



Department of Applied Mathematics

Newsletter 2016-2017

- University of Colorado Boulder -

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Affiliated Faculty

Betterton, Meredith – Physics
Bradley Elizabeth – Computer Science
Cai, Xiao-Chuan – Computer Science
Calkins, Michael – Physics
Cary, John – Physics
Clauset, Aaron – Computer Science
Crimaldi, John – Civil, Env. Archit. Engineering
DeGrand, Thomas – Physics
Doostan, Alireza – Aerospace Engineering Sciences
Elkington, Scot – LASP
Evans, John - Aerospace
Flaxman, Samuel – Ecology & Evolutionary Sciences
Flyer, Natasha – Institute for Math Applied to Geosci.
Aimé Fournier – Mathematics
Fox-Kemper, Baylor - CIRES
Frongillo, Rafael – Computer Science
Glover, Fred – Leeds School of Business
Hauser, Thomas – Research Computing
Herzfeld, Ute – CIRES; Electrical, Comp. & Energy Engineering
Horányi, Mihály – Physics, LASP
Hrenya, Christine – Chem. & Biological Engineering
Hussein, Mahmoud I. – Aerospace Engineering Sciences
Jessup, Elizabeth – Computer Science
Kantha, Lakshmi – Aerospace
Kompala, Dhinaker – Chem & Biological Engineering
Laguna, Manuel – Leeds School of Business
Lomeli, Hector – University of Texas
Martins-Filho, Carlos - Economics
Meyer, Francois – Electrical, Comp. & Energy Engineering
Moyen, Nathalie – Leeds School of Business
Nychka, Douglas – NCAR, Institute for Math Applied to Geosci.
O'Rourke, Sean - Mathematics
Ostrovsky, Lev A. – NOAA
Parker, Scott – Physics
Pouquet, Annick – NCAR
Rajaram, Harihar – Civil, Env. & Archit. Engineering
Rey, Ana Marie – JILA; Physics
Sankaranarayanan, Sriram – Computer Science
Scheeres, Daniel – Aerospace Engineering Sciences
Shull, J. Michael – Astrophysical & Planetary Sciences
Syvitski, James – INSTAAR; Geological Sciences
Toomre, Juri – JILA
Tufo, Henry – Computer Science
Varanasi, Mahesh – Electrical & Computer Engineering
Vernerey, Franck – Mechanical Engineering
Weidman, Patrick – Mechanical Engineering
Weiss, Jeffrey B. – ATOC
Werne, Joseph – Colorado Research Associates
Zylberberg Joel – Physiology and Biophysics

APPM Faculty

Department Chair: Keith Julien, Professor

Associate Department Chair: Anne Dougherty, Senior Instructor

Chair of Graduate Studies Fall 16': Per-Gunnar Martinsson, Professor

Chair of Graduate Studies Spring 17': Mark Hoefler, Associate Professor

Mark Ablowitz, Professor

Gregory Beylkin, Professor

James H. Curry, Professor

Vanja Dukic, Professor

Bengt Fornberg, Professor

Mark Hoefler, Professor

Keith Julien, Professor

Congming Li, Professor

Per-Gunnar Martinsson, Professor

James Meiss, Professor

Harvey Segur, Professor

David Bortz, Associate Professor

Jem Corcoran, Associate Professor

Manuel Lladser, Associate Professor

Juan G. Restrepo, Associate Professor

Eric Vance, Associate Professor

Stephen Becker, Assistant Professor

Ian Grooms, Assistant Professor

Yu-Jui Huang, Assistant Professor

Zachary Kilpatrick, Assistant Professor

William Kleiber, Assistant Professor

Jerrold Bebernes, Professor Emeritus

Bob Easton, Professor Emeritus

Tom Mantueffel, Professor Emeritus

Steve McCormick, Professor Emeritus

Anne Dougherty, Senior Instructor

Adam Norris, Senior Instructor

Sujeet Bhat, Instructor

Murray Cox, Instructor

Danielle Lyles, Instructor

Eric Thaler, Instructor

Brian Zaharatos, Instructor

Silva Chang, Lecturer and Math Placement
Advisor

Rachel Tutmaher, Lecturer, Learning Center
Coordinator

Justin Cole, Instructor, Research Associate

Chao Deng, Instructor, Research Associate

Yolanda Slichter, Instructor, Research Associate

Ann DeFranco, Lecturer

Susan Hallowell, Lecturer

Jonathan Kish, Lecturer

Daniel "Seneca" Lindsey, Lecturer

Sandy Williams, Lecturer

Nicholas Featherstone, Lecturer and Research
Associate

Xudan Luo, Lecturer and Research Associate

Philippe Marti, Lecturer and Research
Associate

Benjamin Miquel, Lecturer and Research
Associate

Igor Rumanov, Lecturer and Research
Associate

Lucas Monzon, Research Associate

Steffan Muenzemaier, Research Associate

Warm W

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PhD

Letter from the Department Chair

July 17, 2017

Chair's Statement —Narrative

Keith Julien—Chair Department of Applied Mathematics (APPM)

Applied Mathematics at CU Boulder continues to be a vibrant unit with many moving parts and new initiatives. The past year was a tremendously busy time for all. Most importantly, AY16-17 was dominated by the academic review process (ARPAC), an internal and external evaluation of the unit required every seven years. The internal and external evaluations confirm that APPM is a healthy and dynamic unit that fulfills all of its missions with excellence and dedication. APPM was humbled and honored to note the external findings of comraderie and a healthy departmental climate.

The biggest, systemic issue is space, i.e., the reunification of the department from six locations to a single location. As chair, I can report that a process is now in place to address this, which is central to elevating the unit to new levels of excellence.

A significant event in the unit's history was approval by the CU Board of Regents for its second undergraduate degree, a BA in Statistics and Data Science to be offered in the College of Arts and Sciences.

The Regents stated, "The bachelors in statistics and data science is intended to produce alumni

year graduate students with 50% women and 50% men. The impact of the AWM chapter has been immediate and significant. A major effort of the Chair is to provide upper administration with the rationale for allowing the unit to recruit new faculty.

Association for Women in Mathematics Changes Campus Climate

By: Ashley Hopko



After members of the Applied Mathematics Department at CU felt like there was a lack of resources and representation for women within the department, a group of women coordinated with administration in order to positively impact the lives of students and faculty. The Association for Women in Mathematics was founded a year ago and is helping the campus climate at CU to evolve. Although it started

in the Applied Mathematics Department, it welcomes members from across campus and now has members from the Mathematics Department as well.

Alyson Fox helped to found the group, along side her colleague Amy DeCastro. “We started talking about creating the group over a year ago... when the department review asked what our feelings were on everything. Amy and I were actually part of the review ...and discussed how our departments were lacking in representing different resources. We thought it would be good to start

Applied Math Undergrad Competed in The Amazing Race

By: Danielle Hawlwy

Floyd Pierce, an applied mathematics undergrad, competed on “The Amazing Race”, a popular CBS reality show. Contestants race across the world while completing challenges and solving puzzles. They can win prizes along the way, such as prepaid vacations. The winners are awarded one million dollars. Pierce on a team with Becca Droz, a rock climbing instructor who also lives in Boulder. In the second episode of the 29th season, Pierce and Droz successfully completed one of their first challenges by “keep[ing] the rhythm with a local samba group”. Pierce attends CU Boulder on a full-ride scholarship. He enjoys playing the drums, hiking, baseball, and of course, “The Amazing Race”.

LISA: a Game Changer for Statistics Program at CU

Professor Eric Vance, a new APPM faculty member as of Fall 2016, has opened the Laboratory for Interdisciplinary Statistical Analysis, otherwise known as LISA. The foundation for LISA began at Virginia Tech in 1948 to assist agricultural researchers. When the program was revamped in 2008, Professor Vance became the first director of the new organization. He has since brought his work to CU Boulder. The laboratory aims to train statisticians and scientists, establish research infrastructure, and to engage the community in statistical analysis. In the upcoming spring semester, LISA will provide short courses and workshops to increase statistical literacy. LISA collaborators include Professor Vance, one post-doc, six graduate students, and five undergraduate students. These collaborators can help in many ways; they can design experiments, analyze and plot data, run statistical software, interpret results, and communicate statistical concepts to non-statisticians. Currently, all collaborators are within the Applied Mathematics department, but they hope to include members from other departments in the future

Student Awards

Derek Driggs, an undergraduate applied mathematics major, has received a Gates-Cambridge