
CIOp-UNLP Student Chapter. Annual Report. December 2010

This is the activity report of our chapter for the Dec. 2009 – Dec. 2010 period. Some of the chapter activities were held at the Centro de Investigaciones Ópticas (CIOp - Optical Research Center), at the Faculty of Agrarian and Forestal Sciences, National University of La Plata, and also at Teatro Argentino (Argentinean Theater) of La Plata.

1. Names, email addresses and member numbers of elected Officers

- ◆ President Laureano Bulus Rossini (lbulus@ciop.unlp.edu.ar) ID# 3169522
- ◆ Vice President Jesica Santillán (jesicas@ciop.unlp.edu.ar) ID# 3234235
- ◆ Secretary Dafne Amaya (amayad@ciop.unlp.edu.ar) ID# 3169501

2. List of current CIOp-UNLP Student Chapter members

Dafne Amaya
Demian Biasseti
Laureano Bulus-Rossini
Pablo Costanzo-Caso
Juan Demarco
Patricio Fluxá
Gustavo Funes
Alejandro Giordana
Damian Gulich
Marcelo Nicolás Guzman
Mariana Matenet
Emanuel Paulucci
Federico Sanjuan
Jesica Santillán
Matias Tejerina

3. Details of Chapter activities

◆ Lectures at CIOp

Guest Lecturers

- “1-LC mesophases, structures and chemical properties. 2-Physical properties of LC materials. 3-Electro optical effects in LCs.”, **Prof. Maxim Tomilin**, *St.-Petersburg University of Information Technologies, Mechanics and Optics, Russia*. February, 4.

- “LC appl.: displays, optical elements, devices and recording media”, **Prof. Maxim Tomilin**, *St.-Petersburg University of Information Technologies, Mechanics and Optics, Russia*. February, 5.
- “1-LC as a new tool for detecting the invisible physical field’s distribution at the materials surface in optical technology, crystallography, medicine, biology, and patrimony restoration. 2-“Kirlian effect”: Physics and Metaphysics,” **Prof. Maxim Tomilin**, *St.-Petersburg University of Information Technologies, Mechanics and Optics, Russia*. February, 8.
- “-Tunable lasing based on dye-doped LCs, **Prof. Maxim Tomilin**, *St.-Petersburg University of Information Technologies, Mechanics and Optics, Russia*. February, 9.
- “Five millenniums of Optics: 1-Prehistory,2- Eye and lens through millenniums’s prism, **Prof. Maxim Tomilin**, *St.-Petersburg University of Information Technologies, Mechanics and Optics, Russia*. February, 10.
- “Total disorder as an alternative to perfect periodicity”, **Prof. Valentin Freilikher**, *Department of physics Bar-Ilan University, Israel*. February, 11.
- “Investigación en plasmas densos en la Comisión Chilena de Energía Nuclear: descargas pinch en generadores que van de los 0,1J a los 60kJ”, **Dr. Cristian Pavez**, *Departamento de Plasma – Comisión Chilena de Energía Nuclear*. October, 15.

Local lecturers

- “Mode-locking por modulación acusto-óptica de superred”, Dr. Christian Cuadrado-Laborde. March, 2.
- “Aportes realizados en el CIOp a la instrumentación del satélite SAC-D / Aquarius”, Ing. Alberto Bava, Dr. Mariano Creus, Ing. Diego Alustiza, Ing. Marcos Mineo, Ing. Pedro Skou, Ing. Francisco Manno y Dr. Mario Garavaglia. April, 19.
- “Sobre los trabajos científicos basados en fenómenos que no existen”, Dr. Gabriel Bilmes. May, 17.
- “Espectroscopía de plasmas inducidos por láser (LIBS) aplicada a la caracterización de piezas únicas y productos de interés industrial”, Lic. Fernando Alvira. June, 23.
- “Aplicaciones y desarrollos fotónicos en radiofrecuencia”, Pablo A. Costanzo Caso. September 8.
- “Proyecto Calidad CIOp IRAM 30800 Guía para la interpretación de la Norma ISO 9001: 2008 en actividades de Investigación, Desarrollo e Innovación. Evaluación de la conformidad”, Ing. Ruben E. Freccero. October, 18.
- “METROLOGÍA: Desde la primera balanza conocida (~ 5000 AC) hasta el metro a láser (1983)”, Prof. Mario Garavaglia. November, 24.
- “Microperforado con Láser”, Santiago Demarchi, *Estudiante de Ingeniería Mecánica de la Fac. de Ingeniería –UNLP*. December, 1.

◆ Optics Academic Program at Faculty of Agrarian and Forestal Sciences

Speakers: Christian Weber and Alberto Lencina.

It was two classes on April 5th, one at the morning with 50 Agronomy Engineering students and

other at evening with 40 students. The class starts with a review about the Optical Research Center (CIOp), the OSA/SPIE CIOp-UNLP Student Chapters and the Jóvenes Ópticos y Fotofísicos de Argentina (JOFA - Optical and Photophysical Youngsters of Argentina). After that, the following aspects were approached:

- Review about wave concept.
- The Electromagnetic Spectrum and the atomic model.
- Reflection y refraction.
- Interference and diffraction.

After a break, where the interaction among the speakers and the alumni was promoted, two lectures were given:

- 1) Dynamic Speckle in Seeds.
- 2) Spectral Reflectance in cultivation

◆ Visiting lecturer program related activities

Two workshops related to visiting lecturer's topics were organized. The first one, realized on July 14th, was about **Optical Memories**, focusing attention on holographic recordings and included talks from Dr. Néstor Bolognini (CIOp) and Dra. Myrian Tebaldi (CIOp), together with OSA visiting lecturer Dr. Oscar Martinez Matos (Universidad Complutense de Madrid). The second one, realized on 1-2 of November, was centered on **Plasmonics** and the speakers were: Dra Lucia Scaffardi (CIOp), Dr. Daniel Schinca (CIOp), Dr. Jorge Tocho (CIOp), Dr. Marcelo Lester (UNCEN), Lic. Mauro Cuevas (UBA) and SPIE visiting lecturer Dr. Hernando García (South Illinois University). The workshop's level was set to undergraduate/recent-graduate students. Workshops spent one and two days, respectively, and included meals and coffee breaks. For more information please go to: www.ciop.unlp.edu.ar/mSMO and <http://www.ciop.unlp.edu.ar/simAP/index.html>

- ◆ Several social activities were developed during the reported period. We organized various meetings with the undergraduate students of the Agronomy and Forest Sciences Faculty and those who attended the Symposiums on Optical Memories and Plasmonics to show them the activity Student Chapter.
- ◆ Our webpage is almost fully functional. We are still working on the organization of some sections of the webpage, but all activities are already promoted there.
- ◆ A member was present at the Student Chapter Leadership Workshop July 31st - August 3rd 2010. We presented the CIOp-UNLP chapter poster in the SPIE Optics & Photonics 2010 Exhibition Hall, San Diego Convention Center, San Diego, California, USA. We also used printed information and publicity to advertise the different Chapter activities reported above, and we also promoted the Laser en Nuestra Vida (Laser in Our Life) event in which a full stand designed by the chapter had an interactive activity with information regarding safety issues about laser pointers.
- ◆ On May 7 and 8, at the 36th Feria Internacional del Libro (International Book Fair), Buenos Aires (www.el-libro.org.ar) it was shown to the general public, experimental demonstrations about lasers, optics and photonics designed by our research institution (CIOp).

- ◆ During Semana de la Ciencia y la Tecnología (National Week of Science and Technology), of the June 7-11, at the CIOp, chapter members participated in experimental demonstrations and talks regarding lasers, optics and photonics, aimed to school graders and high school students.
- ◆ In the frame of the 50th anniversary of the invention of the laser, the chapter designed and showed an interactive experimental activity called “Do you know what kind of laser pointer you have?”, aimed to the general public, to instruct people about safety issues regarding the use of laser pointers. The activity was shown at the Laser en Nuestra Vida (Laser in Our Life) event which took place at the Teatro Argentino de La Plata on August 6-8.

4. Details of planned activities for the future

- ◆ Collaboration in the TOPFOT 2011 (National Workshop in Optics and Photophysics), to be realized in May 2011, at the National University of Tucumán, Tucumán, Argentina.
- ◆ Organization of a short Symposium about the Visiting Lecturer’s topic.
- ◆ Organization of an Optics Academic Program at Faculty of Agrarian and Forest Sciences.
- ◆ Local and guest Lecturers at CIOp and UNLP, Physics Departament, Exact Sciences Faculty and Engineering Faculty.
- ◆ Meetings and CIOp-UNLP SPIE Chapter membership drives.
- ◆ Maintaining of Chapter Website.
- ◆ Printed information and publicity.

5. Financial information

| | |
|---|-----------|
| ○ SPIE Chapter Activity Grant | U\$\$ 700 |
| Beginning balance.- U\$\$ 700 | |
| ○ Lectures at CIOp: café, snacks and printed information | U\$\$ 100 |
| ○ Optics Academic Program at Faculty of Agrarian and Forest Sciences: | |
| -. Snacks, beverages, printed information and publicity | U\$\$ 40 |
| ○ Symposium about Optical Memories: | |
| -. Lunch and coffe break snacks | U\$\$ 100 |
| ○ Symposium about Plasmonics: | |
| -. Brochures and badges | U\$\$ 50 |
| -. Lunch and coffe break snacks | U\$\$ 200 |
| ○ Meetings with undergraduate students: snacks and beverages | U\$\$ 75 |
| ○ SCLW Student Chapter poster | U\$\$ 45 |

o Student Chapter meetings

U\$\$ 90

Total

U\$\$ 700

Ending balance.- U\$\$ 0

6. Pictures of some of the activities



Workshop on Optical Memories, July 14, 2010.

Top left and right, picture: Prof. Dr. Oscar Martínez Matos (UNAM, Madrid) giving his two visiting lectures.

At the bottom left photograph, Prof. Dr. Néstor Bolognini (CIOP), and at the bottom right picture, Prof. Dr. Myrian Tebaldi (CIOP), giving their lectures at the workshop.

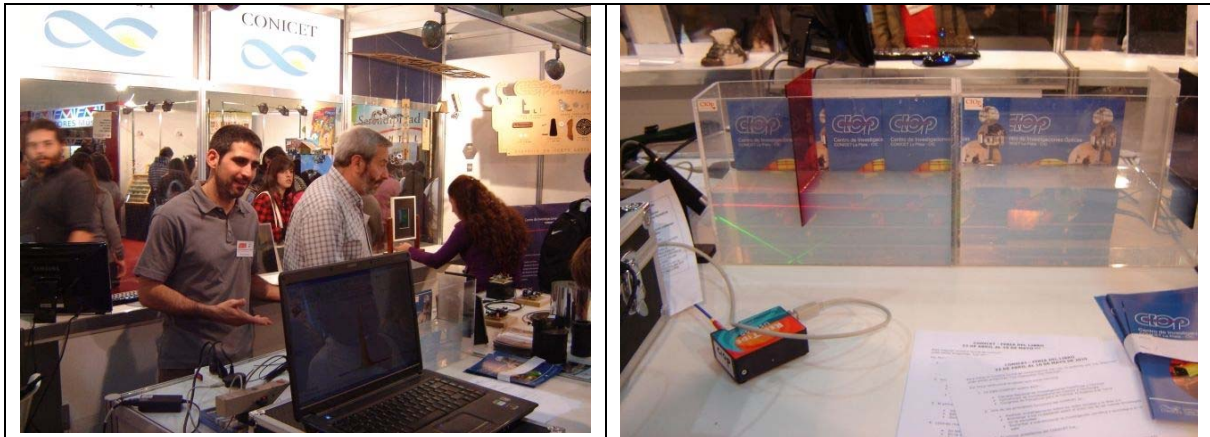


Symposium on Pasmonics, held at CIOp on November 1 and 2, 2010.

Top, left and right, pictures: Prof. Dr. Daniel Schinca (CIOp) and Prof. Dr. Lucia Scaffardi (CIOp), respectively, giving their lectures.

Middle left picture: Prof. Dr. Jorge Tocho (CIOp), giving his lecture. Middle right photograph: Prof. Dr. Hernando García (SIUE, USA), giving one of his three visiting lectures.

At the bottom left photograph, Prof. Dr. Marcelo Léster (IFAS) and at the bottom right picture, Lic. Mauro Cuevas (UBA), both giving their lectures.



36th Feria Internacional del Libro (International Book Fair), May 7 and 8.

Left picture: Marcelo Trivi, CIOP's Director, and Laureano Bulus Rossini, Student Chapter President, showing an experimental demonstration.

Right photograph: experimental setup to show total internal reflection and fiber optics basics.



Student Chapter Leadership Workshop, July 31-August 3.

Ben Lockwood and Laureano Bulus Rossini (Student Chapter President) next to the CIOP-UNLP poster and Laser en Nuestra Vida Brochure.



“Do you know what kind of laser pointer you have?” interactive experimental activity presented at the Laser en Nuestra Vida event.

Left picture: Dafne Amaya (Student Chapter Secretary), Fabián Videla (Student Chapter Member) and Alberto Lencina (former Student Chapter Member).

Right picture: preliminary experimental setup of the activity.

Laureano Bulus Rossini
President
SPIE CIOp-UNLP Student Chapter
November 30, 2010