1. CHAPTER MEMBERS

1.1. Officer Board July 2016- June 2017

- **President** Jose Pablo Montoya  [jpmontoyav@unal.edu.co](mailto:jpmontoyav@unal.edu.co)
- **Vice-President** Jorge Luis Galvis  [jlgalvisa@unal.edu.co](mailto:jlgalvisa@unal.edu.co)
- **Secretary** Maritza Londoño  [mlondonov@unal.edu.co](mailto:mlondonov@unal.edu.co)
- **Treasurer** Maria Nieto Callejas  [mariaju1006@gmail.com](mailto:mariaju1006@gmail.com)
- **Advisor** Román Castañeda  [rcastane@unal.edu.co](mailto:rcastane@unal.edu.co)

1.2. Current members

<table>
<thead>
<tr>
<th>MEMBERS</th>
<th>E-MAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Yamile Cardona Maya</td>
<td><a href="mailto:yamilecardona@gmail.com">yamilecardona@gmail.com</a></td>
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<td>2. Natalia Múnera Ortiz</td>
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<td>3. Carlos Alvarez Ocampo</td>
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<td>4. John Jairo Castañeda Pineda</td>
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<td>5. Catalina Hurtado</td>
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<td>6. Raúl E. Jiménez Mejia</td>
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<tr>
<td>7. Carolina Mira Fernandez</td>
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<td>8. Sebastian Quiceno</td>
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<td>9. Erick Reyes Vera</td>
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<td>10. Luis Miguel Rodriguez</td>
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<tr>
<td>11. Duvan Zapata Monsalve</td>
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<tr>
<td>12. Cristián Díaz</td>
<td><a href="mailto:ccdiazb@unal.edu.co">ccdiazb@unal.edu.co</a></td>
</tr>
<tr>
<td>13. Nazly Hincapie Monsalve</td>
<td><a href="mailto:nazlyrocioh@gmail.com">nazlyrocioh@gmail.com</a></td>
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2. DETAILS OF CHAPTER ACTIVITIES SINCE LAST REPORT

2.1. Overview

Our chapter works on a committee-based structure in order to reach traced objectives. Those committees are: Academic, Projects, Divulgation, Enterprise, and Relationships. The chapter members meet fortnightly an hour, during this time we talk about our plans and new ideas to promote optics science, furthermore one of us present an exposition about a topic of interest which is related with optics. This year, we help in the preparation of the V National Congress of Physical Engineering.
2.2. Divulgation committee

Its objective is to promote optics and photonics studies and researches in the academic and social environment by recruiting new members for the chapter. This objective is accomplished by means of communicating about local courses and conferences, spreading information from the other committees, developing and printing publicity (Business cards, services’ offer, etc...) and maintaining the Chapter’s web site. Recent activities are described below.

a. CEO - Recruitment Event for students

For developing this activity, we conferred with the teacher of the subject ‘Introduction to physics engineering’, we agreed to make a presentation where we’d show all benefits of being an SPIE student chapter member, including the experience of traveling abroad with the SPIE grant and the peer support of a student chapter. We invited the young students to take part in our bi-weekly meetings. The students had the opportunity of asking us questions about the chapter and research in optics. We also invited them to another open meeting where one of our student members explained his experience as an international student on France.

Approximately 50 students attended this activity.

Images from the Introduction to physics engineering class:
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CHAPTER
Report
July 2016

Images from the International Visiting Student and the publicity associated
Fotónica de silicio: perspectivas en diferentes geometrías de guías de onda

Por: Samuel F. Serna
Estudiante de doctorado en la Universidad Paris-Sud XI (Francia)
Fecha: Viernes 14 de Agosto de 2015
Lugar: Bloque 20 Aula 404
Hora: 2 pm

Se hablará del entorno investigativo en el área de la óptica en la Unión Europea y sobre su tema de investigación, centrado en la fotónica de silicio que ha recibido un fuerte interés en los últimos años debido a promisorias propiedades de confinamiento modal que han permitido dilucidar un procesamiento de señales completamente óptico (all-optical processing on-chip). Grandes avances al respecto han demostrado el potencial de las soluciones ópticas o híbridas para solucionar problemas desde la generación de calor en la transferencia de información hasta la velocidad de modulación. Estas aproximaciones se encuentran respaldadas por un proceso maduro de CMOS que permite la nanofabricación de estructuras con precisión de algunos nanómetros en placas estándar en el rango de los 200-350 nm de espesor. En particular, los efectos no-lineales del Silicio han sido explorados para sortear las limitaciones de la banda prohibida indirecta, que impide la creación de componentes activos (i.e. láseres). Esta exploración sumada a las interesantes propiedades de los cristales fotónicos ha llevado a la mejor comprensión del material y al diseño de nuevos dispositivos.

Dentro de este contexto, introducirá el concepto de control coherente de cavidades en cristales fotónicos 1D y el estudio de efectos Kerr y de absorción a dos fotones (TPA) en guías diferentes geometrías.
b. Members meeting

Our casual semester meeting took place in May, this time we shared Chinese food and also we played some games like charades to unwind after a long semester.

This activity was attended by 12 veteran members.
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Also we enjoyed a pizza at end of semester as a farewell.
2.3. Projects committee

a. Discovering the world of light with the teenagers

In this activity we have visited the middle school “Institución Educativa León XIII”. That school is located in Peñol town’s rural area, about two hours from Medellín by bus.

We had to go to the bus terminal first, to begin this trip to show fascinating science.
Our public was about sixty kids separated in three groups of twenty students from sixth grade (10-12 years old). We focused the experiments in three topics: beam optics, color theory and optical fibers. The main idea was asking some questions before and after of the experiments, then we will be able to analyze if we are doing our work well and improving their knowledge without limiting their imagination.
This activity was really awesome for us, we got very good results, and we observed that the experiments established new knowledge to teenagers. However, we realized that we need to improve the questions.

And finally, something to eat:

Thanks a lot!!!!!!!
2.4. Academic Committee

a. Participation in a radio program and a promotional video for IYL

Our advisor and one member of our student chapter participated in a radio program through the radio channel of our university called UNRadio, in the program the professor Roman Castañeda and Catalina Hurtado talked about optics, the different activities to realize about the International Year of Light commemoration and also the work of the CEO Student Chapter.

From left to right: Catalina Hurtado (CEO Member), Roman Castañeda (CEO Advisor) and the Radio interviewers.
Also our CEO Chapter member, Catalina Hurtado participated in the university institutional promotes video of International Year of the Light:
https://youtu.be/1KVFTZjzhsc

Some behind the scenes:

**b. Develop alliances with city others groups of Science**
Specifically we had a meeting with the managers of Science exhibitions at the City Planetarium and the Science Park called "Parque Explora", the objective of this meeting was to show them our material of exhibit optics to any population and establishing an alliance between us to make exhibits in these places and improve our experimental materials too.
3. PLANNED ACTIVITIES FOR THE FUTURE

3.1. Participation in lectures offered by the sciences faculty of the Universidad Nacional de Colombia – Medellín.

We are planning to host a lecture at the V National Congress of Physical Engineering as a Student Chapter, and also bring an international lecturer using the traveling lecturer grant offered by SPIE.

3.2 Optics Day

As a Chapter and as Student Group of our university we have the opportunity to show the other students our experiments and advances on optics through our research groups. We are planning an exhibition for all students again with new experiments.

3.3 Discovering the world of light with the teenagers

We want to visit a school and to do the same activities carried out in Peñol.

4. FINANCIAL INFORMATION

4.1. Bank account

Saving count number No. 228-325839-64
Title-holder Natalia Múnera Ortiz
Branch ÉXITO Bello
Branch address Diagonal 55 No. 35-217
Bank Swift Number COLOCOBM
4.2 Report financial information

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CONTACT:

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