirical approach to survival density estimation for randomly-censored data using wavelets, arXiv:1709.09298
- C.11 REMÉNYI, N. and VIDAKOVIC, B. (2018). Bayesian nonparametric regression using complex wavelets, arXiv:1803.02532
- C.12 SCHNAIDT, G. and VIDAKOVIC, B. (2018). Empirical Wavelet-based Estimation for Non-linear Additive Regression Models, arXiv:1803.04558
- C.13 SCHNAIDT, G. and VIDAKOVIC, B. (2018). Least Squares Wavelet-based Estimation for Additive Regression Models using Non Equally-Spaced Designs, arXiv:1804.03015
- C.14 KONG, T. and VIDAKOVIC, B. (2019). Non-decimated Complex Wavelet Spectral Tools with Applications, arXiv:1902.01032
- C.15 KONG, T. and VIDAKOVIC, B. (2019). Non-decimated Quaternion Wavelet Spectral Tools with Applications, arXiv:1903.00790
- C.16 RODRIGO, A., LOPES, N., and VIDAKOVIC, B. (2019). Bayesian Wavelet Shrinkage with Beta Priors, arXiv:1907.06606

### Discussion Papers/Technical Reports

- c.1 VIDAKOVIC, B. and KATUL, G. The filtering of ozone concentration measurements in a turbulent air stream using Bayesian models in the wavelet domain. Discussion Paper **98-30**, ISDS, Duke University.
- c.2 VIDAKOVIC, B. and MÜLLER, P. Wavelets for Kids: Tutorial Introduction. Duke University Discussion Paper **94-13**.
- c.3 DASGUPTA, A., RINOTT, Y., and VIDAKOVIC, B. Stopping times related to diagnostics and outliers. Discussion Paper **94-15**, ISDS, Duke University.
- c.4 BURCH, K., CLYDE, M. and VIDAKOVIC, B. A Bayesian design for eco-regional assessment of Minnesota’s lakes. Discussion Paper **94-19**, ISDS, Duke University.
- c.5 GOEL, P. and VIDAKOVIC, B. Wavelet transformations as diversity enhancers. Discussion Paper **95-04**, ISDS, Duke University.

- c.6 VIDAKOVIC, B. and MÜLLER, P. Wavelet shrinkage with affine Bayes rules with applications. Discussion Paper **95-34**, ISDS, Duke University.
- c.7 MA, Y., STRANG, G., and VIDAKOVIC, B. The first moment of wavelet random variables. Discussion Paper **97-10**, ISDS, Duke University.
- c.8 ROSNER, G. and VIDAKOVIC, B. (2000). Wavelet Functional ANOVA, Bayesian False Discovery Rate, and Longitudinal Measurement of Oxygen Pressure in Rats, Technical Report, ISyE, Georgia Institute of Technology.
- c.9 SHI, B., KATUL, G. and VIDAKOVIC, B. (2006). Quantifying the Effects of Atmospheric Stability on the Multifractal Spectrum of Turbulence. Technical Report, ISyE, GaTech.
- c.10 LAVRIK, I. and VIDAKOVIC, B. (2006). Linear Feature Identification and Inference in Nano-scale Images, Technical Report, ISyE, GaTech.
- c.11 RAMÍREZ, P. and VIDAKOVIC, B. (2012). On Bayesian estimation of multinomial probabilities under incomplete experimental information. Technical Report, BESTA BME, GaTech.
- c.12 BARKER, L., GRIFFIN, S., JEON, S., KOLAVIC-GRAY, S., KOHN, W., and VIDAKOVIC, B. (2012). Meta-analysis of the effectiveness of glass ionomer compared to resin based sealants. CDC Manuscript.
- c.13 LESAJA, S., HAMILTON, E., BARKER, L., and VIDAKOVIC, B. (2014). Wavelet-based Andrews' Plots. CDC Manuscript.

## D. Presentations

### Plenary Talks

- 1 *Ondellettes et Statistique: 10 Années D'histoire*, Guest Plenary Speaker at CUMC'97 (Canadian Undergraduate Mathematics Conference), July 1997, Montreal, Canada.
- 2 *A Wavelet Primer*, Guest Plenary Speaker at the Meeting of Acoustical Society of America - North Carolina Chapter, October 1997, Asheboro, NC.
- 3 *Wavelet-Based Functional Data Analysis: Theory, Applications and Ramifications*, Plenary Talk at Third Pacific Symposium for Flow Visualization and Image Processing (PSFVIP-3), Maui, Hawaii, March 18-21, 2001.
- 4 One of four instructors and plenary speakers at: XIX Computational Mathematics School (Wavelets and Statistics), Naples, Italy, April 2-7, 2001. <http://www.iam.na.cnr.it/smc2001/smc2001less.html>
- 5 Invited Lecturer at the workshop *On the links between nonlinear physics and information sciences*, Les Houches, France, September 8-13, 2002. <http://www.lis.inpg.fr/houches.htm>.
- 6 Plenary Speaker at NSF/NSA Sponsored Workshop for Mathematical Tools and Statistical Techniques for Quantitative Medical Data Analysis, October 13-14, 2005 ETSU, Johnson City, TN. Theme: *Wavelets in Biomedical Data Analysis: Scaling and FANOVA in Applications*.
- 7 Featured Speaker at SCMA2005: Statistics, Combinatorics, Mathematics and Applications, December 2-4, 2005, Auburn University. Theme: *Wavelets in Biomedical Data Analysis*; <http://www.stat.auburn.edu/scma2005/featured.html>.

- 8 Two Plenary Lectures (i) Wavelets as Statistical Tools, (ii) Wavelet Solutions to Statistical Applications. *21st Mini Conference on Harmonic Analysis and Related Areas*, November 24-25, 2006; Auburn University, Auburn, Alabama. <http://www.math.auburn.edu/HAmmini06/>.
- 9 *A Multitude of Wavelet-Based Spectra and their Use: From Scalograms to Multifractal Directional Spectra of Multidimensional Objects*, One of three Special Invited Guests (with Professors David Stoffer and David Brillinger), at Colloquium on Time Series at the Occasion of Pedro A. Morettin's 65th Anniversary 6/28 - 7/1, 2007, Campos do Jordão, SP, Brazil. <http://www.ime.usp.br/~ubatuba/colloquium/>
- 10 *Wavelets: Data Analytic Perspective*, The 31st Southeastern Atlantic Regional Conference on Differential Equations, Georgia Southern University, September 30th and October 1st, 2011. <http://math.georgiasouthern.edu/~fmynard/searcde2011.html>
- 11 Plenary Talk at Georgia Scientific Computing Symposium 2013: *Scaling in Data*, February 23, 2013, Georgia State University, Atlanta, GA. <http://www.mathstat.gsu.edu/conference/14255.html>.
- 12 *Image Denoising with 2D Scale-Mixing Complex Wavelet Transforms*, Workshop on Nonparametric Curve Smoothing, Concordia University, Montreal, CA, December 16-17, 2013. <http://www.mathstat.concordia.ca/documents/NCSFlyer.pdf>
- 13 *Denoising by Bayesian Modeling in the Domain of Discrete Scale Mixing 2D Complex Wavelet Transforms*, Associacao Brasileira de Estatistica XVI Escola de Series Temporais e Econometria, Campos do Jordao, SP, Brazil August 5-7, 2015. <http://www.ime.usp.br/~abe/este2015/paginas/stbrani>
- 14 *Wavelet Modeling: All That Scaling*, International Conference on Information Complexity and Statistical Modeling in High Dimensions with Applications (IC-SMHD-2016), A Festschrift in Honor of Prof. Dr. Hamparsum Bozdoğan, Cappadocia-Newşehir, Turkey, May 18-21, 2016. [http://www.ic-smhd2016.com/?p=conference\\_theme](http://www.ic-smhd2016.com/?p=conference_theme)
- 15 *MEDL and MEDLA: Methods for Assessment of Scaling by Medians of Log-Squared Nondecimated Wavelet Coefficients*, Plenary Talk at Conference on Time Series, Wavelets, and Functional Data Analysis, USP, Sao Paulo, 20-21 October 2016.
- 16 *Wavelet Modeling: All That Scaling*, Annual Distinguished Lecturer at the Department of Electrical Engineering, TAMU, 29 September 2017.
- 17 *Wavelet-based Scaling Indices for Machine Learning*, The Fifth Machine Learning and Data Analytics (MLDAS 2018) Symposium, Doha, Qatar, March 12-13, 2018, <http://www.mldas.org/>

#### Invited Talks

- 1 *On Some Properties of the Martin-Löf Measure of Randomness of Finite Binary Words*, Conference Algebra and Logic, March 1984, Zagreb, Croatia.
- 2 *Being reasonably conservative:  $\Gamma$ -minimax at work*, 1st North American New Researchers Meeting, June 1993, Berkeley, CA.
- 3 *Robust Inference via  $\Gamma$ -minimax*, Joint ASA and IMS Meeting, August 1993, San Francisco, CA.
- 4 *Wavelet-Based Random Densities*, The Biometric Society-ENAR Spring Meeting, April 1994, Cleveland, OH.

- 5 *Bayesian Wavelet Shrinkage*, 26th Symposium on the interface: Computer Science and Statistics. June 1994, Research Triangle Park, NC.
- 6 *Random Variables with Random Densities*, IMS Satellite Conference to the 3rd World Meeting of Bernoulli Society, June 1994, Chapel Hill, NC.
- 7 *Estimating the Square Root of a Density by Compactly Supported Wavelets*, Multiple Decision Theory and Related Topics, June 1995, Purdue University, W. Lafayette, IN.
- 8 *Wavelets and Their Statistical Use*, 2nd North American New Researchers Meeting, July 1995, Kingston, Canada.
- 9 *Estimation of a Square Root of a Density by Wavelets*, StatSci Inc., July 1995, Seattle, WA.
- 10 *Improving MLE-type Rules in  $\Gamma$ -Minimax Estimation Problems*, INFORMS Meeting, October 1995, New Orleans, LA.
- 11 *On Wavelet Regression*, The Joint IMS-ASA Meetings, August 1995, Orlando, FL.
- 12 *Wavelets for a Bayesian*, 3rd World Meeting of the International Society for Bayesian Analysis, September 1995, Oaxaca, Mexico.
- 13 *Wavelet Introduction and Some Aspects of Statistical Inference via Wavelets*, June 1996, Institute for Optics, CSIC, Madrid, Spain.
- 14 *Time Adaptive Wavelet Denoising*, Workshop on Default Bayesian Statistical Methodology, November 1996, Purdue University, W. Lafayette, IN.
- 15 *An Introduction to Wavelets I, II*, Two invited talks in the *Wavelet Day* at CNR-IAMI, December 1996, Milano, Italy.
- 16 *Random Densities by Wavelets*, Sixth International Workshop on Artificial Intelligence and Statistics, January 1997, Fort Lauderdale, FL.
- 17 *Wavelets: What They Are and What They Are Not*. Third International Triennial Conference on Probability and Statistics, Calcutta University, December 1997, Calcutta, India.
- 18 *Deconvolution: Fast Deconvolutions by Wavelets*, ISI-Bernoulli Meeting, December 1997, Calcutta, India.
- 19 *Wavelet Based Statistical Procedures: An Overview*, NSF-CBMS Conference *Wavelet Analysis as a Tool for Computational and Harmonic Analysis*, May 1998, Orlando, FL.
- 20 *Bayes "Center" Shrinkage*, 6th Purdue International Symposium on Statistics, June 1998, W. Lafayette, IN.
- 21 *An Honest Modeling in Wavelet Domain*, Symposium on Nonlinear and Nonstationary Signal Processing Isaac Newton Institute for the Mathematical Sciences, Cambridge University, July/August 1998, Cambridge, England.
- 22 *Some Statistical Applications of Wavelets*, Conference *Celebrating Statistics in the Research Triangle Area: Legacy of Gertrude Cox*, September 1999, Research Triangle Park, NC.
- 23 *Multiresolution Methods in Statistics: A Two-day Tutorial*, October 1999, University of Simon Bolivar, Caracas, Venezuela.

- 24 *Wavelet Primer, Statistical Applications of Wavelets, and Wavelet-based Functional Data Analysis*, A wavelet day, series of 3 back-to-back lectures, Centre de Recherches Mathematiques, Universite de Montreal, Canada.
- 25 *Wavelets: Basics and Statistical Applications*, A minicourse of 8 lectures, December 1999, CNR-IAMI, Milano, Italy.
- 26 *Bayesian Models in General Time/Frequency Representations of Geophysical Signals*, May 2000, ISBA2000, Heraklion, Crete, Greece. <http://www.ntua.gr/ISBA2000/>
- 27 *Wavelet Based Processing of Geophysics Signals: Anova-Like Decompositions and (Multi)Fractality Assessment*, Chapter ASA Meeting: Talk at GaTech Campus, February 22, 2001.
- 28 *Wavelet based analysis of multifractals arising in geoscience measurements*, IMA Special Workshop: Frontiers of Mathematics in Geosciences, Minneapolis, March 5 - 7, 2001.
- 29 *Multiscale analysis of biometric measurements*, IMS/ENAR Spring Regional Meeting, Charlotte, NC, March 25-28, 2001.
- 30 *Wavelet-Based Denoising of Self-Similar Processes With Time Varying Hurst Exponent: Applications in Geophysics and Discussant to the Talk of Antoniadis and Fan*. IMS-ASA Joint Statistical Meetings, August 2001, Atlanta, GA.
- 31  *$\Gamma$ -Minimax wavelet shrinkage for the noisy signals with low signal-to-noise ratio*, International Conference ICWA - *Wavelets and Applications*, January 8, 2002. Anna University, Chennai (Madras), India.
- 32 *Robust Bayes-Minimax Incorporation of Prior Information in Wavelet Denoising Applications*. Invited talk at Special session *Bayesian Robustness*, at JSM Meeting 2002, New York, August 13, 2002.
- 33 *Optimal Testing in Functional Analysis of Variance Models*, Invited Speaker at University of Florida Fifth Annual Winter Workshop: An IMS Mini-Meeting on Functional Data Analysis, January 10-11, 2003, Gainesville, Florida.  
[urlhttp://www.stat.ufl.edu/symposium/2003/fundat/](http://www.stat.ufl.edu/symposium/2003/fundat/)
- 34 *Bayes-Minimax Wavelet Shrinkage*, 1st joint statistical meeting of IMS (Institute of Mathematical Statistics) and ISBA(International Society for Bayesian Analysis), Isla Verde, San Juan, PR, USA, 24-26 July 2003. <http://www.cnet.clu.edu/math/ims-isba-pr2003/>
- 35 *Bayesian Estimation of Log-spectral Density*, Invited Speaker at International Workshop on Bayesian Decision Analysis, 7-10 August 2003, Santa Cruz, CA. <http://www.ams.ucsc.edu/bayes03/>
- 36 *What does a single run tell about ensemble*, Invited Speaker at 2004 AAAS Annual Meeting, 12-16 February, 2004, <http://www.project2061.org/meetings/AAASSeattlemeeting.htm>
- 37 *Wavelet-Based Estimation of a Bayes Discriminant Function*, Invited Speaker at Conference of International Society for Bayesian Analysis (ISBA), Viña del Mar, Chile, 23-27 May 2004. <http://isba.mat.puc.cl/>
- 38 *Classification of High Frequency Pupillary Responses using Schur Monotone Descriptors in Multi-scale Domains*. Annual meeting of Southwest Regional Council on Statistics (SRCOS), Virginia Tech, 6/6-6/9, 2004.

- 39 Minicourse *WAVELETS AND SELF-SIMILARITY: THEORY AND APPLICATIONS* , 7 lectures in 10 hours. December 14-16, 2004. CNR-IMATI Milano, Italy <http://www.mi.imati.cnr.it/conferences/brani.html>
- 40 *Wavelets and Bootstrap*, Mini-Workshop on Bayesian Statistical Modeling in Wavelet Domain, CNR-IMATI, Milano, Italy. December 17, 2004.
- 41 *Wavelet-based convex rearrangements in inference about self-similarity*, Invited talk at International Conference on the Interactions between Wavelets and Splines, Athens, Georgia, May 18, 2005. <http://www.math.uga.edu/~was/>
- 42 *Wavelet-based convex rearrangements in inference about self-similarity*, Talk at IMS Invited Session *Wavelets and Selfsimilarity*, JSM Minneapolis, August 12, 2005.
- 43 *Wavelets for Health: A Cartoon Overview*, Invited talk at Workshop on Multiresolution Modeling and Statistical Inference, October 27–29, 2005 at Radcliffe Institute, Harvard University.
- 44 *Wavelets in Biomedical Data Analysis*, Invited presentation at IMA Workshop Integration of Sensing and Processing, Minneapolis, December 5–9, 2005. <http://www.ima.umn.edu/2005-2006/W12.5-9.05/>
- 45 Discussion talk on *Bayesian modeling with overcomplete representations*, by Merlise Clyde and Robert Wolpert, Valencia 8 & ISBA June 2-6, 2006, Benidorm, Alicante, Spain. <http://www.uv.es/valenciameeting\#IP6>
- 46 *Wavelets in Bioinformatics: Protein and DNA Random Walks and their Multiscale Analysis*, Graybill Conference Multiscale Methods and Statistics, Fort Collins, Colorado, June 11-13, 2006. <http://www.stat.colostate.edu/graybillconference/>
- 47 *Wavelet Shrinkage by Bickel's Prior*, ICSA 2006 APPLIED STATISTICS SYMPOSIUM, June 14-17, 2006 University of Connecticut, Storrs, Connecticut. <http://www.stat.uconn.edu/ICSA2006/>
- 48 *Mining the Noise in Biomedical Data*. Invited talk at 2008 SIAM International Conference on Data Mining, April 24-26, 2008, Atlanta, GA. <http://www.siam.org/meetings/sdm08/>
- 49 *Mining the Noise: Wavelet-based Assessment of Scaling and Applications in Biomedical Data*. Invited talk at International Conference on Multivariate Statistical Modeling & High Dimensional Data Mining, 19-23 June 2008, Kayseri, Turkey. <http://hdm2008.erciyes.edu.tr/>
- 50 *Individual Patient Dosing in Cancer Clinical Trials*. Invited talk at International Conference Bayesian Biostatistics 2009, 26-28 January 2009, Houston, TX. <http://www.mdanderson.org/education-and-research/departments-programs-and-labs/departments-and-divisions/division-of-quantitative-sciences/bayesian-conference-2009.html>
- 51 *Curvature-Driven and Interscale-Dependent Bayesian Shrinkage Model for Spherical Wavelet Denoising of 3D Shapes*. Invited talk at SRCOS 2009 Summer Research Conference, Jekyll Island, June 2009. <http://www.sph.emory.edu/srcos2009/>
- 52 *Testing in Wavelet based Analysis of Variance*. Invited talk at X Brazilian School of Time Series and Econometrics, Sao Carlos, Brazil, July 2009.
- 53 *Bayes-Minimax Compromise: A Paradigm for Bayesian Robustness*, Invited Talk at FRONTIERS OF STATISTICAL DECISION MAKING AND BAYESIAN ANALYSIS In honor of James O. Berger, San Antonio, March 17-20, 2010. <http://bergerconference2010.utsa.edu/>

- 54 Two Invited Talks at SINAPE 19 São Pedro, Brazil. (i) *Functional Exploratory Data Analysis by Wavelets: Wavelet-based Andrews' Plots*, 7/28/2010. (ii) *Wavelet-based spectral methods for extracting self-similarity measures in time-varying two-dimensional rainfall maps*, 7/29/2010. <http://www.ime.unicamp.br/sinape/19sinape/>
- 55 Society for Neuroscience Conference, Washington, DC, 2011. McKay, J.L., Welch, T.D.J., Vidakovic, B., and Ting, L.H. A method to determine statistically-significant differences between EMG waveforms in the time domain using wavelet-based functional ANOVA.
- 56 Workshop on Biostatistics and Bioinformatics, Georgia State University, May 4-6, 2012. *Diagnostics of Mammograms by Wavelet-based Scaling Tools*. [http://www2.gsu.edu/~matyiz/dr\\_yc\\_zhao/](http://www2.gsu.edu/~matyiz/dr_yc_zhao/)
- 57 Centers for Disease Control and Prevention, OID/NCEZID Biostatistics Seminar Series, Atlanta, June 2012. *Making Bayesian Models Easier Using WinBUGS*.
- 58 Workshop in Honor of Professor Pedro A. Morettin: Time Series, Wavelets and Functional Data Analysis. Campinas, SP, Brazil, October 19-21, 2012. *Assessing Scaling in Data Using Wavelets*. <http://www.ime.usp.br/~workshopmorettin/>
- 59 IMECC-UNICAMP, University of Campinas, Brazil. Talk at the Workshop: Time Series, Wavelets, and Functional Data Analysis, August 3, 2015. *Three Statistical Projects at CDC*.

#### Seminar Talks

- 1 Ohio State University, Department of Statistics, February 1992. *Linear  $\Gamma$ -Minimax Rules and Their Performance in Estimation Problems*.
- 2 Duke University, ISDS, October 1992. *Algorithmic Complexity: Relevance to a Bayesian*.
- 3 Southern Louisiana University, Department of Statistics, October 1993. *On Linear  $\Gamma$ -Minimax*.
- 4 University of Maryland at Baltimore County, Department of Mathematics, October 1993. *Polynomial Rules in Estimation Problems*.
- 5 Duke University, Department of Computer Science, September 1993. *Kolmogorov Complexity: A Link Between Statistics and Computer Science*.
- 6 Duke University, Department of Computer Science, October 1994. *Discrete Wavelet Transformations and Their Fast Calculation*.
- 7 University of Georgia at Athens, Statistics Department, February 1994. *Wavelets in Statistics*.
- 8 University of North Carolina at Chapel Hill, Statistics Department, February 1995. *Wavelet Transformations as Diversity Enhancers*.
- 9 Chicago School of Business, November 1995. *Bayesian Decision Theoretic Modeling by Wavelets*.
- 10 Universidad Politecnica de Madrid, Spain, May 1996. *Wavelets: A Tutorial Introduction*.
- 11 Universidad de Valencia, Spain, June 1996. *Bayesian Shrinkage in Wavelet Domain*.
- 12 Purdue University, Department of Statistics, November 1996. *Nonstandard Wavelet Statistical Methods*.
- 13 University of Pavia, Italy, Department of Statistics, December 1996. *Wavelet Scalograms and Bayesian Wavelet Smoothing: Applications in Economics*.

- 14 University of Montreal, Canada, Department of Statistics, July 1997. *Wavelet Based Random Variables and Their Properties.*
- 15 University of North Carolina at Chapel Hill, Department of Statistics, September 15, 1997. *Random Variables with "Wavelet" Densities.*
- 16 North Carolina State University, Department of Electrical Engineering, September 1998. *On Non-Equally Spaced Wavelet Regression.*
- 17 Wharton College, Department of Statistics, November 1998. *Wavelet-Based Deconvolutions.*
- 18 Temple University, Department of Statistics, November 1998. *An Introduction to Multiresolution Methods and Some of Their Statistical Applications.*
- 19 Texas A&M University, Department of Statistics, November 19, 1998. *Bayesian Wavelet Shrinkage: Principles and Applications.*
- 20 Rice University, Department of Statistics, November 23, 1998. *Bayesian Wavelet Shrinkage and Applications in Time Series and Turbulence Measurements.*
- 21 National Institute of Statistical Sciences, Research Triangle Park, December 1998. *Wavelet Models in Turbulence Research.*
- 22 Georgia Institute of Technology, Department of Mathematics, February 1999. Two talks: *Bayesian Wavelet Shrinkage by Example* and *Kolmogorov Complexity and its Statistical Interfaces.*
- 23 Princeton University, Program in Applied and Computational Mathematics, March 1999. *Bayesian Strategies for Wavelet Shrinkage.*
- 24 Purdue University, Department of Statistics, April 1999. *Algorithmic Complexity: Is it Relevant?*
- 25 Simon Bolivar University, Venezuela, Department of Statistics, October 1999. *Wavelet Functional Anova: Some Applications in Longitudinal Data.*
- 26 Georgia State University, Department of Mathematics and Statistics, November 10, 1999. *Wavelets in Statistics: Some Standard and Non-Standard Applications.*
- 27 University of South Carolina, Department of Statistics, November 1999. *Bayesian False Discovery Rate and Longitudinal Measurements of Oxygen Pressure in Rats.*
- 28 Bocconi University, Italy, Department of Mathematics and Statistics, December 1999. *Wavelet-based Approach to Functional Data Analysis.*
- 29 Georgia Institute of Technology, ISyE, March 2000. *Practical Implications of Wavelet-based Statistical Modeling.*
- 30 University of California at Santa Cruz, Department of Applied Mathematics and Statistics, April 3, 2000. *Statistical Models in the Wavelet Domain: Results, Applications, and Perspectives.*
- 31 University of Connecticut, Department of Statistics, April 21, 2000. *Functional Data Analysis via Wavelets.*
- 32 Georgia Institute of Technology, Mathematics Department, November 2000. *Some Nonstandard Applications of Wavelets.*



- 33 Ohio State University, Department of Statistics, April 24, 2001. *Wavelets approximate principal components: Application in functional regression and chemometry.*
- 34 Simon Bolivar University, CESMA, June 30, 2001. *Novel Algorithms in Wavelets: 2-D Continuous Transformation and Discrete Complex Wavelets.*
- 35 University of Georgia, Department of Statistics, September 28, 2001. *GammaShrink - A Robust Shrinker for Smoothing Signals with Small Signal-to-Noise Ratio: Theory and Applications.*
- 36 Emory University, Department of Biostatistics, October 5, 2001. *Adaptive Spokoiny's Tests in the Wavelet-Based Anova.*
- 37 Anna University, Workshop on Wavelets, Chennai, India, January 5, 2002. *Wavelet Based Anova, Tutorial Lecture.*
- 38 University of Georgia, Athens, GA, March 6, 2003. *Optimal Tests in WANOVA models.*
- 39 University of Belgrade, School of Mechanical Engineering, Belgrade, Serbia, December 21, 2004. *Statistical Modeling With Wavelets with Engineering Applications.*
- 40 Emory University, Department of Biostatistics, October 12, 2005. *Wavelets in Biostatistics: An Introduction.*
- 41 Clark University of Atlanta, Department of Mathematics and Statistics, February 28, 2006. *Wavelets in Biomedical Data Analysis: Recent Research Projects.*
- 42 Georgia Institute of Technology, Department of Computer Science, September, 29, 2006. *Efficient filtering and classification procedures based on scaling in the wavelet-domains.*
- 43 Kennesaw University, Department of Mathematics and Statistics, February 5, 2007. *Wavelets in Statistical Analysis of Biomedical Data.*
- 44 University of Washington, Department of Statistics, February 26, 2007. *Scaling Assessment Based on Wavelet-Based Convex Rearrangements.*
- 45 University of Washington, Center of Statistics and Social Sciences, February 28, 2007. *Wavelets in Biomedical Data Analysis: Scaling in Applications.*
- 46 University at Campinas, Departamento de Estatística, June 26, 2007. *Scaling Assessment with Wavelet Based Convex Rearrangements.*
- 47 University of Sao Paulo, Departamento de Estatística, June 27, 2007. *Bayesian Wavelet Estimation of Log-Spectral Density.*
- 48 North Carolina State University, Department of Statistics, December 13, 2007. *Scaling in Medical data and Applications.*
- 49 Emory University, Department of Medicine, EPICORE, May 30, 2008.
- 50 Rice University, Department of Statistics, September 14, 2009. *Self-Similarity in High-Frequency Data and Applications. Self-similarity in Medical data and Applications.*
- 51 Colorado State University, Department of Statistics, October, 7, 2009. *Multifractality in Geophysical Imaging.*
- 52 Georgia Southern University, Department of Biotatistics, College of Public Health, February 18, 2011. *Biostatistical Applications of Wavelets,*

- 53 University of Montreal, Department of Statistics, March 11, 2011. *Robust Wavelet-based Estimation of Scaling in Images*.
- 54 Georgia Southern University, Department of Mathematics. October 11, 2013. *Wavelet-based Scaling and Applications*.
- 55 Georgia State University, Department of Mathematics, Statistics, and Math Education. April 10, 2014. *Smoothing with Complex Wavelets and Applications*.
- 56 University of Georgia, Department of Statistics, February 12, 2015. *2-D Scale-Mixing Complex Wavelet Transforms and Applications*.
- 57 Penn State University, Department of Statistics, March 17, 2016. *Denoising Images with Complex Wavelets*.
- 58 University of Pittsburgh, Department of Statistics, March 18, 2016. *Statistical Uses of Scaling: A Wavelet Point of View*.
- 59 University of South Florida, Department of Mathematics and Statistics, February 3, 2017. *Assessment of Scaling by Non-decimated Wavelet Transforms and Wavelet Packets*.
- 60 American University, Department of Mathematics and Statistics, February 26, 2019. *Scaling Summaries for Machine Learning*.
- 61 George Washington University, Department of Statistics, October 25, 2019. *Robust Trimean Estimators for Wavelet Spectra and Applications*.

#### Contributed Talks in Person

- 1 *The Process Complexity of Finite Objects*, VII Yugoslav Symposium of Mathematics, Physics, and Astronomy, October 1980, Bečići, Montenegro.
- 2 *On Combinational Complexity of Finite Binary Words*, VIII Yugoslav Symposium of Mathematics, Physics, and Astronomy, October 1985, Priština, Serbia.
- 3 *About the Sign Test From the Algorithmic Complexity Standpoint*, 5th Pannonian Symposium on Mathematical Statistics, June 1985, Visegrad, Hungary.
- 4 *The Complexity Theory Approach to Statistical Testing of Randomness*, 6th Pannonian Symposium on Mathematical Statistics, September 1986, Bad Tatzmannsdorf, Austria.
- 5 *On the Efficiency of Affine Minimax Rules in Estimating a Bounded Multivariate Normal Mean*, Joint Statistical Meeting of IMS and ASA, August 1991, Atlanta, GA.
- 6 *Lower Bounds on Bayes Risk for Estimating a Normal Variance*, Purdue Conference on Decision Theory and Related Topics, May 1992, W. Lafayette, IN.
- 7 *Estimation of a Bounded Normal Mean: Constrained Estimators*, Joint Statistical Meeting of IMS and ASA, August 1992, Boston, MA.
- 8 *Decision-Theoretic Wavelet Hard-Thresholding*, Joint Statistical Meeting of IMS and ASA, August 1994, Toronto, Canada.
- 9 *Bayesian Wavelet Regression via Normal-Inverse-Gamma Priors*, Workshop on Model Uncertainty and Model Robustness, July 1995, Bath, England.

- 10 *Wavelet Transformations as Diversity Enhancers*, SPIE's International Symposium on Optical Science, Engineering and Instrumentation, July 1995, San Diego, CA.
- 11 *Wavelet Shrinkage: An Application to Image Denoising*, Joint ASA and IMS Meetings, August 1996, Chicago, IL.
- 12 *Bayesian Density Estimation in the Wavelet Domain with Hierarchical Mixture Priors*, JSM 157 Annual Meetings, August 1997, Anaheim, CA.
- 13 *Wavelet Random Variables*, SPIE Meeting, July 1997 San Diego, CA.
- 14 *Bayesian Wavelet Estimation of a Spectral Density*, Valencia International Meetings on Bayesian Statistics, May/June 1998, Valencia, Spain.
- 15 *Bayesian Modeling in Wavelet Domain: An Overview*, Discussion at IMS-ASA Joint Statistical Meetings, August 1998, Dallas, TX.
- 16 *The Filtering of Ozone Concentration Measurements Collected in a Turbulent Air Stream Using Bayesian Models*, IMS-ASA Joint Statistical Meetings, August 1999, Baltimore, MD.
- 17 *BEFE and BAMS: Two methods for denoising geophysics signals*, IMS-ASA Joint Statistical Meetings, August 2000, Indianapolis, IN.
- 18 *Bayesian Wavelet Shrinkage in Spectral Density Estimation*. Organization of session *Wavelets in Statistics* and talk at Fifth Biennial International Conference on Statistics, Probability and Related Areas, May 14-16, 2004 The University of Georgia, Athens, GA.
- 19 *New Probabilistic Method for Estimation of Equipment Failures and Development of Replacement Strategies*, contributed talk at HICSS-39 HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES, January 4–7, 2006, University of Hawaii at Manoa, Hawaii.
- 20 *2-D Wavelet-Based Spectra with Applications in Analysis of Geophysical Images*, Talk at Topic-Contributed IMS-Sponsored Session, Joint Statistical Meetings, August 2, 2007, Salt Lake City. <http://www.amstat.org/meetings/jsm/2007/onlineprogram/>
- 21 *Semi-Supervised Wavelet Thresholding and Applications*, Talk at Topic-Contributed IMS-Sponsored Session, JSM 8/4/2008, Denver. <http://www.amstat.org/meetings/jsm/2008/>
- 22 *Bayesian Pair Matching for Separately Reported Risks in Paired 2 x 2 Tables with Application to Meta-Analysis of Dental Sealant Performance*, INFO-FUSION, Twelfth Biennial CDC Symposium on Statistical Methods, April 7-8, 2009, CDC, Atlanta, GA. [http://www.amstat.org/meetings/cdcatsdr/pdfs/CDC\\_ATSDR\\_ProgramBook.pdf](http://www.amstat.org/meetings/cdcatsdr/pdfs/CDC_ATSDR_ProgramBook.pdf)
- 23 *Regularity of Irregularity*, Talk at Topic-Contributed IMS-Sponsored Session, JSM 8/4/2009, Washington. <http://www.amstat.org/meetings/jsm/2009/>
- 24 *Wavelets in Functional Data Analysis*, I Workshop de Análise de Dados Funcionais, UNICAMP, Campinas, Brazil, 07/24/2010. <http://www.ime.unicamp.br/noticias/i-workshop-analise-dados-funcionais>
- 25 *Impact of Short-Term Variations in the Generation Output of Geographically Dispersed PV Systems*, contributed talk at HICSS-50 HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES, January 4–7, 2017, Waikoloa Village, University of Hawaii.

- 26 *Bayes in Wavelet Domain: Anything New?* Contributed talk at 2018 International Society for Bayesian Analysis (ISBA) World Meeting, 24-29 June 2018, Edinburgh, UK. ([https://media.ed.ac.uk/media/Brani+Vidakovic.mp4/1\\_kxv8kn9r](https://media.ed.ac.uk/media/Brani+Vidakovic.mp4/1_kxv8kn9r))
- 27 *Round Table: NSF Funding Opportunities for Undergraduate and Graduate Students, and New Researchers Meeting: NSF Grantsmanship for New Researchers*, Joint Statistical Meetings, August 2019, Denver and Fort Collins, CO.

## E. Other Scholarly Accomplishments

- *Complexity and Randomness*, Master Thesis, Belgrade University, May 1981, Thesis Advisors: Z. Ivkovic and D. Banjevic.
- *A study of properties of computationally simple rules in estimation problems*, Ph.D thesis, Purdue University, July 1992. Thesis Advisor: Anirban DasGupta.
- WEB MASTER of **Jacket's Wavelets**, an internationally influential web-wavelet resource. <http://gtwavelet.bme.gatech.edu/>
- PATENT: CRYPTOWAVE – WAVELET BASED CRYPTOGRAPHY ALGORITHM, US 2005/0074120 A1

## V. Service

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### A. Professional Contributions

#### Secondary/Adjunct/Courtesy Appointments

- 3/01–9/05     **Nicholas School of Environment, Duke University**, Durham, NC.  
*Adjunct Professor*
- 6/03–present     **Rollings School of Public Health, Department of Biostatistics, Emory University**, Atlanta, GA.  
*Adjunct Professor*
- 9/03–4/07     **Statistics Department, University of Georgia**, Athens, GA.  
*Adjunct Professor*
- Fall 97     **Statistics Department, University of North Carolina**, Chapel Hill, NC  
*Visiting Assistant Professor of Statistics.*
- 4/96–9/96     **Universidad Politecnica de Madrid**, Madrid, Spain  
*Visiting Assistant Professor of Statistics.*
- 6/13–8/13     **Hanyang University**, Seoul, S. Korea  
*Visiting Professor of Statistics.*

#### Centers

- 12/04–12/10     **Center for Bioinformatics and Computational Biology**, Biology Department, Georgia Institute of Technology, Atlanta, GA, *Member*
- 4/12–present     **Integrated Cancer Research Center**, Georgia Institute of Technology, Atlanta, GA. <http://icrc.gatech.edu/>, *Member*
- 9/05–present     **Center for Biomedical Imaging Statistics (CBIS)**, Emory University, Atlanta, GA. <http://web1.sph.emory.edu/bios/CBIS/>, *Affiliated Faculty*
- 9/15–present     **Center for Statistical Science**, Georgia Institute of Technology, Atlanta, GA. <https://www.statistics.gatech.edu>, *Core Faculty*

8/04-present     **Institute for People and Technology (IPAT)**, Georgia Institute of Technology, Atlanta, GA. <http://ipat.gatech.edu/>, *Faculty*

### **Leadership**

- Representative of Georgia Tech in Southern Regional Council on Statistics - SRCOS (2004 – 2015).
- President of the Georgia Chapter of American Statistical Association (April 2005 - March 2007).
- Director, Center for Biostatistics and Data Management at Health Systems Institute, GaTech (2005-2014)
- Co-Director of Atlanta Clinical and Translational Science Institute - Biostatistics, Epidemiology, and Research Design (ACTSI-BERD) for Georgia Institute of Technology (2011 – 2018)
- Director, BESTA (BioEngineering Statistics Group at BME), July 2005 - July 2013.
- Advisor at U.S. Department of Health and Human Services, IPA 1103169, 1/3 Time Employment with Centers for Disease Control and Prevention (DHHS/PHS/NIOSH/CDC), July 2011- September 2013.
- Director of MS in Statistics Program at ISyE, January 2014- September 2018.
- Lead Program Director for Computation and Data-enabled Science and Engineering - Mathematical and Statistical Sciences (CDS&E-MSS) Program at NSF, September 2018 - present.

### **Editorial Work**

- An Editor-in-Chief for the Second Edition of *Encyclopedia of Statistical Sciences*, John Wiley & Sons.
- Associate Editor of *Journal of American Statistical Association - Applications and Case Studies*, 2007–2009.
- Associate Editor of *Journal of Institute of Statistical Mathematics*, 2006–2009.
- Associate Editor of *Communications in Statistics - Theory and Methods*, 2002–2012.
- Associate Editor of *Bayesian Statistics*, An electronic Journal of International Society for Bayesian Analysis (ISBA), 2004–2010
- Associate Editor of *Annals of Applied Statistics*, 2005–2007.
- Associate Editor of *Journal of Statistical Planning and Inference*, <http://www.journals.elsevier.com/journal-of-statistical-planning-and-inference/editorial-board/>, 2004–2007 and 2011–2013.
- Associate Editor of *Brazilian Journal of Probability and Statistics*, <http://www.imstat.org/bjps/>, January 2013–September 2018.
- Associate Editor of *São Paulo Journal of Mathematical Sciences*, formerly *Resenhas*, <http://www.ime.usp.br/~spjm/>, 2013–present
- Guest Editor of a Special Issue of *Applied Stochastic Models in Business and Industry*, devoted to applications of wavelets and multiscale methods in business and industry. Number 19, Volume 3, Fall 2003.
- Member of Editorial Board for *Applied Stochastic Models in Business and Industry*, ISSN 1524-1904, Wiley-Interscience. 1999–2006.
- Corresponding Editor to *The International Society for Bayesian Analysis (ISBA) Newsletter* 1999–2001.
- Nominating Committee of *The International Society for Bayesian Analysis (ISBA)* 2004–2006.
- Editor of the Electronic Proceedings for *International Workshop on Wavelets and Statistics*, Duke University, 12-13 October 1997.

### **Conference Organization**

- Organizer and Chair of the Program Committee of INTERNATIONAL WORKSHOP ON WAVELETS AND STATISTICS, Duke University, October 12-13, 1997; [<http://www.isds.duke.edu/conferences/BV97/bv.html>].
- Organizer of the IMS invited session *Bayes and Wavelets* at Joint Statistical Meetings: 1996, 1997,

1998, and 1999, session *Turbulent Bayes* in 2000, and *Statistics in High-Frequency Data* in 2005.

- Organizer of the special contributed session *Wavelets and Statistics* at International Conference on the Interactions between Wavelets and Splines, Athens, Georgia May 16–19, 2005.
- Chair of IMS Local Organizing Committee and Member of JSM Local Organizing Committee, JMS 2001 Meetings, Atlanta, August 5-9, 2001.
- Member of Organizing Committee of International Conference on *Wavelets and their Applications*, Anna University, Chennai, India, 6-8 January 2002.
- Member of the Organizing Committee of International Conference *Wavelets and Statistics, Watering the Seed*, Villard de Lans, Grenoble University, France September 4-7, 2003,  
<http://www-lmc.imag.fr/grenoblet2003/grenoble.htm>
- Member of the Scientific Committee of International Conference on *Multivariate Statistical Modeling & High Dimensional Data Mining*, 19-23 June 2008, Kayseri, Turkey.  
<http://hdm2008.erciyes.edu.tr>.
- Member of the Scientific Committee of International Conference SINAPE (Simpósio Nacional de Probabilidade e Estatística) #19, 26–30 de julho 2010, São Pedro - SP, Brasil.  
<http://www.ime.unicamp.br/sinape/19sinape/home>
- Chair of the Organizing Committee of Conference: Georgia Statistics Day, ISyE, GaTech, October 10, 2016.  
<http://pwp.gatech.edu/gsd2016/>
- Member of the Scientific Committee of International Conference 18th ESTE - Time Series and Econometrics Meeting, Gramado (RS), Brazil September 3-6, 2019, Brasil.  
<http://redeabe.org.br/este2019/paginas/organizacao>

## B. University Contributions

- Pre-Major Advisor, Duke PMAC (1994-2000) and Founding Member of the Faculty Associate Program (FAP) at Duke University (Associate for Edens, Clocktower, Bassett, and Randolph Residence Halls)
- Organizer and Chair of Departmental Seminars 1999/00 at ISDS, Duke University.
- Hosting long- and short-term visiting scholars at Duke University *Marina Vannucci, Miguel Arino, Fabrizio Ruggeri, Rainer von-Sacks, and Juanmi Marin*
- Hosting long- and short-term visiting scholars at ISyE and BME Georgia Institute of Technology *Claudia Angelini (2001, 2002, 2003), Daniela DeCanditiis (2001), Fabrizio Ruggeri (2002, 2004, 2006, 2007), Gabriel Katul (2001, 2004), Luisa Cutillo (2005), Yoon Jung (2005/2006), Daniel Zantedeschi (2005/2006), Anna Kathleen Jolly (2006), Youngja Park (2006), Orietta Nicolis (2006, 2007, 2008, 2011, 2013), Josefa Pepa Ramirez (2007, 2008, 2012), Annalisa Molini (2010), Pedro Morettin (2011), Aluisio Pinheiro (2010, 2011), Michel Helicias Montoril (2014), Alex Rodrigo (2014), Parisa Yousefi Zovj (2014-2015), Thelma Safadi (2015)*
- Faculty Advisor of the Institute of Industrial Engineering (IIE) Local Chapter at ISyE (2001-2004).
- Member of GT Institute College Review Committee, 2007–2008.
- Member of the committee for the PhD Exam in Statistics 1993/94 (ISDS-Duke), 2000/01 (ISyE-GaTech) Chair of the Committee, 2001/02; 2004/05; 2015/16 (ISyE-GaTech).
- Member of ISyE Information Technology Committee, from Fall 2001-Fall 2003.
- Member of ISyE Faculty Search Committee, From Fall 2002; Chair of the committee for 2003/04.
- Member of ISyE Advisory Committee, 2003–2005.
- Member of BME RPT Committee, 2005–2014.
- Member of ISyE RPT Committee, 2017–present.
- Member of BME Graduate Admission Committee, 2005–2010.
- Member of BME Award Committee, 2012–2014.
- Member of College of Engineering Committee for Peer Evaluation of Teaching, 2003/04.

- Member of College of Engineering RPT Committee (Assistant to Associate), 2009/10, 2011/12, 2012/13, 2015/2016, 2016/2017.
- Member of College of Engineering RPT Committee (Associate to Full), 2004/05, 2013/14, 2014/2015, 2017/2018.

## C. Other Contributions

### Review Work.

- A member of the NSF's External Advisory Panel for Geophysical Statistics Project (GSP) at the National Center for Atmospheric Research (NCAR). Mandate: 2002–2006. Chair of the Panel in 2005.
- Panelist for the National Science Foundation: Evaluation of proposals submitted to the Biocomplexity in the Environment - Instrumentation Development for Environmental Activities (BE-IDEA) competition (14-16 June 2001).
- Panelist for the National Science Foundation. DMS Program: Evaluation of Proposals in Statistics. (1998, 2001, 2005, 2009, 2015), DMS/CMG Program (2006, 2010, 2016), DMS CAREER (2017).
- Invited Discussant for the National Science Foundation Workshops. (i) Frontiers of Mathematics in Geosciences (IMA, Minneapolis, March 5-7, 2001) and (ii) New Directions in Statistical Sciences (NSF, Washington, May 5-8, 2002).
- Grant Proposal Reviewer for the National Science Foundation, National Security Agency, Natural Sciences and Engineering Research Council of Canada, EPSRC (UK), American Association for the Advancement of Science (AAAS), The Netherlands Organization for Scientific Research (NWO).
- Book Reviewer for: Academic Press, Springer-Verlag, Addison Wesley, Cambridge University Press, Birkhäuser, and Wiley.

### Statistical Consulting.

- Consulting through Duke University's ISDS Statistical Consulting Center. A variety of consulting projects for researchers from Biology, School of Environment, Econ, Social Sciences, Education, Restaurant Industry, and Medical School at Duke University.
- Active involvement in ISyE Senior Design Courses in consulting several student teams in statistical issues critical for their senior design projects.
- Statistical consulting via ACTSI-BERD for researchers in biomedical and clinical sciences at Georgia Tech and Emory University, 2007-2018. • Independent Statistical Consulting. President and Owner of Predictive Statistical Solutions, LLC. Registered in the State of Georgia from 2008.

### Professional Memberships.

- American Statistical Association, # 031524)
- Elected Member of International Statistical Institute (ISI # 13116)
- Institute of Mathematical Statistics (IMS # 8610)
- International Society for Bayesian Analysis (ISBA)
- Institute of Industrial Engineering (IIE # 880013865), 2002–2005; now Institute of Industrial and System Engineers (IISE #880205770)
- Bernoulli Society (# 13116)

## VI. Grants and Contracts

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### Awarded Grants.

- 1 NSF DMS-9404151 at Duke University (Nonlinear Bayesian Function Estimation in Complex Models, 8/1994-7/1997, PI P. Mueller, Total \$ 65,000, CoPI Vidakovic's part \$32,500).

- 2 National Security Agency. Grant MDA904-97-1-0105 at Duke University (International Workshop on Wavelets in Statistics, Duke University, October 12-13, 1997, PI, Awarded \$ 10,000).
- 3 NSF DMS-9700733 at Duke University (International Workshop on Wavelets in Statistics, Duke University, October 12-13, 1997, PI, Awarded \$ 10,000).
- 4 Army Research Office. International Workshop on Wavelets in Statistics, Duke University, October 12-13, 1997, PI Awarded \$ 5,000 .
- 5 NSF DMS-9626159 at Duke University (Bayesian Wavelet Shrinkage with Applications in Turbulence, 8/1996-7/1999, PI, Awarded \$ 65,000).
- 6 NSF DMS-0072585 at ISyE, Georgia Institute of Technology (Bayesian Modeling in the Wavelet Domain with Applications in Atmospheric Turbulence. Collaborative Proposal with Katul at Duke University and Marianna Pensky at University of Central Florida, 7/2000-6/2003, Total \$392,000 PI, Vidakovic's Part \$125,000
- 7 National Security Agency, Grant 240660R at GaTech, 2004-2005. (Wavelet Applications in Monitoring. PI, Awarded \$30,001)
- 8 NIH-AHRQ: Comprehensive IT Solution for Medication Errors in Pediatric, Francois Sainfort PI, B. Vidakovic Co-PI, 10/04-9/07, Total \$1,495,571, Vidakovic's Part \$150,000.
- 9 Georgia Cancer Coalition 2005/2006: Wavelet Image Interpolation and Applications in Mammography. (Collaborative Project GaTech [B. Vidakovic, PI], Emory [D. Bowman, PI]), Total \$39,000, Vidakovic's Part \$ 20,000.
- 10 NSF DMS-0505490 at BME, Georgia Institute of Technology. Collaborative Research: Analysis of High-Dimensional or Functional Data by Multiscale Methods with Applications. (GaTech [Vidakovic, PI] and UCF [Pensky, PI]), 2005-2008, Total \$156,000, Vidakovic's Part \$ 84,000.
- 11 NSF ATM 0724524 at BME, Georgia Institute of Technology. Collaborative Research: Multiscale Statistical Methodologies to Unravel Complexities in Atmospheric Turbulence Data, 2007-2011. Duke University PI: G. Katul, GaTech PI: B. Vidakovic. Total \$360,000, Vidakovic's part \$ 244,000.
- 12 Comprehensive Health Services. "Health Assessment Model: (WHAM 2.0) Increasing Predictive Power of a Bayesian Expert System for Modeling Health Burdens in a Large Company Work Force." 8/2008 - 9/2011, Total \$422,894, Vidakovic's Part \$157,078.
- 13 Emory-Georgia Tech BME-Neurology Collaborative Seed Grant Program 2008. LaRoche, MD (PI-Emory) and Vidakovic (PI-GaTech). "Vasospasm Diagnostics by Multifractional Descriptors in EEG," 5/2008-4/2009, Total \$20,000. Vidakovic's part \$9,958.
- 14 NSF BIO/MCB 0958172 at BME, Georgia Institute of Technology, "Experimental and Computational Systems Analysis of Stress Responses in Lactococcus." PI Eberhard Voit, Total \$703,719, CoPI Vidakovic's part \$ 42,044.
- 15 Coca Cola Company: Detection of Human Dehydration Using Breath Analysis, 4/2010- 6/2011] Co-PI, Total \$150,000, Vidakovic's part \$34,727.
- 16 HHS, Intergovernmental Personnel Act Mobility Program (IPA) with Centers for Disease Control and Prevention, "Statistical Modeling and Meta Analysis of Dental Studies," 7/2011-7/2013) PI, \$76,460.



- 17 NIH, Atlanta Clinical and Translational Science Institute (ACTSI-BERD) Statistical Consulting of Clinical Personnel, Health- and Bio-scientists in Atlanta Area. Co-PI 9/2011- 5/2017, Vidakovic's part \$115,992.
- 18 Children's Healthcare of Atlanta (CHOA), Craniosynostosis Medical Image Processing, 8/2013 - 12/2018, PI Williams, Co-PI Vidakovic's Subcontract \$165,079.
- 19 NSF DMS 1613258 at Georgia Institute of Technology. Scaling Summaries in Multiscale Domains with Applications, PI, 8/2016-7/2019, \$ 150,034.
- 20 NIH, Georgia Clinical & Translational Science Alliance (GaCTSA), BERD Co-PI, 8/2017- 5/2018, Vidakovic's part \$43,968.
- 21 NSF Grant DMS 1852740 at Georgia Institute of Technology. Intergovernmental Mobility Assignment, PI, 9/2018-8/2020, \$ 400,860.

**Other Minor Funding.**

- Duke Arts and Sciences Research Council seed grants: 1995/96, 1996/97, 1997/98, 1999/2000 totaling \$ 8,260
- Spanish Ministry of Education, Support for visit to Universidad Politécnica, Boadilla del Monte, Madrid, April-September 1996 (2,620,000 Ptas, equivalent to \$ 18,000 in 1996)
- IMS North American New Researchers Meeting: Travel and Housing Support (First Meeting at Berkeley, 1993 and Second Meeting at Kingston, Canada, 1995)
- *Statistical Analysis With Wavelets in S-Plus*, Paid consultant on NSF SBIR Grant DMI-94-61370 by StatSci Inc, Seattle, WA
- Winship Cancer Center/Emory University. Breath Analysis for Early Detection of Lung Cancer (April 2010-April 2011) \$5,000
- Hanyang University, Support for visit to Hanyang University Department of Industrial Engineering, June-August 2013, equivalent to \$ 12,000)
- Giglio Family MiniGrant at BME-GaTech for Breast Cancer Research, (September 2015- August 2018) \$13,000.

## VII. Honors and Awards

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- David Ross Fellowship at Purdue University, 1991 and 1992
- I. W. Burr Award for Excellence in Teaching, Consulting and Research at Purdue University, May 1992
- Fellow of American Statistical Association, August 2008
- Elected Member of International Statistical Institute, 2007 (ISI # 13116)