Annual Report 2013-2014

Officers

Advisor: Dr. Jan Franc franc@karlov.mff.cuni.cz
President: Martin Pokorný martin@martin-pokorny.cz
Vice President: Dagmar Butkovičová dagmar.butkovicova@gmail.com
Secretary: Lukáš Šedivý luky.sedivy@seznam.cz
Treasurer: Lukáš Nádvorník nadvornik.lukas@seznam.cz
Photographer: Jakub Zázvorka zazvorka.jakub@gmail.com

Current chapter members

Dagmar Butkovičová, Václav Dědič, Pavel Galář, Martin Hanuš, Tomáš Janda, Eva Jesenská, Miroslav Kořínek, Martin Kozák, Lukáš Nádvorník, Zuzana Onderišinová, Jakub Pekárek, Martin Pokorný, Helena Reichlová, Lukáš Šedivý, Štěpán Uxa, Martin Zahradník, Jakub Zázvorka, Michael Hakl, Vojtěch Vozda, Lukáš Beran, David Wagenknecht, Martin Brajer, Tomáš Chlouba, Jan Salava, Tomáš Popelář

Introduction

Our chapter was established in June 2011 by students of the masters programme Optics and Optoelectronics, and Ph.D. students of Quantum Optics and Optoelectronics at Faculty of Mathematics and Physics, Charles University in Prague. In the third year of the chapter’s existence we wanted to continue with the trends already established by previous Chapter Officers, and to extend the programme for chapter members. We started our biggest activity – interesting physics experiments on high and elementary schools across whole republic. We are focused on phenomena of optics and low temperatures and gained very good reputation in the schools we were in. Furthermore, we were awarded by Price for representation and promotion of the dean of our faculty by Klein bottle made of glass. Since this activity is already well-established, our focus is now on excursions into industrial complexes and in promoting activities that connects all the members together. Last year we started with grilling party and plan to repeat it in June, and in addition we will have a physics-related sport event: bowling for the whole chapter. We have currently 25 members.
Chapter activities

1. **21\textsuperscript{st} – 25\textsuperscript{th} April 2013: Participation in the Institute’s of Physics outdoor seminar**
   Several of our members have participated. This year, the seminar was designed as excursions into many industrial complexes.

2. **June 18\textsuperscript{th} 2013: Grilling party**
   Almost whole chapter took part in our first Grilling party. There were many of meats to choose from as well as some vegetable, and the whole action ended slightly after the sunset in placid atmosphere.

3. **SPIE Optics + Photonics conference in San Diego 2013**
   Two of our members visited the SPIE conference in August 2013. Miroslav Kořínek, who used the Officer Travel Grant, has presented a poster. Also the Chapter was presented during the Chapter presentation poster session. Jakub Pekárek took part as well, he was awarded by SPIE Travel Grant.

4. **16\textsuperscript{th} October 2013: Chapter Officers election**
   The previous board has held a presentation about the activities in 2013. We welcomed new members to the Chapter and informed them about the events and encouraged to run for elections. The elections were held and new Officers Board has begun its term.
5. **25th October 2013: Session for younger students**

We have welcomed students in the bachelor’s study program “General Physics” who expressed interest in studying Optics. The Chapter presented information about SPIE involvement, the Optics study program and the possibilities to do some optics based project run by our chapter members.

6. **28th October 2013: Faculty Open Day**

On Thursday 29th October our Faculty has prepared many presentations to encourage high school students to study physics and mathematics. The presentations covered many field of physics. Our Chapter has participated in showing optical experiments and giving information about Optics and SPIE society.

7. **June 20th 2013: Experiments on elementary school**

We started our project which presents some interesting physical phenomena to younger students. For elementary schools the children are separated into four groups and go to four posts where one of our members shows them the experiment. The groups of children continue to the next post after 10 minutes, so all the teaching lesson is filled. The first action took place on Londýnšká elementary school and had very good response from both the students and the teachers, so we decided to go on!
8. **14\textsuperscript{th} November 2013: Experiments at PORG high school**

After successful experiments at Londýnská elementary school we came to high school. For high schools our presentation is different: we have presentations in PowerPoint and interleave them with the experiments. We show magnetic levitation, the effect of low temperatures to organic materials, diffraction of light on a hair, energy transfers and transformations and many more.

9. **November 29\textsuperscript{th} 2013: Experiments at Vršovice high school**

After the presentation at PORG we slightly modified the presentations to better fit the needs and demand of the teachers and tried the new approach at Vršovice, which is a sport-school, where many of well-known Czech people studied (Barbora Špotáková or David Svoboda, both Olympic gold medalists).

10. **December 11\textsuperscript{th} 2013: experiments at high school Na Vítězné Pláni**

The last presentation in the year 2013 took place at high school Na Vítězné Pláni. After this (fourth) school we left ourselves some time to evaluate previous sessions, to decide whether we want to continue and to discuss the form of the presentations in the future.

Afterwards we obtained a grant from faculty to promote physics outside of Prague and formal permission and support for this project. Therefore we made a commitment to visit ten schools in 2014 (note: in April we had four of the visits completed). We also recruited three additional members, so now we form two groups and they can operate separately.
11. 12\textsuperscript{th} December 2013: Chapter Christmas party
The Chapter has met with the Advisor Prof. Franc and discussed the past events and plans for the future, mostly about optics lectures for high school students and the choice about visit lecture speaker.

12. March 5\textsuperscript{th} 2013: Faculty's dance ples
We were invited to Faculty’s dance ples because of our chapter activities, mainly the presentations on the schools. The dean of faculty handed us a diploma ensuring us that we do the chapter presentation in right way.

13. February 2\textsuperscript{nd} 2014: One day with physics
Every year, our faculty arranges an informal meeting with high-school students and their teachers in order to present them the university, faculty and the form of studying therein. Our chapter had one of the presentations and we talked about our experiments on elementary and high schools.

14. March 12\textsuperscript{th}: Presentations on high school Lovosice, first round
For the first time in year 2014, we made the presentations for younger students. As indicated above, we slightly modified the form of the experiments to achieve better match with the needs of the schools and teachers. This presentation was for younger students only.
15. March 25th 2014: Presentations on high school in Čáslav

16. March 26th: Presentations on high school Lovosice, second round
We visited high school Lovosice in order to start the new year of presentations for “older” students (16-19 years old). This time, the end of our visit was topped off discussion about studying at university and about science generally.

17. April 16th 2014: Presentations on high school Prostějov
Our last presentation since the end of April took place in one of the most distant cities from Prague - Prostějov.

Others

SPIE Travel Grant 2013: Miroslav Kořínek was awarded the Travel Grant and used it to travel to SPIE Optics+Photonics 2013 in San Diego. Jakub Pekárek has submitted a poster and requested the SPIE Travel Grant for this conference and was awarded too.

SPIE Optics + Photonics 2014: Martin Pokorný will use the Officer Travel Grant to visit the conference in August 2014. He has submitted a poster.
Future activities for 2014-2015

What we will organize:

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<thead>
<tr>
<th>Date</th>
<th>Event Details</th>
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<tbody>
<tr>
<td>Beginning of May</td>
<td>Bowling</td>
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<tr>
<td>May 13th</td>
<td>Presentation of experiments on ČVUT university</td>
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<td>May 14th</td>
<td>Presentations on high school Plzeň</td>
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<td>May 15th</td>
<td>Excursion to Innomia (3D printing onto metals and plastics using lasers)</td>
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<td>May 28th</td>
<td>Presentations on high school Česká Lipa</td>
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<td>June</td>
<td>Annual Chapter meeting before the summer and holidays. Grilling.</td>
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<td>Fall/winter 2014</td>
<td>Presentations on high schools in Žamberk, Sušice and Teplice</td>
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<td>Fall 2014</td>
<td>Student Chapter 2014-2015 Officers Election.</td>
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<td>Session with younger students about studying Optics and Optoelectronics</td>
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<td>Participation in faculty Open day</td>
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<td></td>
<td>Visiting lecture (probably Prof. Mauro F. Pereira, PhD, Dr. Sci)</td>
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<td>December</td>
<td>Christmas party</td>
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What we would like to do or organize (probably in the fall 2014):

- Try to establish a connection and possible cooperation with other SPIE student chapter.

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Prague, 30th April 2014
Martin Pokorný
Chapter president

Incomes:
Student Chapter Activity Grant 900 USD (22/10/13) 16 335 CZK
Personal donations 1 396 CZK

Sum 17 731 CZK

Expenses:
Students' project meeting- snacks, beverages (25/10/13) 2 377 CZK
Promotional Chapter banner 2 045 CZK
Administration & office items 738 CZK
Expenses due to "Experiments on High Schools" 1 154 CZK
Christmas members' party (11/12/12) 3 420 CZK
Chapter promotion: Participation on Faculty Ball (12/03/13) 2 050 CZK

Sum 11 784 CZK

Total balance at the date of 28/04/2014 5 947 CZK

Further expected expenses by 10/2014:
All members' meeting & grill party (06/14) ~ 3 000 CZK
Chapter's outdoor seminar (05/14) ~ 3 000 CZK

On Chapter members' behalf 28/04/2014
Lukáš Nádvorník
Treasurer