Annual report
Student chapter INAOE
August 2011-2012
Officer members

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List of current Student Chapter Members

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Angel Cruz Félix
Valentín Dorantes García
Julio García-Melgarejo
Anel Garza Rivera
Ana Hanessian de la Garza
Rafael Izazaga
Héctor Jiménez Romero
Christian Lopez-Alarcon
Jose Marban Salgado
F. Jerico Martinez Mercado
Aaron Munoz
Carlos Ortiz Lima
Juan Pablo Padilla-Martinez
Irving Rondon Ojeda
Esteban Rueda-Soriano
Karla Sanchez Perez
Everardo Santiago Ramírez
Nelson Sosa Macmahon
Luis Gabriel Valdivieso González
Rosaura Vallejo Mendoza
Maria-Guadalupe Varillas-Tepetzi
Brenda Villalobos
Motivation

Our mind was focused in activities regarding Popular Science. Many of the activities reported below were organized by our chapter which reinforced our experience and motivated to continue being leaders in our professional activities.
Preface

This report covers the Student Chapter activities from August 2011 to August 2012. The body structure is divided into three different topics. Activities Photo-Album-Report resembles our activities in several pictures, some of them hilarious and some others try to be serious. Each activity can contain multiple events; each event contains multiple talks and workshops and in each talk or workshop we attended varied people. Financial Report Summary and Final Activity Summary contain the information expressed in numbers.
## Tardes de Café

### Event
Tardes de café

### Place
INAOE’s facilities

### Aim
Talk between friends about several technical and scientific topics. Two issues were covered in two talks. First talk was oriented to Normalization in Optics, second one covered a partner’s masters project.

### Attendants
Oriented to all students at INAOE. 19 audience people

### Lecturers
Dr. Sabino Chávez (guest researcher) and Rafael Rodríguez (guest friend from electronics department)

### Organizer
SPIE Student Chapter

### Date
October, November 2011

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## Recruitment event

### Event
Recruitment event

### Place
INAOE’s facilities

### Aim
To recruit new members to the chapter. We offered delicious “tacos al pastor” to almost all students in the institute.

### Attendants
74 INAOE students

### Organizer
SPIE Student Chapter INAOE

### Date
November 2011
**Visit our Lab**

<table>
<thead>
<tr>
<th>Event</th>
<th>Visit our Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>INAOE’s facilities</td>
</tr>
<tr>
<td>Aim</td>
<td>To show students from different scholar level the things we do in the lab. The experiments we showed were laser machining, diffraction gratings and interference.</td>
</tr>
<tr>
<td>Role</td>
<td>Support to activities of INAOE</td>
</tr>
<tr>
<td>Attendants</td>
<td>39 teenagers in 5 different sessions</td>
</tr>
<tr>
<td>Speakers</td>
<td>Christian López Alarcón, Carlos Manuel Ortiz Lima and Javier Silva Barranco (all SPIE Chapter staff)</td>
</tr>
<tr>
<td>Date</td>
<td>December 2011, January 2012</td>
</tr>
</tbody>
</table>
**Popularizing science meeting**

<table>
<thead>
<tr>
<th>Event</th>
<th>Popularizing science meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>INAOE’s facilities</td>
</tr>
<tr>
<td>Aim</td>
<td>To expand science in teenagers</td>
</tr>
<tr>
<td>Attendants</td>
<td>47 teenagers from Instituto Inglaterra, Puebla</td>
</tr>
</tbody>
</table>
| Speakers       | - A brief history of stars formation. Ricardo Retes Romero (guest friend, Astrophysics department))
|                | - MEMS Technology for the future. Rafael Aurelio Rodríguez Jiménez (guest friend, Electronics department)
|                | - Chronicles of a detective and his strange assistant. Fabrício Pérez Pérez (guest friend, computing department)
|                | - Lasers and fiber optics. Carlos Manuel Ortíz Lima (SPIE Chapter)
|                | - 3D Images interactive workshop. Gerardo Díaz González and Rosalinda Ortiz Sosa (OSA-SPIE student Chapter)
|                | - The science of colors. Interactive workshop. Christian López Alarcón and Javier Silva Barranco (SPIE Chapter) |
| Organizer      | SPIE Student Chapter          |
| Date           | January 2012                  |
## Various talks

<table>
<thead>
<tr>
<th>Event</th>
<th>Various talks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>INAOE’s facilities</td>
</tr>
<tr>
<td>Aim</td>
<td>Different topics were covered in 5 informal talks oriented to visitors of the institute</td>
</tr>
<tr>
<td>Attendants</td>
<td>Teenagers and high school teachers</td>
</tr>
<tr>
<td>Speakers</td>
<td>Karla Janeth Sánchez Pérez, Rosalinda Ortiz Sosa and Javier Silva Barranco</td>
</tr>
<tr>
<td>Role</td>
<td>Support to activities of INAOE. 6 different events, more than 70 audience people attended</td>
</tr>
<tr>
<td>Date</td>
<td>January – March 2012</td>
</tr>
</tbody>
</table>
Visiting Lecturer Donald C. O’Shea

Event: Visiting Lecturer Donald C. O’Shea
Place: INAOE’s facilities and beyond
Conference: Publishing Optics
Organizer: SPIE Student Chapter
Date: February 15, 2012
A journey through science

Javier’s talk “Invisibility and Harry Potter’s cape”. University of Chiapas Auditorium

Main garden in San Cristóbal

Science of colors workshop

3D Images workshop

The staff at San Cristóbal

Delicious food from Chiapas

Event | A journey through science
---|---
Place | Main Garden. San Cristóbal de las Casas, Chiapas
Program | One conference and two workshops, 3D images, science of colors
Attendants | Oriented to general public in town
SPIE participants | Javier Silva Barranco and Carlos Manuel Ortiz Lima
Role | Support to PAUTA organization. More than 150 people, 2 SPIE staff and 19 different workshops in only one afternoon!!!
Date | March 2012
**Teachers update in science**

**Event**  
Teachers update in science

**Place**  
Plantel 2 COBAEP (a high school system in Puebla state), Puebla City

**Program**  
- Augmented Reality (Talk). Nelson Sosa Macmahon (guest friend, Electronics department)
- Tamemes and Bees (Talk). Fabricio Otonel Pérez Pérez (guest friend, computing department)
- Optics in science (Talk). Carlos Manuel Ortiz Lima (SPIE Chapter)
- 3D Images interactive workshop. Javier Silva Barranco and Carlos Manuel Ortiz Lima (SPIE student Chapter)
- The science of colors interactive workshop. Christian López Alarcón and Rosalinda Ortiz Sosa (SPIE student Chapter)

**Attendants**  
18 High school teachers

**SPIE**  
Javier Silva Barranco, Carlos Manuel Ortiz Lima, Rosalinda Ortiz Sosa, Christian López Alarcón, Fabricio Otonel Pérez Pérez and Nelson Sosa Macmahon

**Organizer**  
SPIE Student Chapter

**Date**  
April 2012
### 3D images workshop

<table>
<thead>
<tr>
<th>Event</th>
<th>3D images workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>Anrod School, Cholula City</td>
</tr>
<tr>
<td>Attendants</td>
<td>39 High school guys in 2 sessions</td>
</tr>
<tr>
<td>SPIE</td>
<td>Javier Silva Barranco</td>
</tr>
<tr>
<td>Role</td>
<td>Support to activities of INAOE</td>
</tr>
<tr>
<td>Date</td>
<td>May 2012</td>
</tr>
</tbody>
</table>

### Science fair

<table>
<thead>
<tr>
<th>Event</th>
<th>Science fair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>Elementary school at Texmalaquilla Puebla.</td>
</tr>
<tr>
<td>Attendants</td>
<td>Elementary school guys and their parents</td>
</tr>
<tr>
<td>SPIE</td>
<td>Javier Silva Barranco and Carlos Manuel Ortiz Lima</td>
</tr>
<tr>
<td>Role</td>
<td>Support to activities of INAOE. 127 children attended in 9 different workshops</td>
</tr>
<tr>
<td>Date</td>
<td>June 2012</td>
</tr>
</tbody>
</table>
Scientific camping

Event: Scientific camping
Place: Somewhere in Sierra “Los Altos de Chiapas”
Attendants: 69 High school guys who obtained best score during the scholar period
Program:
- Optics in science (Talk). Carlos Manuel Ortiz Lima (SPIE Chapter)
- Lasers and fiber optics (Talk). Carlos Manuel Ortiz Lima (SPIE Chapter)
- 3D Images workshop. Javier Silva Barranco (SPIE Chapter)
- Kaleidoscopes workshop. Carlos Manuel Ortiz Lima (SPIE Chapter)
SPIE: Javier Silva Barranco and Carlos Manuel Ortiz Lima
Role: Support to PAUTA organization
Date: July 2012

Scientific summer

Event: Scientific summer
Place: INAOE’s facilities
Attendants: High school guys and high school teachers
Program:
- Lasers and fiber optics (Talk). Carlos Manuel Ortiz Lima (SPIE Chapter)
- 3D Images workshop. Javier Silva Barranco (SPIE Chapter)
- Science of colors workshop. (Christian López Alarcón (SPIE Chapter)
SPIE: Javier Silva Barranco, Carlos Manuel Ortiz Lima and Christian López Alarcón
Role: Support to activities of INAOE. Two events, six talks, 29 participants
Date: August 2012
The financial report was divided into five different main issues; they are Visiting Lecturer, Popular Science, New Experiments, Officer and Recruitment Events.

Visiting lecturer program had the presence of Mr. Donald C. O’Shea, the expenses we had were regarding mainly advertising, meals and transportation. Expenses in Popular Science were distributed in consumables such as mirrors, different kind of papers, paint etc. others are transportation and per diem. New experiments include finding a way to manufacture very cheap plastic lenses to built telescopes in order to include them in a new workshop. Officer events include Christmas party and meals during the officer’s sessions. Many students attended the recruitment event, unfortunately only a few of them decided to join SPIE Chapter; this event included meals, beverages and logistics expenses.

We have always kept in mind that popular science is the most important issue during the reported period, that’s why this topic has the biggest exchange.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Incoming</th>
<th>Outgoing</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial balance</td>
<td>$630.55</td>
<td></td>
<td>$630.55</td>
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<tr>
<td>Activity grant 2011</td>
<td>$1,100.04</td>
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<td>$1,730.59</td>
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<tr>
<td>Visiting Lecturer</td>
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<td>$551.87</td>
<td>$1,178.72</td>
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<tr>
<td>Popular Science Events</td>
<td></td>
<td>$552.47</td>
<td>$626.25</td>
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<tr>
<td>New Experiments Design</td>
<td></td>
<td>$177.82</td>
<td>$448.42</td>
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<tr>
<td>Officers Events</td>
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<td>$66.29</td>
<td>$382.13</td>
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<tr>
<td>Recruitment Event</td>
<td></td>
<td>$215.80</td>
<td>$166.33</td>
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<tr>
<td><strong>Final balance</strong></td>
<td></td>
<td></td>
<td><strong>$166.33</strong></td>
</tr>
</tbody>
</table>

Average Exchange Rate $13.545 Mx Pesos / US Dollar
Final Activity Summary

The participation of officers in the organization of events was an enriching experience. Table below summarizes the activities presented in the first section of this report. We organized and created the logistics to 6 different events and participated in 14 events organized by different institutions. Likewise we gave 66 talks and workshops and attended to more than 730 people during all the year.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Events organized by the chapter</th>
<th>Events in which we participated</th>
<th>Talks and workshops imparted</th>
<th>Attended People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tardes de café</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Recruitment event</td>
<td>1</td>
<td>1</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Visit our Lab</td>
<td></td>
<td>2</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>Popularizing science meeting</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>47</td>
</tr>
<tr>
<td>Various talks</td>
<td></td>
<td>6</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Visiting Lecturer</td>
<td>1</td>
<td>1</td>
<td>&gt;50</td>
<td></td>
</tr>
<tr>
<td>A journey through science</td>
<td></td>
<td>1</td>
<td>19</td>
<td>&gt;150</td>
</tr>
<tr>
<td>Teachers update in science</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>3D images workshop</td>
<td></td>
<td>1</td>
<td>2</td>
<td>39</td>
</tr>
<tr>
<td>Science fair</td>
<td></td>
<td>1</td>
<td>9</td>
<td>127</td>
</tr>
<tr>
<td>Scientific camping</td>
<td></td>
<td>1</td>
<td>4</td>
<td>69</td>
</tr>
<tr>
<td>Scientific summer</td>
<td></td>
<td>2</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>6</strong></td>
<td><strong>14</strong></td>
<td><strong>66</strong></td>
<td><strong>&gt;731</strong></td>
</tr>
</tbody>
</table>

Future activities

We plan to continue the development of new experiments such as described in Financial Report section. Supporting activities of INAOE is a way to participate in Popular Science. The experience acquired in Visiting Lecturer motivates us to renew our compromise to bring a new lecturer in 2013. New activities and interactions will be presented by the new officers shortly.