Tartu University SPIE Chapter Annual Report

2016/2017

Contents

1 Register of Members .................................................. 2
   1.1 Elected officers ................................................. 2
   1.2 List of members ................................................. 2

2 Chapter Activities ................................................... 3

3 Future Chapter Activities ........................................... 7

4 Chapter Finances ..................................................... 8
1 Register of Members

1.1 Elected officers

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>e-mail address</th>
<th>Membership number</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Sandhra-Mirella Valdma</td>
<td><a href="mailto:sandhra.valdma@gmail.com">sandhra.valdma@gmail.com</a></td>
<td>3648548</td>
</tr>
<tr>
<td>Vice-president</td>
<td>Jaan Kasak</td>
<td><a href="mailto:jaankasaksm@gmail.com">jaankasaksm@gmail.com</a></td>
<td>3762753</td>
</tr>
<tr>
<td>Secretary</td>
<td>Kerttu Maria Peensoo</td>
<td><a href="mailto:kerttumariapeensoo@gmail.com">kerttumariapeensoo@gmail.com</a></td>
<td>4054819</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Simo Sirel</td>
<td><a href="mailto:sirelsimo@gmail.com">sirelsimo@gmail.com</a></td>
<td>4014897</td>
</tr>
<tr>
<td>Faculty advisor</td>
<td>Heli Lukner</td>
<td><a href="mailto:heli.lukner@ut.ee">heli.lukner@ut.ee</a></td>
<td></td>
</tr>
</tbody>
</table>

1.2 List of members

- Marko Eltermann
- Dmitri Lanevski
- Ardi Loot
- Liisi Metsoja
- Sunjai Nakshatharan Shanmugam
- Andreas Valdmann
2 Chapter Activities

The Photonics Club

The Photonics Club is a student organization in the University of Tartu. It is not funded by SPIE, but it is organized by the same people. A main part of the clubs activities is the university course "Photonics project", in which, during the course of a semester, participants design and construct a prototype that needs both electrical and optical skills to build. Examples of previously built projects include a 3D scanner, a holographic video projector, a barcode scanner and a rig for Schlieren photography.

Virtual Reality Experience

12.05.2016 and 13.05.2016

We visited the University of Tartu’s Virtual Reality Lab to get first hand experience with the Oculus Rift Virtual Reality headset. We tried different scenarios with it and also learned about it’s construction and the virtual reality industry from the researchers there.

We organized two trips, both had around 5 visitors. We consider the field trip a success, as the participants were satisfied with the entertainment side as well as the newly gained knowledge.

Paintball


To start the new year, bring together all the old chapter members and to recruit a few new ones, we decided to organize a game of paintball. There were 16 participants.
Researcher’s Night

30.09.2016

During The European Researchers’ Night we made presentations on different subjects in optics for the general public, with most of our focus on laser technologies. We had two main exhibits: a laser-based obstacle course and laser chess. Both of them were a huge success, especially with the younger audiences. Also, the exhibits allowed us to talk about the reflection of light. We also had a few other experiments to show, like the infinity mirror, a hologram and two polarizers. In total the amount of people who visited us was about 100.

Escape Room

20.10.2016

As a recruitment and team building event we went to an Escape Room in Tartu. The 10 participants had an interesting time deciphering easy and progressively more difficult puzzles.
Day of Photonics

During the international day of photonics the University of Tartu together with the Photonics Club held a day of presentations and tours of the optics labs in the university for high-school students. The presentations included talks about Li-Fi by Jaan Kasak and gas chromatography by Jaagup Lember, who are members of our student chapter. The day of photonics was partly financed by several companies, including LDIAMON, IKO SCience, LDI innovation and FLIR.

EPS Autumn School for Natural and Exact Sciences
04.11.2016 to 06.11.2016

We decided to support this years two and a half day autumn school for high-school and university students held by the Estonian Physics Society. During the weekend they had thrilling lectures, fun side activities and etc. We supported the event monetarily and by providing two lectures on optics and photonics: Ott Rebane talked about photonics in Estonia and our own member, Joosep Kivastik, gave a talk about the Photonics Club in Tartu. About 100 students attended the event.
Startup Day 2016
09.12.2016

With the help of Maret Ahonen, manager of IdeaLab, the Photonics Club was able gain free entry to Startup Day 2016, a large event where many successful and well-known entrepeneurs gave talks on starting your own company. There we promoted our club and its activities.

Processing of Quantum Information with Trapped Ions

A graduate of the university of Tartu, Roland Matt, who is currently studying at ETH Zurich, presented his work on quantum computers in Zurich. The presentation also featured the discussion of photons as a possible medium for quantum computing.

Finland Photonics Trip

This trip was financed mainly by the University of Tartu, but was attended by members of SPIE and the Photonics Club. We visited many companies who are active in different parts of the photonics industry. These included:

- MIKES, the Finnish Institute for Metrology
- University of Aalto/Memsfab, silicon optoelectronics manufacturing
- Nokia, telecommunications giant
- Rosendahl Nextrom, manufacturer of fiber manufacturing equipment

Chapter Meetings

Meetings were held by the officers of the chapter and sometimes members of the Photonics Club to discuss future photonics related activities and the direction of the chapter in general. Larger general meetings occured on 18.11.2016 and 03.04.2017.

Board Game Nights

Social events held to promote feelings of companionship in chapter members and to occasionally promote the Photonics Club or the Student Chapter itself.
3 Future Chapter Activities

Escape Room
08.05.2017

Since the first event was a success, we will once again visit an escape room with the Photonics Club. Registered members of the universities SPIE chapter will receive a discount for participation.

Summer hiking
–.06.2017

The SPIE chapter is planning to go on a short hiking trip in one of our nearby nature reserves.

Munich Officer Training

The treasurer of our chapter, Simo Sirel, will participate in an officer training event and various conferences in Munich. Also joining him is a regular member of the chapter, Liisi Metsoja.

Recruitment event
–.09.2017

At the start of the new academic year we will hold a recruitment event targeted at first-year undergraduate students.

Researchers Night, Day of Photonics, International Day of Light 2017

The Researchers Night is as important event to participate in. It is a yearly event in Estonia when scientists and their work are celebrated. Like last time, we plan to represent photonics, optics and the SPIE chapter. This time we will have an improved version of our laser obstacle course that should be even more fun for participants. The same goes for the day of photonics and international day of light.
4 Chapter Finances

We received chapter activity grant funding for 700$. 

<table>
<thead>
<tr>
<th>Event</th>
<th>Cost ($)</th>
</tr>
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<tbody>
<tr>
<td>Paintball</td>
<td>86.96</td>
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<tr>
<td>Researchers Night</td>
<td>7.57</td>
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<td>Board games (total)</td>
<td>85.39</td>
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<td>Autumn school funding</td>
<td>197.79</td>
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<tr>
<td>Escape room</td>
<td>32.6</td>
</tr>
<tr>
<td>Food &amp; beverages</td>
<td>97.82</td>
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The remainder will be used in upcoming events during the remainder of spring and this summer.