SPIE. STUDENT CHAPTER
SAINT-PETERSBURG ACADEMIC UNIVERSITY RUSSIAN ACADEMY OF SCIENCES

Annual Report 2016/2017

Saint-Petersburg Academic University SPIE Student Chapter has been established from the initiative of group of students gathered by its main contributor – Vladimir Korenev, who became the first president of the Chapter. The chapter was established on 25 June 2013. The members of the Chapter are mostly graduate students with electrical/optical/bio engineering background.

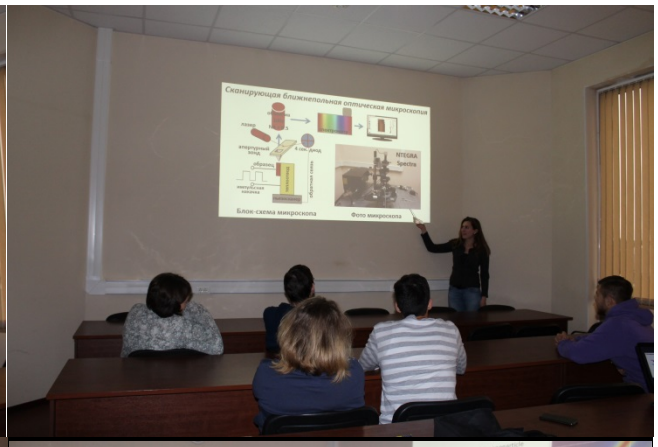
1. Elected Officers

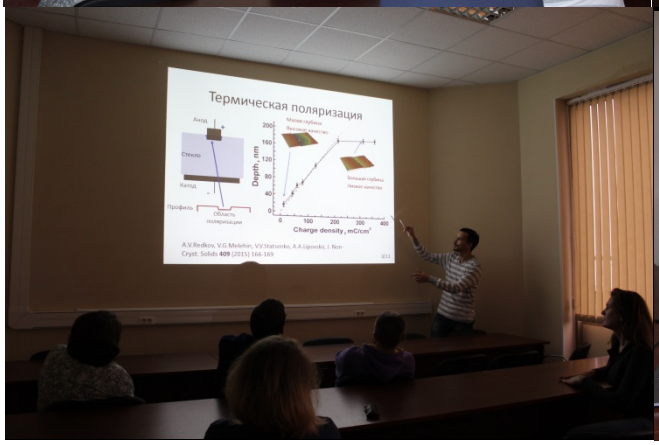
First/Last Name	Email	Position	SPIE ID
Yulia Polubavkina	polubavkina@mail.ru	President	3602447
Ksenia Shubina	rein.raus.2010@gmail.com	Vice-President	3756087
Eduard Moiseev	moiseev@spbau.com	Treasurer	3756085
Artem Polushkin	polushkinartem96@gmail.com	Secretary	4041025

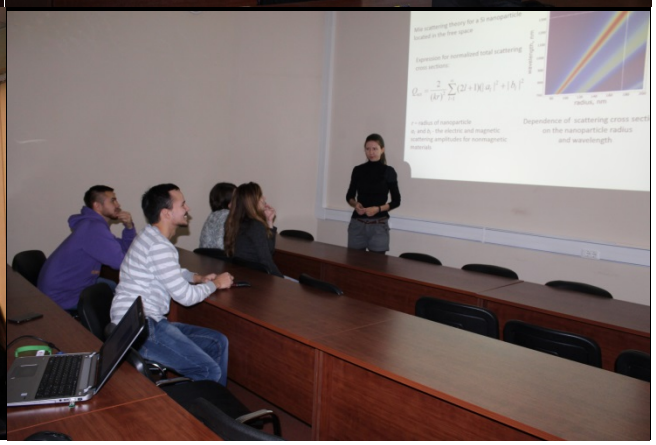
2. List of current Student Chapter Members

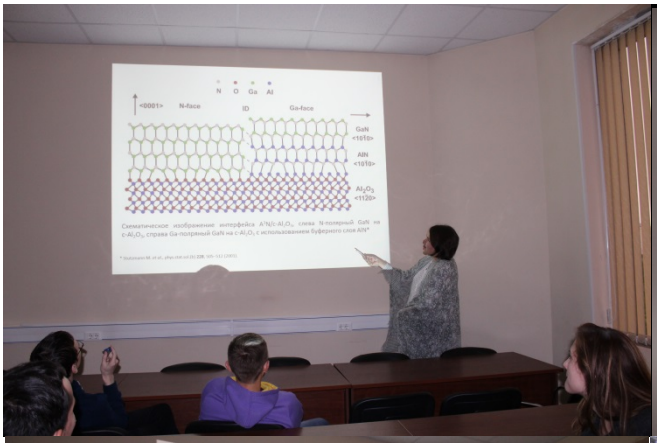
First/Last Name	Status
Igor Agafonov	member
Ekaterina Babich	member
Alexander Kamenskii	member
Valera Kozin	member
Eduard Moiseev	member
Alexey Mozharov	member
Ildar Nabiullin	member
Aleksandr Novikov	member
Yuliya Polubavkina	member
Artem Polushkin	member
Igor Reduto	member
Ksenia Shubina	member
Andrey Sokolovskiy	member

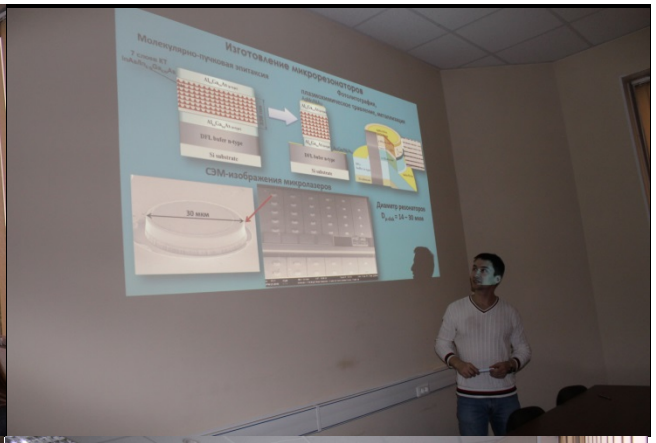
Seminars of the Student Chapter

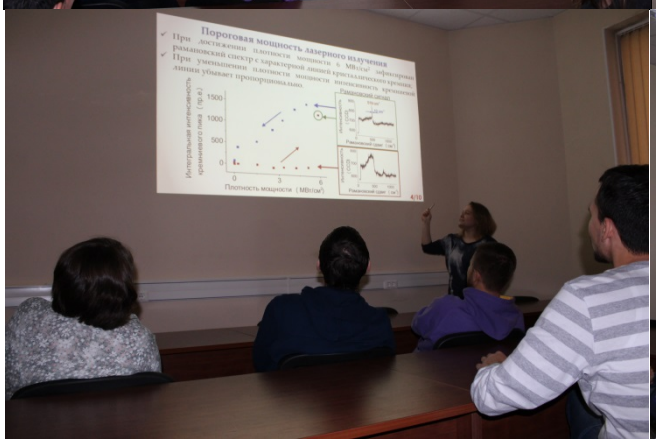


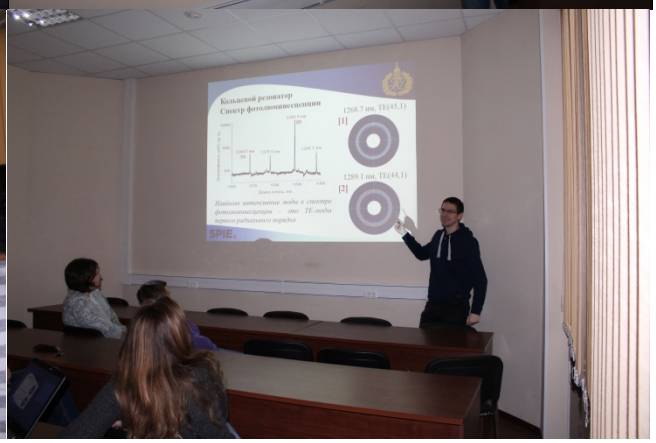






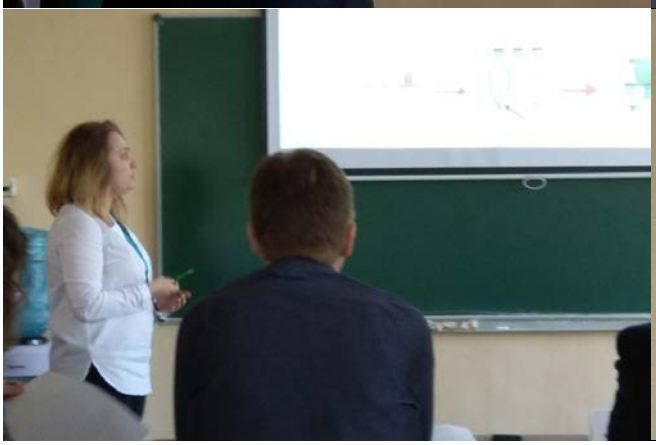


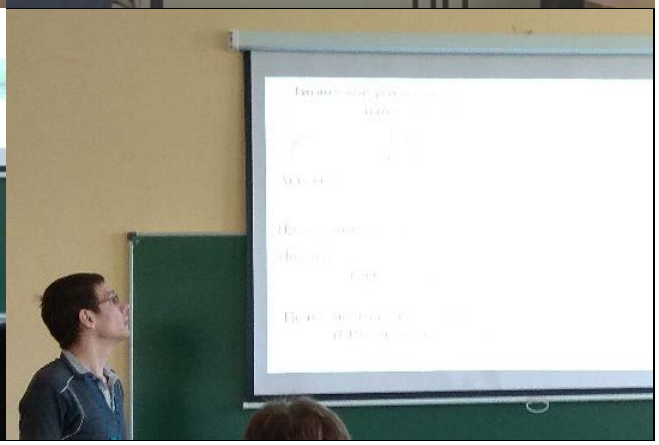




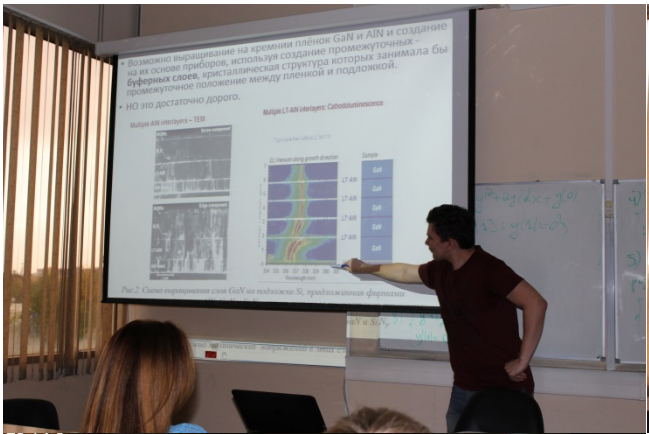

Паразитная рекомбинация
в волноводе
Увеличение порогового тока
Температурная чувствительность
Нелинейность ВтАХ
Current
Power

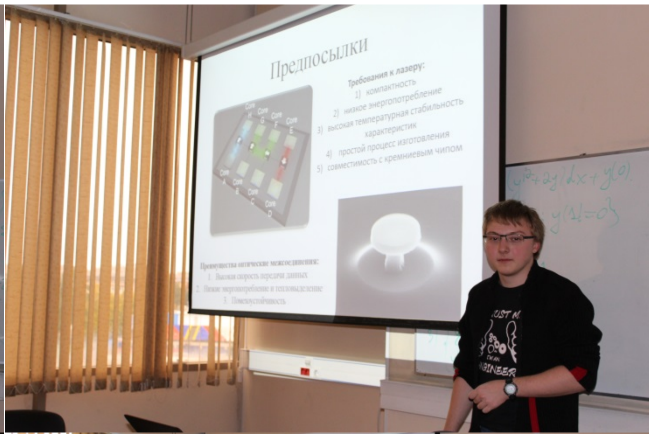

Заключение
Спасибо за внимание!

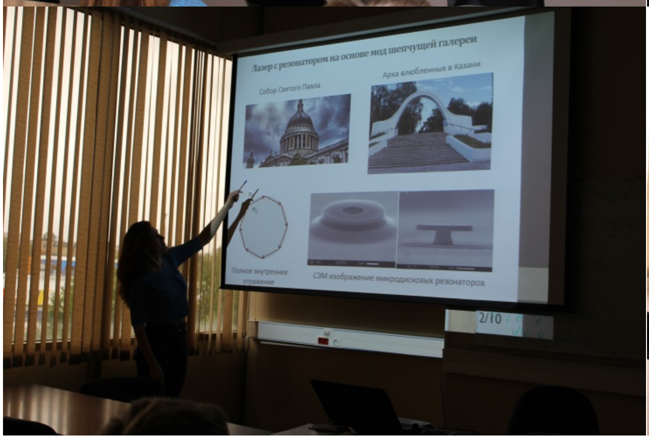


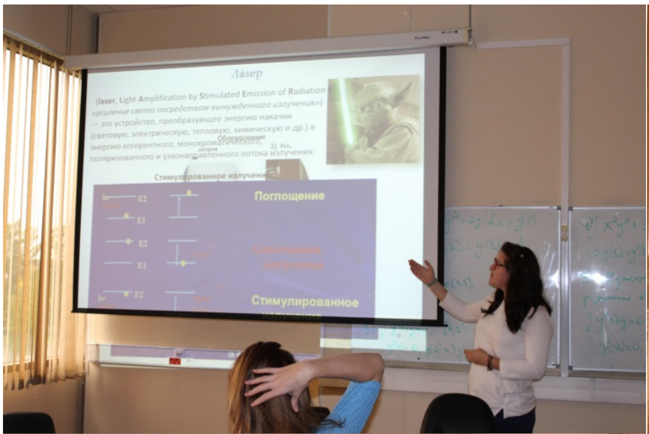


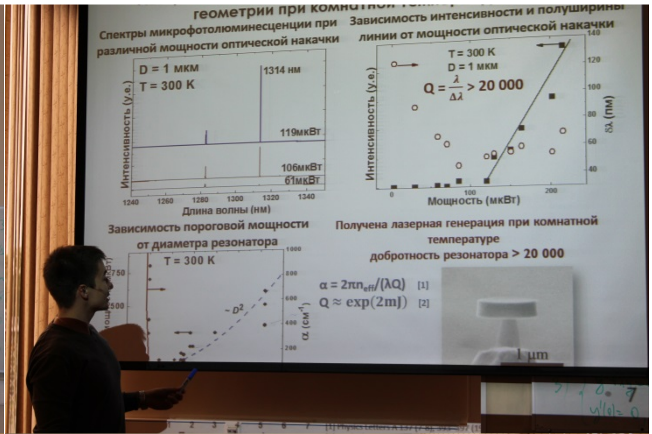

Микрорезонаторы с различными геометрическими параметрами
СЭМ – изображения микрорезонаторов


НО это достаточно дорого.
Multiple LT-AlN interlayers: Cathodoluminescence


Предпосылки
Требования к лазеру:
1) компактность
2) низкое энергопотребление


Лазер с резонатором на основе мод шепчущей галереи
Собор Святого Павла
Арка влюбленных в Казани
СЭМ изображение микродисковых резонаторов


Лазер
Поглощение
Стимулированное


Спектры микрофотолюминесценции при различной мощности оптической накачки
Зависимость интенсивности и полуширины линии от мощности оптической накачки
D = 1 мкм
T = 300 K
1314 нм
119мкВт
106мкВт
61мкВт
Длина волны (нм)
Интенсивность (у.е.)
Мощность (мкВт)
Зависимость пороговой мощности от диаметра резонатора
Получена лазерная генерация при комнатной температуре
добротность резонатора > 20 000
1 μm

4th International School and Conference "Saint Petersburg OPEN 2017" on Optoelectronics, Photonics, Engineering and Nanostructures was held on April 3 - 6, 2017 at St. Petersburg Academic University. The School and Conference included a series of invited talks given by leading professors with the aim to introduce young scientists with actual problems and major advances in physics and technology. The keynote speakers were

Alexey Toropov (Ioffe Physical Technical Institute RAS, Russia)
Leonid Karachinsky (Connector Optics LLC, Russia)
Sergei Alexandrov (Peter the Great St Petersburg Polytechnic University, Russia)
Sergey Morozov (Institute for Physics of Microstructures RAS, Russia)
Alexander Marmaluk (JSC M. F. Stelmakh Research Institute "Polyus", Russia)
Nika Akopian (Technical University of Denmark, Denmark)
Anatoly Evstrapov (Institute for Analytical Instrumentation RAS, Russia)
Seppo Honkanen (University of Eastern Finland, Finland)

During the poster session all undergraduate and graduate students attending the conference presented their works. Sufficiently large number of participants with 286 student attendees from all over the world allowed the Conference to provide a fertile ground for the fruitful discussions between the young scientists as well as to become a perfect platform for the valuable discussions between student authors and highly experienced scientists. The best student papers, which were selected by the Program Committee and by the invited speakers basing on the theses and their poster presentation, were awarded with diplomas of the conference and prizes – see the photos.

This year "**Saint Petersburg OPEN 2017**" is organized by **St Petersburg Academic University** in cooperation with **Peter the Great St. Petersburg Polytechnic University**. School and Conference is supported by **Russian Foundation for Basic Research** (*Project #17-32-10035*), **Russian Science Foundation**, **SPIE** and **OSA**. It is a continuation of the annual schools and seminars for youth on topical problems of physics and technology that is organized by the Academic University since 2009.
More details at http://spbopen.spbau.com

4th International School and Conference
Saint Petersburg OPEN 2017

Optoelectronics, Photonics, Engineering and Nanostructures

Saint Petersburg, April 3–6, 2017

Acknowledgements

RFBR
Russian Foundation for Basic Research

RSF
Russian Science Foundation

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OSA®
The Optical Society

The head of Program Committee,
rector of St Petersburg Academic University
academic *Zhores Alferov* is making opening remarks

The head of Organizing Committee Professor *Alexey Zhukov*

The invited speakers

Alexey Toropov

Leonid Karachinsky

Sergei Alexandrov

Sergey Morozov

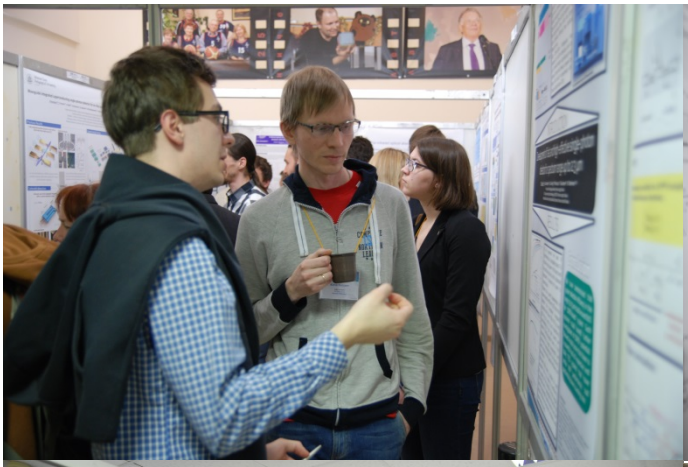
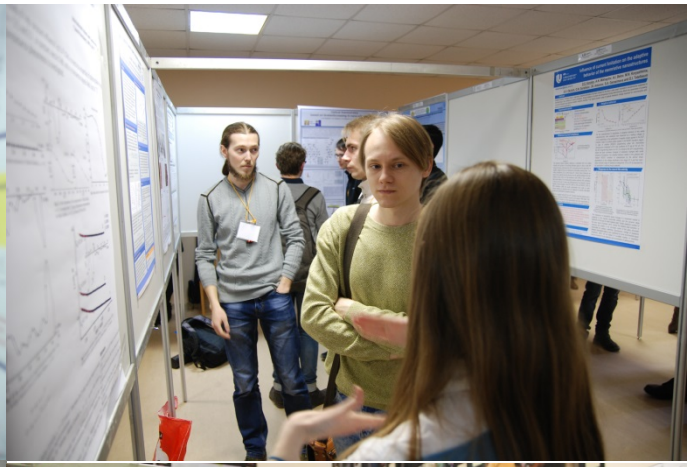
Alexander Marmaluk

Nika Akopian

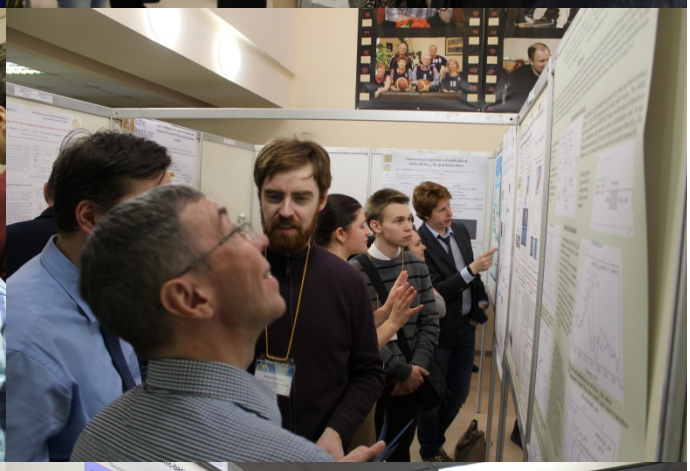
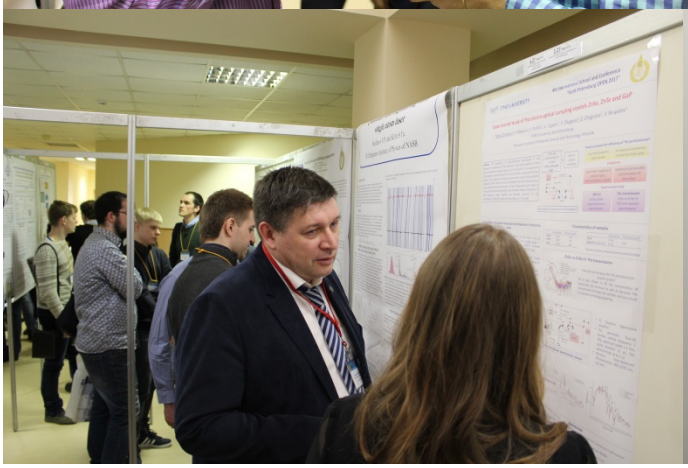
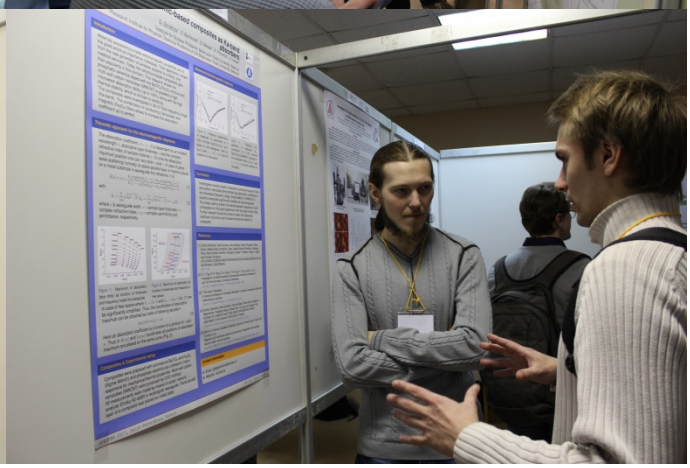
Seppo Honkanen

Anatoly Evstrapov

Poster Session

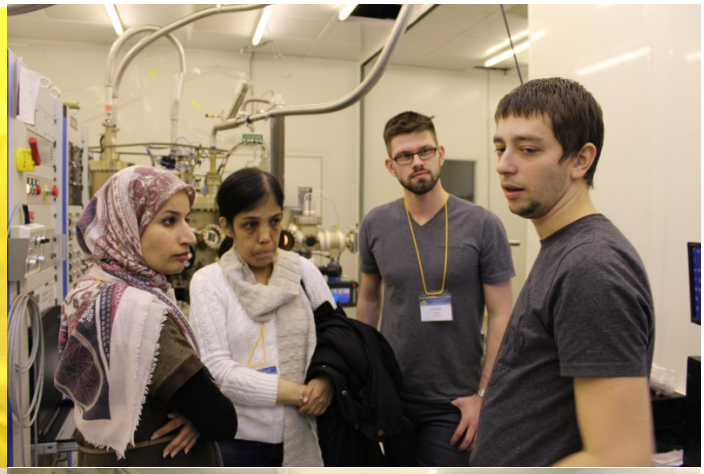


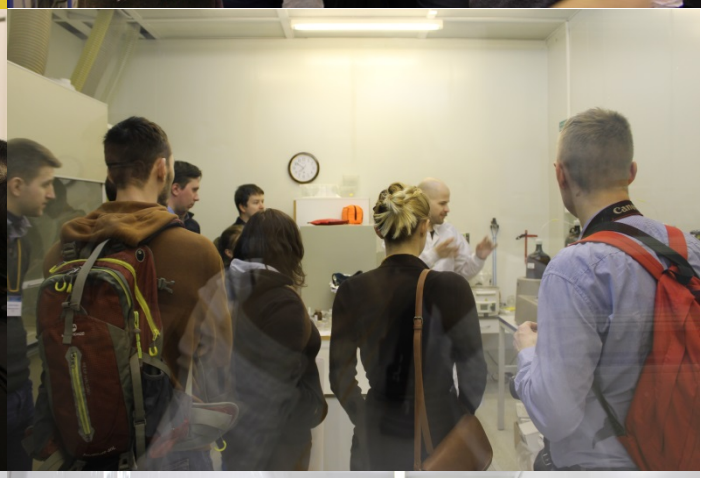




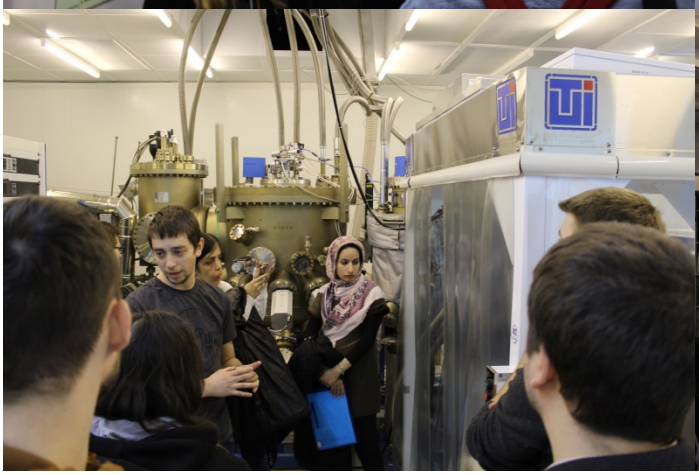
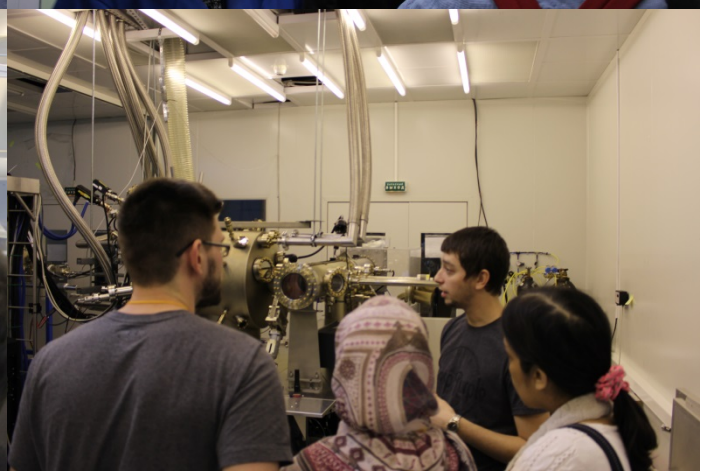
Elevator speech session

Coffee Breaks

Tour of the labs for students



Award ceremony

Prof. *Alexey Zhukov* and *Andrey Lipovskii* with students

Photos of participants

The student of Saint-Petersburg Academic University ***Kirill Koshelev*** attended SPIE.Optics & Photonics Conference in California (6 - 10 August).

SPIE.

Press release

Koshelev awarded SPIE Travel Scholarship

BELLINGHAM, Washington, USA – November 9, 2016 – Kirill Koshelev has been awarded a 2016 Travel Scholarship by SPIE, the international society for optics and photonics for his potential contributions to the field of optics, photonics or related field.

Koshelev is a graduate student at the Saint Petersburg Academic University of the Russian Academy of Sciences (Russian Federation) and has an assistant position in the Department of Nanophotonics and Metamaterials at ITMO University. His research is connected with various hot topics of modern optical science: tunable metamaterials, nonlocal response of photonic structures and all-dielectric nanophotonics. Under the supervision of Dr. Andrey Bogdanov, he performs theoretical studies and develops new analytical approaches for computational electromagnetics.

In 2016 SPIE awarded $392,000 in education and travel scholarships to 153 outstanding individuals, based on their potential contribution to optics and photonics, or a related discipline. Award-winning applicants were evaluated, selected and approved by the SPIE Scholarship Committee, Chaired by SPIE volunteer Cristina Solano.

Through 2015, SPIE has distributed $5 million dollars in individual scholarships. This ambitious effort reflects the Society's commitment to education and to the next generation of optical scientists and engineers around the world.

To view press releases of the scholarship recipients as they become available go to http://spie.org/x1737.xml. Contact scholarships@spie.org if you have any questions. Learn more at http://spie.org/scholarships.

SPIE is the international society for optics and photonics, an educational not-for-profit organization founded in 1955 to advance light-based science, engineering, and technology. The Society serves nearly 264,000 constituents from approximately 166 countries, offering conferences and their published proceedings, continuing education, books, journals, and the SPIE Digital Library. In 2015, SPIE provided more than $5.2 million in support of education and outreach programs. www.spie.org

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