

Post-doctoral Fellowship

Project title: PICT-2013-0696

Optical Properties of Composite Nanostructured Materials

Chief Project Research: Dr. Guillermo P. Ortiz

Fellowship Topic

The optical properties from interactions of light and matter have been seen in the last years strongly enriched thanks to control possibilities of shapes and sizes of materials in the nanometer scale. The knowledge and control of such properties in order to predict the optical devices behavior with applications in sensors systems, photovoltaic converters, optical filters, etc, defines in general the research topics related to this project. In particular, the developing of composite materials with photonic properties previously designed is the main problem of interest as much as for its contributions to basic fields of hard sciences so as technological applications from its developing of devices with novel optical properties.

Description of research topic

Among the proposed topics for development of a postdoctoral fellowship, it is proposed: Design of optical properties by calculation of macroscopic dielectric function of metal-dielectric composites with nanometric inclusions in 2D and 3D periodic systems. The research work group has developing some homogenization methods in order to calculate macroscopic dielectric function and optical properties of nanostructured composites. We are spectating a compromised attitude in the application of such methods.

Requirement for applications

Ph. D in Science, Physics and Engineering with interest on technological developing and expertise in optical properties of inhomogeneous system. It is desirable but not limited to candidates with experience in precompiled computing architectures as Perl-PDL and languages for calculation using OpenMPI. They are necessary knowledge on Statistical Mechanics, Electromagnetism and Solid State.

Working place

Institution:	Fac. de Ciencias Exactas-UNNE, Depto de Física
Address:	Av. Libertad 5400, Campus UNNE, Ctes.
State, Country:	Corrientes, Argentina
Zip code:	W3404AAS

characteristic of the grant

Starting:	October 1, 2015
duration:	1 or 2 years
monthly income (Based on June, 2014):	\$14756.- (\approx U\$S 1500.-)
FONCyT Fellowship, regulation and legal:	http://www.agencia.mincyt.gob.ar /upload/REGLAMENTO - Becas junio 2013.pdf

Closing applications

September 7, 2015.

Contact

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