

# Vladislav BUKSHTYNOV

---

Department of Mathematical Sciences, Florida Institute of Technology  
✉ 150 West University Blvd., Melbourne, FL 32901, US  
phone: (321) 674-7157, fax: (321) 674-7412, email: vbukshtynov@fit.edu  
URL: <http://www.bukshtynov.xyz>

## PRIMARY RESEARCH INTERESTS

Applied & Computational Mathematics, Scientific Computing  
Numerical Optimization, Control Theory  
Mathematical Modeling for Industrial Applications  
Inverse Problems  
Modeling and Analysis of PDEs  
Computational Fluid Mechanics

## EDUCATION

**PhD in Computational Engineering and Science** Jan 2012  
McMaster University, Ontario, Canada

**MS in Computer Science (with distinction)** Feb 1999  
Vitebsk State University, Belarus

**BS in Mathematics and Physics** Jun 1997  
Vitebsk State University, Belarus

## PROFESSIONAL EXPERIENCE

**Assistant Professor in Applied Mathematics** Aug 2015 – present  
Department of Mathematical Sciences  
Florida Institute of Technology, FL, US

**Visiting Assistant Professor** Summer 2016, 2017, 2018  
Department of Energy Resources Engineering  
Stanford University, CA, US

**Postdoctoral Research Fellow** Feb 2012 – Aug 2015  
Department of Energy Resources Engineering  
Stanford University, CA, US  
Mentors: Khalid Aziz, Louis J. Durlofsky

**Research Assistant** May 2008 – Jan 2012  
Department of Mathematics & Statistics  
School of Computational Engineering & Science  
McMaster University, ON, Canada  
Supervisor: Bartosz Protas

**Research Assistant** Nov 1999 – May 2002  
A.V. Luikov Heat and Mass Transfer Institute, Minsk, Belarus  
Supervisors: Zinovii P. Shulman, Alexander Makhanev

**PUBLICATIONS****Refereed Journals**

- Arbic P. R. II, Bukshytynov V. *On Reconstruction of Biomedical Images by Efficient Sample-based Parameterization* (submitted to International Journal of Computer Mathematics, arXiv preprint arXiv:2011.01790)
- Koolman P. M., Bukshytynov V. *A Multiscale Optimization Framework for Reconstructing Binary Images using Multilevel PCA-based Control Space Reduction*, Biomedical Physics & Engineering Express 7(2) (2021), 025005.
- Abdulla U. G., Bukshytynov V., Seif S. *Cancer Detection through Electrical Impedance Tomography and Optimal Control Theory: Theoretical and Computational Analysis*, Mathematical Biosciences and Engineering 18(4) (2021), 4834-4859.
- Arbic P. R. II, Edwards B. L. and Bukshytynov V. *Efficient Gradient-based Optimization for Reconstructing Binary Images Using Sample-based Parameterization* (prepared for submission in Summer 2021)
- Chun M. M. F. M., Edwards B. L. and Bukshytynov V. *Multiscale Optimization via Multilevel PCA-based Control Space Reduction* (prepared for submission in Summer 2021)
- Edwards B. L., Bukshytynov V. *Multi-Sample PCA Applications for Medium Structure Recognition* (prepared for submission in Fall 2021)
- Abdulla U. G., Bukshytynov V., Hagverdiyev A. *Gradient Method in Hilbert-Besov Spaces for the Optimal Control of Parabolic Free Boundary Problems*, Journal of Computational and Applied Mathematics 346 (2019), 84-109.
- Volkov O., Bukshytynov V., Durlafsky L.J. and Aziz K. *Gradient-based Pareto Optimal History Matching for Noisy Data of Multiple Types*, Computational Geosciences 22(6) (2018), 1465-1485.
- Bukshytynov V., Volkov O., Durlafsky L.J. and Aziz K. *Comprehensive Framework for Gradient-based Optimization in Closed-Loop Reservoir Management*, Computational Geosciences 19(4) (2015), 877-897.
- Bukshytynov V., Protas B. *Optimal Reconstruction of Material Properties in Complex Multiphysics Phenomena*, Journal of Computational Physics 242 (2013), 889-914.
- Bukshytynov V., Volkov O., Protas B. *On Optimal Reconstruction of Constitutive Relations*, Physica D: Nonlinear Phenomena 240 (2011), 1228-1244.
- Bukshytynov V., Volkov O., Durlafsky L.J. and Aziz K. *A Data Assimilation Procedure for Calibrating Relative Permeability Using Data of Multiple Types* (in preparation)
- Bukshytynov V., Protas B. *Generalized Approach for Computing Line Integrals via Area Integrals* (in preparation)

**Proceedings for Conferences and Affiliate Meetings**

- Volkov O., Ye T., Durlafsky L.J., Bukshytynov V., and Aziz K. *Optimization Techniques for Data Assimilation and Constrained Well Placement*, Proceedings of Smart Fields 14<sup>th</sup> Annual Affiliate Meeting, Stanford University, November 2019
- Volkov O., Bukshytynov V., Durlafsky L.J., and Aziz K. *Data Assimilation using Generalized Adjoint Gradients in AD-GPRS*, Proceedings of SUPRI-B 36<sup>th</sup> Annual Affiliate Meetings, Stanford University, May 2019

- Volkov O., Bukshtynov V., Durlofsky L.J., and Aziz K. *Multiobjective History Matching*, Proceedings of Smart Fields 13<sup>th</sup> Annual Affiliate Meeting, Stanford University, November 2018
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *Model Update and Calibration via Gradient-based Optimization Framework*, Proceedings of Smart Fields 11<sup>th</sup> Annual Affiliate Meeting, Stanford University, November 2016
- Volkov O., Padhye N., Bukshtynov V., Aziz K., and Durlofsky L.J. *Simulation-based Optimization and History Matching*, Proceedings of SUPRI-B 33<sup>rd</sup> Annual Affiliate Meetings, Stanford University, May 2016
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *Multiobjective History Matching for Noisy Data of Multiple Types*, Proceedings of Smart Fields 10<sup>th</sup> Annual Affiliate Meeting, Stanford University, November 2015
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *Gradient-based Optimization for Closed-Loop Modeling Using AD-GPRS*, SUPRI-B 32<sup>nd</sup> Annual Affiliate Meetings, Stanford University, May 2015
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *Gradient-based History Matching and Closed-Loop Modeling Using AD-GPRS*, Proceedings of Smart Fields 9<sup>th</sup> Annual Affiliate Meeting, Stanford University, November 2014
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *Gradient-based History Matching and Closed-Loop Modeling Using AD-GPRS: Updates*, Proceedings of SUPRI-B 31<sup>st</sup> Annual Affiliate Meetings, Stanford University, May 2014
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *New Developments in Gradient-based History Matching Using AD-GPRS*, Proceedings of Smart Fields 8<sup>th</sup> Annual Affiliate Meeting, Stanford University, November 2013
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *Gradient-based History Matching Using AD-GPRS*, Proceedings of SUPRI-B 30<sup>th</sup> Annual Affiliate Meetings, Stanford University, May 2013
- Protas B., Bukshtynov V., Noack B., Morzynski M. *On Optimal Model Identification in Hydrodynamics*, Proceedings of APS 65<sup>th</sup> Annual DFD Meeting, San Diego, CA, November 2012
- Bukshtynov V., Volkov O., Aziz K., and Durlofsky L.J. *Computational Framework for Performing History Matching Using AD-GPRS*, Proceedings of Smart Fields 7<sup>th</sup> Annual Affiliate Meeting, Stanford University, November 2012
- Bukshtynov V. and Protas B. *Reconstruction of Temperature-Dependent Material Properties in Complex Thermo-Fluid Problems*, Proceedings of ECCOMAS Thematic Conference: CFD & OPTIMIZATION 2011, Antalya, Turkey, May 2011

### Research and Technical Reports

- Bukshtynov V. *Optimization Framework of EIT-OPT*. Department of Mathematical Sciences, Florida Institute of Technology (2020)
- Amezcua E., Bukshtynov V., Ellis S., Farnell E., Ryu H., Tymochko S., and Storey K. *Identifying Patterns in Genomic Tumor Data Using Mapper*, Report for a Collaborative Research Project completed at ICERM's workshop "Applied Mathematical Modeling with Topological Techniques", Brown University (2019)
- Bukshtynov V., Abdulla U.G. *Breast Cancer Detection through Electrical Impedance Tomography: Variational Method through Optimal Control Theory*, Report for a Collaborative Research Project with Dartmouth Center of Cancer Nanotechnology Excellence (2015)

- Bukshytynov V., Volkov O., Aziz K., and Durllofsky L.J. *Gradient-based Optimization and History Matching Using AD-GPRS*, Research Report for Meeting with Affiliate Members: Schlumberger (2014)
- Volkov O., Kourounis D., Bukshytynov V. *Optimization Module of AD-GPRS*. Department of Energy Reservoirs Engineering, SUPRI-B, Stanford University (2014)
- Voskov D., Zaydullin R., Garipov T., Iskhakov R., Zhou Y., Volkov O., Kourounis D., Semenova A., Bukshytynov V. *Reservoir Simulator AD-GPRS*. User Manual, version 1.0. Department of Energy Resources Engineering, SUPRI-B, Stanford University (2013)
- Bukshytynov V. *Computational Methods for the Optimal Reconstruction of Material Properties in Complex Multiphysics Systems*, PhD Dissertation, McMaster University, Open Access Dissertation and Theses. Paper 6795. <http://hdl.handle.net/11375/11859> (2012)
- Atena A., Yapalparvi R., Bukshytynov V., Protas B. *Optimization and Parameter Estimation in MIG Welding – Multi-Objective Framework and Modelling Mass Transfer with Effective Surfaces*, Report #4 for a Collaborative Research Project with GM (2011)
- Atena A., Yapalparvi R., Bukshytynov V., Volkov O., Protas B. *Optimization and Parameter Estimation in MIG Welding – Towards Multi-Objective Framework and Modelling Mass Transfer with Effective Surfaces*, Report #3 for a Collaborative Research Project with GM (2010)
- Volkov O., Yapalparvi R., Bukshytynov V., Protas B. *Modelling, Optimization and Estimation of the Systems Involving Interaction with Plasma Column*, Report #2 for a Collaborative Research Project with GM (2009)
- Volkov O., Bukshytynov V., Protas B. *A Unified Approach to Solving Free-Boundary and Inverse Problems for a Stationary Weld Pool, with Some Notes on the Related Problem of Parameter Estimation*, Report #1 for a Collaborative Research Project with GM (2008)

### Courseware

- Bukshytynov V., Polyak E. *Higher Mathematics*, Vitebsk State Medical University Textbook (Calculus with elements of Mathematical Statistics) for the 2<sup>nd</sup> year students of Pharmaceutical Dept, with instructions and assignment problems, 100pp. (1<sup>st</sup> edition - 2002, 2<sup>nd</sup> edition - 2012)

### CONTRACTS AND GRANTS

- |   |      |
|---|------|
| <i>Enhanced Computational Framework for Early Stage Cancer Detection through Electrical Impedance Tomography (EIT)</i>                                  | 2021 |
| Florida Tech COES Institutional Research Incentive Program, PI \$18,959   |      |
| <i>Topological Methods for Identifying Patterns in Lung Tumor Gene Expression Data</i>  | 2020 |
| NSF/NIMBioS: Short-term Visits Program, co-PI, 1-week paid visit awarded<br>Approved for August 2020 (postponed due to COVID-19 pandemic)               |      |
| <i>REU Site: Partial Differential Equations and Dynamical Systems</i>   | 2016 |
| NSF (DMS, award #1359074 2014-2016, \$258,567, PI Ugur G. Abdulla)<br>Faculty Mentor/Senior Personnel (summer undergraduate research with 3 ISP groups) |      |

**PATENTS, INVENTIONS AND SOFTWARE DEVELOPMENT****EIT-OPT**

2015 – present

All-purpose open-structure multifaceted optimization framework for solving numerically inverse Electrical Impedance Tomography (EIT) problems in 2D (used in grad/undergrad research with 5 students, preparing 4 research papers and NSF/NIH grant applications)

**ISP-OPT**

2016 – 2019

Comprehensive multifaceted optimization framework for solving numerically inverse Stefan problems (ISP) in 1D (used for summer REU research with 3 ISP groups/6 undergrad students and 1 PhD student, publishing one research paper)

**CONFERENCE PRESENTATIONS AND TALKS****Organizer**

- Minisymposium “*Recent development in modeling, control, theoretical and numerical analysis of complex systems with dynamic boundaries*” at SIAM PD15 Conference on Analysis of Partial Differential Equations, AZ, US, December 2015

**Invited Presentations**

- Minisymposium “Control and Estimation Problems in Fluid Mechanics and Related Fields”, 9<sup>th</sup> International Congress on Industrial and Applied Mathematics ICIAM 2019, Valencia, Spain, July 2019
- Mini-Tutorial “Computational Aspects of Numerical Optimization”, NSF-CBMS Conference/workshop “Computational Methods in Optimal Control”, Jackson State University, MS, July 2018
- SIAM Chapter Seminar, Dept. of Mathematical Sciences, Florida Institute of Technology, FL, April 2015
- Colloquium, Dept. of Scientific Computing, Florida State University, FL, February 2015
- 2012 Cecil Graham Doctoral Dissertation Prize Plenary Lecture, CAIMS 2013 Annual Meeting, Quebec City, Canada, June 2013
- SUPRI-B Group Seminar, Dept. of Energy Resources Engineering, Stanford University, CA, US, November 2011
- Optimization Group Seminar, School of Industrial Engineering, Purdue University, IN, US, October 2011

**Seminar and Contributed Talks**

- The Joint Mathematics Meeting JMM 2021, Washington, DC, US, January 2021
- ICERM Topical Workshop “Applied Mathematical Modeling with Topological Techniques”, Brown University, Providence, RI, US, August 2019
- SIAM Conference on Mathematical and Computational Issues in the Geosciences GS19, Houston, TX, US, March 2019
- Topical workshop “Celebrating 75 Years of Mathematics of Computation”, ICERM, Brown University, Providence, RI, US, November 2018
- Advances in Mathematical Optimization, IWR School, Heidelberg University, Germany, October 2018

- SIAM Annual Meeting AN18, Portland, OR, US, July 2018
- SIAM Conference on Mathematical and Computational Issues in the Geosciences GS17, Erlangen, Germany, September 2017
- Mathematical Congress of the Americas MCA 2017, Montreal QC, Canada, July 2017
- SIAM Conference on Computational Sciences and Engineering CSE17, Atlanta, CA, US, March 2017
- Smart Fields 11<sup>th</sup>, 10<sup>th</sup>, 9<sup>th</sup>, 8<sup>th</sup>, 7<sup>th</sup> Annual Affiliate Meetings, Stanford University, CA, US, November 2016, 2015, 2014, 2013, 2012
- Minisymposium Talk at SIAM PD15 Conference on Analysis of Partial Differential Equations, AZ, US, December 2015
- SUPRI-B 32<sup>nd</sup>, 31<sup>st</sup>, 30<sup>th</sup> Annual Affiliate Meetings, Stanford University, CA, US, May 2015, 2014, 2013
- SIAM Conference on Mathematical and Computational Issues in the Geosciences GS13, Padua, Italy, June 2013
- 65<sup>th</sup> Annual American Physical Society Meeting (Division of Fluid Dynamics), San Diego, CA, US, November 2012
- Smart Fields Group Seminar, Department of Energy Resources Engineering, Stanford University, CA, US, October 2012
- 7<sup>th</sup> International Congress on Industrial and Applied Mathematics ICIAM 2011, Vancouver BC, Canada, July 2011
- Applied Mathematics Perspectives AMP 2011: Complex Fluids and Flows in Industry and Nature, UBC, Vancouver BC, Canada, July 2011
- Challenges in Applied Control and Optimal Designs, Basque Center for Applied Mathematics BCAM, Bilbao, Spain, July 2011
- 2<sup>nd</sup> New York Conference on Applied Mathematics NYCAM 2011, University at Buffalo, SUNY, Buffalo NY, US, April 2011
- First North American Meeting on Industrial and Applied Mathematics NAMIAM 2010, Universidad del Mar, Huatulco, Oaxaca, Mexico, December 2010
- Applied, Industrial and Financial Mathematics AIMS/Phimac Seminar, McMaster University, November 2010
- Advanced Optimization Laboratory AdvOL Seminar, McMaster University, November 2010
- School of CES Student Symposium Day, McMaster University, November 2010
- Southern Ontario Numerical Analysis Day SONAD, Waterloo ON, Canada, May 2010
- School of CES Student Symposium Day, McMaster University, October 2009
- Southern Ontario Numerical Analysis Day SONAD, London ON, Canada, May 2009
- 2<sup>nd</sup> Annual Pure and Applied Maths Graduate Student Conference, McMaster University, October 2008

**HONORS AND AWARDS**

NSF/ICERM Travel Award to attend 2019 ICERM Topical Workshop, Brown University, US Institute for Computational and Experimental Research in Mathematics [USD 760]	2019
NSF/ICERM Travel Award to attend 2018 ICERM Topical Workshop, Brown University, US Institute for Computational and Experimental Research in Mathematics [USD 678]	2018
Mobility Program Award to attend 2018 IWR School, Heidelberg University, Germany Interdisciplinary Center for Scientific Computing (IWR) [EUR 1,150]	2018
NSF/CBMS Travel Award to attend 2018 NSF-CBMS, Jackson State University, US Conference Board of the Mathematical Sciences [USD 850]	2018
NSF/SIAM Early Career Travel Award to attend SIAM GS17, Erlangen, Germany Society for Industrial and Applied Mathematics [USD 950]	2017
NSF/AMS Travel Award to attend MCA 2017, Montreal QC, Canada American Mathematical Society [USD 1,350]	2017
IMA Scholarship to attend New Directions Short Course Topics in Control Theory Institute for Mathematics and its Applications, University of Minnesota, US [USD 2,867]	2014
The 2012 Cecil Graham Doctoral Dissertation Award Canadian Applied and Industrial Mathematics Society [CAD 1,000]	2013
Postdoctoral Research Fellowship, Stanford University, US Smart Fields Consortium, Energy Resources Engineering Dept. [USD 207,000]	2012 – 2015
Ontario Graduate Scholarship, Canada (declined with early graduation) Ministry of Training, Colleges and Universities [CAD 15,000]	2011
Scholarship to attend RISM 2011 Summer School, Verbania, Italy Riemann International School of Mathematics [EUR 940]	2011
MITACS Travel Award to attend ICIAM 2011, Vancouver BC, Canada Mathematics of Information Technology and Complex Systems [CAD 550]	2011
2 <sup>nd</sup> Prize - Applied Mathematics Perspectives (AMP 2011) Poster Competition, Canada Canadian Applied and Industrial Mathematics Society [CAD 100]	2011
PIMS Travel Award to attend AMP 2011, Vancouver BC, Canada Pacific Institute for the Mathematical Sciences [CAD 265]	2011
BCAM Scholarship to attend OPTPDE 2011 Summer School, Bilbao, Spain Basque Center for Applied Mathematics [EUR 1,300]	2011
Ontario Graduate Scholarship, Canada Ministry of Training, Colleges and Universities [CAD 15,000]	2010
PIMS Travel Award to attend NAMIAM 2010, Huatulco OA, Mexico Pacific Institute for the Mathematical Sciences [CAD 900]	2010
Travel Award to attend NAMIAM 2010, Huatulco OA, Mexico McMaster University Graduate Students Association [CAD 500]	2010
Scholarship to attend INdAM 2010 Summer School, Catania, Italy Istituto Nazionale di Alta Matematica Francesco Severi (INdAM) [EUR 600]	2010
Graduate Scholarship, McMaster University, Canada School of Graduate Studies [CAD 19,151]	2008 – 2012

**STUDENT ADVISING****Dept. of Mathematical Sciences, Florida Institute of Technology**

- Advisor, graduate research: Briana Edwards (PhD Applied Math, 2020-), Maria Chun (MS Applied Math, 2021-), Paul Arbic (MS Operations research, 2019-2020, thesis <http://hdl.handle.net/11141/3220>)
- Advisor, MS non-thesis: Fan Xia (MS Operations research, 2018-2019)
- Advisor, undergraduate research: Briana Edwards (2019-2020), Priscilla Koolman (2019-2020)
- Co-advisor, graduate research: Saleheh Seif (PhD, 2016-2019), Ali Haqverdiev (PhD, 2016-2019); Robert Feldges (PhD, 2015-2016)
- Co-advisor, undergraduate research: Greta Polo (2016)
- Academic advisor for undergraduate students (Computational Mathematics minor)
- Academic advisor for graduate students (MS & PhD in Applied Mathematics & Operations Research)
- REU-2016 summer research mentoring: Rajendra Beekie (University of Minnesota), Nadab Wubshet (Augustana University), Carlos Seda (University of Puerto Rico), Taylor Spino (North Central College)

**Dept. of Energy Resources Engineering, Stanford University**

- Graduate student informal advising: Yimin Liu (MS, 2014-2015), Larry Zhaoyang Jin (MS, 2015), Sumeet Trehan (PhD, 2013-2014), Hai Xuan Vo (PhD, 2012-2015), Wenyue Sun (MS, 2012-2013), Mehrdad Gharib Shirangi (PhD, 2012-2013)

**TEACHING EXPERIENCE****Dept. of Mathematical Sciences, Florida Institute of Technology**

- MTH 5051 Applied Discrete Mathematics, Spring 2020, Summer 2019
- MTH 5107 Optimization Models and Methods, Spring 2021, Spring 2019, Spring 2016
- MTH 5007 Introduction to Optimization, Fall 2018, Fall 2015
- MTH 3210 Introduction to PDEs and Applications, Summer 2021, Summer 2020, Spring 2019, Fall 2017
- MTH 3200 Honors Differential Equation, Spring 2021
- MTH 3107 Optimization, Fall 2019
- MTH 2201 Differential Equations, Fall 2019, Spring 2019, Fall 2018, Spring 2017, Fall 2016, Spring 2016, Fall 2015
- MTH 2001 Calculus 3, Spring 2018, Fall 2017, Spring 2017, Fall 2016

**NEW COURSE DEVELOPMENT****Dept. of Mathematical Sciences, Florida Institute of Technology**

- MTH 6300 Topics in Num/Comp Mathematics: Numerical Optimization, Spring 2018
- MTH 3200 Honors Differential Equation, Spring 2020

**SERVICE FOR UNIVERSITY, COLLEGE AND DEPARTMENT****Florida Institute of Technology**

- COVID-19 COES Task Force Member (since summer 2020)
- Graduate Council Member (since fall 2020)



- Faculty Search Committee (since Spring 2021)
- PhD & MS Admission Committee, Operations Research Program (since 2019)
- PhD Admission Committee, Applied Mathematics Program (since 2020)
- PhD & MS Applied Mathematics and Operations Research Programs Committee (since 2019)
- PhD & MS Committee Member: Anthony Stefan (MS, 2021), Hissah Albaqami (PhD, 2020-), Nandini Rakala (PhD, 2018-2020), Ali Haqverdiyev (PhD, 2016-2020), Saleheh Seif (PhD, 2016-2020), Hissah Albaqami (MS, 2020), Fan Xia (MS, 2019), Roby Poteau (PhD, 2016-2019), Curtis Earl (PhD, 2018), Justin Blackman (MS, 2016-2017)
- External Member: Iwan Broodryk (MS Aerospace Engineering, 2020-), Yunpeng Han (MS Mech. Engineering, 2019), Christian Hernandez (PhD Math. Education, 2017), Jonathan Eric Tiede (MS Aerospace Engineering, 2016)
- Tenure Exploration Faculty Senate Committee (2017-2018)
- SIAM Student Chapter Advisor (since 2019)

### OTHER ACTIVITIES FOR PROFESSIONAL DEVELOPMENT

ICERM Topical Workshop “Applied Mathematical Modeling with Topological Techniques” Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, Providence, RI, US	2019
ICERM Topical Workshop “Celebrating 75 Years of Mathematics of Computation” Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, Providence, RI, US	2018
IWR School “Advances in Mathematical Optimization” Interdisciplinary Center for Scientific Computing (IWR), Heidelberg University, Germany	2018
NSF-CBMS Conference/workshop “Computational Methods in Optimal Control” Conference Board of the Mathematical Sciences (CBMS), Jackson State University, MS, US	2018
IMA New Directions Short Course “Topics in Control Theory” Institute for Mathematics and its Applications (IMA), University of Minnesota, MN, US	2014
History Matching and Conditioning Reservoir Models to Dynamic Data Society of Petroleum Engineers (SPE) training course, The Woodlands, TX, US	2013
Fundamentals of Reservoir Simulation Summer Program in Energy Resources Engineering, Stanford University Petroleum Research Institute (SUPRI), Stanford, CA, US	2012
Multiphase and Multiphysics Problems Summer School, Riemann International School of Mathematics (RISM), Verbania, Italy	2011
Challenges in Applied Control and Optimal Designs OPTPDE Summer School, Basque Center for Applied Mathematics (BCAM), Bilbao, Spain	2011
High Performance and Technical Computing SHARCNET Summer School, Sheridan Institute of Technology and Advanced Learning, Oakville, Canada	2010
Analytical and Numerical Problems in Fluid Dynamics and Applications Intensive Period Summer School, Istituto Nazionale di Alta Matematica Francesco Severi (INdAM), Catania, Italy	2010

**REVIEWER**

**Funding Agencies** DOE Office of Science – Advanced Scientific Computing Research Program

**Publishing Houses** Wiley

**Professional Journals** Journal of Computational and Applied Mathematics, Computers and Mathematics with Applications (Elsevier); International Journal of Computer Mathematics (Taylor & Francis); Mathematical Geosciences, Computational Geosciences (Springer); Applied Mathematics (Scientific Research Publishing)

**PROFESSIONAL MEMBERSHIP**

Society for Industrial and Applied Mathematics (SIAM), American Mathematical Society (AMS)

**REFERENCES**

**Munevver M. Subasi** (msubasi@fit.edu), Florida Institute of Technology, US

**Gnana Bhaskar Tenali** (gtenali@fit.edu), Florida Institute of Technology, US

**Louis J. Durlofsky** (lou@stanford.edu), Stanford University, US

**Khalid Aziz** (aziz@stanford.edu), Stanford University, US

**Denis Voskov** (D.V.Voskov@tudelft.nl), Delft University of Technology, Netherlands

**Bartosz Protas** (bprotas@mcmaster.ca), McMaster University, Canada