

CONTACT INFORMATION	<p>The University of Texas at El Paso          Department of Mathematical Sciences          227 Bell Hall          500 West University Ave          El Paso, TX 79968-0514</p>	<p><i>phone:</i> +1-915-747-6761  <i>e-mail:</i> mpokojovy@utep.edu  <i>www:</i> www.researchgate.net/profile/Michael_Pokojovy</p>
RESEARCH INTERESTS	<p><b>Data science:</b> data mining, machine learning, big data analytics, pattern recognition, etc.; <b>Non- and semi-parametric statistics:</b> kernel methods, penalized regression, dimension reduction, functional data analysis, etc.; <b>Robust statistics:</b> robust estimation, robust testing, robust regression, robust PCA, robust variable selection; <b>Statistical process control:</b> univariate and multivariate control charts, retrospective and standards given charts, nonparametric and robust charts; <b>Stochastic analysis:</b> stochastic differential equations, stochastic control and optimization, stochastic processes; <b>Scientific computing:</b> computational statistics, modeling, (numerical) analysis and control of distributed systems arising in data science and statistics, computer science, physics, biology, ecology, finance, etc.</p>	
CURRENT ACADEMIC APPOINTMENT	<p><b>Assistant Professor of Mathematical Sciences (tenure-track)</b>          The University of Texas at El Paso, Department of Mathematical Sciences</p> <ul style="list-style-type: none"> <li>• Affiliations:             <ul style="list-style-type: none"> <li>• Research Area: Statistics</li> <li>• Computational Science (CPS) Program</li> <li>• Statistical Consulting Laboratory</li> <li>• Border Biomedical Research Center (application pending)</li> <li>• BUILDING SCHOLARS UTEP Summer Research Program</li> </ul> </li> </ul>	<p>Since May 2017</p>
PREVIOUS ACADEMIC APPOINTMENTS	<p><b>Visiting Professor of Statistics</b>          University of Memphis, Department of Mathematical Sciences</p> <ul style="list-style-type: none"> <li>• Affiliations:             <ul style="list-style-type: none"> <li>• Research group in statistics</li> </ul> </li> </ul> <p><b>Postdoctoral Scholar</b>          Karlsruhe Institute of Technology (Germany), Department of Mathematics</p> <ul style="list-style-type: none"> <li>• Affiliations:             <ul style="list-style-type: none"> <li>• Collaborative Research Center “Wave phenomena”</li> </ul> </li> </ul> <p><b>Postdoctoral Scholar</b>          Charles University in Prague (Czech Republic), Mathematical Institute</p> <ul style="list-style-type: none"> <li>• Affiliations:             <ul style="list-style-type: none"> <li>• MORE ERC.CZ project LL1202: Modelling Revisited + Model Reduction</li> </ul> </li> </ul> <p><b>Assistant Professor of Mathematical Sciences (non-tenure-track)</b>          University of Konstanz (Germany), Department of Mathematics and Statistics</p> <ul style="list-style-type: none"> <li>• Affiliations:             <ul style="list-style-type: none"> <li>• Zukunftscolleg</li> </ul> </li> </ul> <p><b>Teaching/Research Assistant</b>          University of Konstanz (Germany), Department of Mathematics and Statistics</p> <ul style="list-style-type: none"> <li>• Supervisor: Professor Reinhard Racke</li> </ul>	<p>January 2017 to May 2017</p> <p>April 2016 to May 2017</p> <p>September 2015 to March 2016</p> <p>December 2011 to August 2015</p> <p>September 2007 to November 2011</p>
EDUCATION	<p><b>University of Konstanz (Germany)</b></p> <p>Ph.D., Department of Mathematics and Statistics, December 2011</p> <ul style="list-style-type: none"> <li>• <i>Summa cum laude</i></li> <li>• Thesis Topic: <i>On the theory of heat conducting Reissner-Mindlin plates</i></li> <li>• Candidacy: <i>Partial differential equations</i></li> <li>• Advisor: Professor Reinhard Racke</li> <li>• Area of Study: Applied Mathematics and Statistics</li> </ul> <p>Diploma (equivalent with BS + MS), Department of Mathematics and Statistics, August 2007</p> <ul style="list-style-type: none"> <li>• Advisor: Professor Reinhard Racke</li> </ul>	

- Area of Study: Applied Mathematics and Statistics
- Minor in Computer Science

SELECTED BOOKS

- [1] J. M. Jobe, S. Yablonskyi, M. Pokojovy (2006). English/Ukrainian Glossary of Quality Assurance Terms, 2nd ed., Cherkassy (Ukraine), Yantar Publishing, pp. 1–190
- [2] J. M. Jobe, S. Yablonskyi, M. Pokojovy (2005). English/Ukrainian Glossary of Quality Assurance Terms, 1st ed., Cherkassy (Ukraine), Yantar Publishing, pp. 1–181

SELECTED REFEREED JOURNAL PUBLICATIONS

• **Data Science and Statistics**

- [3] S. Chen, Pokojovy, M. (2017). Modern and classical  $k$ -sample omnibus tests, *Wiley Interdisciplinary Reviews: Computational Statistics*, e1418:1–12 doi:10.1002/wics.1418
- [4] I. Dzhalladova, M. Pokojovy (2017). On a quasilinear PDE model of population dynamics with random parameters, *MITAV 2017, Brno (Czech Republic)*:1–6
- [5] J. M. Jobe, M. Pokojovy (2015). A cluster-based outlier detection scheme for multivariate data, *Journal of American Statistical Association*, 110(512):1543–1551, doi:10.1080/01621459.2014.983231
- [6] J. M. Jobe, M. Pokojovy (2009). A multistep, cluster-based multivariate chart for retrospective monitoring of individuals, *Journal of Quality Technology*, 41(4):323–339

• **Computational Science and Applied Mathematics**

- [7] V. Maltsev, M. Pokojovy (2016). On a parabolic-hyperbolic filter for multicolor image noise reduction, *EECT*, 5(2):251–272, doi:10.3934/eect.2016001
- [8] M. Pokojovy, Y. Skvarkovskiy (2015). Analysis and numerics for an age- and sex-structured population model, *Numerical Meth. for PDE*, 32(2):706–736, doi:10.1002/num.22032
- [9] D. Ya. Khusainov, M. Pokojovy, R. Racke (2015). Strong and mild extrapolated  $L^2$ -solutions to the heat equation with constant delay, *SIMA*, 47(1):427–454, doi:10.1137/130937111
- [10] M. Pokojovy (2014). On stability of hyperbolic thermoelastic Reissner-Mindlin-Timoshenko plates, *Mathematical Methods in the Applied Sciences*, 38(7):1225–1246, doi:10.1002/mma.3140

SELECTED CONFERENCE PUBLICATIONS

- [3] J. M. Jobe, M. Pokojovy. The taut string estimator: Weak convergence and confidence bands, *21st Joint UTEP/NMSU Workshop on Mathematics, Computer Science, and Computational Sciences*, November 4, 2017
- [4] J. M. Jobe, M. Pokojovy. The taut string estimator: Weak convergence and confidence bands, *AMS Southeastern Sectional Meeting, Charleston, SC*, March 10-12, 2017
- [5] J. M. Jobe, M. Pokojovy. On distributed systems with noisy observations, *AMS Fall Southeastern Sectional Meeting, University of Memphis, TN*, October 17-18, 2015
- [6] J. M. Jobe, M. Pokojovy. A cluster-based outlier detection scheme for multivariate data, *AMS Fall Southeastern Sectional Meeting, University of Memphis, TN*, October 17-18, 2015
- [7] V. Maltsev, M. Pokojovy. On a nonlinear hyperbolic-like filter for image processing, in *Proceedings of XVII International Conference: Dynamical System Modelling and Stability Investigation*, Taras Shevchenko National University of Kyiv (Ukraine), May 27-29, 2015
- [8] J. M. Jobe, M. Pokojovy. A multistep, cluster-based multivariate chart for retrospective monitoring of individuals, *Joint Research Conference on Statistics in Quality, Industry, and Technology*, NIST, Gaithersburg, MD, May 25-27, 2010
- [9] R. Andrushkiw et al. Computer-aided cytogenetic method of breast cancer diagnosis, Part II – Test criteria in *Proceedings of the 2006 International Conference on Bioinformatics & Computational Biology*, 2006

THESIS PUBLICATIONS

- [10] M. Pokojovy (2011). On the theory of heat conducting Reissner-Mindlin plates, PhD thesis, University of Konstanz (Germany), doi:10.13140/2.1.1389.2167
- [11] M. Pokojovy (2007). Nonlinear Timoshenko systems with second sound effects, Master’s thesis, University of Konstanz (Germany), doi:10.13140/2.1.4403.8729

SELECTED PAPERS IN PREPARATION

- [12] On a continuous relaxation of the MCD estimator. In preparation.
- [13] A novel nonparametric chart for retrospective monitoring of individuals. In preparation.

- [14] Asymptotic distribution and confidence bands for the Taut String estimator. In preparation.
- [15] A new comprehensive measure of multivariate central tendency: Nonparametric estimation and inference. In preparation.

SELECTED  
INVITED TALKS

- [16] M. Pokojovy. A cluster-based outlier detection scheme for multivariate data, George Mason University, VA, February 13, 2017
- [17] M. Pokojovy. The Taut String estimator: Weak convergence and confidence bands, The University of Memphis, TN, October 17, 2016
- [18] M. Pokojovy. A multistep, cluster-based multivariate chart for retrospective monitoring of individuals, CMU, Mt. Pleasant, MI, October 15, 2015
- [19] M. Pokojovy. On a parabolic-hyperbolic filter for multicolor image noise reduction, Charles University in Prague, Czech Republic, October 5, 2015
- [20] M. Pokojovy. On Neumann boundary controllability for heat conducting Reissner-Mindlin plates. University of Virginia, Charlottesville, VA, September 19, 2012

GRANTS

**Awarded**

- [1] Travel grant from the [German Academic Exchange Service](#), €1,500, 2016/8
- [2] PI, “Control and Optimization for Nonlinear Evolution Equations with Delay in Ecology,” Young Scholar Fund (supported by the [German Research Foundation](#)), €7,000, 2015/1 to 2015/12
- [3] Co-PI (with Dr. J. Marcus Jobe), “Real-Time Upset Detection for a Class of Gaussian Processes,” [Zukunftskolleg \(University of Konstanz\)](#), €5,000, 2015/7 to 2015/12
- [4] PI, “Modeling, Analysis and Numerics of Nonlinear Evolution Equations with Delay in Ecology,” Young Scholar Fund (supported by the [German Research Foundation](#)), €7,000, 2014/1 to 2014/12
- [5] Co-PI (with Dr. J. Marcus Jobe), “Empirical Bayesian Analysis for Computer Experiments Involving Non-Linear Finite Element Code,” [Zukunftskolleg \(University of Konstanz\)](#), €5,000, 2014/7 to 2014/12
- [6] Senior staff (PI: Dr. Reinhard Racke), “Evolution Equations,” [Committee on Research \(AFF\)](#), €13,000, 2013/10 to 2015/12
- [7] Travel Grant from the [University of Virginia at Charlottesville](#), \$2,000, 2012/11
- [8] Travel Grant from [Miami University, Oxford, OH](#), \$1,000, 2010/5

SELECTED  
STUDENT  
ADVISING

**Prince O. Aboagye**

Master candidate at the University of Texas at El Paso, TX. *Meshless techniques for continuous-time stochastic optimal control problems*. Thesis advisor

**Esteban Munoz**

Undergraduate student at the University of Texas at El Paso, TX. *A new density-based clustering technique*. Research advisor

**Guillermo Lopez Ramirez**

Undergraduate student at the University of Texas at El Paso, TX. *Qualitative prediction of STD dynamics in El Paso county, TX*. Research advisor

**Xiang Wan**

PhD candidate at the University of Virginia at Charlottesville, VA. Mentor

**Valerii Maltsev**

Bachelor’s thesis at Taras Shevchenko National University of Kyiv (Ukraine). *On a parabolic-hyperbolic filter for multicolor image noise reduction* (2015). External advisor

**Valery Gudko**

Bachelor’s thesis at Taras Shevchenko National University of Kyiv (Ukraine). *On bandwidth selection for kernel density estimation* (2010). External advisor

**Alla Danilova**

Bachelor’s thesis at Taras Shevchenko National University of Kyiv (Ukraine). *Penalization parameter selection in nonparametric P-regression* (2010). External advisor

SELECTED  
TEACHING  
EXPERIENCE

**The University of Texas at El Paso**

*Assistant Professor*

since May 2017

(Fully and independently responsible for developing syllabus, preparing lecture notes and giving lectures,

giving and grading exams, etc.)

- Applied Regression Analysis – one semester
- Matrix Algebra – one semester
- Advanced Scientific Computing – two semesters

### **The University of Memphis, TN**

*Visiting Professor*

January 2017 to May 2017

(Fully and independently responsible for developing syllabi, preparing lecture notes, giving 4 hrs of lectures weekly and giving exams, etc.)

- Probability Theory (including Martingale Theory) – one semester

### **The University of Konstanz (Germany)**

*Assistant Professor (non-tenure-track)*

December 2011 to August 2015

(Fully and independently responsible for developing syllabus, preparing lecture notes, giving 4 hrs of lectures weekly and giving exams, etc.)

- Stochastic Control Theory – one semester
- Control Theory for PDEs – two semesters
- Complex Analysis – two semesters
- Nonlinear Evolution Equations – one semester

*Instructor (non-tenured)*

September 2007 to November 2011

(Authored hundreds of pages of course material and sample programs archived at <http://www.math.uni-konstanz.de/~pokojoyv/teaching/index.html>)

- Calculus (including Vector Calculus) – four semesters
- Complex Analysis – three semesters
- Probability and Measure Theory – two semesters
- Operations Research – one semester
- Real Analysis – one semester
- Analysis and Numerics of Ordinary Differential Equations – two semesters
- Analysis and Numerics of Partial Differential Equations – two semesters

*Teaching assistant*

September 2005 to August 2007

(Sample graded material and student evaluations available upon request)

- Calculus – two semesters
- Probability and Measure Theory – one semester
- Ordinary Differential Equations – one semester

### **PROFESSIONAL SERVICE Selected Referee Service**

PROFESSIONAL SERVICE

- *Journal of Multivariate Analysis*
- *Abstract and Applied Analysis*
- *Applicable Analysis*
- *Asymptotic Analysis*
- *Computers and Mathematics with Applications*
- *Discrete and Continuous Dynamical System, Series B*
- *Mathematical Methods in the Applied Sciences*
- *Nonlinear Analysis, Series A: Theory, Methods & Applications*

### **Committee Service**

- Undergraduate curriculum assessment committee member since November 2017  
Department of Mathematical Sciences, The University of Texas at El Paso
- Department Council member May 2012 to September 2015  
Mathematics and Statistics Department, University of Konstanz (Germany)

### **Editorial Service**

- *Mathematics, Statistics, Logic, Systems Science*, De Gruyter Open Book, Assistant Editor since 2016
- *Bulletin of Lviv Polytechnic National University, Information Systems and Networks Series*  
Editorial board member since 2014

### Conference Service

- Fall 2017 School on Applied Mathematics and Statistics, Organizer and Chairman, Taras Shevchenko National University of Kyiv (Ukraine), 2017/11/20 through 2017/11/23
- Conference on Computational Linguistics and Intelligent Systems, Program Committee member, National Technical University “Kharkiv Polytechnic Institute,” Kharkiv, Ukraine, 2017/04/21
- Fall 2015 School on Applied Mathematics and Statistics, Organizer and Chairman, Taras Shevchenko National University of Kyiv (Ukraine), 2015/10/5 through 2015/10/9

### Other Service

- Campus Office of Undergraduate Research Initiatives (COURI), The University of Texas at El Paso, TX. Summer Symposium judge
- BUILDing SCHOLARS program (NIH funded), The University of Texas at El Paso, TX. Undergraduate research advisor.

### OTHER MEETING ATTENDANCE

#### Invited Participant

- Symposium on High Performance Computing Applications (SIAM supported), The University of Texas at El Paso, TX, 2017/11/21
- Summer School on Wave phenomena: Analysis and Numerics, Karlsruhe Institute of Technology, Karlsruhe, Germany, 2016/9/12 through 2016/9/15
- Panorama of Mathematics, Hausdorff Center for Mathematics, University of Bonn, Germany, 2015/10/21 through 2015/10/23
- Workshop on MOdel REDuction, Nečas Center for Mathematical Modeling, Pilsen, Czech Republic, 2015/9/1 through 2015/9/10
- Workshop on Dispersive Equations, MFO in Oberwolfach (Germany), 2012/10/14 through 2012/10/20
- Spring School on Evolution Equations, University of Konstanz (Germany), 2011/4/4 through 2011/4/7

### SERVICE

#### Friedrich Ebert Foundation

2010 to present

- Alumnus and mentor

#### Mathematical exhibition “IMAGINARY – Through the eyes of mathematics”

October 2008

- Local organizer and excursion supervisor

### SOFTWARE SKILLS

#### Scientific and Statistical Computing

- R, Matlab, Minitab, SAS, Python (Tensorflow, Spark), Maple, COMSOL (FEM), etc.

#### Programming

- C/C++ (including OpenMP, OpenACC, OpenMPI, OpenGL), Python, Pascal/Delphi, Basic, SQL, HTML

#### Scientific typesetting

- L<sup>A</sup>T<sub>E</sub>X, B<sup>I</sup>B<sub>T</sub>E<sub>X</sub>, Microsoft Office, Open Office, etc.

### EXPERTISE

#### Data science and statistics:

- data mining, statistical modeling, statistical inference, nonparametric statistics, robust statistics, multivariate statistics, asymptotic theory, computational statistics, statistical process control, machine learning, etc.

#### Probability and stochastic analysis:

- Probability and measure theory, probability in functional spaces, stochastic processes, Markov processes, mathematical finance, probability distributions, etc.

#### Computational sciences:

- modeling, (numerical) analysis and control of distributed systems, numerical analysis, computational mathematics and statistics, etc.

#### Computer science:

- Functional and object-oriented programming, serial and parallel programming, GFX programming, database/-warehouse programming, distributed data storage and processing, text parsing, etc.

#### Biology and ecology:

- Population dynamics and demographic models, PK/PD models, quantitative modeling of infectious diseases, pattern recognition in breast cancer diagnostics, etc.

- AWARDS
- Herbert Quandt Foundation
    - Graduate scholarship 2005–2006
  - Friedrich Ebert Foundation
    - Graduate scholarship 2006–2007
- REFERENCES AVAILABLE UPON REQUEST
- Dr. Irena Lasiecka (e-mail: lasiecka@memphis.edu, phone: +1-901-678-3130)
- Distinguished Professor, Chair, Department of Mathematical Sciences, University of Memphis, TN
  - ◊ The University of Memphis, Department of Mathematical Sciences, Dunn Hall 373, Memphis, TN 38152
  - ★ *Dr. Lasiecka was my supervisor during my research visits to UVA and the University of Memphis, TN.*
- Dr. J. Marcus Jobe (e-mail: jobejm@miamioh.edu, phone: +1-513-523-7468)
- Professor, Department of Information Systems & Analytics, Miami University, Oxford, OH
  - ◊ Miami University, Decision Sciences and Management Information Systems Dept., Oxford, OH 45056
  - ★ *Dr. Jobe is my senior colleague and coauthor.*
- Dr. Reinhard Racke (e-mail: reinhard.racke@uni-konstanz.de, phone: +49-7531-882733)
- Professor, Department Head, Department of Mathematics and Statistics, University of Konstanz
  - ◊ University of Konstanz, Department of Mathematics and Statistics, PO Box D 187, 78457 Konstanz, Germany
  - ★ *Dr. Racke was my PhD advisor and supervisor.*
- Dr. Robert Denk (e-mail: robert.denk@uni-konstanz.de, phone: +49-7531-882577)
- Professor, Dean, Department of Mathematics and Statistics, University of Konstanz
  - ◊ University of Konstanz, Department of Mathematics and Statistics, PO Box D 193, 78457 Konstanz, Germany
  - ★ *Dr. Denk was my co-supervisor and a member of my doctoral committee.*