As one of the main goals of 2018-2019, the chapter officers wanted to make sure that students were getting the most out of their membership. Over the past year, student members were offered a great many opportunities which contributed to their professional and personal development, as well as reinforcing a sense of community among them. In addition to the 2018-2019 membership and financial details of our student chapter, this report highlights the initiatives and activities which animated our university’s optics and photonics student body, and brought a plus value to being an SPIE student member.

Prepared by:
Guillaume Allain
SPIE President 2018-2019
and
Olivier-Michel Tardif
SPIE President 2019-2020
About us

by Guillaume Allain – SPIE President 2018-2019

Our chapter (on October 1st 2019) is made up of 31 graduate and undergraduate students in optics and photonics at Université Laval (Quebec City, Canada), and of 7 alumni. Combined with Université Laval’s OSA student chapter, we form one same student association, which is the REPOL (Regroupement des Étudiants en Optique et Photonique de Laval). The REPOL represents about 125 university students working in optics and photonics. Our laboratories and offices are located in the Center for Optics, Photonics and Lasers (COPL) at Université Laval (www.copl.ulaval.ca/accueil/).

The main goal of our chapter is to gather, inform and represent students from Université Laval who are members of SPIE and OSA. More specifically, the REPOL aims to:

- Organize conferences and workshops;
- Establish a link between university and industry;
- Inform students about new developments in optics and photonics;
- Organize social, cultural and sports activities;
- Promote the science of light to the general public, with a focus on high school students;
- Correspond with other SPIE and OSA chapters around the world;
- Manage the chapter’s funds.

Our website, which has been completely redesigned in the past year, can be accessed here: www.repol.copl.ulaval.ca. Since October 2016, we also have a
Facebook page, which allows us to promote events and activities more efficiently, as well as relay SPIE and OSA information to students: www.facebook.com/repolul/

Although being a member of both SPIE and OSA has always been encouraged throughout the years, it is not a mandatory criterion to participate in our chapter’s activities. Indeed, we have always preferred to include as many people as possible without enforcing membership fees to build and reinforce our student community. However, we work hard at offering advantages to our members, such as free access to networking events with industry representatives, $5 - $10 discounts for social and sports events, and free meals during professional development activities.

As a matter of fact, increasing the number of benefits has resulted in an increase of student members in the past year and a notable increase in the number of participants at our events. For most, if not all, of our activities, we had a minimum of 30 student participants, who were mostly REPOL members. This high level of membership is possible partly thanks to the financial support from our research center, the COPL: the administration typically reimburses more than half the membership fees to approximately 40-50 students ($\approx 1000). It is with great pleasure that we can confirm that this partnership has been reinstated for the coming year, as it has been an outstanding success for the COPL, the REPOL, and the students.

Chapter Officers

Our student chapter executive committee is composed of two co-President: SPIE President and OSA President, Secretary, Treasurer, as well as coordinators and assistants for each of our three important subcommittees (outreach, professional, social & sports):
### Chapter Officers (from October 2018 to September 2019)

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPIE President</td>
<td>Guillaume Allain</td>
<td><a href="mailto:guillaume.allain.1@ulaval.ca">guillaume.allain.1@ulaval.ca</a></td>
</tr>
<tr>
<td>OSA President</td>
<td>Frédéric Jobin</td>
<td><a href="mailto:frederic.jobin.3@ulaval.ca">frederic.jobin.3@ulaval.ca</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Shanny Pelchat-Voyer</td>
<td><a href="mailto:shanny.pelchat-voyer.1@ulaval.ca">shanny.pelchat-voyer.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>Olivier Boily</td>
<td><a href="mailto:olivier.boily.1@ulaval.ca">olivier.boily.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Outreach Coordinator</td>
<td>Philippe Guay</td>
<td><a href="mailto:philippe.guay.4@ulaval.ca">philippe.guay.4@ulaval.ca</a></td>
</tr>
<tr>
<td>Outreach Assistant</td>
<td>Tommy Boilard</td>
<td><a href="mailto:tommy.boilard.1@ulaval.ca">tommy.boilard.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Professional Coordinator</td>
<td>Charles Matte-Breton</td>
<td><a href="mailto:charles.matte-breton.1@ulaval.ca">charles.matte-breton.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Professional Assistant</td>
<td>Lauris Talbot</td>
<td><a href="mailto:lauris.talbot.1@ulaval.ca">lauris.talbot.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Social Coordinator</td>
<td>Gabriel Lachance</td>
<td><a href="mailto:gabriel.lachance.4@ulaval.ca">gabriel.lachance.4@ulaval.ca</a></td>
</tr>
<tr>
<td>Social Assistant</td>
<td>Jeck Borne</td>
<td><a href="mailto:jeck.borne.1@ulaval.ca">jeck.borne.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Chapter Advisor</td>
<td>Réal Vallée</td>
<td><a href="mailto:rvallee@copl.ulaval.ca">rvallee@copl.ulaval.ca</a></td>
</tr>
</tbody>
</table>
The elections for the 2018-2019 committee were held on September 19th, 2019, during the chapter’s General Assembly. Hereafter is the list of the newly elected chapter officers:

**Chapter Officers** (from October 2019 to September 2020)

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPIE President</td>
<td>Olivier-Michel Tardif</td>
<td><a href="mailto:olivier-michel.tardif.1@ulaval.ca">olivier-michel.tardif.1@ulaval.ca</a></td>
</tr>
<tr>
<td>OSA President</td>
<td>Philippe Guay</td>
<td><a href="mailto:philippe.guay.4@ulaval.ca">philippe.guay.4@ulaval.ca</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Louis-Charles Michaud</td>
<td><a href="mailto:louis-charles.michaud.1@ulaval.ca">louis-charles.michaud.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>Daniel Robin</td>
<td><a href="mailto:daniel.robin.1@ulaval.ca">daniel.robin.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Outreach Coordinator</td>
<td>Jonathan Cauchon</td>
<td><a href="mailto:jonathan.cauchon.2@ulaval.ca">jonathan.cauchon.2@ulaval.ca</a></td>
</tr>
<tr>
<td>Outreach Assistant</td>
<td>Gabriel Maranon</td>
<td><a href="mailto:gabriel.maranon-jaramillo.1@ulaval.ca">gabriel.maranon-jaramillo.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Professional Coordinator</td>
<td>Lauris Talbot</td>
<td><a href="mailto:lauris.talbot.1@ulaval.ca">lauris.talbot.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Professional Assistant</td>
<td>Rizan Homay</td>
<td><a href="mailto:rizan.homayoun-nejad.1@ulaval.ca">rizan.homayoun-nejad.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Social Coordinator</td>
<td>Marie-Pier Lord</td>
<td><a href="mailto:marie-pier.lord.1@ulaval.ca">marie-pier.lord.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Social Assistant</td>
<td>Samaneh Bidabadi</td>
<td><a href="mailto:samaneh.bidabadi.1@ulaval.ca">samaneh.bidabadi.1@ulaval.ca</a></td>
</tr>
<tr>
<td>Chapter Advisor</td>
<td>Réal Vallée</td>
<td><a href="mailto:rvallee@copl.ulaval.ca">rvallee@copl.ulaval.ca</a></td>
</tr>
</tbody>
</table>
Chapter Members

Registered students (26)

- Yigit Ozan Aydin
- Brice Bélanger
- Olivier Boily
- Nicolas Bourbeau Hébert
- Alessandro Corsi
- Geoffroi Côté
- Laurent Dusablon
- Simon Duval
- Khaoula Fdil
- Jean-Simon Frenière
- Mathieu Gagnon
- Jean-Christophe Gauthier
- Samuel Gouin
- Philippe Guay
- Joé Habel
- Mathieu Huneault
- Matthieu Huot
- Philippe Jean
- Frédéric Jobin
- Félix Lévesque-Desrosiers
- Frédéric Maes
- Vincent Michaud-Belleau
- Pascal Paradis
- Shanny Pelchat-Voyer
- Louis-Philippe Pleau
- Madison Rilling

Students in the process of being registered (24) or renewed

- Jeck Borne
- Damon DePaoli
- Charles Fortier
- Antoine Gervais
- Olivier Gilbert-Paquet
- Marie-Joëlle Gosselin
- Jason Guénette
- Gabriel Lachance
- Ophélie Légaré
- Charles Matte-Breton
- Simon Munger
- Mireille Ouellet
• Deven Patel
• Charles Pichette
• Frédéric Roy
• Cédric Vallée
• Charles Pichette
• Simon Gagnon
• Jean-Christophe Mathieu
• Jean-Michel Vallée
• Jonathan Cauchon
• Marie-Pier Lord
• Lauris Talbot
• Guillaume Gariépy

Alumni (1)

• Lingyao Yu
Activities

In this section, we summarize the main outreach, professional, and social and sports activities which took place in the past year.

Education and Outreach

Les filles et les sciences

Les filles et les sciences (Girls and Science) is an annual event which takes place in four different cities of the province of Quebec in March. It is a dynamic event aimed at introducing freshman high school girls to science and technology-related careers, and the studies involved in such career paths. This is done through a series of activities and workshops, one of which our student chapter hosted. The girls participating got to build a microscope and a telescope. They then got to use them, and discuss how they are different and learn about the simple optical design of these instruments.

![Figure 1: Pictures of the day including the high-schoolers with our chapter members](image)
Photonics Games

Founded by our student chapter in 2008, the Photonics Games is an annual competition in which teams of high school students tackle several optics-related challenges. The tenth edition of the Photonics Games was held in October 2018. Overall, 300 high school students attended, and no less than 99 undergraduate and graduate students were there as volunteer for the different activities. Many members of our chapter volunteer each year in order to maintain this very important outreach activity. More details can be found at www.jeuxphotoniques.com (web page only available in French).

La terrasse optique

The Optical Terrace (La Terrasse Optique in French) is a standalone platform made up of a large structure that people can walk into or through to experience a different light phenomenon. The project was designed and built by our Student Chapter and two of Université Laval’s architecture school undergraduates: a total of 12 students contributed to the project’s development and construction.

Last year, we had the second edition of our large scale projects: "La Terrasse Optique" (The Optical Terrace). Since the structure that was built last year was very expensive and cumbersome to move, we decided on building a brand new structure that solves these problems by being easier to load into a moving truck. Once again this year, our goal was to make the concepts as simple as we could so that they could be accessible to as many age groups as possible.

This project was also funded by a SPIE micro-grant this year, but this time we used financial support from the city, and most of the big optics companies from Quebec City.

Finally, this year at ETOP 2019, we presented a paper about last years project (“When outreach in optics meets architecture: the optical terrace”) which was well received and introduced us to other people who try to achieve the same goal as us with a different project or approach.
Professional Development

Seminar on solving industry-related problems

This year, we had the third edition on our problem solving seminar where we took feedback from last year’s participant and improved on the formula. Students got the opportunity to hear presentations from the CEOs of two local optics and photonics companies (Bluefield and EHVA), from the representatives of a Canadian military research center (RDDC), and a telecommunication company (TeraXion). Like last year, we directed the speakers to bring attention to typical problems that occurs in their business. Most of the day in spent on the problem-solving sessions, where the companies present a problem involving management, financial or technical challenges. Divided into teams, the students propose feasible solutions, which are then discussed and improved as a group. For the first time this year, we offered food and beverages during a networking session at the end of the day to allow students and company representatives to discuss together. The feedback received after the activity revealed that this part of the day was highly appreciated by the students and company representatives.
Real-Tremblay Grant

Every year, we hold a student paper/talk competition, where three professors from our center act as the jury. An interesting aspect of this competition is that it introduces the work of different research groups to a large audience. In October 2019, SPIE members Frédéric Jobin, Philippe Guay, Pascal Bérubé and were awarded cash prizes for their notable papers and presentations.

Industry Visits

In November of 2018, we scheduled a visit with LeddarTech. This Quebec-based company designs solid-stated LiDAR sensors and module for automotive and mobility applications. This visit was very interesting for most of our members because it’s quite far from what most of our research center focuses on.

In March, we visited Ciena, a company which produces optical based instrumentation for telecommunication. This visit was a success because it allowed us to reach out to students who aren’t members of our student chapter since they mostly are in the telecommunication group of our research center.

In May, our student chapter visited CorActive, a company that specialises in the development of active fiber. Our research center does a lot of research that is similar to the R&D that is done at CorActive, as such a lot of our student members were present during this visit.

In August of 2019, we organized a student visit to TeraXion. TeraXion designs innovative photonic components for power, speed and precision for optical fiber transmission network. Our student members also invited to stay for a happy hour with all of the employees.
Social and Sports

Figure 4: Winners of the annual petanque tournament

The REPOL is very proud of the professional development as well as the outreach activities which it offers to its members. In addition to these activities, we invest a great amount of energy in building a sense of community within our student chapter. Our social and sports events are absolutely essential for this, and thus an important budget is allotted to such activities.

A Happy Hour is organized the first Thursday of every month, bringing together students and members of Faculty. No less than 25 students showed up at each happy hour this year, sometimes even reaching 45 students near holidays! As a tradition and due to its popularity, especially among foreign students, we organized a brunch at the sugar shack in April and a pétanque tournament & BBQ in June. In addition to helping out in preparing the research center’s Christmas party, a video & board game night and an outing to a junior league hockey game.

Moreover, REPOL is proud to promote a balanced lifestyle, some of its executive members are part of the research center’s running club (Club de course du COPL) and university league soccer team (the FC OPL). Team sports such as soccer, and the aforementioned volleyball tournament, are of particular interest for involving foreign students in our events.

Objectives for the upcoming year (January to December)

by Olivier-Michel Tardif – SPIE President 2019-2020

For the upcoming year, the REPOL is planning to bring back all of its original and loved events in addition to adding some new ones. Explicitly, this means that
our **Happy Hours** will continue to take place on every first Thursday of the month, bringing together experimentalists and theorists students from the COPL research center working in chemistry, physics, electrical engineering and physical engineering. All of our social events like our day at the sugar shack, going to the laser tag, playing bowling or our Christmas party are spread throughout the year to help new coming international students to interact get involved and be part of the COPL’s community.

The REPOL continue to build strong connexions between Quebec City’s optics and photonics companies. During the upcoming year, our professional committee will organise many visits, as one is already scheduled for the Optics Institut (INO) and for which more than 25 students registered. This year, the **Industrial Seminar** will take place in the form of a happy hour.

We plan on requesting for both the **Officer Travel Grant** and the **Visiting Lecturer Grant** for sending a student to *SPIE Optics + Photonics* and offering a high quality lecture to every students at the COPL.

A big effort will be deployed to promote the **Réal-Tremblay Grant** competition and our **Summer Interns Presentation Contest** to have a more participant and attendants. We will also be working on adding a new set of lectures given by COPL students during the **Journée COPL** in addition to the already working poster formula. This event is intended to promote the research made in optics and photonics from all over the Province of Quebec to other researchers during a full day at Université Laval. This event will take place in late June 2020.

**La Terrace Optique** now has its own dedicated executive committee. This project has been a success so far and with this new committee we hope to make it even bigger. Regarding the **Photonics Games**, the 13th Ed. will be held during the last week of October 2020. This year, the committee is trying to reach out to even more high school students through a partnership with the Université de Bordeaux during what will be the first edition of the **International Photonics Games**.

Finally, the REPOL is planning a special event for the **International Day of Light 2020** to promote light sciences and technologies. This event will likely help us get in touch with other SPIE Chapters.
## FINANCES - Beginning balance

(November 1<sup>st</sup>, 2018)

<table>
<thead>
<tr>
<th></th>
<th>Income (CAD)</th>
<th>Outcome (CAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsorship</td>
<td>$864.27</td>
<td>$0</td>
</tr>
<tr>
<td>SPIE activity grant</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>OSA activity grant</td>
<td>$864.27</td>
<td></td>
</tr>
<tr>
<td>Membership</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Projects</strong></td>
<td><strong>$1853.59</strong></td>
<td><strong>$92.30</strong></td>
</tr>
<tr>
<td>Demonstration lab</td>
<td></td>
<td>$92.30</td>
</tr>
<tr>
<td>Seminar on industrial problematics</td>
<td>$864.14</td>
<td></td>
</tr>
<tr>
<td>Terrasse Optique</td>
<td>$989.45</td>
<td></td>
</tr>
<tr>
<td><strong>Social activities</strong></td>
<td><strong>$0</strong></td>
<td><strong>$290.54</strong></td>
</tr>
<tr>
<td>Laser Tag</td>
<td>50$</td>
<td></td>
</tr>
<tr>
<td>Sugar shack activity</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Pétanque tournament</td>
<td>$168.15</td>
<td></td>
</tr>
<tr>
<td>Game night activity</td>
<td>$72.39</td>
<td></td>
</tr>
<tr>
<td><strong>Contributions</strong></td>
<td><strong>$0</strong></td>
<td><strong>$500</strong></td>
</tr>
<tr>
<td>Photonics games</td>
<td></td>
<td>$500</td>
</tr>
<tr>
<td><strong>Meetings and conferences</strong></td>
<td>$0</td>
<td><strong>$606.68</strong></td>
</tr>
<tr>
<td>Réal-Tremblay Grant</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Annual general meeting</td>
<td>$246.03</td>
<td></td>
</tr>
<tr>
<td>Annual intern conference</td>
<td>$360.65</td>
<td></td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
<td><strong>$0</strong></td>
<td><strong>$72.65</strong></td>
</tr>
<tr>
<td>Bank fees</td>
<td></td>
<td>$72.65</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$2717.76</strong></td>
<td><strong>$1562.17</strong></td>
</tr>
</tbody>
</table>

### Ending balance (September 31<sup>st</sup>, 2018)

$4889.42

*Table 1: Budget balance*