

# 2018 SIAM STUDENT DAYS

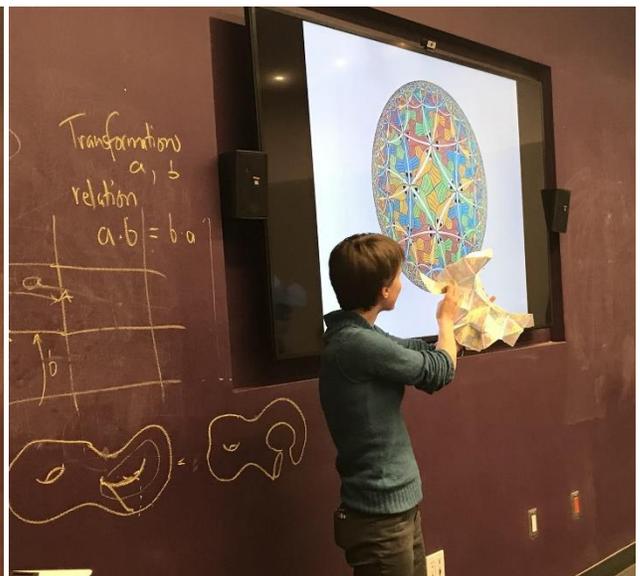
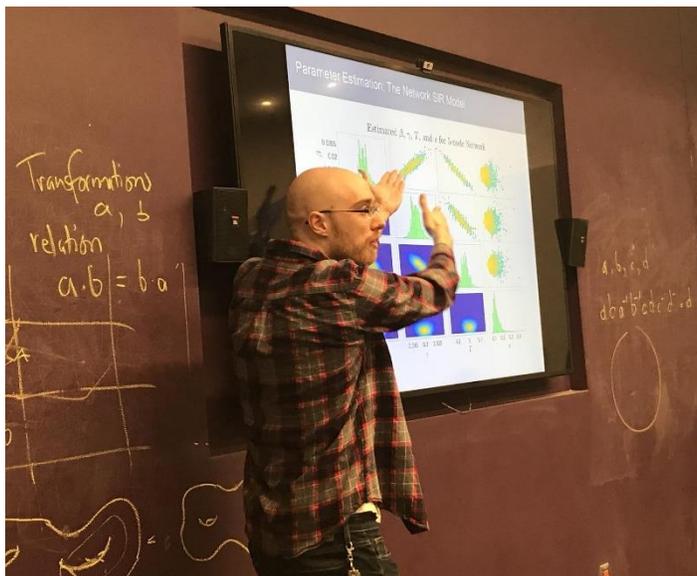
CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

BROWN UNIVERSITY

REPRESENTATIVE: STEPHANIE DODSON

MATH SLAM

A reception followed by a fast-paced series of 10-minute talks by by undergraduates, graduates, post-docs, and faculty on a wide range of math topics. We hold this event once per semester, and it is a fun way to learn about research happening in the department.



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CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

CARDIFF UNIVERSITY

REPRESENTATIVE: DANNY JOHN GROVES

CARDIFF SIAM-IMA THREE MINUTE THESIS

On the 25th of April 2018, the Cardiff SIAM-IMA chapter held its annual three minute thesis competition within the mathematics department to promote the excellent research at Cardiff to staff, PhD students and undergraduate students alike. The format of this competition holds the same idea as the one developed by the University of Queensland, where the speaker is to condense their research into 3 minutes or less. Any academic researcher, or PhD student alike will tell you that this is no easy feat, especially after spending considerable time on a research project and trying to convey the main messages in such a short time frame! However, I personally feel as if our 12 participants this year did this to an excellent standard, and I can only imagine how tough it was for our expert judging panel (comprised of Nikoleta Glynatsi, Dr. Vince Knight, Dr. Mathew Pugh, Dr. Katerina Kaouri and Dr. Thomas Woolley) to reach their verdict. Nevertheless, the competition was fierce for the prizes offered at this event, which included: An echo dot; a £20 amazon voucher; a 3 minute timer; a large enter button which you can hit; three '50 visions of mathematics' books, provided by the IMA; SIAM T-Shirts and other merchandise, provided by SIAM . Judging from the atmosphere on the day, as well as the feedback afterwards, the chapter feel as if the event was largely successful and we will definitely run it again in future years.



CARNEGIE MELLON UNIVERSITY

REPRESENTATIVE: TRUONG-SON VAN

SIAM WORKING GROUP

This working group is for all the students that are interested in more advanced topics in math to get together to discuss them. We typically follow lecture notes and take turns presenting.

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CHARLES UNIVERSITY, PRAGUE, CZECH REPUBLIC

REPRESENTATIVE: ERIKA MARINGOVA

MEETING OF EUROPEAN SIAM CHAPTERS 2017

Meeting of European SIAM Student Chapters (MESIAM-2017) was held in Prague on August 28-30, 2017. It was the first attempt to bring together all European SIAM Chapters - until last year, smaller regional meetings had been organized individually (in Europe). Altogether, 27 representatives of 9 Chapters met and discussed both scientific and non-academic topics related to applied mathematics and to various activities of our Chapters. It was, by common consent, very inspiring meeting and hopefully a start of a new tradition of European Chapters.



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CHINESE UNIVERSITY OF HONG KONG

REPRESENTATIVE: SAI-MANG PUN

KNAPSACK PROBLEM: CONNECTION TO COMPUTATIONAL COMPLEXITY AND SOME RECENT GENERALIZATIONS

This is a research seminar organized by the Student Chapter of Chinese University of Hong Kong. We have invited Dr. Kameng Nip, an associate research fellow from Sun Yat-Sen University, offering a talk about the recent research progress about one of the fundamental problems in operational research. That is, the Knapsack problem.



CLARKSON UNIVERSITY

REPRESENTATIVE: FERNANDO J QUEVEDO

SEMI-ANNUAL MATH COURSE SELECTION FORUM

We Take the "LAD" approach. Listen to our panelists' firsthand experiences taking their courses at Clarkson, what was taught and what it takes to earn a good grade. Ask any course-related questions. The panelists will address them. Discuss with other participants during the event to gain further insights into the courses.

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CLEMSON UNIVERSITY

REPRESENTATIVE: TODD FENSTERMACHER

MATH DEPARTMENT SPRING PICNIC

In late April, the Clemson University SIAM student chapter hosted the math department spring picnic. The event was well attended with over 60 faculty and graduate students present. The main dishes and drinks were provided by the SIAM student chapter, and the guests provided the side dishes and desserts. There was even a competition for best side dish and best dessert. The departmental awards were presented at the picnic, and the new SIAM student chapter officers were announced.



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COLORADO STATE UNIVERSITY

REPRESENTATIVE: SOPHIA POTOCZAK

PANEL EVENT: WOMEN IN APPLIED MATH

The CSU Student chapter organized a panel to have an open discussion about being women in various areas of applied math. We invited two outside speakers, one from academia and one from a national lab, and one CSU speaker. The panel consisted of discussions about the panelists and how they got to where they are today, advice to undergraduate/graduate women studying math, and the panelists' personal experiences as women in a male dominated field. Over dinner after the event, we continued the discussion with a small group of interested students and the panelists.

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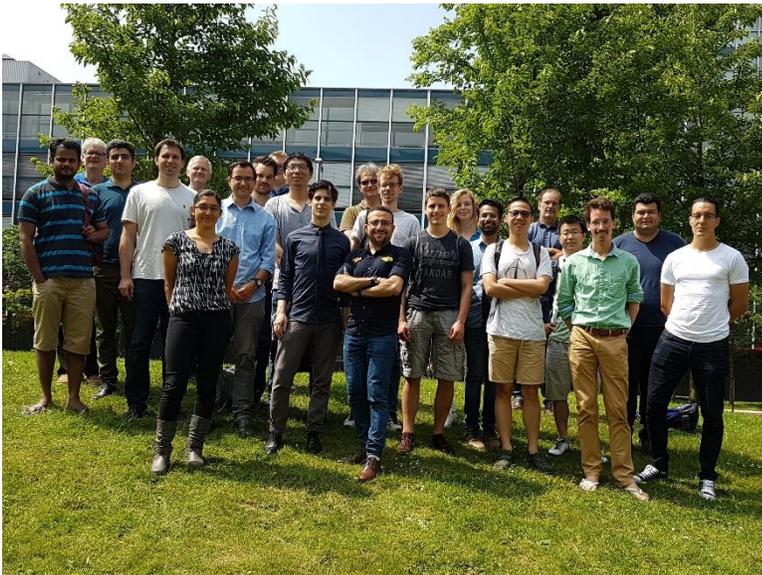
CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

DELFT UNIVERSITY OF TECHNOLOGY

REPRESENTATIVE: MEREL DE LEEUW DEN BOUTER

WORKSHOP DAY: "MULTIGRID AND MULTILEVEL METHODS"

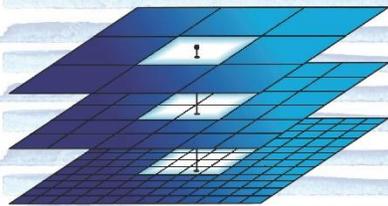
We organized a workshop day on Multigrid/Multilevel methods for PhD candidates from different faculties (i.e. civil engineering, applied mathematics, aerospace engineering and more). During the morning sessions, four presentations were given including two keynote lectures by Kees Oosterlee and Hadi Hajibeygi. The afternoon session consisted of another four presentations. It was a successful event with approximately 30 participants. We concluded the day with a barbecue.



## Multigrid and Multilevel Methods

 Workshop Day

A one-day workshop on Multigrid and Multilevel Methods, organized for PhD candidates by the SIAM student chapter in Delft.



**Location**  
Van der Poelzaal (LBO1.220)  
EEMCS, Delft University of Technology

**When**  
May 30, 2018 (Wed) 9:45 – 16:00  
Barbecue will start at 17:00

**Register!**  
<https://sscdelft.github.io/>



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## EMORY UNIVERSITY

REPRESENTATIVE: CHANG MENG

### JOINT SIAM STUDENT CONFERENCE

The Emory and Georgia Tech SIAM student chapters organized a joint event which took place on April 7-8 at GT and Emory, with the participation of the SIAM student chapters from Clemson and UAB. The purpose of the event was to bring young researchers together, give them the opportunity to present their work, exchange ideas in a friendly and informal environment, and encourage networking. This was a great opportunity for us to grow professionally and scientifically together.

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## FLORIDA ATLANTIC UNIVERSITY

REPRESENTATIVE: SEAN PERRY

### MEMBERSHIP DRIVE

This event was co-hosted by the three math clubs we have at FAU (SIAM/AMS/AWM). AWM and SIAM split the cost of beverages and snacks for the event. Attendees socialized for a bit, and each club gave a small presentation on their activities and benefits of membership. After each talk, some time was taken for questions from the attendees. After this, the attendees mingled with current club members and engaged in various games and activities such as chess and solving puzzles. During this time, each club had a laptop and invited students to register or check if they are registered. The majority of attendees registered for the clubs that were present. Afterward, the SIAM club members discussed the gathering, ways to expedite and facilitate enrollment, and to brainstorm ways to advertise ourselves to the student body.

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GEORGE MASON UNIVERSITY

REPRESENTATIVE: RATNA KHATRI

CO-ORGANIZED SIAM BOOTH AT USA SCIENCE AND ENGINEERING FESTIVAL 2018

GMU SIAM Student Chapter, along with NCSU SIAM student chapter led the effort to co-organize the SIAM Booth at USA Science and Engineering Festival 2018 in Washington D.C.. The goal of the booth was to promote awareness of mathematics and its applications. We arranged the exhibits and collaborated with nearby SIAM chapters who came forward to volunteer at the festival. Our booth was highly successful. An article about this event was also published in the May 2018 SIAM NEWS issue.



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GEORGE WASHINGTON UNIVERSITY

REPRESENTATIVE: CHONG WANG

NONLINEAR PHENOMENA IN WASHINGTON DC

SIAM student chapter at George Washington University co-organized the conference with Dr. Svetlana Roudenko and Dr. Maria Guldani, two professors at George Washington University. This is a one-day conference. There are 8 main talks, each around 45 minutes and 3 contributed talks, each around 15 minutes. Speakers come from Brown, Brigham Young, Brazil, Johns Hopkins, Louisiana State, Maryland, Old Dominion and GWU.



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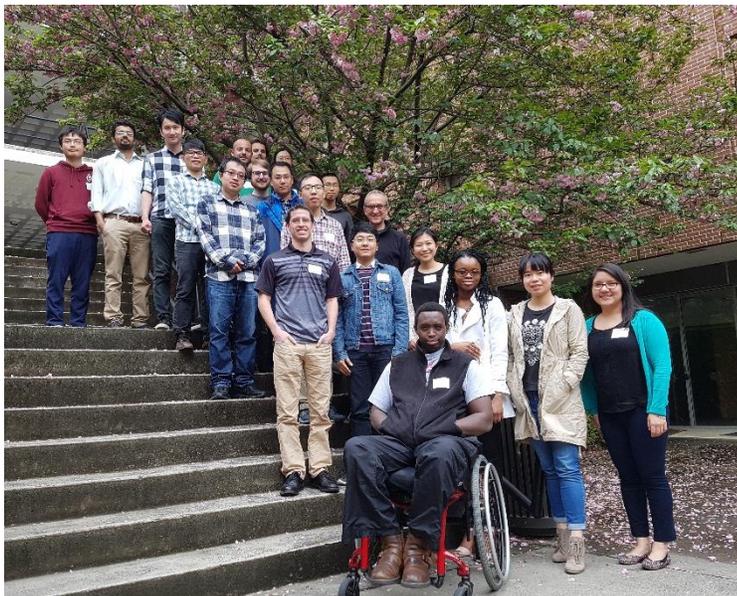
CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

GEORGIA INSTITUTE OF TECHNOLOGY

REPRESENTATIVE: TONGZHOU CHEN

JOINT SIAM STUDENT CONFERENCE

We held a joint SIAM student conference with SIAM chapters of Clemson, Emory and UAB on Apr 7. There were 10 speakers and 30 participants from these 4 universities. The website of this event is <http://jssc.math.gatech.edu/>



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HEIDELBERG UNIVERSITY, GERMANY

REPRESENTATIVE: DOMINIK CEBULLA

PUBLIC LECTURE / ELECTION EVENT - "ON THE SECURITY AND SCALABILITY OF BITCOIN'S BLOCKCHAIN"

We invited Dr. Ghassan Karame [1] who is the Manager and Chief Researcher of the Security Group of NEC Labs in Germany and who gave a talk about the "Security and Scalability of Bitcoin's Blockchain". In this talk, which was open to everyone (and not just to SIAM Chapter Members), he gave an introduction into the idea behind the blockchain principle and introduced security issues, like e.g. double-spending. Afterwards, a new SIAM Chapter Board has been elected. [1] Dr. Karame's homepage: <http://www.ghassankarame.com/>



## MCMASTER UNIVERSITY STUDENT CHAPTER

REPRESENTATIVE: PRITPAL MATHARU

WAVELETS READING SEMINAR

The McMaster University Student Chapter of SIAM this past year had organized a reading seminar for chapter members (non-members were also welcome to join). In particular, it was voted amongst the graduate students to have a reading seminar on wavelets. Wavelets was a practical subject to utilize in scientific computing, and a topic that is typically not fully covered in graduate level numerical analysis courses. This was a great way to bring SIAM members together each week, while collectively learning a new subject. The seminar also gave students a chance to collaborate, in order to discuss current research problems and gain a new perspective in the computational science field. The chapter had also provided refreshments for participants.

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NATIONAL UNIVERSITY OF IRELAND, GALWAY

REPRESENTATIVE: EOGHAN STAUNTON

## THE FOURTH ANNUAL IRISH SIAM STUDENT CHAPTER CONFERENCE

The fourth annual Irish SIAM Student Chapter Conference was held by the NUI Galway Student Chapter of SIAM on the 1st of December 2017. These annual conferences began in 2014 with the foundation of the NUIG Chapter which was Ireland's first. In 2016 the conference was hosted for the first time by the University of Limerick Chapter, currently the only other SIAM Student Chapter in the Republic of Ireland. The conference brought together participants from several Irish Universities, including NUI Galway, University of Limerick, University College Dublin, Dublin Institute of Technology, University College Cork and Trinity College Dublin. Those attending the conference were treated to excellent student presentations on a wide range of topics from coupled lasers, to feedback-based stock trading, to nanofluid-based solar collectors. The plenary speakers Dr Nicole Beisiegel, University College Dublin, and Dr Catherine Enright, Algorithm Research Engineer, Valeo Vision Systems, gave engaging talks on computational methods for water waves and algorithms for driver assistance features and autonomous driving respectively. At the end of the conference, Kevin Devine of the University of Limerick SIAM Student Chapter was awarded the prize for the best student presentation for his outstanding talk on mark formation in continuous steel casting. The event was generously supported by SIAM, the Stokes Cluster of the School of Mathematics, Statistics and Applied Mathematics at NUI Galway, and the NUI Galway Mathematics Society.



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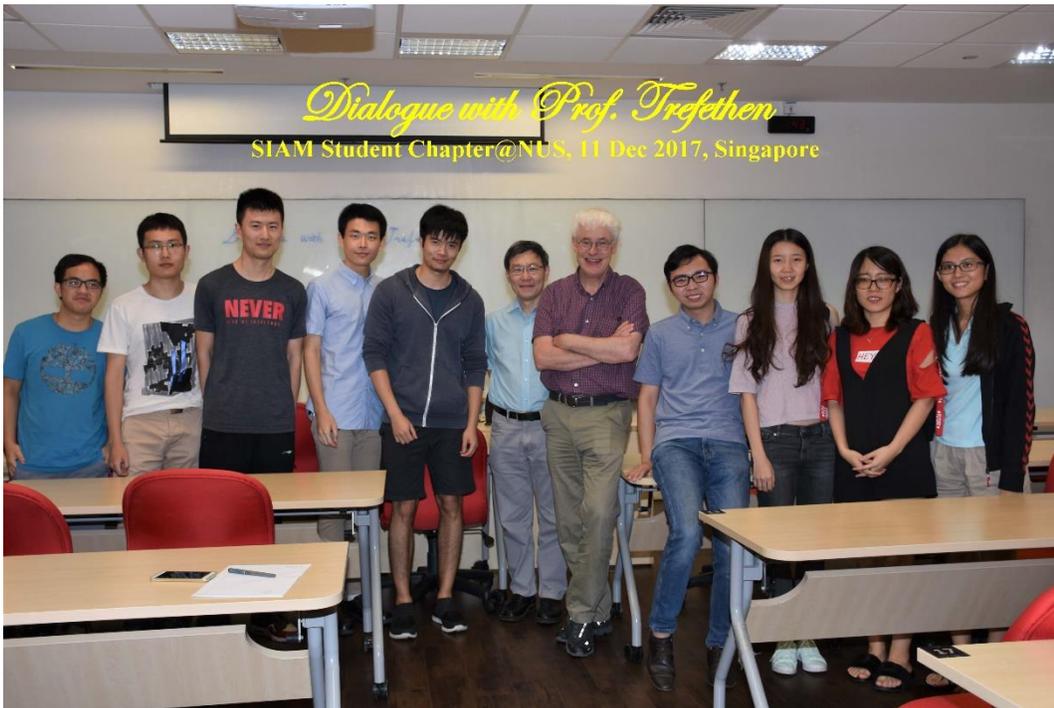
CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

NATIONAL UNIVERSITY OF SINGAPORE

REPRESENTATIVE: HANWEN CUI

DIALOGUE WITH PROF. LLOYD NICHOLAS TREFETHEN

Prof. Trefethen from University of Oxford is famous for his long-esteemed contributions to the field of computational mathematics. He paid a visit to National University of Singapore at the invitation of Prof. Kim Chuan Toh, his former Ph.D. student, last December. Thanks to this opportunity, we organized an informal dialogue between him and SIAM chapter members, where he shared with us his interesting academic experience and extended to us his great passion and impressive humor.



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NEW JERSEY INSTITUTE OF TECHNOLOGY

REPRESENTATIVE: MAHDI BANDEGI

## MATH-BIO TALK

Math-bio talk was presented by former NJIT PhD student who shared about his experience and talked about how to overcome barriers getting into math-bio fields, how to communicate with clinicians and biologists and more.



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## NORTH CAROLINA STATE UNIVERSITY

REPRESENTATIVE: MITCHEL COLEBANK

### GRADUATE STUDENT TUTORIAL SERIES

Over the course of the Fall and Spring, we organized a student led tutorial series where fellow graduate studies gave hour long lectures on topics that are “common knowledge” within some fields, but not as commonly known across the applied math community. This was aimed as a self-contained introduction to topics that are frequently referred to in talks and papers but not expounded on. There was 5 tutorials total this year, and covered topics like Nonlinear Optimization, Finite Element Implementation, Monte Carlo Methods, and Sparse Grid Implementation.

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## NORTHWESTERN UNIVERSITY

REPRESENTATIVE: ANGELIA WANG

### CHICAGO AREA STUDENT SIAM CONFERENCE

CASC is jointly organized by the student chapters at Northwestern, University of Illinois at Chicago, and Illinois Institute of Technology. It's a full day of presentations: two faculty speakers, and about 20 student speakers organized in parallel.

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## OREGON STATE UNIVERSITY

REPRESENTATIVE: JOE UMHOEFER

### LINUX TUTORIAL

Linux Tutorial: Instruction on how to log into and use a compute server hosted at OSU. Organized this workshop for SIAM members. This event was also open to other math graduate students. Total of 11 students attended.

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OXFORD UNIVERSITY

REPRESENTATIVE: VALENTIN SULZER

10TH SIAM-IMA OXFORD STUDENT CHAPTER CONFERENCE

On Wednesday 2nd May, the Andrew Wiles Building hosted the 10th SIAM-IMA Oxford Student Chapter Conference. Forty Students from across eleven different universities, including our first ever international participants from Heidelberg, came together for a day of interesting and engaging talks spanning topics such as supermarket queues, insects' feet and the sensory properties of fruit and vegetable. We were especially happy to welcome plenary talks from Petra Vertes (University of Cambridge), who talked about "Networks in Neuroscience" and James Sprittles (University of Warwick), who talked about "Nanoscale Free Surface Flows".



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PEKING UNIVERSITY

REPRESENTATIVE: FENG YANG

## 2017 STUDENT FORUM

The PKU Student Chapter of SIAM organized a student forum on April 15. The forum focused on widening the students' vision and increasing students' interests about applied math. We invited four young academics to give talks on novel application of scientific computing. After academic talks, some outstanding graduate students shared their experience and research, which are good for career planning of lower class students. Undergraduate and graduate students are especially encouraged to come to get ideas for future research.



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CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

REPRESENTATIVE: IGNACIO JAVIER LABARCA FIGUEROA

## SHOW&TELL SIAM-PUC

Our intention in this event is to give to the students the opportunity to show their work to the first and second year students. The idea is to prepare a presentation according to what first/second year students know, so they can understand the majority of the work, the main idea and the motivation. There are plenty of opportunities to attend to different talks about many subjects, but most of the time these talks are prepared for an audience that has expertise in the field. The objective of Show&Tell is to keep it simple. Then, we can share to the people what is possible to do as an undergraduate/graduate student in the field of applied mathematics. Research, internships, and even entrepreneurship are great experiences that should be shared.



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PORTLAND STATE UNIVERSITY

REPRESENTATIVE: TUYEN TRAN

## PI DAY CELEBRATION

Professor Caughman gave a talk how we discovered and used Pi. After that, we had pie cutting session and some math trivia.



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## RENSELAER POLYTECHNIC INSTITUTE

REPRESENTATIVE: ABIY TASISSA

### HOW TO NAVIGATE GRAD SCHOOL AND APPLY FOR POSTDOC

The SIAM chapter at RPI invited Dr Sulian Thual who is a Postdoctoral Research Fellow at NYU Courant Institute. There were two main events. In the first event, Dr Thual gave some advice for students how to navigate graduate school. He also gave specific tips for postdoc applications. There were a lot of questions from the attendees and interesting discussions. In the second event, he gave a talk on his research titled "A Simple Stochastic Model for El Niño with Westerly Wind Bursts."

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## ROCHESTER INSTITUTE OF TECHNOLOGY

REPRESENTATIVE: KESAVAN RAJA KUSHALNAGAR

### INTEGRAL COMPETITION

We hosted an integral competition with interesting questions. These were designed so that they are doable by anyone who has taken Calculus 1 or 2, but make people think about those fundamentals. This year about 20 students participated and everyone had a lot of fun.

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SAN DIEGO STATE UNIVERSITY

REPRESENTATIVE: JAMES MULLINIX

ALUMNI PANEL: THINGS I WISH I KNEW BEFORE ENTERING INDUSTRY

A panel of SDSU alumni who work in industry provided insight into the transition between the academic environment and their positions in industry. Featuring graduates who work in fields including supercomputing, project management, and analysis/algorithm design, the panel told stories of their experience. In particular, they described the unexpected events which ultimately led to their current positions. The panel also discussed courses which were helpful in their careers, and gave advice on remaining open to opportunities.

**Alumni Panel:**  
things I wish I knew  
before entering industry

Feb 7th, 2018 at 3 pm in GMCS 325

Jointly hosted by the CSRC and the SIAM student chapter, this event will speak to current students about the transition from academia to industry



Alfonso Limon, Oneirix Labs  
Martin Kandes, SDSC  
Ron Caplan, Predictive Science

Moderated by Mariangel Garcia

SIMON FRASER UNIVERSITY

REPRESENTATIVE: SEBASTIAN DOMINGUEZ

READING GROUPS

The chapter at SFU helps grad students to set up reading groups of interest during Fall, Spring or Summer term. We help the organizers of reading groups to set a basic syllabus, finding rooms for the sessions and providing funding for coffee breaks.

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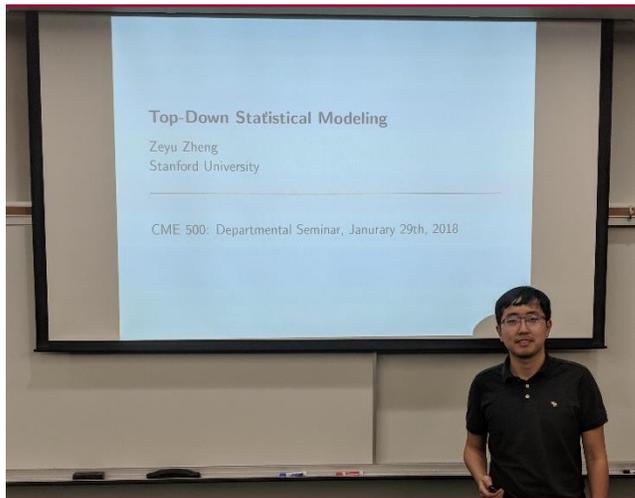
CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

STANFORD UNIVERSITY

REPRESENTATIVE: JING AN

## STUDENT RESEARCH SEMINAR

As a part of the Stanford SIAM chapter we have been organizing a student seminar that meets about eight times every quarter. A full description of the seminar series is as follows. (1) The seminar is run by the SIAM chapter in the Institute for Computational and Mathematical Engineering (ICME). Seminars are open to students from all the schools of Stanford. Students may register for the seminar for 1 unit (Satisfactory/No Credit). To receive satisfactory students have to submit a 1 page summary of any one of the seminars from that quarter. On average about 15 students register for the seminar per quarter. (2) The speakers are usually doctoral students from Stanford talking about their research. This year we have had speakers from the following departments: Mathematics, Management Science and Engineering, Mechanical Engineering and ICME. We have had an almost equal number of male and female speakers. (3) We also organized a special seminar inviting speakers from industry. For example, "An informal fireside chat with Hadley Wickham" is given by Hadley who is the Chief Scientist at RStudio. (4) Snacks are served at each seminar.



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THE UNIVERSITY OF SOUTHERN MISSISSIPPI

REPRESENTATIVE: AMBER SUMNER

RECRUITMENT MEETINGS

We have been holding activities and meetings to engage our study body and brainstorm ways to grow the members of our student chapter.

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TU BERLIN AND WIAS

REPRESENTATIVE: DANIEL BANKMANN

HOSTING THE MEETING OF EUROPEAN SIAM CHAPTERS

The Meeting of the European SIAM and GAMM student chapters 2018 (MESIGA-18) takes place from September 19 to September 21. All student chapters from Europe are invited to participate in this workshop. This continues the tradition of the annual meeting of the student chapters of SIAM and GAMM previously held in Prague (2017), Hamburg (2016), Trier (2015), Magdeburg (2014), Heidelberg (2013), and Trier (2012).

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UNIVERSIDAD TÉCNICA FEDERICO SANTA MARÍA

REPRESENTATIVE: ALBERTO RUBIO SUAZO

## STUDENT INTERNSHIP PRESENTATIONS

During each semester 3 different presentations are organized in which students that have done internships during holidays present part of their work. The activity seeks to cover the general unawareness of math engineering students about what they could do after graduating. Mathematical Engineering is a quite young program in our country and most of the community is unfamiliar about job opportunities in Chile.



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UNIVERSITAET HAMBURG

REPRESENTATIVE: CHRISTIANE SCHMIDT

FIELD TRIP TO HAMBURG OBSERVATORY

Our chapter visited Hamburg Observatory in Bergedorf, the Hamburger Sternwarte. Guided by Professor Hauschildt and one of his PhD students, we learned about the observatory's long and changeful history from its beginnings in the city center over its relocation to the suburbs of Bergedorf, World War II, and its late attachment to the University in 1968, to today's science.



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## UNIVERSITY OF ARIZONA

REPRESENTATIVE: KENNETH KENJI YAMAMOTO

### INTERDISCIPLINARY STUDENT SEMINAR SERIES

By reaching out to over 20 departments/programs on campus, we have organized the inaugural Interdisciplinary Student Seminar Series for our chapter starting in 2018 with graduate student speakers from physics, optics, engineering, and planetary sciences. All the graduate student research talks were highly engaging and involved significant mathematics being applied to solve real-world problems. The seminars were well-attended by curious (applied) mathematics students interested in learning about interdisciplinary research being done across campus. Speakers were attracted by the opportunity to network and gain feedback/ideas from mathematicians as well as to practice presenting in a low-pressure setting. Pizza, sandwiches, chips, and desserts were provided which often helped sustain in-depth discussions among those inclined to stay after the presentation. A goal is to build the SIAM student membership at the University of Arizona beyond the Mathematics Department to cultivate a collegial, interdisciplinary community across campus. We will definitely continue this next year!

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## UNIVERSITY OF ARKANSAS

REPRESENTATIVE: GRACEN LYNN KOPP

### BECAME A CHAPTER

This past year was the first year SIAM had a chapter at the University of Arkansas. To start, we had many professors come and present their research to us at our meetings. This upcoming year, we are looking forward to building our chapter and working towards our own members conducting research.

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UNIVERSITY OF BATH

REPRESENTATIVE: DANIEL GREEN

## SIAM UKIE NATIONAL STUDENT CHAPTER CONFERENCE

On 18th and 19th June 2018, the University of Bath SIAM-IMA Student Chapter hosted the Society for Industrial and Applied Mathematics UK and Ireland (SIAM UKIE) National Student Chapter Conference. This annual conference is organised by, and for, the SIAM Student chapters in the UK and Ireland. The 2018 edition was the 7th such event, the first hosted by the University of Bath, and the first to be held over two days. The conference brought together students working in all areas of applied and industrial mathematics, and related fields, from across the UK and Ireland. There were opportunities for students to showcase their research through a talk or a poster, and to hear talks by distinguished plenary speakers. This year's plenary talks were given by Marta Blangiardo (Department of Epidemiology and Biostatistics, Imperial College London), Simon Chandler-Wilde (Department of Mathematics and Statistics, University of Reading), Ian Griffiths (Mathematical Institute, University of Oxford and Department of Mathematics, Princeton University) and Nicole Spillane (CNRS, CMAP, École Polytechnique). The conference included 29 contributed talks and 23 contributed posters, and was attended by 104 registered participants from 25 different institutions. All in all, the conference was a great success. The conference has grown in the number of attendees, the number of talks presented, and the number of days over which it was held. Many attendees enjoyed the conference enormously, with some commenting that they "all certainly had a great time", they "really enjoyed the talks and meeting everyone" and that "the high level of organisation didn't go unnoticed". The conference was very generously supported by grants from SIAM and the Institute of Mathematics and Its Applications (IMA). The organisers also secured grants from the University of Bath's Doctoral College, Institute for Mathematical Innovation, and Department of Mathematical Sciences, as well as industrial sponsorship from CFM, MyLife Digital, and Overleaf.



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UNIVERSITY OF CALIFORNIA, BERKELEY

REPRESENTATIVE: MICHAEL FRANCO

## APPLIED MATH READING GROUPS

Several students choose a (seminal or novel) paper that they are interested in studying. The chapter reps send everyone in SIAM a copy of these papers, and other students interested in learning more about the subject try their best to separately read the paper they're most interested in. Together, we meet up for a 2-3 hour period and discuss the paper within our separate groups. While every individual is looking to get something specific out of their reading, everyone does their best to work together to fill in the missing knowledge of the collective group.

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UNIVERSITY OF CALIFORNIA, MERCED

REPRESENTATIVE: ERIC ROBERTS

THIRD CALIFORNIA CENTRAL VALLEY REGIONAL SIAM STUDENT CHAPTER CONFERENCE

The University of California, Merced SIAM Student Chapter was proud to host Prof. Matthias Heinkenschloss (Noah G. Harding Chair and professor in the Department of Computational and Applied Mathematics at Rice University) as the keynote speaker for the third annual conference held in Central California. The conference, held on April 27th, 2018, was open to anyone interested in applied mathematics and related disciplines at UC Merced and neighboring universities. Students from local SIAM chapters in the the University of California, Davis, Cal State Stanislaus, and Fresno State were in attendance. The day full of fun, food, and networking concluded with a poster session and prizes.



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UNIVERSITY OF CENTRAL FLORIDA

REPRESENTATIVE: RASIKA RAJAPAKSHAGE

## REBUILDING THE CHAPTER

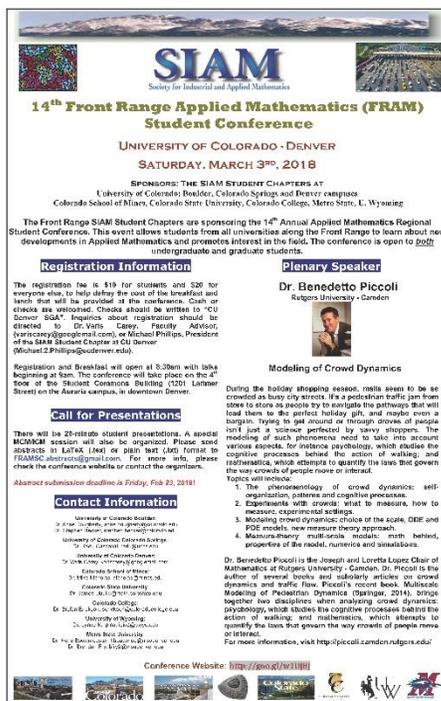
I registered 25-30 graduate and undergraduate students and involved them to SIAM Active research groups. This task was benefitted by students themselves. They found conferences to go to and related sources for their reserch area. This is the first task for me to do as UCF-SIAM leader and I recruited 30 members from UCF to SIAM.

UNIVERSITY OF COLORADO BOULDER - GRADUATE CHAPTER

REPRESENTATIVE: HARRY DUDLEY

## 2018 SIAM FRONT RANGE APPLIED MATH STUDENT CONFERENCE (FRAMSC)

The SIAM student chapters of Colorado and Wyoming hosted their 14th annual regional student conference on applied mathematics for all schools along the Front Range. This event provided an opportunity for students from area universities to see what is being done in applied mathematics and promote the field in general. Talks were accepted from both undergraduates and graduate students. SIAM student chapters organized much of the conference.



**SIAM**  
Society for Industrial and Applied Mathematics

### 14<sup>th</sup> Front Range Applied Mathematics (FRAM) Student Conference

UNIVERSITY OF COLORADO - DENVER  
SATURDAY, MARCH 3<sup>RD</sup>, 2018

**SPONSORS: THE SIAM STUDENT CHAPTERS AT**  
University of Colorado Boulder, Colorado Springs and Denver campuses  
Colorado School of Mines, Colorado State University, Colorado College, Metro State, L. Wyoming

The Front Range SIAM Student Chapters are sponsoring the 14<sup>th</sup> Annual Applied Mathematics Regional Student Conference. This event allows students from all universities along the Front Range to learn about new developments in Applied Mathematics and promotes interest in the field. The conference is open to **both** undergraduate and graduate students.

**Registration Information**  
The registration fee is \$19 for students and \$20 for everyone else, to help offset the cost of the breakfast and lunch that will be provided at the conference. Cash or checks are welcome. Checks should be written to "CU Denver SGA". Inquiries about registration should be directed to Dr. Virts Leary, Faculty Advisor, [virtles@regisboulder.com](mailto:virtles@regisboulder.com), or Michael Phillips, President of the SIAM Student Chapter at CU Denver, [Michael.Phillips@ucdenver.edu](mailto:Michael.Phillips@ucdenver.edu).

**Plenary Speaker**  
**Dr. Benedetto Piccoli**  
Rutgers University - Camden

**Modeling of Crowd Dynamics**  
During the holiday shopping season, malls seem to be so crowded the busy city streets. If a pedestrian traffic jam from store to store is people try to navigate the pathways that will lead them to the perfect holiday gift, and maybe even a bargain. Trying to get around or through droves of people isn't just a nuisance perfected by savvy shoppers. The modeling of such phenomena need to take into account various aspects, for instance psychology, which studies the cognitive processes behind the action of walking, and mathematics, which attempts to quantify the laws that govern the way crowds of people move or interact.

**Abstract submission deadline is Friday, Feb 23, 2018!**

**Call for Presentations**  
There will be 20-minute student presentations. A special MCM/AM session will also be organized. Please send abstracts to LaTeX (pdf or plain text) form to [FRAMSC-abstracts@gmail.com](mailto:FRAMSC-abstracts@gmail.com). For more info, please check the conference website or contact the organizers.

**Contact Information**

University of Colorado Boulder  
1550 Sherman St. #1000  
Boulder, CO 80502  
Phone: 303.440.2200  
Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

University of Colorado Denver  
1000 Lawrence St.  
Denver, CO 80202  
Phone: 303.733.2100  
Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

Colorado College  
500 Lincoln Ave.  
Colorado Springs, CO 80902  
Phone: 719.534.2100  
Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

University of Wyoming  
1000 E. 17th Ave.  
Laramie, WY 82001  
Phone: 307.462.2100  
Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

Colorado State University  
1000 E. 17th Ave.  
Fort Collins, CO 80523  
Phone: 970.498.2100  
Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

Colorado College  
500 Lincoln Ave.  
Colorado Springs, CO 80902  
Phone: 719.534.2100  
Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

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Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

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Fort Collins, CO 80523  
Phone: 970.498.2100  
Email: [virtles@regisboulder.com](mailto:virtles@regisboulder.com)

**Conference Website:** <http://siam2018.org>

# 2018 SIAM STUDENT DAYS

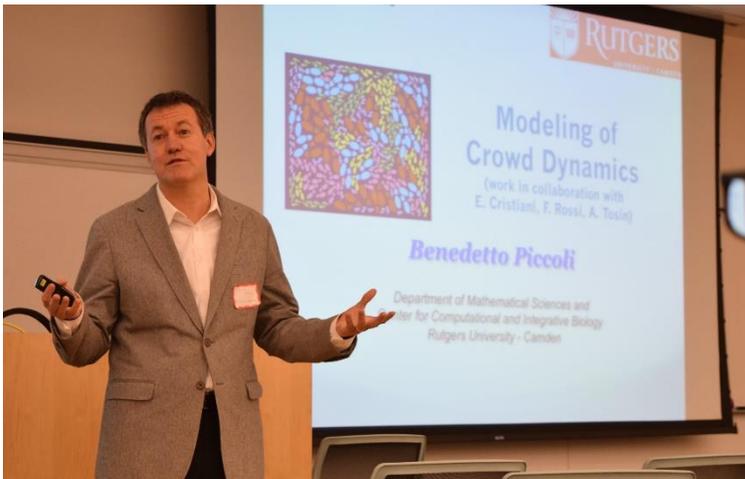
CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF COLORADO DENVER

REPRESENTATIVE: MICHAEL PILOSOV

SIAM FRONT RANGE ANNUAL CONFERENCE

On Saturday, March 3, 2018, the CU Denver SIAM Student Chapter hosted the 14th annual Front Range Applied Mathematics Student Conference (FRAMSC). This conference is an annual day-long event in the heart of downtown Denver on the CU Denver campus. This year, over 60 attendees at FRAMSC enjoyed 25 presentations by undergraduate and graduate student members from 7 student chapters across Colorado's Front Range, and a plenary talk from a professional on the cutting-edge of modern mathematics. This year, Dr. Benedetto Piccoli of Rutgers University. Dr. Piccoli gave an hour-long plenary address titled "Modeling of Crowd Dynamics," which was an engaging and accessible talk for our audience of undergraduates, graduates, and faculty members. Though CU Denver traditionally hosts the conference and provides the catered lunch, FRAMSC is the product of collaboration between all of the participating chapters. Indeed, months in advance, preparations begin, and other chapters volunteer to assist with the creation of the program, catering costs, and website updates. This year's conference was another large success, and FRAMSC will continue to be our student chapter's flagship programming effort for the foreseeable future.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF DELAWARE

REPRESENTATIVE: SAMUEL COGAR

FERMI QUESTIONS, DELAWARE SCIENCE OLYMPIAD

The Delaware Science Olympiad offers middle and high school students an opportunity to learn more about the sciences and receive hands-on experience through a variety of competitions. One such competition is the Fermi Questions event, in which students are asked to solve complicated problems only to the nearest order of magnitude. Practicing this type of problem improves students' abilities to estimate quantities and more importantly to break complicated problems into simpler parts. For example, a student may be asked to estimate the number of cakes that can be baked in the time it takes for a horse to walk from New York to Los Angeles, or to estimate the number of bathtubs required to hold the volume of water in the Atlantic Ocean. Our Chapter held a workshop two weeks in advance in which students from all over the state of Delaware visited the university and honed their skills in estimation, dimensional analysis, and mathematical reasoning, and we wrote and administered the exam itself in early March. In addition to the enjoyment of working together to create fun and interesting Fermi questions, our chapter had the opportunity to connect with students who show interest in the mathematical sciences and positively impact their upcoming career paths.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

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UNIVERSITY OF FLORIDA

REPRESENTATIVE: JOSE CHRISTIE MAURETOUR

## SIAM COLLOQUIUM

Dr. Matthias Heinkenschloss visited the mathematics department at the University of Florida at the invitation of the SIAM Gators to host a meet and greet and research presentation for students and interested faculty. The morning of November 13, the SIAM Gators met with Dr. Heinkenschloss to ask him questions about his research, his success as a research mathematician, and questions about what steps could lead them to a successful career as a research mathematician in a university or industry position. In the afternoon, Dr. Heinkenschloss gave a presentation titled “A Parallel-in-Time Gradient-Type Method for Optimal Control Problems” that was attended by approximately 20 graduate students from the mathematics and engineering departments at the University of Florida.

# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF ILLINOIS AT CHICAGO

REPRESENTATIVE: XIN TONG

CHICAGO AREA SIAM STUDENT CONFERENCE 2018

The Chicago Area SIAM Student Conference (CASSC) is an event organized by the Illinois Institute of Technology (IIT), Northwestern University (NU), and University of Illinois at Chicago (UIC) student chapters of SIAM, aimed at promoting applied mathematics among the younger research community. The conference consists of usually two to three plenary speakers either in academia or industry, and multiple parallel session for student speakers to share their research. CASSC 2018 was hosted this year at IIT, see conference webpage at <https://sites.google.com/a/uic.edu/chicago-area-siam-student-conference-2018/>.

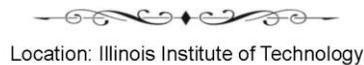


## Chicago Area SIAM Student Conference 2018

**Saturday, April 7th**

More information & registration:

<https://sites.google.com/a/uic.edu/chicago-area-siam-student-conference-2018/>



Location: Illinois Institute of Technology

**Registration is Free!**

Deadline for Abstract/Poster Submission : March 19th

Deadline for Participation : March 26th

**Plenary Speakers**

Youngjoon Hong (UIC)

Lulu Kang (IIT)

Niall M. Mangan (NU)



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF MANCHESTER, ENGLAND

REPRESENTATIVE: YUQING ZHANG

MANCHESTER SIAM-IMA STUDENT CHAPTER CONFERENCE 2018

In its 8th year, this annual conference is a one-day event for all interested or working in applied or industrial mathematics. This series of conferences has played a key role for FSE students at The University of Manchester to showcase their research and foster interdisciplinary collaboration. The conference provides a forum for communication among students from applied mathematics, computer science, and computational science and engineering. It is a one day conference and is open to anyone interested or working in applied or industrial mathematics, including undergraduates, postgraduates and staff. Attendees are invited to present posters and talks in all areas of applied and industrial mathematics. Plenary speakers from academia and industry are also invited for presentations and discussions. This year's invited speakers were: Dr Louise Dyson (The University of Warwick), Dr Silvia Gazzola (The University of Bath), Dr Nick Dingle (NAG, Numerical Algebra Group), Prof. Gunnar Martinsson (The University of Oxford). The award winner for this year's best talk was Jonathan Deakin with his presentation "Optimal Coordinate Transformations for the Perfectly Matched Layer Method" with a prize kindly sponsored by NAG. The University of Manchester SIAM-IMA Student Chapter encourages the promotion of applied mathematics and computational science to students, especially, but not limited to, graduate students.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF MARYLAND BALTIMORE COUNTY

REPRESENTATIVE: MICHAEL RETZLAFF

NETWORKING FOR CAREER ADVANCEMENT

An invited representative from our school's career center spoke about how to effectively use social media and prepare for in-person interactions with the goal of building relationships leading to collaborations and career opportunities.

UNIVERSITY OF MASSACHUSETTS DARTMOUTH

REPRESENTATIVE: JIAHUA JIANG

ATTENDING WHEATON'S WOMEN IN STEM

We participated in Wheaton's Women in STEM. Two undergraduates gave their research presentations in this workshop.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

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## UNIVERSITY OF MINNESOTA

REPRESENTATIVE: JASPER WEINBURD

### MATHEMATICS PROJECT AT MINNESOTA

The Mathematics Project at Minnesota (MPM) is a four-day workshop designed to build a community among underrepresented undergraduate math majors. It specifically addresses the lack of peer mentors and role models for underrepresented students in the math department with the goal of heightening the visibility and sharing the voices and experiences of graduate students, post-docs, and faculty from underrepresented groups. During the workshop, there are academic activities, such as lectures from faculty members and 5-Minute Presentations by the participants on a mathematical paper. We also run community-oriented programs, including a scavenger hunt and fun problem sets. Lastly, the workshop includes some activities focused on preparing students for their futures, such as a Summer and Future Opportunities Panel and Building a 4-Year Plan with a representative from the undergraduate mathematics office.

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## UNIVERSITY OF NOTTINGHAM, UK

REPRESENTATIVE: SARAH ROGGENDORF

### INAUGURAL COLLOQUIUM

We celebrated the launch of our new SIAM Student Chapter at the University of Nottingham on the 5th of June 2018 with a Colloquium featuring a talk on race car aerodynamics by Professor Spencer Sherwin from Imperial College London. The talk was preceded by a presentation on our Student Chapter and SIAM in order to attract new members and was followed by food and drinks. The event was very well received by staff and students from Maths and Engineering and we are looking forward to welcoming even more members at the start of the upcoming academic year.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF SOUTH CAROLINA

REPRESENTATIVE: ERIK PALMER

## MATH INTERNSHIP PANEL

A panel of graduate students were invited to discuss a variety of summer internship opportunities available in mathematics. These experiences ranged from National Laboratories and National Defense to Industrial positions. Each panel member answered a few basic questions about their experience then the floor was opened to questions from the audience, which included undergraduates, graduates and faculty. In this way a wide range of advice was given about pursuing different types of internships and the experiences to expect from them.



## SIAM Student Chapter

presents

### Math Internship Panel

**Thursday**

November 9<sup>th</sup>

4:30PM-5:30PM

LeConte 412

All graduate and undergraduates are welcome. Pizza and light refreshments will be served.

*Ever wonder what you can do with a Math degree outside of academia?*

Internships are a great way to gain industrial research experience, and also boost your CV for a great career. Four of our current Math graduate students have interned in companies from diverse research fields. In this event they will share their experiences and also answer any of your questions regarding internships.

Panel Members:



Erik Palmer,  
Lawrence Livermore  
National Lab



Chris Edgar,  
Micron Technology



Zhiyu Wang,  
LinkedIn Inc



Jeremiah Southwick,  
Department of Defense



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF TENNESSEE, KNOXVILLE

REPRESENTATIVE: TRICIA PHILLIPS

HIDDEN FIGURES SHOWING

Our SIAM chapter had a showing of the movie Hidden Figures in our mathematics department last fall semester. We put on this event in order to show our support of diversity in the field of mathematics. Snacks were provided.

UNIVERSITY OF TEXAS AT ARLINGTON

REPRESENTATIVE: KIRAN KUMAR MAINALI

LAST CHAPTER MEETING OF THE SPRING 2018.

We invited a speaker from computer science department of UTA for our last meeting of the spring semester. We also discussed how our graduate students explored different internship opportunities for summer and the procedure and deadline fro applying to those programs among the graduate students.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF TEXAS AT AUSTIN

REPRESENTATIVE: BRENDAN KEITH

## THE TEXAS APPLIED MATHEMATICS AND ENGINEERING SYMPOSIUM (TAMES)

In September, we hosted a student-oriented conference (<http://tames.io/>) with invited speakers from across the US. We had around 100 people attend the conference and it was a big success! From September 21-23, in Austin, Texas, students and other young researchers from across the United States converged for a SIAM student chapter organized interdisciplinary mathematics conference. The Texas Applied Mathematics and Engineering Symposium (TAMES) featured many invited presentations on contemporary research topics including biomedical engineering, turbulence modeling, machine learning, Bayesian inverse problems, and isogeometric analysis. The three day conference was organized by UT Austin's Student Chapter of SIAM with generous support from the Texas-Louisiana Section of SIAM and the Institute for Computational Engineering and Sciences. Designed to imitate the scope of a SIAM Annual Meeting — but at a local level, with a focus on young researchers — TAMES brought together nearly one hundred researchers to network and present their work in its several minisymposia. Given its success, a follow-up conference of the same type is being planned for Fall 2018 at Louisiana State University. The list of speakers, book of abstracts, and other event details can be found at the conference website.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF TEXAS AT DALLAS / SOUTHERN METHODIST UNIVERSITY

REPRESENTATIVE: MD MUJIBUR RAHMAN CHOWDHURY

'CLARIFYING YOUR CAREER DIRECTION AND A TASTE OF THE CAREER CENTER'

The event was jointly arranged by SIAM chapter and career center at UT Dallas. A career center representative gave a talk about how to prepare and target for non academic positions, specifically in the field of Mathematics.



# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

UNIVERSITY OF WASHINGTON

REPRESENTATIVE: BENJAMIN LIU

## MATH FAIR

SIAMUW hosts an annual Math Fair at a local elementary school. Throughout the day around two hundred elementary school students take part in a variety of math-related activities, such as tic-tac-toe on the torus, a real-life model of an infectious disease, simulations of the Monty Hall problem, explorations of the symmetries of snowflakes, and more.



UNIVERSITY OF WISCONSIN-MADISON

REPRESENTATIVE: BRYAN OAKLEY

## MATH TALK

April 28: Zachary Charles Title: Subspace clustering with missing data Abstract: In many applications (recommender systems, GPS, medical records) we want to recover a matrix given from an incomplete sampling of its entries. Up to this point, work in this area has focused on the case that the underlying matrix is low rank. Unfortunately, this low-rank assumption is often not true in real-life settings. We instead consider the case when the columns of the matrix come from a union of low rank subspaces. This type of model has already been used to great effect in computer vision and image processing. We will show that by clustering the incomplete data points in to groups according to the subspace they come from, we can often recover the true matrix efficiently. This is ongoing work with Rebecca Willett and Amin Jalali.

# 2018 SIAM STUDENT DAYS

CHAPTER REPRESENTATIVE BREAKFAST WITH SIAM LEADERSHIP

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WASHINGTON UNIVERSITY IN ST. LOUIS

REPRESENTATIVE: WEI MIAO

## CAREER GUIDANCE PANEL

In February, SIAM held a career guidance workshop for students in Electrical and Systems Engineering (ESE). The workshop was organized as a panel introducing how to seek job opportunities and how to make a long-term career plan in scientific or engineering communities. We invited five panelists consisting of: one junior undergraduate student who just got internship; two alumni in industry; one student who just found a tenure track position in the U.S.; and one senior faculty from ESE department. The panelists shared their experiences in seeking jobs to provide a glimpse into a working world, including how job searches lead to different companies, how to build a strong resume, and how to make effective connections. They also highlighted how working experiences changed their career to show the importance of keeping a long-term career plan. There were 16 students who attended this workshop; and they felt such workshop is beneficial to their ongoing application processes for internships and jobs.

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WORCESTER POLYTECHNIC INSTITUTE

REPRESENTATIVE: CAROLINE JOHNSTON

## INDUSTRY SPEAKER SERIES

The WPI SIAM Student Chapter kicked off its first "Industry Speaker Series," inviting mathematicians in industry to visit WPI throughout the year to address our students. These speakers covered anything from career paths, graduate school, recommended courses, or even travel advice! The series involved an informal presentation and a Q&A session. Pizza was always present and welcomed!