

Student Chapter Annual Report 2012

1. Chapter Officers:

Chapter Advisor: Sergey V. Kulakov	svk25@mail.ru
Chapter Scientific Adviser: Oleg D. Moskaletz	molegd@mail.ru
President: Mikhail Vaganov	ma.vaganov@gmail.com
Vice-President: Vasily Kazakov	vasilykazakov@mail.ru
Secretary: Alexey Daletskiy	dalec.alex@gmail.com
Treasurer: Arseny Zhdanov	arszhdanov@yandex.ru

2. Current Student Chapter Member Roster:

- | | |
|-----------------------|-------------------------|
| 1. Ekaterina Alexeeva | 11. Vladimir Pribilskiy |
| 2. Igor Arkhipov | 12. Sergey Savelyev |
| 3. Dmitry Borodin | 13. Alexandr Semenov |
| 4. Alexey Daletskiy | 14. Mikhail Vaganov |
| 5. Evgenij Dashkevich | 15. Arseny Zhdanov |
| 6. Pavel Gordievskiy | |
| 7. Ruslan Hansuvarov | |
| 8. Vasily Kazakov | |
| 9. Andrew Korenchuk | |
| 10. Ilya Mazurenko | |

3. Chapter activities:

In this year our members achieved good results to the following scientific directions:

- The parallel analysis of optical signals;
- Sample spectra analysis;
- Application of the radio optic methods in the theory of diffraction optical spectral devices;
- Receiving and processing of spectroscopic information in optical range;
- Optical spectrum estimation;
- Processing of optical information in multichannel fiber-optic systems;
- Investigation of generation and distribution of millimeter-wave signals over optical fiber;
- Designing of smoke and fire detectors based on optical fiber;
- Acousto-optical methods of researching of frequency and phase spectra of signal;
- Researching of optical fiber quasi-distributed temperature sensors;
- Researching of femtosecond pulses;
- The computer simulation of optical devices.

Members of our Chapter took part in such conferences as:

- VI International scientific and technical conference. Problems and prospects of development of aviation, surface transport and power engineering «ANTE-2011». Kazan, 12 – 14 October 2011.
- XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg 5 – 10 September 2012.
- XXI International Conference “Lasers, Measurement, Information” Saint-Petersburg, 5 – 7 June 2012.
- SPIE Optics & Photonics 2011, San Diego 12 - 16 August 2012

Grants and awards of chapter members:

- *Mikhail Vaganov*: The grant of Saint-Petersburg Government for students, postgraduate students, young scientists and specialists of St. Petersburg, 2012;
- *Mikhail Vaganov*: The Russian Federation President's Scholarship 2011/2012;
- *Mikhail Vaganov*: SPIE Scholarship in Optics and Photonics, 2012;
- *Mikhail Vaganov*: The first place in the international competition of scientific works in the priority directions of development of a science, technologies and equipment in the Russian Federation, 2012;
- *Mikhail Vaganov*: The winner in the All-Russian competition of research works of students and postgraduate students in the field of technical science, 2012;
- *Mikhail Vaganov*: The first place in the VIII ISA European student paper competition ESPC-2012, 2012;
- *Vasily Kazakov*: SPIE Officer Travel Grant, 2012;
- *Vasily Kazakov*: St Petersburg government scholarship, 2012;
- *Vasily Kazakov*: The award for "The active scientific research work at the faculty", SUAI, 2012;
- *Anna Vershinina*: The second place in the VIII ISA European student paper competition ESPC-2012, 2012;
- *Anna Vershinina*: St Petersburg government scholarship, 2012;
- *Arseny Zhdanov*: SPIE Scholarship in Optics and Photonics, 2012;
- *Arseny Zhdanov*: St Petersburg government scholarship, 2012;
- *Evgenij Dashkevich*: The winner Newport Awards, 2012;
- *Evgenij Dashkevich*: St Petersburg government scholarship, 2012;
- *Ruslan Hansuvarov*: St Petersburg government scholarship, 2012;
- *Vladimir Pribilskiy*: St Petersburg government scholarship, 2012;
- *Alexandr Semenov*: St Petersburg government scholarship, 2012.

Other achievements:

Education Outreach Grant Application - to organize a study group of optics and radiooptics to help increase knowledge in physics, mathematics and optics to high school students;

4. Details of planned activities for the future:

- ❖ Increasing the number of chapter members by involving students from different departments;
- ❖ Taking part in conferences on optics;
- ❖ Development of relations with SPIE Chapters from Russia and other countries;
- ❖ Promoting optics in high schools;
- ❖ Attending annual SPIE Student Chapter Leadership Workshop at SPIE Optics and Photonics 2013 to develop collaboration with worldwide SPIE Chapters net;
- ❖ Organizing meetings for chapter members;
- ❖ Organizing an SPIE presentation on XVI International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg;
- ❖ Cooperating with companies and production facilities in optical sphere;
- ❖ Developing an SUAI SPIE Student Chapter library.

5. Financial information:

SPIE Funding 2011	+700 USD
Organizing meetings of chapter members with high school students at high schools	-100 USD
Organizing chapter meetings	-50 USD
Organizing SPIE chapter session on the XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg	-200 USD
Attending and participation in the "Optics & Photonics 2012"	-300 USD
Attending and participate in the XXI International Conference "Lasers, Measurement, Information" Saint-Petersburg	-50 USD
Ending balance	0

6. Publications:

- O.D. Moskaletz, A.Yu. Zhdanov. //Time-dispersion optical signals spectral analysis: complex and power spectra. Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.57, 2012.
- O.D. Moskaletz, V. A. Pribilskiy. Methodic of analitical description of diffraction spectral optic device.// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.30, 2012.
- O.D. Moskaletz, A.S. Semenov. Absolutely explosiode - safety smoke fire detector// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.38, 2012.
- T.V. Nazarov, A.I. Nemtcev, A.S. Semenov, O.D. Moskaletz. A research on interaction between laser radiation and thermal upgoing convective stream, that appears in the process of burning. Experimental analysis of the photo-receiver characteristics// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.41, 2012.
- P.M. Gordievskiy. Acousto-optical methods of researching of frequency and phase spectra of signal// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.39, 2012.
- O.D. Moskaletz, A.S. Vershinina. Classical and quantum description of spectral characteristics of femtosecond pulses// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.42, 2012.
- O.D. Moskaletz, A.S. Vershinina. Mathematical model of polarization spectrum of the outgoing and echo radio signals of radio frequency identification systems// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.49, 2012.
- O.D. Moskaletz, A.S. Vershinina. Polarization transformation of the outgoing and echo radio signals of radio frequency identification systems// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.52, 2012.
- Vershinina A. Spectral characteristics of femtosecond pulses at classical and quantum methods of the description// Proceeding of XIII International Forum «Modern information society formation - problems, perspectives, innovation approaches», SUAI, St. Petersburg, 2012.– p. 77–80.
- O.D. Moskaletz, M.A. Vaganov. Matrix analysis of the multichannel optical spectral device // Proc. of XXI International conference “Lasers, Measurements, Information”. NRU SPb SPU, St. Petersburg, p. 54, 2012;

- Vaganov M.A. The parallel spectrum analyzer of optical signals// Proceedings of XIII International forum «Modern information society formation- problems, perspectives, innovation approaches», St. Petersburg, SUAI, pp.63-67, 2012
- M.A. Vaganov, O.D. Moskaletz. The optical spectral device as multidimensional linear system// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.29, 2012.
- M.V. Sal'nikov, M.A. Vaganov. The computer simulation of characteristics of the optical spectral device's units// Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.58, 2012.
- A.Yu. Zhdanov, O.D. Moskaletz. Time-dispersion optical signals spectral analysis: complex and power spectra // Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.57, 2012.
- A.A. Daletskiy, I.A. Mazurenko, O.D. Moskaletz. Processig of optical information in multichannel fiber-optic systems // Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.54, 2012.
- A.A. Daletskiy, I.A. Mazurenko, O.D. Moskaletz. The general method of processing optical information in multichannel fiber-optic systems // Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.56, 2012.
- V.I. Kazakov, O.D. Moskaletz. Power optical signals spectrum assessment as stochastic process using parallel analyzer // Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.53, 2012.
- D.Y. Borodin, L.N. Preslnev. Optical fiber quasi-distributed temperature sensor operating in threshold mode // Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.51, 2012.
- E.E. Dashkevich, L.N. Preslnev. Hybrid system of data transmission // Proc. of XV International conference for young researchers. Wave electronics and Its Applications in the Information and Telecommunication Systems, St. Petersburg, p.46, 2012.

7. Photo report:



SPIE Student Chapter President Mikhail Vaganov (left)
Awarded Grant for students, postgraduate students,
young scientists and specialists of St. Petersburg



Anna Vershinina
Awarded VIII ISA European student paper competition

XV International conference for young researchers “Wave electronics and Its Applications in the Information and Telecommunication Systems”

5 – 10 September 2012



Chapter Members with chapter advisor Sergey V. Kulakov and
the chapter scientific advisor Oleg D. Moskaletz



Vasily Kazakov presents his report



Arseny Zhdanov with the academician of the Russian Academy of Sciences A. Bugaev



Mikhail Salnikov, Ruslan Hansuvarov, Vasily Kazakov with rector of SUAI A. Ovodenko



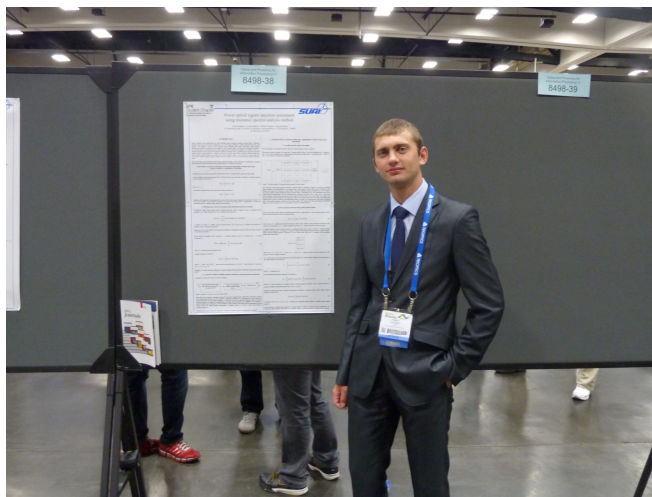
The pre-college student Mikhail Salnikov took part in conference in frame of realization of SPIE Education Outreach Grant

SPIE Optics & Photonics 2012 San Diego, California, USA 12-16 August 2012

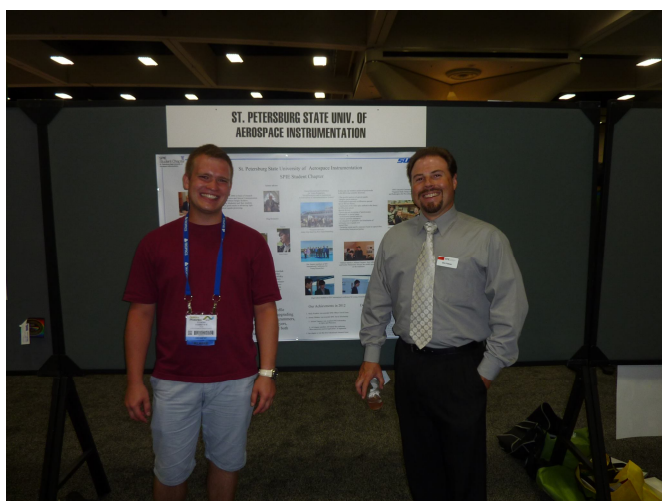
In this year 3 members of our chapter took part in this conference: Vasily Kazakov, Arseny Zhdanov, Evgeny Dashkevich.



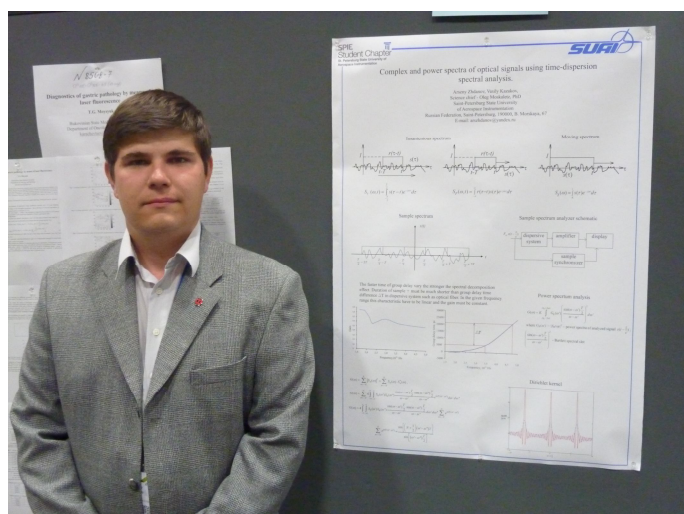
Evgeny Dashkevich, Arseny Zhdanov and Vasily Kazakov with Dirk Fabian



Vasily Kazakov



Evgeny Dashkevich & Dirk Fabian



Arseny Zhdanov

The last meeting of chapter members, 29 September 2012



Vasily Kazakov makes report about O&P 2011



Chapter members discuss the problems

St. Petersburg State University of Aerospace Instrumentation Chapter

