

SIAM Student Chapter Prague: Final Report 2019/2020

June 8, 2020

This document serves for internal purposes of the Chapter only and should be perceived as an overview of the Chapter activities in the past year extending the information filled out in the Final Report online form provided by SIAM.

Report on Chapter elections

On June 8, 2020 Chapter members elected the following officers to serve term from July 1, 2020 to June 30, 2021.

President:	Mark Dostálík
Vice President:	Jiří Malík
Secretary:	Alena Jarolímová
Treasurer:	Shahin Heydari
Webmaster:	Martin Sýkora

Chapter highlights

Introduction to FEniCS workshop

Date: February 10–12, 2020
Attendance: 15

At the beginning of the academic year 2019/2020 we started a transformation of our Chapter to include Czech Technical University in Prague as a partner institution. As a promising start of our future collaboration we organized together a three-day workshop on the basics of FEniCS – a computing platform for solving partial differential equations using the finite element method.

We introduced the participants to programming in Python and to the general principles of the finite element method. We successively presented 5 problems from solid mechanics providing their physical derivation as well as necessary mathematical background. The problems were implemented in FEniCS and solved together with the participants using the interactive web-based editor Jupyter Notebook. A detailed [documentation](#) was created for the purposes of the workshop, which should make organizing the event easier in the years to come.

The workshop attracted students from Charles University and Czech Technical University as well as people from non-academic environment. The feedback from participants was largely positive and we expect to continue organizing the workshop in the following years; possibly alternating between solid and fluid mechanics each year.

Report on other Chapter activities

Meeting with newcomer students

Date: September 30, 2019
Attendance: 10

Since the Faculty does not offer any orientation week for newcomer Master students, our meeting was organized to fill this gap, that is, to welcome the newcomer students and, primarily, to introduce them to the Student Information System of Charles University. We also informed them of important deadlines, which are due by the beginning of the academic year, as well as some school-related leisure activities, which could be of

their interest. We decided to cooperate with [Matfyzák Society](#) (website in Czech)—an association of students involved in organizing social events at the Faculty—on arranging the event in the following years.

Meeting with candidates applying for a research grant

Date: October 14, 2019

Attendance: 15

The Grant Agency of 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 we provide the potential applicants with advice on how to write a competitive grant application. Also, we invite the vice-deans and ex-members of the Grant Agency evaluation committee to help us highlight the important parts of the process. In fact, this annual event has a huge impact on the competition, as the quality of applications has significantly improved since we started organizing it.

SIAM SC seminar

Since the foundation of the Student Chapter at Charles University, we have organized a regular seminar with the aim to offer talks that are widely accessible to both students and teachers. Most of the speakers are PhD students, who try to introduce their field of research to an audience which is not particularly familiar with the subject. The seminars are held in a friendly atmosphere, with beverages and pizza served at the beginning. Ample time for formal as well as casual discussion is reserved during the seminar. Compared to the previous year, the seminar attracted more students from various departments of the Faculty, i.e. it has broadened its audience. It should be noted that the new students are excited by the idea of a joint, less formal, seminar and some even took the initiative to propose changes to the seminar's format that could prove beneficial. We plan to come to a conclusion about the future form of the seminar by the beginning of the next academic year. Due to the COVID-19 pandemic, only three seminars took place this year. (The last one just before lockdown already had poor attendance.)

How to Recognize Different Types of Knots From Quite a Long Way Away (Lada Peksová)

Date: October 23, 2019

Attendance: 10

Measuring Dissimilarities Between Spatial Point Patterns (Kateřina Koňasová)

Date: November 27, 2019

Attendance: 10

The complexity of solving equations (Michael Kompatscher)

Date: March 4, 2020

Attendance: 5

I'm gonna write my bachelor's thesis in \LaTeX !

Date: November 30, 2019

Attendance: 30

The Chapter organized a one-day workshop focused on \LaTeX typesetting and its use in writing a bachelor thesis. We helped the students become familiar with the basics of \LaTeX and introduced them to the template for bachelor's thesis provided by the Faculty.

Debate with General Petr Pavel

Date: cancelled due to COVID-19

Attendance: –

Petr Pavel is a top Czech army officer who served from 2015 to 2018 as the Chairman of the NATO Military Committee. Our Chapter—in cooperation with students, alumni, and professors—put a great effort in organizing

a talk of Petr Pavel at Charles University on the topics of cyber security and cyber awareness, vision of modern army, and the role of Czechia in the international military alliance NATO. Due to the pandemic restrictions the event had to be cancelled and is now postponed for the beginning of the next academic year. However, we wanted to include it in this year's overview since the committee of our Chapter spent a considerable amount of time in arranging this special event.

Business meeting

Date: June 8, 2020

Attendance: 10

We first reviewed and assessed the activities of the Chapter in the past year and discussed the future development of the Chapter. We decided to keep organizing the above mentioned activities and events in the next academic year. A special focus will be put on organizing the SIAM SC seminar which serves as a great means for attracting new student members. We are considering several improvements to the seminar such as streaming the talks via Zoom, in cooperation with Czech Mathematical Society. We also expect that the inclusion of Czech Technical University in Prague as a partner institution will take place in the second half of 2020. Finally, we elected a new committee that shall serve in the academic year 2020/2021.