STUDENT CHAPTER REPORT

Names and email addresses of Chapter Officers (elected March 2008)

President: Ana Luna (aluna@df.uba.ar)
Vice-President: Mauro Cuevas (cuevas@df.uba.ar)
Secretary: Ligia Ciocci Brazzano (ligia.ciocci@gmail.com)
Treasurer: Arturo Bianchetti (abianchetti@gmail.com)
Advisor: Dr. Eduardo Castro

Current Student Chapter members

Acevedo Daniel        Cohendoz Cesar        Levi Pablo
Alvarez Natalia       Corral Alberto        Lipovetzky José
Andrés Ariel          Cuevas Mauro          Luna Ana
Antón Lisandro        Dadamia Danilo        Lutenberg Ariel
Aparicio Rodolfo      Delfino Pablo         Martínez Ana
Balzarotti Francisco  Dorado Luis           Martínez Ricci María Luz
Beer Ethel            Duplaa María Celeste    Matraga Juliana
Bianchetti Arturo     Edjen Claudio          Ponce Laura
Brudner Alejandro     Estrín Andrés          Quiroga Lombard Claudio
Bruna Cristian        Franqueiro María       Riera Pablo
Buemi María           García Diego           Risso Máximo
Burman Ariel          García Inza Mariano     Rubinsztain Ezequiel
Campolo Matías        Grings Inza Mariano     Schmiegelow Christian
Carbonetto Sebastián  Grünhut Vivian         Seijas Leticia
Cardama Claudia       Guller Francisco        Sica Diego
Castro Diego          Guzman Pegazzano María  Terán Guillermo
Cestari Facundo       Josebachuili Ogando Mariela
Ciocci Brazzano Ligia Katz Andrea

Chapter activities since last report

- New Chapter Officers were elected.

- Regular meetings of the Executive Committee were carried out to discuss the Chapter activities. The Secretary took notes about the subjects under consideration in the Chapter Meeting Book.

- On Friday, November 9, we had a talk given by Dr. Elian Wolfram at Buenos Aires University to advanced students, young researchers and Professors. He spoke about “Láseres, espejos, fotones: todos buscando el ozono perdido”. The talk finished with a refreshment.
On July 25, Dr. Piestún Rafael, from Colorado University at Boulder gave a talk about “Nanostructures and 3D lightwaves: design, fabrication and applications”. The talk was oriented to advanced students, young researchers and Professors.
The 2008 president of the UBA-SPIE Student Chapter, María Luz Martínez Ricci, was granted with an Officer Travel Grant to attend to Optics & Photonics 2008 in San Diego.

Martínez Ricci’s poster presentation "Non Bragg band gaps in 1D uniaxial metamaterial photonic crystals" was accepted in the Spie Student Chapter Pavilion at Optics & Photonics 2008 Conference carried out in San Diego. Its proceeding, was published (Abstract: "We explore the electromagnetic response of one-dimensional photonic crystals containing slabs of anisotropic indefinite metamaterials (IMMs) with hyperbolic spatial dispersion characteristics. A band structure classification has been previously made according to the sign of the permittivity and permeability parameters for the particular case of optical axis perpendicular to the slab interfaces. To extend this study, here we analyze how the dispersive behavior of each constitutive parameter affects the multilayer band structure. We consider two orientations of the optical axis, perpendicular and parallel to the slab interfaces, and TE and TM modes. Particular attention is paid to the effects of material dispersion on the existence of non-Bragg band gaps."

Keywords: metamaterials, photonic crystals, uniaxial media, negative index.
Students Members of the Chapter have shown the Nemos’s Educational Kits (Edukit) at an Adult High School and at a Course of Physics for Students of Chemistry at Buenos Aires University. In the first case, different demonstrative experiences were carried out, and we complete the explanations with applets were the principle of interference and diffraction was shown. Students got familiar with the Edukits and they had the opportunity of “playing” with them as well as they allowed themselves to ask many interesting questions. In the second case, students were able to see the different diffraction patterns and study them at an UBA University Lab of Optics.

a) Pictures of different experiences with Edukits at an Adult High School and at a UBA Course of Physics
We organized UBA-SPIE Student Chapter “Pizza Meetings” with the participation of some members in order to talk about future projects like more talks, oral presentations given by PHD students, invited speakers, scientific disclosure at schools and universities, etc.

Future Chapter activities

- We will keep on working to incorporate new members to our chapter and to organize meetings to spread SPIE activities, benefits and career development opportunities.

- We are planning carefully how to improve activities making use of the Edukits. The idea is to carry them not only to primary school but also to high school and to different universities as well. We are thinking of different activities in order to improve and stimulate pupil’s interest in optics and photo-physics.
• We are going to organize others “Pizza Meetings” with the UBA-SPIE Student Chapter members. These kind of meetings are very fruitful to discuss ideas for our projects in the student’s chapter. Students from other universities will be invited, too.

• We will organize informal lectures with PhD students of Physics and Engineering in order to promote our researches. These lectures will be attached to the next reunion of Optics and Photophysics in June 2009 organized by professors of UBA and other national universities.

• We are planning to collaborate in the TOPFOT 2009 (National Workshop in Optics and Photophysics), to be realized in June 2009, at the Physics Department, Exact and Natural Science Faculty, National University of Mar del Plata.

• We are also going to collaborate in the 94th annual meeting of AFA (Argentine Physics Association) that is going to be carried out in September 2009 in Rosario, Argentina.

• We are going to choose a member of the chapter to be in charge, to maintain and to actualize our Website.

• Some of the members of the chapter are organizing two demonstrative classes with experiences of Optics to be held at Primary (for 8 and 9 years old pupils) and at an Adult High School.

Financial information.

The financial information regarding June 2007 - June 2009 is as follows:

**Beginning balance:** U$$ 183

**Funds raised:**
- U$$ 1100 - Funds received in Optics&Photonics2007 in San Diego
- U$$ 1500 - Funds received in Optics&Photonics2008 in San Diego

**Funds expended:** U$$ 1571.5

- U$$ 71.5 ...... taxes to receive Edukits
- U$$ 248 ...... “Pizza Meetings”
- U$$ 120 .........Lectures at FCEyN and at Faculty of Engineering (coffee, snacks and printed information).
- U$$ 430 .........Extra didactic material to incorporate at Edukits for undergraduate students.
- U$$ 158 ...... Posters for lectures and Congresses
- U$$ 5 ...... Taxes to receive books
- U$$ 400 ...... Travel expenses for Lecturers
- U$$ 139 ...... Travel expenses for Lecturers

**Ending balance:** U$$ 1211.5
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President UBA-SPIE Student Chapter

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University of Buenos Aires
Faculty Advisor UBA-SPIE Student Chapter
Chair SPIE Argentina Chapter