

SIAM Student Chapter Final Report for 2017–2018 Academic Year (1 of 6)

Student Chapters receiving funds from SIAM are required to submit a final report of activities and finances by the end of academic year. Please complete final report, sign and submit to SIAM office by June 30, 2017. Please attach separate sheets of paper if additional space is needed.

Date of report:	June 18, 2018
Student Chapter:	Charles University in Prague Chapter of SIAM
Chapter Web site:	http://siam.cuni.cz/en/
Chapter Facebook Page:	https://www.facebook.com/PragueSIAMSC
Chapter Twitter Handle:	@SIAMSCPrague
Faculty Advisor:	Josef Málek and Zdeněk Strakoš

Please check Chapter listing on SIAM Web site www.siam.org/students/chapters/current.php and report any changes below or email revisions to snell@siam.org.

New officers: president, vice president, secretary and treasurer

Demographic of Chapter Membership

		Departments			
Member type		Mathematics	43	Gender	
		Applied Mathematics	28		
Undergraduates	36	Physics	12	Male	70
Graduate Members	46	Computer Science	4	Female	21
Faculty Members	9	Statistics	2	Total Members	91
Total Members	91	Other	2		
		Total Members	91		

Report on Chapter Election

Date of Election: June 6, 2018 to elect officers to serve term from July 1, 2018 to June 30, 2019. Please provide office, name & email address of all officers elected to serve.

President:	Petr Pelech, petr.pelech@gmail.com
Vice President:	Mark Dostálík, mark.dostalik@gmail.com
Secretary:	Michal Báthory, bathory@karlin.mff.cuni.cz
Treasurer:	Jakub Hrnčíř, hrncir.jakub@gmail.com
Webmaster:	Petr Lukáš, luk.p@post.cz

Chapter Highlights

Meeting of European SIAM Chapters

In August 2017, our Chapter organised a three days long Meeting of European SIAM Chapters (MESIAM). This workshop served as a continuation of the annual meetings of German SIAM Chapters.

The scientific program consisted of 13 oral presentations, a poster session and two invited lectures. Pavel Exner, who is the current president of the European Mathematical Society (EMS), gave a lecture on "Unusual Spectral Properties of a Class of Schrödinger Operators" and also two short presentations about the EMS and the European Research Council (ERC). The second invited lecture, titled "Digital Signal Processing and Software-Defined Radios in Remote Attacks on GPS", was given by an expert cryptologist Tomáš Rosa from Raiffeisenbank.

Beside the scientific sessions, the program was also rich on social events - we organized a welcome BBQ, attended a city tour around the old town and the Prague castle and visited the Invisible Exhibition, an exhibition in complete darkness guided by a blind person. Conference dinner was organized in a local restaurant and the last session of the meeting was a SIAM Chapters Panel, where we shared our experiences and advices, discussed possible future cooperation of SIAM Chapters in Europe, including Meetings of European SIAM Chapters.

The workshop was attended by 26 students, mostly from German Chapters with the exception of a representative from the NUI Galway SIAM Student Chapter (Ireland). Unfortunately, the delegation from Cardiff (UK) had to cancel their participation last minute. We hope that further meetings will attract more and more SIAM Chapters and even encourage further collaborations as "knowledge is nothing if not shared".



Left: Participants of the workshop MESIAM, Prague, Czech Republic, August 2017.

Right: Nick Higham and Marie Kubínová, Kácov, Czech Republic, May 2018.

Meeting Professor Nick Higham - the President of SIAM

Every year, our faculty advisors together with several of their colleagues from the Charles University and from the Czech Academy of Sciences organize international summer school in Kácov (see <http://essam-masc.cuni.cz> and <http://essam-maff.cuni.cz>). These schools are organized within the framework of Summer Schools in Applied Mathematics (ESSAM) of the European Mathematical Society (EMS).

The missions of ESSAM and SIAM are related. Therefore, within the program of the last School, a 30-minutes-slot was devoted to information about SIAM, SIAM Student Chapters, our Chapter and our activities. We used the opportunity that Nick Higham, the current president of SIAM, was one of the four lecturers of the School. He described the SIAM mission in general, talked about the roles of Student Chapters and encouraged in particular the young participants to become SIAM members. After that, we presented the activities of our Chapter, and at the end, as a surprise, Nick Higham presented Certificate of Recognition to our former secretary Marie Kubínová (see Nick's tweet at <https://twitter.com/nhigham/status/1003628723076247553>) for her effort and activities related to the work in the Chapter.

Given that many of the participants came from different European universities where the SIAM Chapters have not yet been established, this event was a nice motivation for them to consider starting one.

Report on Chapter Activities

TITLE OF THE EVENT: Meeting of European SIAM Chapters 2017
DATE OF THE EVENT: August 28-30 2017
ATTENDANCE: 30

EVENT DESCRIPTION: See the information in highlights.

TITLE OF THE EVENT: Beginning of the semester meeting
DATE OF THE EVENT: October 17 2017
ATTENDANCE: ≈ 30

EVENT DESCRIPTION: At the beginning of the winter semester, our Chapter co-organized the traditional informal meeting which is meant to welcome the fresh students of Mathematical modelling, introduce them to the older colleagues and teachers and possibly to attract new students. It is organized in a local pub and the atmosphere is always very friendly.

TITLE OF THE EVENT: Meeting with Candidates Applying for a Research Grant
DATE OF THE EVENT: October 23, 24 & 25, 2017
ATTENDANCE: $\approx 15, 15, 20$

EVENT DESCRIPTION: The Grant Agency of the Charles University supports PhD students with their own research grants, however, the competition is tough. Every year, successful applicants from our Chapter in cooperation with the Academic Senate of the Faculty organize a meeting where they present the new candidates with advices on how to write a competitive grant application. Also, we invite the vice-deans and ex-members of the Grant Agency committee to help us highlight the important parts of the process. Three meetings are organized within this event, for students of Mathematics, Physics and Computer Science, respectively.

TITLE OF THE EVENT: SIAM SC Seminar
DATE OF THE EVENT: five times per year
ATTENDANCE: ≈ 12

EVENT DESCRIPTION: Since the foundation of the Student Chapter at the Charles University in Prague, we have organized a regular seminar following the goal to attract both students and teachers. Although most of the speakers consisted of PhD students and alumni, speakers from various scientific and industrial institutions were invited as well.

In the last school year in order to make the seminar even more interesting we have decided to focus the seminar on highly attractive topics presented by very good speakers. This scenario required to make the date of the seminar more flexible. As before the seminars are held in the students-friendly atmosphere with beverages and coffee served at the beginning and some time for formal as well as casual discussion is reserved after the lectures.

Marek Netušil — Homogenisation for dummies

Martin Michálek — Machine learning: recent breakthroughs, deep neural networks and place for mathematics

Rami Luisto — A Gentle Introduction to (Persistent) Homology

Petr Mazúr — Redox flow batteries

Adam Janečka — Aspects of Stability for Fluids Described by Non-Monotone Constitutive Relation

TITLE OF THE EVENT: Debates of students and teachers about teaching mathematics

DATE OF THE EVENT: December 1, 2017 and February 23, 2018

ATTENDANCE: ≈ 25

EVENT DESCRIPTION: This year we organized two debates about learning and teaching at the Mathematics section of our Faculty. Specifically, we discussed topics like how to improve communication between teachers and students in classes, or how to support more active approach of students to learning.

TITLE OF THE EVENT: I'm gonna write my bachelor's thesis in L^AT_EX!

DATE OF THE EVENT: November 26, 2017

ATTENDANCE: 10

EVENT DESCRIPTION: The Chapter organized a one-day workshop for students of mathematics, physics and informatics focused on L^AT_EX typesetting and its use in writing a thesis. We helped the students get familiar with the basics of L^AT_EX up to the level of the template for bachelor's thesis which is provided by the Faculty.

TITLE OF THE EVENT: Christmas party of the Department of Mathematical Modeling

DATE OF THE EVENT: December 18, 2017

ATTENDANCE: ≈ 50

EVENT DESCRIPTION: Every year, the Department of Mathematical Modeling (with the support of our Chapter) organizes a Christmas party which is very popular. Proof of that is the fact that also students and members of other departments are happy to join. Tradition of singing carols is an inherent part of the event.

TITLE OF THE EVENT: Hike of the Department of Mathematical Modeling

DATE OF THE EVENT: May 15th, 2018

ATTENDANCE: 11

EVENT DESCRIPTION: This May we organized a traditional hike of the Department of Mathematical Modeling. Unfortunately, the weather conditions were exceptionally bad and severely reduced the number of participants. Together 11 adventurous participants, ranging from the age of 5 up to 55, successfully hiked 11 kilometers (7 miles) from Prague to Únětice.

TITLE OF THE EVENT: Meeting with Undergraduate Students

DATE OF THE EVENT: May 24, 2018

ATTENDANCE: 5

EVENT DESCRIPTION: As in the previous years, several members of Prague Chapter of SIAM met with undergraduate students. The goal of this meeting was to provide students with information about study programs Mathematical and Computer Modelling in Physics and Engineering, and Numerical and Computational Mathematics.

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TITLE OF THE EVENT: Meeting the President of SIAM and presentation at ESSAM School

DATE OF THE EVENT: May 29, 2018

ATTENDANCE: ≈ 50

EVENT DESCRIPTION: See the information in highlights.

TITLE OF THE EVENT: Week of Doctoral Students of the School of Mathematics, 2018

DATE OF THE EVENT: June 4, 2018

ATTENDANCE: ≈ 30

EVENT DESCRIPTION: Each year, the mathematical section of the Faculty organizes a Week of Doctoral Students - a conference where PhD students present their research to a broad audience. Especially, master and PhD students and faculty members from all mathematical departments are invited to participate and learn about research of PhD students from different mathematical areas. Our Chapter promoted the event and helped with organization of the day. Altogether, there were 14 presentations of both younger and more experienced PhD students.

TITLE OF THE EVENT: Business Meeting

DATE OF THE EVENT: June 6, 2018

ATTENDANCE: ≈ 20

EVENT DESCRIPTION: At the business meeting we reviewed and recalled the activities of the Chapter in the past year. In addition we elected a new committee that will serve in the academic year 2018/2019.