The chapter was established in August 2004.

University of Latvia
Raina Blvd. 19,
Riga, LV-1586,
Latvia

Chapter advisor: Professor Janis Spigulis, director of Biophotonics Laboratory, Institute of Atomic Physics and Spectroscopy, janispi@latnet.lv

List of current members

<table>
<thead>
<tr>
<th>Name</th>
<th>Expires</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lasma Asare</td>
<td>27 February 2017</td>
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<tr>
<td>Artis Brasovs</td>
<td>19 March 2018</td>
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<tr>
<td>Inga Brice</td>
<td>17 September 2016</td>
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<tr>
<td>Arturs Bundulis</td>
<td>6 November 2016</td>
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<tr>
<td>Olga Danilenko</td>
<td>17 September 2016</td>
<td></td>
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<tr>
<td>Antra Dzerve</td>
<td>3 March 2018</td>
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<tr>
<td>Andris Erglis</td>
<td>23 November 2016</td>
<td>New Member</td>
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<tr>
<td>Inesa Ferulova</td>
<td>13 June 2016</td>
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<tr>
<td>Zanda Gertnere</td>
<td>17 August 2016</td>
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<tr>
<td>Uģis Gertners</td>
<td>2 November 2016</td>
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<tr>
<td>Raitis Grzibovskis</td>
<td>31 January 2018</td>
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<tr>
<td>Paula Jankovska</td>
<td>11 December 2016</td>
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<tr>
<td>Kaspars Kaprans</td>
<td>3 March 2018</td>
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<td>Mātiiss Lacis</td>
<td>3 March 2018</td>
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<tr>
<td>Katrina Laganovska</td>
<td>19 March 2018</td>
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<tr>
<td>Marta Lange</td>
<td>10 December 2016</td>
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<tr>
<td>Aleksandrs Leitis</td>
<td>19 March 2016</td>
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<tr>
<td>Ilze Lihacova</td>
<td>19 March 2016</td>
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<td>Elza Linina</td>
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<td>Ilze Oshina</td>
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<td>Karola Panke</td>
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<td>Anete Pausus</td>
<td>9 January 2018</td>
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<td>Tatjana Pladere</td>
<td>21 October 2016</td>
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<tr>
<td>Zigmars Rupenheits</td>
<td>17 September 2016</td>
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<tr>
<td>Inga Sakniete</td>
<td>2 November 2016</td>
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<td>Janis Smits</td>
<td>21 October 2016</td>
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<td>Andris Stikuts</td>
<td>22 February 2018</td>
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<tr>
<td>Janis Tjarve</td>
<td>17 September 2016</td>
<td></td>
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<tr>
<td>Eriks Zaharans</td>
<td>17 September 2016</td>
<td></td>
</tr>
<tr>
<td>Martins Zeidaks</td>
<td>11 December 2016</td>
<td></td>
</tr>
</tbody>
</table>

Officers
President: Elza Linina (SPIE ID: 3653995, elza.linina@gmail.com);  
Vice-President: Paula Jankovska (SPIE ID: 3657360, paula.jankovska@fizmati.lv);  
Secretary: Artis Brasovs (SPIE ID: 3612233, artis brasovs@gmail.com);  
Treasurer: Matiss Lacis (SPIE ID: 3680222, lacis2x@gmail.com);
Chapter activities

Organizing International annual conference DOC Riga 2015

Main Organizer / Chair of the conference: Marta Lange (UL SPIE)
Main Organizer / Chair of the conference: Janis Smits (OSA)

Team:

1) Arturs Bundulis
2) Arturs Cinins
3) Brigita Zutere
4) Elza Linina
5) Ilze Osina
6) Inesa Ferulova
7) Inga Saknite
8) Janis Zaharans
9) Martins Zeidaks
10) Matiss Lacis
11) Varis Karitans
12) Lasma Asare

Planning the conference: fundraising ideas, logistics and brainstorming. From the left: Janis Zaharans, Janis Smits, Elza Linina (behind), Lasma Asere.

A day before conference: busy team and last preparation work(from the left): Kristaps, Elza, Ilze.

The conference in April:

From the left: Marta Lange, prof. Lise Randeberg, Inga Saknite at the Biophotonics lab of Institute of Atomic Physics and Spectroscopy. Lise Lyngsnes Randeberg about to give a speech “How do optical properties affect light transport in tissue, and which parameters do you need to care about in the lab?”
Prof. Pablo Artal with a talk “Adaptive optics for better vision”

Jurita Kruma with her Presentation Skills Workshop

Ilze Laicane “Perception of biological motion in central and peripheral visual field”

Conference participants in discussion

Poster Session – Arturs Mozers from University of Latvia talking with Mateusz Szatkowski from Wroclaw University of Science and Technology in Poland.
Informal ice-breaking games

One of the teams participating in the City Rally in Riga.

Final Dinner and Party of the orgaNICErs and PARTYcipants
Celebrating light

Watching Northern Lights by the Baltic Sea in Kalngale, Latvia and celebrating the International Year of Light

11th Anniversary of the Chapter

From the left, first row: Matiss and Janis, Second row from the left: Brigita, Karola, Elza, Tatjana, Nellija, Marta and Paula

11th anniversary cake of UL SPIE chapter
Outreach activities

On the 25th of September, 2015 Marta Lange visited the “School of Talents” in Druva high school, Kurzeme region, Latvia and delivered an interactive lecture and a laboratory work in groups for schoolchildren (15 – 18 years old) about latest technologies and challenges in non-invasive medical equipment, including the prototype made for skin mapping using light technologies: RGB and UV.
Members of UL SPIE chapter are still cooperating with School of Young Physicists and sharing their love of physics in monthly lectures as well as bigger events organized every now and then:

Artis Brasovs talking about the physics of heartbeats in one of the monthly lectures for School of Young Physicists.

Artis Brasovs and other organizers of School of Young Physicists on a trip to share their love of physics in Playground Festival, 8th-10th of July, 2015.

In the middle of the school holidays London Gates Education Group organized a Summer City Camp. The City Camp consisted of topical lessons and educational games. Tatjana Pladere was invited to hold the Science Day for students between the ages of 10 and 13. At the beginning of the event on July 15th Tatjana introduced all the participants to the concept and idea of the International Year of Light.

Participants of Summer City Camp excited about the colorful lights.
Science Night 2015

Many UL SPIE members (Elza Linina, Artis Brasovs, Paula Jankovska, Janis Tjarve, Janis Smits, Inga Brice, Anete Pausus, Zigmars Rupenheits and others) participated in the Science Night 2015 on 25\textsuperscript{th} of September, each presenting something to the kids and adults that wish to learn more about physics and light in particular.

Artis Brasovs explaining and demonstrating laser tweezers.

Elza Linina (together with Paula Jankovska, Janis Tjarve and Tatjana Pladere) explaining the basic principles of RGB color mixing to kids and adults alike.
Laser Tournament and Pizza party

On October 22nd, 2015 a pizza party and laser chess Khet2.0 tournament was held to determine the best player and introduce UL SPIE to potential new members. During the event all the participants were introduced with the SPIE and OSA Latvia Student chapters. Lastly, a second year undergrad in physics Oskars Sjomkans won the tournament and was awarded with an astronomical laser pointer.

Everyone having fun and enjoying pizza while playing Khet2.0.

UL SPIE chapter president Elza Linina shaking hands and handing the award to the best Khet2.0 player – Oskars Sjomkans.

Other activities of chapter members

In 2015 UL SPIE member Ilze Osina and chapter treasurer Matiss Lacis obtained their bachelor degrees in physics and bioengineering respectively.

Raitis Grzibovskis was a part of Junior Achievement Career Day in Latvia (February 10-15th) and introduced high school students to physics in the laboratories of Institute of Solid State Physics.

Tatjana Pladere not only attended summer school “STAR: Smart Textile for Healthcare”, August 25-28, 2015, Riga, Latvia, but was also awarded the SPIE Travel Scholarship 2015.

Elza Linina was awarded with the Officer Travel Grant to SPIE Optics + Photonics in San Diego and attended this event, representing the University of Latvia SPIE student chapter.
Projects, publications and conferences of chapter members

Projects

Raitis Grzibovskis:
- National Research Program (Multifunctional Materials and composites, photonics and nanotechnology (IMIS2))
- University of Latvia Institute of Solid State Physics student and young scientist project “Robežvirsmas starp divām organiskajām vielām pētīšana ar fotoemisijas kvantu iznākuma spektroskopijas metodi”

Jurgis Grube:
- European Social Fond support for project “Atbalsts doktora studijām Latvijas Universitātē”
- National Research Program (IMIS)

Marta Lange:
- Work in European Regional Development founded project „Inovatīvas ādas diagnostiskās attēlošanas tehnoloģijas“ (nr: 2DP/2.1.1.1.0/14/APIA/VIAA/015) (Innovative diagnostic skin imaging technologies) in Biophotonics lab of University of Latvia. The main goal of the project was mapping the skin parameters using specific wavelengths, analysing RGB images with custom made software for smartphone applications. The prototype was also clinically tested in Dermatology department of the local hospital. (Participants from the Chapter: The advisor of the Chapter Janis Spigulis was the scientific leader of the project. Members: Inesa Ferulova, Ilze Osina, Marta Lange, Zigmars Rupenheits, Ilze Lihacova, Matiss Lacis, and others).

Ilze Osina:
- ERAF „Inovatīvas tehnoloģijas ādas diagnostiskai attēlošanai“,
  (No.2014/0041/2DP/2.1.1.1.0/14/APIA/VIAA/015)
- National Research program SOPHIS (#10-4/VPP-4/11)

Tatjana Pladere:
- 21st century skills for success – Teacher collaboration across Europe. Erasmus+ project No.2014-1-LV01-KA200-000499

Conferences

Artis Brasovs:

Inga Brice:
Ugis Gertners:

Raitis Grzibovskis:

Marta Lange:

Marta Lange presented a talk: “Determining the Bilirubin Concentration in Bruises of Human Skin Using Spectral Imaging” and in the Chapter session presented UL SPIE chapter, participated in discussion with other chapter’s representatives about biggest challenges that each chapter meets.
Marta Lange also won 3rd prize as the best talk in IONS Karlsruhe 2015, Germany.
Publications

Artis Brasovs:

Ugis Gertners:
- U.Gertners, J. Teteris, All-optical surface micropatterning by electric field intensity gradient, Advances in OptoElectronics, Vol. 2015, (September 2015), 917029;

Marta Lange:

Elza Linina:

Ilze Osina:

Anete Pausus:

Planned activities for 2016
1. Organization of 12th International Young Scientist Conference “Developments in Optics and Communications 2016” in cooperation with University of Latvia OSA Student Chapter;
2. Organization of School for Young Physicists of Latvia;
3. Outreach activities for school students and general public such as Science Night 2016;
4. Student chapter events for networking with other chapter members, as well as collaboration with University of Latvia OSA Student Chapter – lectures, seminars, meetings, organizing of the conference;
5. Trip to Poland to meet students from Wroclaw University of Science and Technology and their SPIE and OSA chapter members.
## Financial Information

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<th>Object</th>
<th>EUR</th>
<th>USD</th>
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<td>Beginning balance on 01.01.2015</td>
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<td>SPIE funding</td>
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<td>Support for DOC conference from company OPTEK</td>
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<td>Support for DOC conference from University of Latvia OSA student chapter</td>
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<td>UL SPIE membership fees</td>
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<td><strong>Total expenses</strong></td>
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<td>Mailing and postage</td>
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<td>International Young Scientist Conference “DOC 2015”</td>
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<td>Science Night 2015 representative materials</td>
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<td>Pizza Party/Laser tournament prize and food expenses</td>
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<td>Representative materials for School of Young Physicists</td>
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<td><strong>Balance (15th of January, 2016)</strong></td>
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