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https://www.wcupa.edu/sciences-mathematics/mathematics/aAristotelous.aspx

RESEARCH INTERESTS

- Numerical analysis, numerical Partial Differential Equations (PDE), discontinuous Galerkin (DG) finite element (FE) theory and implementation, error estimates, fast solvers theory and implementation based on multigrid
- Mathematical modeling, mathematical biology, spatiotemporal modeling, hybrid discrete systems, evolutionary games using hybrid discrete systems, agent-based modeling, tissue engineering modeling, cancer modeling, dorsal closure modeling, biofilm modeling
- Scientific computing, efficient algorithm design and implementation, adaptive meshing, computational fluid dynamics (CFD)

PROFILE OF EXPERTISE

- Experience in NSF Grant writing. (Awarded NSF grant see grant section for details)
- Completed extensive coursework in Applied Mathematics, Mathematics, Probability and Computing
- Completed the IGMCS (Interdisciplinary Graduate Minor in Computational Science) at PhD level
- Proven computer coding, programming knowledge, supported by hands-on experience
- Background in operation research acquired at master's level
- Self-motivated and offer the drive and ability to conduct research and work on interdisciplinary group projects that require the expertise of an Applied Mathematician and Computational Scientist
- Involved in undergraduate and graduate student research, in previous and current post
- Experience in mentoring graduate students
- Drive for academic program development (experience acquired at current appointment: developed a new graduate course in "Finite Elements" and restructured the existing numerical courses to create the numerical analysis 1,2 series, developed a minor degree program in computational science and a research seminar in computational science and applied mathematics)
- Service to the University and the Department: Member of the faculty hiring committee for the 2016 and 2018, member of the department and campus-wise computer cluster committee, elected to various departmental and university committees.
- Involved in education and research outreach programs
- Extensive teaching experience obtained during graduate, postdoctoral and current appointment

Courses
Taught or
Qualified to
Teach

• Numerical analysis, numerical PDE, numerical linear algebra, FE, DG-FE, Applied Analysis, Mathematical modeling (in ecology, biology and industry), ODE, Applied PDE, CFD, Linear Algebra, Advanced Calculus, Calculus Series (willing to teach/develop any other course).

Professional Experience

Associate Professor (Tenure-Track)

August 2015 to Present

Department of Mathematics

West Chester University, West Chester, PA

Duties Include:

- Research
- Teaching
- Mentoring
- Service

• Active Involvement in the newly developed Applied Mathematics Masters Program

Research Assistant Professor (appointment was for 2+1 years) August 2014 to July 2015

Department of Mathematics

Temple University, Philadelphia, PA

Mentor: Isaac Klapper, Ph.D.

Duties:

- Conducting research:
 - In collaboration with Professors Isaac Klapper, Yury Grabovsky at Temple and the biofilm group at the Center of Biofilm Engineering in Montana on NIH funded project
 - On other new and ongoing independent and collaborative projects
- Teaching:
 - Differential equations with computer lab Math 3046 (full responsibility), Spring 2015
- Participating in the department's activities and presenting in research seminars

Visiting Assistant Professor

August 2011 to July 2014

Department of Mathematics Duke University, Durham, NC

Mentor: Richard Durrett, Ph.D.

- Conducting research:
 - In collaboration with Professor Richard Durrett partially supported by his NIH grant.
 - In collaboration with Professor Stephanos Venakides
- Teaching:
 - Multivariable calculus for economists MTH 202, Spring 2014
 - Multivariable calculus MTH 212, Fall 2012
 - Handle all aspects of course management, including lesson and lecture planning
 - Creating, administering and grading examinations
 - Holding office hours and assisting students with questions
 - Assigning final grades
- Participating in the department's activities and presenting in research seminars

Postdoctoral Fellow (joint with Duke Mathematics Department)

August 2011 to August 2013

Statistical and Applied Mathematical Sciences Institute (SAMSI)

Research Triangle Park, NC

Academic Mentor: Mansoor A. Haider, Ph.D.

Administrative Mentor: Ezra Miller, Ph.D.

- Institutes thematic year (2011-2012) on Uncertainty Quantification (UQ)
- Conducting research supported by NSF grant to SAMSI:
 - In collaboration with Professor Mansoor Haider of NCSU
- Service:
 - Attending and helping in the organization of various SAMSI research and educational outreach workshops on UQ
 - Giving lectures at research oriented working groups derived from the UQ workshops
 - Attending and presenting talks at the Institute's seminars and Colloquial
 - Serving as working group (WG) webmaster for the stochastic to deterministic and back WG:
 - WG duties involve handling group memberships, arranging Webex meetings, and maintaining the working group's web page
- Student Mentoring:
 - Interdisciplinary Workshop for Undergraduate Students, SAMSI, May 14-18 2012
 - Faculty mentor for the Industrial Math/Stat Modeling (IMSM) Workshop for Graduate Students, July 16-24 2012

Teaching Associate

August 2004 to August 2011

Department of Mathematics

The University of Tennessee, Knoxville, TN

Duties:

- Teaching Basic Calculus, College Algebra, Algebraic Reasoning, Calculus I & II and Precalculus to undergraduate students
- Handling all aspects of course management, including lesson and lecture planning

- Creating, administering and grading examinations
- Holding office hours and assisting students with questions
- Assigning final grades
- Undergraduate Mentoring:
 - Participating as a teaching assistant in the NSF funded research for undergraduates program at the University of Tennessee in summer 2008

Teaching Assistant

August 2001 to August 2004

Department of Mathematical Sciences

Florida Institute of Technology, Melbourne, FL

Duties:

- Teaching recitations to undergraduates for the entire sequence of Calculus, Differential Equations and Linear Algebra
- Handling the following aspects of course management: recitation lecture planning, grading examinations
- Holding office hours and assisting students with questions

Second Lieutenant (artillery corps)

July 1995 to September 1997

Cyprus National Guard, Cyprus

Duties:

- Training soldiers and teaching various topics of military nature
- Directing and collaborating with groups composed of hundreds of units of various expertise

Professional Affiliations

American Mathematical Society

Society for Industrial and Applied Mathematics

Society for Mathematical Biology

EDUCATION

The University of Tennessee, Knoxville, TN

Ph.D., Mathematics, August 2011

- Dissertation Title: Adaptive Discontinuous Galerkin Finite Element Methods for a Diffuse Interface Model of Biological Growth
- Advisors: Ohannes A. Karakashian, Ph.D. and Steven M. Wise, Ph.D.
- Minor at the Ph.D. level: Interdisciplinary Graduate Minor in Computational Science (IGMCS)

Florida Institute of Technology, Melbourne, FL

M.S., Applied Mathematics, May 2003

University of Cyprus, Nicosia, Cyprus

B.S., Mathematics, July 2001

• Emphasis in Applied Mathematics

Greek Artillery School, Nea Peramos Attikis, Greece

Military Diploma, December 1995

NSF GRANT PROPOSALS

1. As PI: NSF-DMS 1720226 - Programs: computational mathematics & mathematical Biology (Duration: July 1st, 2017 – June 30, 2020)

Title: Computational Methods for Heterogeneous Soft Living Materials.

Continuing grant: Currently awarded \$65,351.00, award expected to total \$100,115.00 dollars.

Status: Awarded-active.

Comment: This is <u>not</u> an RUI/ROA.

INTERNAL GRANT PROPOSALS

1. As PI: CSM Graduate Assistantship Proposal. Status Approved on June 27 2017. I was awarded funds for the partial support of one GA (Mr. Benjamin Plumridge) for the academic year 2017-18. The student worked on topics related to numerical solution of partial differential equations. Testing various schemes for the NLS equation and also continued his work on developing computational model for dorsal closure

2. As PI: CAS Graduate Assistantship Proposal (April 15, 2016) I have proposed three different possible project: a) Modeling Dorsal Closure, b) Investigating Biofilm Growth Instability, c) Theoretical analysis of the numerical solution of a 2D incompressible flow in the vorticity stream-function formulation using high-order discontinuous Galerkin method within the DG-derivatives framework. Status Approved. I was awarded funds for the partial support of two master level students for the academic year 2016-17. First student worked on project (a) and the second on project (b).

PUBLICATIONS

- 1. Aristotelous, A. C., Grabovsky, Y. & Klapper, I. (2018) Heterogeneity Formation Within Biofilm Systems. *European Journal of Applied Mathematics* 1-15. doi:10.1017/S0956792518000402.
- 2. Aristotelous, A. C., Crawford, J. M., Edwards, G. S., Kiehart, D. P. & Venakides, S. (2018) Mathematical models of dorsal closure. *Progress in Biophysics and Molecular Biology* https://doi.org/10.1016/j.pbiomolbio.2018.05.009.
- 3. Aristotelous, A. C. & Papanicolaou, N. C. (2017) A Numerical Study of Biofilm Growth in a Microgravity Environment. *American Institute of Physics (AIP)* Conference Proceedings, 1895, 120001.
- Daniel P. Kiehart, Janice M. Crawford, Andreas C. Aristotelous, Stephanos Venakides & Glenn S. Edwards (2017) Cell Sheet Morphogenesis: Dorsal Closure in Drosophila Melanogaster as a Model System. *Annual Review of Cellular and Developmental Biology*, 33-1, 169-202.
- 5. Aristotelous, A. C. & Papanicolaou, N. C. (2016) A Discontinuous Galerkin Method for Unsteady Two-dimensional Convective Flows. *American Institute of Physics (AIP)* Conference Proceedings, 1773, 110002.
- Papanicolaou, N. C. & Aristotelous, A. C. (2015) High-Order Discontinuous Galerkin Methods for Coupled Thermoconvective Flows under Gravity Modulation. *American Institute of Physics (AIP)* Conference Proceedings, 1684, 090010.
- 7. Aristotelous, A. C., Klapper, I., Grabovsky, Y., Pabst, B., Pitts, B. & Stewart, P. S. (2015) Diffusive Transport Through Host-Biofilm Systems. *Phys. Rev. E*, **92-2**, 022703.
- 8. ARISTOTELOUS, A. C., KARAKASHIAN, O. A. & WISE, S. M. (2015) Adaptive, Second-Order in Time, Primitive-Variable Discontinuous Galerkin Schemes for a Cahn-Hilliard Equation with a Mass Source. *IMA J. Numer. Anal.* **35-3**, 1167–1198.
- 9. ARISTOTELOUS, A. C. & DURRETT, R. (2014) Fingering in Stochastic Growth Models. *Experimental Mathematics*, **23-4**, 465–474
- 10. ARISTOTELOUS, A. C. & HAIDER, M. A. (2014) Evaluation of Diffusive Transport and Cellular Uptake of Nutrients in Tissue Engineered Constructs using a Hybrid Discrete Model. *Processes: Special Issue "Design of bioreactor systems for tissue engineering"* **2-2**, 333–344.
- 11. Aristotelous, A. C. & Durrett, R. (2014) Chemical Evolutionary Games. *Theoretical Population Biology*, **93**, 1–13.
- Aristotelous, A. C. & Haider, M. A. (2014) Use of Hybrid Discrete Cellular Models for Identification of Macroscopic Nutrient Loss in Reaction-Diffusion Models of Tissues. *Int. J. Numer. Meth. Biomed. Engng.*, 30-8,767-780.
- 13. ARISTOTELOUS, A. C., KARAKASHIAN, O. A. & WISE, S. M. (2013) A Mixed Discontinuous Galerkin, Convex Splitting Scheme for a Modified Cahn-Hilliard Equation and an Efficient Nonlinear Multigrid Solver. *DCDS-B*, **18-9**, 2211–2238.
- 14. ARISTOTELOUS, A. C. (2011) Adaptive Discontinuous Galerkin Finite Element Methods for a Diffuse Interface Model of Biological Growth. *PhD Thesis*, The University of Tennessee, U.S.A.

Referee Reviewer

- Journal of Scientific Computing (JOMP)
- Journal of Computational Physics (JCP)
- Numerical Methods for Partial Differential Equations (NMPDE)
- Journal of Computational and Applied Mathematics (J. Comput. Appl. Math.)
- International Journal for Numerical Methods in Fluids (Int. J. Numer. Meth. Fluids)
- International Journal for Numerical Methods in Engineering (Int. J. Numer. Meth. Engng) (Awarded certificate: for my services to IJMNE for 2016, 2017)
- Boundary Value Problems (BOVP)
- International Journal of Computer Mathematics (IJCM)
- Australasian Physical & Engineering Sciences in Medicine (APES)

PRESENT AND
PAST
RESEARCH
PROJECTS

Currently working on several topics related to my NSF grant award. One project aims to develop an unconditionally solvable and energy stable second order in time discontinuous Galerkin finite element method for the Cahn-Hilliard-Brinkman equation

With Professor Isaac Klapper, TEMPLE and Center of Biofilm Engineering (CBE):

- Study of oxygen transport and uptake through layers comprised of multiple biofilm colonies by using hybrid discrete continuous (HDC) models.
- Determining how biofilm spatial heterogeneity affects flux of substrate.
- Understanding the effects of neutrophil-predation on biofilm

With Professors Ohannes Karakashian and Steven Wise, UTk:

- Working on numerical analysis topics related to my NSF grant.
- Discontinuous Galerkin Finite Element methods for the numerical solution of various Cahn-Hilliard type equations using Convexity splitting schemes of first and second order in time.
- Work involves development, theoretical stability and convergence analysis (error estimates) and implementation of numerical schemes in primitive variable and mixed formulations, utilizing adaptive mesh refinement and fast linear and nonlinear system solvers

With Professor Stephanos Venakides, DUKE:

Working on numerical solution to the semiclassical limit focusing (nonlinear) Schrödinger equation for small Planck constant

With Professors Stephanos Venakides, Daniel Kiehart, Glenn Edwards and the Kiehart lab, DUKE:

- Developing individual based models to investigate the various different mechanisms governing the dorsal closure in the drosophila embryo by using information coming from experimental observations
- Work on review on various aspects of mathematical modeling of dorsal closure

With Associate Professor Nectarios Papanicolaou University of Nicosia, Cyprus:

- In a previous work [AMiTaNS15] we developed a High-Order Symmetric Interior Penalty (SIP) Discontinuous Galerkin (DG) Finite Element Method (FEM) to investigate convective flows in a rectangular cavity subject to gravity modulation. We expanded the framework to two spatial dimensions in [AMiTaNS16].
- We are working in modeling the effects of gravity in biofilm growth. (see relevant poster presentation and publication)

With Professor Richard Durrett, (while at DUKE):

- Developed stochastic spatial models of Hybrid discrete and cellular automata lattice based type to study the evolution of species under competition with aim to understand the differences arising from the modeling approaches
- Utilized stochastic hybrid discrete cellular automata models to study the mechanism leading to fingering behavior in modeling tumor growth

With Professor Mansoor Haider, NCSU (at SAMSI):

- Developed reaction diffusion models incorporating cell effects via a volume fraction and models incorporating cell effects explicitly via the use of off lattice hybrid discrete systems to establish constitutive relations regarding nutrient uptake and transport in tissue
- Used hybrid discrete systems to study the impact of cell arrangement and nutrient absorption rates on nutrient access in cartilage tissue engineered constructs

PH.D. WORK

• My dissertation concentrates on the application of adaptive Discontinuous Galerkin Finite Element (DGFE) methods for the numerical solution of biomedical problems and in particular on Cahn-Hilliard type equations as models for brain cancer tumors. My PhD research was partially funded through my PhD adviser's NSF grant (DMS-0811314-Karakashian)

IGMCS MINOR PROJECT DESCRIPTION, (COURSE CS594, SPRING 2009)

Worked on an individual project involving parallel implementation of various numerical integration
methods. I have developed and implemented parallel codes, for various composite rules (Trapezium, Simpson, Midpoint) and Gaussian Quadrature, and have compared my results with their serial
versions in one and two dimensions. I have demonstrated amongst other results scalability of the
algorithms

MINI SYMPOSIA ORGANIZED AND SESSIONS

Chaired

• SIAM Conference on Analysis of PDE, Baltimore, MD, Dec 9, 2017 Duties: Chair of the CP3 Numerical Methods session

- AMS Sectional Meeting, North Carolina State University, Nov12-13, 2016 Organizer of a mini symposium with Dr. Thomas Lewis of UNCG Mini Symposium Title: Advances in Numerical Methods for Partial Differential Equations Duties: Organizer and Sessions Chair
- SMB 2013 Annual Meeting, Arizona State University, June 10-13, 2013
 Organizer of a mini symposium
 Symposium Title: Hybrid Models and Methodologies for Tissues with Active Biological Constituents
 Duties: Organizer and Session Chair
- SIAM 2012 Annual Meeting, Minneapolis, July 9-11, 2012 Duties: Chair of the numerical PDE III session

INVITED TALKS

- SIAM Life Sciences 2018 Meeting, Minneapolis, Minnesota, Aug 6-9, 2018
 Mini Symposium Title: Recent Advances of Phase Field Models in Life Science
 Talk Title: Unconditionally energy stable DG-FE schemes for diffuse interface models
 link: https://www.pathlms.com/siam/courses/8687/sections/12382/video_presentations/115285
- University of North Carolina, Greensboro Colloquium, May 10, 2017
 Talk Title: Numerical Solution of Diffuse Interface Models
- The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, July 1 July 5, 2016, Orlando, Florida, USA
 Special Session Title: Applications of mathematical modeling in developmental and cell biology
 Talk Title: Modeling Dorsal Closure
- Haverford & Bryn Mawr joint Math Colloquium, Bryn Mawr College, PA, December 7, 2015 Talk Title: Modeling Heterogenous Biofilms
- SMB 2015 Annual Meeting, Georgia State University, Atlanta, July 2, 2015
 Mini Symposium Title: Modeling and Simulation of the Biomechanics of Heterogeneous Biofilms
 Talk Title: Modeling Heterogeneous Biofilms

SMB 2015 Annual Meeting, Georgia State University, Atlanta, June 30, 2015
 Mini Symposium Title: Multiscale Models of Biophysical and Biomechanical Effects in Soft Tissue
 Talk Title: Hybrid Discrete Models of Biofilm Growth

• University of Alabama, Huntsville, AL

AMS Meeting: Special session on "Recent Advances in Numerical Methods for Nonlinear Partial Differential Equations, IV", March 29 2015

Talk Title: Discontinuous Galerkin Methods for Generalized Cahn-Hilliard Equations

• East Carolina University, Greenville, NC

Mathematics Seminar, March 16 2015

Talk Title: Discontinuous Galerkin Finite Elements for Cahn-Hilliard Models and Hybrid Discrete Systems

• West Chester University, West Chester, PA

Mathematics Seminar, February 19 2015

Talk Title: Discontinuous Galerkin Finite Elements for Cahn-Hilliard Type Models

• University of North Carolina, Greensboro, NC

AMS Meeting: Special session on "Discontinuous Galerkin Finite Element Methods", November 2014

Talk Title: Second Order in Time, Adaptive Discontinuous Galerkin Methods for a Cahn-Hilliard Equation with a Mass Source

• University of Tennessee, Knoxville, TN

AMS Meeting: Minisymposium on "Discontinuous Galerkin Finite Element Methods for Partial Differential Equations", March 2014

Talk Title: Second Order in Time, Adaptive Discontinuous Galerkin Methods for a Cahn-Hilliard Equation with a Mass Source

 Courant Institute of Mathematical Sciences, New York University, New York, NY Seminar, March 2014

Talk Title: Discontinuous Galerkin Finite Element Schemes for Cahn-Hilliard Type Models and Hybrid Discrete Systems

• George Washington University, Washington DC

Applied Mathematics Seminar, January 2014

Talk Title: Discontinuous Galerkin Finite Element Methods for Cahn-Hilliard Type Models

• University of North Carolina, Greensboro

Applied Mathematics Seminar, Nov 2013

Talk Title: Discontinuous Galerkin Methods for the Modified Cahn-Hilliard Equation

• SAMSI, North Carolina, January 2011

Talk Title: Towards an adaptive Discontinuous Galerkin Finite Element method for a brain tumor model

SELECTED CONTRIBUTED TALKS

- SIAM Conference on Analysis of PDE, Baltimore, MD, Dec 9-12, 2017
 Talk Title: Discontinuous Galerkin Finite Element Methods for the Solution of Diffuse Interface Models
- WCUPA, Applied Mathematics and Computational Science Seminar, PA, Feb 15, 2017 Talk Title: Diffuse Interface Models and their Numerical Solution
- West Chester University Mathematics Colloquium, West Chester, PA, December 2, 2015 Talk Title: Modeling Heterogenous Biofilms

 Applied Mathematics and Scientific Computing Seminar, Temple University, Philadelphia, September 10 2014

Talk Title: Discontinuous Galerkin Finite Element Methods for Cahn-Hilliard Type Models

- Joint Mathematics Meetings, Baltimore, MD, January 2014
 Talk Title: Discontinuous Galerkin Methods for a Modified Cahn-Hilliard Equation and a Diffuse Interface Model of Tumor Growth
- SEARCDE 2013, The University of Tennessee, Knoxville, September 21-22 2013
 Talk Title: Discontinuous Galerkin Methods for the Modified Cahn-Hilliard Equation
- SMB 2013 Annual Meeting, Arizona State University, Tempe, June 10-13, 2013
 Talk Title: Methodologies for Bridging Cell and Tissue Scale Models for Nutrient Transport and Uptake in Articular Cartilage
- SAMSI, Postdoctoral Fellow Seminar, March 2013
 Talk Title: Methodologies for Bridging Cell and Tissue Scale Models for Nutrient Transport and Uptake in Articular Cartilage
- SIAM 2012 Annual Meeting, Minneapolis, July 9-11, 2012
 Talk Title: Multigrid, Adaptive Discontinuous Galerkin Methods for the Cahn-Hilliard Equation and Diffuse Interface Model of Tumor Growth
- SAMSI, Postdoctoral Fellow Seminar, April 2012
 Talk Title: Bridging Cell and Tissue Scale Models for Nutrient Diffusion and Uptake in Articular Cartilage
- SAMSI, Undergraduate Workshop, February 24-25, 2012
 Talk Title: From Richardson's Model to Cancer Growth Simulation
- SAMSI, Postdoctoral Fellow Seminar, November 2011
 Talk Title: Towards A Multiscale Agent Based Cartilage Regeneration Model
- University of Tennessee, Applied Mathematics Seminar, November 2009
 Talk Title: The Partition of Unity Method, by Babuska and Melenk (1997)
- University of Tennessee, Applied Mathematics Seminar, November 2008

 Talk Title: Nitsche's Penalty Method, (original paper in German) by Nitsche J. (1971)

POSTER PRESENTATIONS

- SIAM MPE 2016 Philadelphia, PA, September 30 October 2, 2016
 Poster Presentation: A Numerical Study of Biofilm Growth in a Microgravity Environment
 Was one of the winners of the poster prize competition.
- SIAM SEAS 2013 The University of Tennessee Knoxville and Oak Ridge National Lab, March 22-24 2013

Poster Presentation: Second Order in Time, Primitive Variable Adaptive Discontinuous Galerkin Methods for a Modified Cahn-Hilliard Equation

SIAM Conference on Life Sciences (LS12), San Diego, August 7-10, 2012
 Poster Title: Bridging Cell and Tissue Scale Models for Nutrient Diffusion and Uptake in Articular Cartilage

• The 2012 John H.Barrett Lectures, The University of Tennessee, Knoxville, May 9-11 2012
Recent Developments in Discontinuous Galerkin Finite Element Methods for Partial Differential Equation

Poster Title: Mixed Discontinuous Galerkin Scheme for a Modified Cahn-Hilliard Equation

CONFERENCE AND WORKSHOPS PARTICIPATION

- Howard University, Washington, DC, May 21–25, 2018
 CBMS conference, on Mathematical Biology: Modeling and Analysis
- Center for Biofilm Engineering, Bozeman, Montana, July 14–17, 2014
 Biofilm Meeting
- SAMSI, North Carolina, March 22-23, 2012
 UQ: Models with Complex and Uncertain Domains
- SAMSI, North Carolina, November 9-10, 2011 High Dimensional Approximation for Uncertainty Quantification
- SAMSI, North Carolina, October 3-5, 2011
 Scientific Problems for the Smart Grid
- SAMSI, North Carolina, September 21-23, 2011 UQ: Geosciences Applications Opening Workshop
- SAMSI, North Carolina, September 19-21, 2011 UQ: Engineering and Renewable Energy Opening Workshop
- SAMSI, North Carolina, September 7-10, 2011 UQ: Methodology Opening Workshop
- NIMBioS, Tennessee, January 19-21, 2011
 Investigative workshop: Solid Tumor Modeling
- Joint Mathematics Meeting, New Orleans LA, January 6-9, 2011
- Finite Element Circus, The University of Tennessee, October 16, 2009

EDUCATION AND RESEARCH OUTREACH WORKSHOPS CONTRIBUTION

- Recommended my graduate student Mr. Benjamin Plumridge for the prestigious Industrial Math/Stat Modeling Workshop for Graduate Students: July 16-26, 2017
 Held in SAS Hall on the campus of North Carolina State University Status: Accepted and participated
- WCU, West Chester, PA, April 12, 2017
 Annual Integration Bee
 Duty: Assisted the organization and served as Judge
- NCSU, North Carolina, July 16-24, 2012
 Industrial Math/Stat Modeling Workshop for Graduate Students
 Project Title: Multi-Constraint Path Planning for a Network of Autonomous Robots
 Problem Presenter: John Peach, MIT Lincoln Laboratory
 Duty: Faculty Mentor
- SAMSI, North Carolina, May 14-18 2012 Interdisciplinary Workshop for Undergraduate Students Lecture Title: Ordinary Differential Equations Duties: Mentoring and Organization/Preparation

• SAMSI, North Carolina, October 28-29, 2011 Undergraduate Workshop

Lecture Title: Introduction to Matlab

SAMSI Working \bullet Random Walks and Partial Differential Equations, October 6, 2011

GROUP PRESENTATIONS • Random Walks and Partial Differential Equations: Laplace's Equation and Green's Function, December, 1, 2011

Computer Skills

- C, C++, FORTRAN
- $\bullet\,$ UNIX shell scripting, GNU make
- DEAL II, FEniCS, Rheolef
- MATLAB, MATHEMATICA, MAPLE
- CLAPACK, BLAS, CSPARSE
- Familiarity with MPI (during completion of IGMCS)
- LaTeX (Text editing and presentation using BEAMER), Microsoft Office

LANGUAGES

• English, Greek (Native Speaker)