

Curriculum Vitae

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Personal Information

Address: [REDACTED] **Nationality:** [REDACTED]
Date of birth: March 28 1987 **Telephone:** [REDACTED]

Education

- 2015-2019 **PhD** Physics
Institution: National Autonomous University of Mexico
Thesis title: Near-field radiative heat transfer and optical properties of nanoparticle systems
- 2012-2014 **Masters** Physics
Institution: National Autonomous University of Mexico
Thesis title: Adsorption of SCH_3 on silver nanoparticles: size dependence.
- 2005-2010 **Bachelors** Physics and Mathematics
Institution: Michoacan State University
Thesis title: Scalar field as a source for non-singular cosmologies

Research Articles

- 2021 D. Becerril, G. Pirruccio, and Cecilia Noguez. Optical band engineering via vertical stacking of honeycomb plasmonic lattices. *Phys. Rev. B*, 103:195412, May 2021
- 2020 David Becerril, Omar Vázquez, Diego Piccotti, Elizabeth Mendoza Sandoval, Tiziana Cesra, Giovanni Mattei, Cecilia Noguez, and Giuseppe Pirruccio. Diffractive dipolar coupling in non-bravais plasmonic lattices. *Nanoscale Adv.*, 2:1261-1268, 2020
- 2019 David Becerril and Cecilia Noguez. Near-field energy transfer between nanoparticles modulated by coupled multipolar modes. *Phys. Rev. B*, 99:045418, Jan 2019
- 2018 David Becerril, Humberto Batiz, Giuseppe Pirruccio, and Cecilia Noguez. Efficient coupling to plasmonic multipole resonances by using a multipolar incident field. *ACS Photonics*, 5(4):1404-1411, 2018
- 2015 David Becerril and Cecilia Noguez. Adsorption of a methylthio radical on silver nanoparticles: Size dependence. *The Journal of Physical Chemistry C*, 119(20):10824-10835, 2015



Fellowships and awards

- Feb 2020 - Feb. 2021 Italian National Research Council scholarship for the project "Energy Transfer at the Nanoscale", at the Institute of Structure of Matter at Rome, Italy under the supervision of Dr. Antonio Cricenti.
- Dic. 2019 "Juan Manuel Lozana Mejía" diploma obtained for an outstanding PhD dissertation and academic trajectory awarded by the Physics Institute - National Autonomous University of Mexico.

Teaching Experience

- Jan. 2019 - Jul. 2019 Teaching Assistant, *Physics department - UNAM*
Problem solving sessions, discussion sessions and grader for the undergraduate course "Solid State Physics I".
- Jan. 2018 - Jul. 2018 Teaching Assistant, *Physics department - UNAM*
Undergraduate course "Electrodynamics I".
- Aug. 2016 - Jan. 2017 Teaching Assistant, *Physics department - UNAM*
Undergraduate course "Solid State Physics I".
- Aug. 2015 - Jan. 2016 Teaching Assistant, *Physics department - UNAM*
Undergraduate "Modern Physics".
- Jan. 2015 - Jul. 2015 Teaching Assistant, *Physics department - UNAM*
Undergraduate course "Electrodynamics I".
- Jan. 2013 - Jul. 2013 Teaching Assistant, *Physics department - UNAM*
Undergraduate course "Electrodynamics I".
- Aug. 2013 - Jan. 2014 Teaching Assistant, *Physics department - UNAM*
Undergraduate course "Introduction to quantum mechanics".
- Jan. 2018 - Jul. 2018 Teaching Assistant, *Physics department - UNAM*
Undergraduate course "Electrodynamics I".
- Aug. 2009 - Jan. 2010 Profesor, *CNCI High School*
High school teacher at CNCI in Morelia, Michoacán giving the courses of mathematics 1, mathematics 4 and Physics 1.

25-5-2021



Conferences, Schools and collaborations

- 2019 **Research stay:** Short research stay from June 7 to 22 , collaborating in the project “ Energy transfer at the nanoscale”.
Istituto di struttura della materia Roma, Italia.
- 2019 **Oral Presentation:** Radiative Heat Transfer between nanoparticles
International Conference on Optics of Surfaces and Interfaces: Leon,Gto.
- 2018 **Oral Presentation:** Dependence of Radiative Heat Transfer Between Nanoparticles on Coupled Surface Modes
XXVII International Materials Research Congress: Cancún,Q.R.
- 2017 **Poster:** Radiative Heat Transfer Between Plasmonic Nanoparticles
Materials Research Society Spring Meeting and Exhibit: Phoenix, Arizona.
- 2017 **Poster:** Near Field Enhancement Due to Metallic Nanoparticles
Mexican-Italian Nanophotonics Workshop: Tequisquiapan, Queretaro.
- 2016 **Poster:** Designing the plasmonic modes in nanoparticles
WE-Heraeus-Seminar: Heat Transfer and Heat Conduction on the nanoscale: Bad-Honnef, Alemania.
- 2015 **School:** First Mexican School on Theoretical Physical Chemistry
Red de Fisicoquímica Teórica Mérida, Yucatán.
- 2015 **Seminar:** Size Dependence of Adsorption Properties of Silver Nanoparticles
Seminar Sotero Prieto: Physics Institute, UNAM.
- 2015 **Oral Presentation:** Size Dependence of Adsorption Properties of Methylthio on Silver Nanoparticles
XXIV International Materials Research Congress: Cancún,Q.R.
- 2014 **Poster:** Adsorption of Methyl Thiol on Silver Nanoclusters
8th International Meeting on Photodynamics and Related Aspects Oaxaca,Oaxaca
- 2013 **Poster:** Adsorption Properties of Silver Nanoparticles
XXII International Materials Research Congress: Cancún,Q.R.
- 2012 **School:**Frontiers on Casimir Physics
Pan-American Advanced Studies Institute Ushuaia, Argentina.

Languages

Spanish Native tongue
English (100%)

25-5-2021

