

**NSF-Biosketch Ugur G. Abdulla**  
Professor of Mathematics  
Department of Mathematical Sciences  
Florida Institute of Technology  
150 West University Blvd., Melbourne, FL 32901  
Email: [abdulla@fit.edu](mailto:abdulla@fit.edu) Phone: (321)6748765  
<http://my.fit.edu/~abdulla/>

### Education and Degrees

1986 M.S. Azerbaijan State University, Baku, USSR  
1988 Ph.D. Academy of Sciences, Baku, USSR  
1994 Dr.Sci. Baku State University, Azerbaijan  
2003 Dr.rer.nat.habil. Saxon State Ministry of Fine Arts, Dresden, Germany

### Employment

2013-present Professor & Department Head, Florida Institute of Technology  
Fall 2012 Visiting Professor, Massachusetts Institute of Technology  
2011-present Professor, Florida Institute of Technology  
2004-2011 Associate Professor, Florida Institute of Technology  
2008 summer Humboldt Visiting Professor, University of Bonn, Germany  
2002-2004 Guest Professor, University of Leipzig  
2000-2002 Max-Planck Research Fellow, Max-Planck Institute, Leipzig  
1998-2000 Humboldt Research Fellow, University of Paderborn  
1996-1998 Royal Society Research Fellow, University of Nottingham  
1995-1996 Professor, Baku State University

### Five Publications Relevant to the Proposal

- U.G. Abdulla, Well-posedness of the Dirichlet Problem for the Nonlinear Diffusion Equation in Non-smooth Domains, *Trans. Amer. Math. Soc.*, **357**(1), (2005), 247-265.
- U.G. Abdulla, Reaction-Diffusion in Irregular Domains, *Journal of Differential Equations*, **164**, (2000), 321-354.
- U.G. Abdulla, On the Dirichlet Problem for the Nonlinear Diffusion Equation in Non-smooth Domains. *J. Math. Anal. Appl.*, **260**(2), (2001), 384-403.
- U.G. Abdulla and J.R. King, Interface Development and Local Solutions to Reaction-Diffusion Equations, *SIAM J. Math. Anal.*, **32**(4), (2000), 235-260.
- U.G. Abdulla, On the Optimal Control of the Free Boundary Problems for the Second Order Parabolic Equations. I. Well-posedness and Convergence of the Method of Lines, *Inverse Problems and Imaging*, **7**, 2(2013), 307-340.

### Five Other Significant Publications

- U.G. Abdulla, Regularity of  $\infty$  for Elliptic Equations with Measurable Coefficients and its Consequences, *Discrete and Continuous Dynamical Systems*, **32**, 10(2012), 3379-3397.
- U.G. Abdulla, Wiener's Criterion at  $\infty$  for the Heat Equations, *Advances in Differential Equations*, **13**(5-6), (2008), 457-488.
- U.G. Abdulla, Wiener's Criterion at  $\infty$  for the Heat Equation and its Measure-Theoretical Counterpart, *Electronic Research Announcement in Mathematical Sciences*, **15**,(2008), 44-51.
- U.G. Abdulla, Wiener's Criterion for the Unique Solvability of the Dirichlet Problem in Arbitrary Open Sets with Non-Compact Boundaries, *Nonlinear Analysis*, **67**(2),(2007), 563-578.

- U.G. Abdulla, First Boundary Value Problem for the Diffusion Equation. I.Iterated Logarithm Test for the Boundary Regularity and Solvability, *SIAM J. Math. Anal.*, **34**(6), (2003), 1422–1434.

#### NSF Grants

2014-2016 REU Site on PDEs and Dynamical Systems Award #1359074 \$258,667

#### Selected Recent Invited Lectures

MIT PDE/Analysis Seminar, November 15, 2012

MIT Seminar: Numerical Methods for PDEs, December 12, 2012

Dartmouth Applied and Computational Math. seminar, September 24, 2013

WPI Colloquium, March 16, 2012

UF Topology and Dynamical Systems Seminar, April 17, 2012

#### Ph.D. Students and Postdocs

**Total number of Ph.D. Students supervised to date – 2**

Ogugua Onyejekwe (Ph.D. graduate, 2012), Dissertation: *Numerical Methods fir Inverse Free Boundary Problems for the Second Order Parabolic Equations*

Jonathan Maxwell Goldfarb (Ph.D. graduate, 2016), Dissertation: *Optimal Control of Free Boundary Problems for the Second Order Parabolic PDEs*

**Total number of current Ph.D. Students – 6**

Naveed Iqbal, Roby Poteau, Adam Prinkey, Roqia Jeli, Ali Hagverdiyev, Evan Cosgrove

**Postdocs supervised – none**

#### Recent Undergraduate Research Students

Nathan Mertins FIT 2010-12, Invited Speaker in YMC-2012, Honorable Mention

Almas Abdulla MIT 2010-13, Invited Speaker in YMC-2011,2012,2013

Rashad Abdulla UPenn 2011-14, Invited Speaker in YMC-2012,2013,2014

Bruno Poggi FIT 2013-14 Invited Speaker in YMC-2014

Daniel Kasssler UChicago REU-2014 Invited Speaker in YMC-2014

Nicholas Crispi CUNY REU-2014 Invited Speaker in YMC-2014

Scott Pelton-Stroud Williams REU-2014 Invited Speaker in YMC-2014

Key Johnson UAuburn REU-2014 Invited Speaker in YMC-2014

Batul Kanawati CSU REU-2014 Invited Speaker in YMC-2014

Lauren Lanier U Illinois REU-2014 Invited Speaker in YMC-2014

AndersRuden U Redlands REU-2014 Invited Speaker in YMC-2014

Taylor Schluter FIT REU-2014 Invited Speaker in YMC-2014

Paige Williams U Michigan REU-2014 Invited Speaker in YMC-2014

Luke Andrejek U Indiana at Bllomington REU-2015 Invited Speaker in YMC-2015

Christi Campbell Michigan State University REU-2015 Invited Speaker in YMC-2015

Chloe Ondracek Minot State University REU-2015 Invited Speaker in YMC-2015

Suneil Parimoo University of Pennsylvania REU-2015 Invited Speaker in YMC-2015

Jessica Pillow Rhodes College, TN REU-2015 Invited Speaker in YMC-2015

Dylanger Pittman Williams College REU-2015 Invited Speaker in YMC-2015

Chelsey Hoff Florida Atlantic University REU-2015 Invited Speaker in JMM-2016

Ryan Stees James Madison University REU-2015 Invited Speaker in JMM-2016

Curtis Earl Florida Institute of Technology REU-2015 Invited Speaker in JMM-2016

Alyssa Turnquist Morningside College, Iowa REU-2015 Invited Speaker in YMC-2015