

SILESIAIAN UNIVERSITY OF TECHNOLOGY

SPIE STUDENT CHAPTER ANNUAL REPORT

2013

INTRODUCTION

The Silesian University of Technology SPIE Student Chapter was created in August 2005 at the Silesian University of Technology in Gliwice, Department of Optoelectronics by prof. dr hab. inż. Tadeusz Pustelny, dr Kamil Barczak and mgr inż. Mateusz Bednorz. The chapter members include Silesian University of Technology PhD students from the Faculty of Electrical Engineering and students of Electronics and Telecommunication and Technical Physics. Chapter cooperates with other Chapters from Poland and Europe aiming to organize science conferences. Likewise, Chapter members, in cooperation with Department of Optoelectronics organize events targeted towards High School students, featuring demonstrations of various optical phenomena in many specialized laboratories of our Department

ADRESS

Department of Optoelectronics,
Faculty of Electrical Engineering,
Silesian University of Technology,
Akademicka Str. 2A, 44-100 Gliwice, Poland.

CHAPTER WEB SITE

<http://optics.polsl.pl/spie>

CHAPTER OFFICERS

Function	Name	Position	Address email
Advisor	prof. eng. Tadeusz Pustelny	professor	Tadeusz.Pustelny@polsl.pl
President	M.Sc. eng. Artur Szewczuk	Ph.D. student	Artur.Szewczuk@polsl.pl
Vice-President	M.Sc. eng. Grzegorz Konieczny	Ph.D. student	Grzegorz.Konieczny@polsl.pl
Secretary	M.Sc. eng. Sabina Drewniak	Ph.D. student	Sabina.Drewniak@polsl.pl
Treasurer	M.Sc. eng. Aneta Olszewska	Ph.D. student	Aneta.Olszewska@polsl.pl

LIST OF THE STUDENT CHAPTER MEMBERS CURRENTLY ACTIVE

1. Sabina Drewniak
2. Lukasz Surazynski
3. Tomasz Herzog
4. Grzegorz Konieczny
5. Krystian Mistewicz
6. Aneta Olszewska
7. Marcin Procek
8. Artur Szewczuk
9. Bartlomiej Toron
10. Barbara Wajnchold
11. Piotr Kaluzynski



Silesian University of Technology SPIE Student Chapter, May 2013

CHAPTER ACTIVITIES

The activities of Silesian University of Technology SPIE Student Chapter are mainly focused on:

- Popularization of photonics science in the local community
The aim is to increase interest in science and encourage young people to study optoelectronics at the Faculty of Electrical Engineering at the Silesian University of Technology.
- Developing the competence of Chapter members in the field of optoelectronics and provide possibility for knowledge exchange as well as develop personal relations with members of other chapters/institutions.

These goals were realized in 2013 through the following activities:

The Opto Meeting for Young Researchers & 8th International SPIE Students Chapter Meeting Torun 2013

Silesian Univ of Technology SPIE Student Chapter has supported the SPIE Student Chapter from Torun in organizing Opto Meeting conference which took place in Torun, on 3-6 July. This conference is organized every year in Poland in cooperation with SPIE Student Chapter from Torun, Gliwice, Wrocław and Warsaw. This event is very popular among young scientists from Central and Eastern Europe.

This year, the Opto Meeting conference was represented by six people from our chapter who were presenting the results of their scientific work and the activities of our chapter. Members of our chapter were presented the following topics:

Tomasz Herzog, "Using scattered light to measurement characteristics of planar waveguides"

Marcin Procek, "Diffractive Magneto-Optical Kerr Effect in the analysis of low-dimensional periodic structures"

Bartłomiej Toroń, "Laser fabrication of heterostructures based on SbSI and their basic properties"

Artur Szewczuk, "MMI structures covered by bromocresol purple for ammonia detection"

Piotr Kałużyński, "Optical holography student laboratory stand"

Participation in this conference allows us to develop cooperation with other SPIE chapters from Poland and other European countries. Discussions carried out in a friendly atmosphere, provide many great tips, which we use during our research. In addition becoming familiar with the valuable results of the work of our colleagues from other chapters motivates us to continue fruitful work.



Artur Szewczuk and Marcin Procek representing our Chapter at Opto Meeting 2013, Toruń, Poland.

Silesian Night of the Scientist

Night of the Scientist, which is organized at many universities in Poland, is an event aimed to intrigue young people into science. During this event, Silesian University of Technology was visited by several thousands of young people.

Specially for them more than 60 workshops and demonstrations were organized. Some of these workshops have been prepared by members of our chapter. We have prepared several presentations in the form of demonstrations, workshops and games presenting the properties and applications of light in many areas of science and technology. The following workshops have been prepared by us:

Spectral analysis of light sources

Spectral measurements of various light sources were carried out. There were five stations equipped with optical spectrometers. It was possible to measure own light sources (cell phone, light bulb, etc.) by the participants.

Waveguide workshop

Workshops in which participants could perform their own model of the fiber optic illuminator based on USG gel or jelly and cheap source of light

Interactive multimedia systems

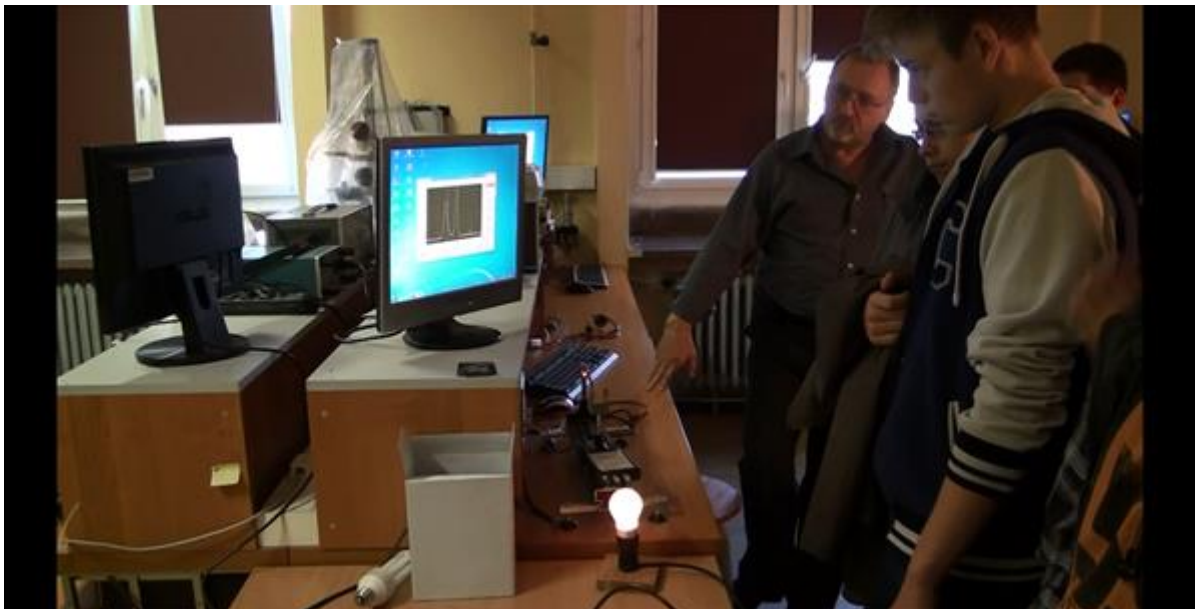
Presentation of modern multimedia techniques such as augmented reality, gesture control. There were also carried out workshops on modern technology in the field of image management and multimedia.

Optical metrology

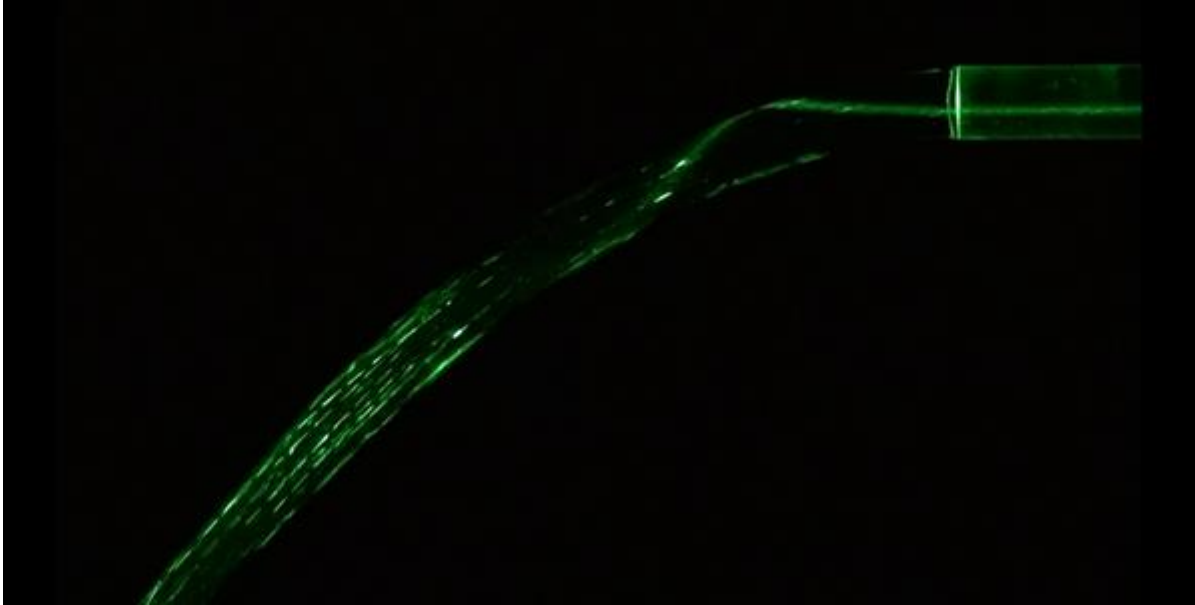
Overview of selected measurement methods used in nanotechnology such as atomic force microscopy or optical confocal microscopy

Laser Show

Laser show preceded by a presentation of the lasers principles of operation.



Dr. Zbigniew Opilski presenting the spectrometric measurements of different light sources



Light propagation in a curved stream of water, shown on the bench performed by our chapter

Faculty of Electrical Engineering Open Days 2013.02.08

Members from the Silesian University of Technology SPIE student chapter were part of staff of the Faculty of Electrical Engineering Open Days. The aim of the Open Days was to increase interest in science and encourage young people to study at the Faculty of Electrical Engineering at the Silesian University of Technology. Members of The Silesian University of Technology SPIE student chapter organized workshops for high school students and undergraduates. During this events participants were introduced to optics and optoelectronics laboratory equipment. Following laboratories were presented during the workshops:

Laboratory of Raman spectroscopy and Atomic Force Microscopy

Optoelectronics Laboratory

Photolithography laboratory



Sabina Drewniak showing participants the laboratory of Raman Spectroscopy and Atomic Force Microscopy

Optics + Photonics, 25th - 29th August 2013, San Diego, California, USA

Representative of our chapter Marcin Procek had the opportunity to participate in the Optics + Photonics conference 25-29 August 2013 in San Diego California thanks to Travel Grant award. This meeting was beneficial because of exploring new cooperation possibilities with other chapters. It also allows us to become familiar with new trends in photonics. Opportunity to exchange experiences with scientists from around the world is also very valuable for us.



Marcin Procek during the presentation of the activities of Silesian Univ of Technology SPIE Student Chapter

Scheduled activities

Educational initiatives:

- demonstrations of physics and optoelectronics,
- demonstration for High School students of various optical phenomena in the laboratories of Department of Optoelectronics.

Participation in the Silesian Night of the Scientist.

Organising Khet 2.0 tournament for students

Participation of the most prominent student of The Silesian University of Technology Chapter in the Student SPIE Chapter meeting in San Diego.

Financial report

Expenses of our chapter in 2013 were related to covering the costs of participation of the members of our chapter in OPTO Meeting Conference. With the money received from SPIE we cover travel costs from Gliwice to Torun of six of our members and we have covered part of the costs of accommodation in Torun for the duration of the conference.

Income

funds from previous years	\$337
---------------------------	-------

Total revenue	\$337
----------------------	--------------

Expenses (OPTO Meeting Conference)

Travel costs	\$185
--------------	-------

Subsidy for the cost of accommodation in Torun	\$152
--	-------

Total expenditure	\$337
--------------------------	--------------

Remaining Money	\$0
------------------------	------------