

The Hispanic Physicist

The Newsletter of the National Society of Hispanic Physicists

Year 18

February 10, 2015

The Master in Medical Physics at the National University of Mexico (UNAM): More than 100 graduates, and counting

Since 1997 the National University of Mexico, UNAM, offers a M.Sc. Medical Physics program aimed at teaching physics or engineering students principles and applications of physics in medicine. Graduates work as medical physicists in health services and/or pursue a Ph.D. in medical physics. The interest for entrance is constant and intense, and last October 2014 graduate "number 100" defended successfully his thesis.



This is a 4-semester-with-thesis program classified by CONACyT (the Mexican National Council on Science and Technology) at the highest level of quality for a graduate program in the country, and thus deserving 4-semester scholarships for its students. At present, there are about 30 medical physics tutors, mostly UNAM researchers and teachers, and 15 professional advisors, mostly clinical medical physicists and physicians who take also part of the academic guidance of the students. General areas where thesis have been developed are: physics of radiation medicine and dosimetry; magnetic resonance imaging and image processing; physiological measurements; biophysics and mathematical modeling; and optics, lasers and shock waves in medicine.

Main requirement for admission application is a bachelor degree in physics or similar, with a strong curricular content of physics and advanced mathematics. A written admission exam, followed by an oral evaluation, is applied to applicants to assess knowledge and skills in bachelor level physics. Applicants in foreign countries take the written exam at their place of residence and are interviewed by electronic means. Admission requirements for the medical physics master are similar to those for the physics master at PCF. Typically, 10 students are admitted each year. **Education is free at UNAM.**

141 students have been admitted since the program opened: 42% are women, 82% are physicists, 60% are undergraduates from universities other than UNAM, and 8% come from other Latin American countries. At this writing, February 2015, 106 students have graduated, other 5 are close to graduation, and 20 are enrolled. More than 60 graduates work as clinical medical physicists; other 14 have obtained a Ph.D. in medical physics. Of these, 10 are junior researchers in Mexican universities or national institutes of health. At present, 11 are pursuing a doctorate, half in Europe or the USA. Many of our graduates work at the prestigious national institutes of health. We invite interested colleagues and prospective students to learn more visiting our web page www.fisica.unam.mx/fisimed.



“
It's paramount to recognize and understand that mental illness is real and the symptoms are not character flaws that should be kept as shameful secrets.
”

#SACNASNews

Jorge Muñoz, NSHP Officer, writes about depression in graduate studies for SACNAS

"I went to Caltech for my graduate studies, and the Counseling Center sends a questionnaire periodically... A prevalent, memorable question is always: "Do you no longer enjoy activities that you used to enjoy?" It is simple, to the point, ... I believe the answer to that question is the most telling single indicator of a mood disorder."

Read Jorge's article and participate in the discussion. The article is here:

<http://sacnas.org/about/stories/sacnas-news/winter-2015-mental-illness>, and the Facebook discussion is here:

<https://www.facebook.com/SACNAS/photos/pb.114963637183.-2207520000.1422847752./10152999708412184/?type=1>

Higher Education Research Experiences (HERE) Program

Apply by February 28 for best chance at selections; applications are accepted year-round

- Undergraduates, Recent-AAS/BS, MS, and PhD – Science, Engineering, Technology and Mathematics (STEM) majors or related disciplines for technical support opportunities
- Stipend based on academic status
- Travel/Housing assistance (if eligible)
- Full-time and part-time appointments
- Professional development activities
- Minimum GPA - 2.5/4.0
- U.S. Citizen or Lawful Permanent Resident (LPR)

Visit <http://www.ornl.gov/education> or contact ORNL Education Programs at ornledu@ornl.gov for more information!

Nuclear Engineering Science Laboratory Synthesis Programs (NESLS) Program

Must Apply by February 28!

- Current AAS, BS, MS, and PhD students – Majors related to Engineering, Earth and Geosciences, Environmental and Marine Sciences, Life Health and Medical Sciences, Mathematics and Statistics, Nanotechnology, Chemistry, Physics, International Relations, Political Science, Government, Policy, Risk Analysis, and Computer Science
- Stipend based on academic status
- Travel/Housing assistance (if eligible)
- Full-time and part-time appointments
- Professional development activities
- Minimum GPA - 3.0/4.0
- Open to U.S. and Eligible International Citizenship

Visit <http://www.ornl.gov/education> or contact ORNL Education Programs at ornledu@ornl.gov for more information!

Website: <http://www.cwu.edu/physics/reuprogram>

Deadline: Feb. 20, 2015

Research Topics/Keywords: Accelerator Physics, Observational and Computational Astronomy, Materials Science, Optics

Description: This REU program focuses on providing research experiences to undergraduates who have either not had a research experience or are at an institution where research opportunities are not available for undergraduates. Students from community colleges are encouraged to apply. Women and students from traditionally underrepresented groups are also encouraged to apply. Contact Information: Dr. Michael Jackson, jacksonm@cwu.edu



BioSAXS Postdoctoral Associate position at MacCHESS

The Macromolecular Diffraction Facility of the Cornell High-Energy Synchrotron Source (MacCHESS) has an opening for a Postdoctoral Associate. Applicants should have a Ph.D. degree in a relevant field (physics, engineering, structural biology etc.). Preference will



Cornell University
Cornell High Energy
Synchrotron Source

be given to those with experience in x-ray solution scattering on biological systems (SAXS and WAXS). Activities will focus on developing cryogenic BioSAXS technology and implementing time-resolved BioSAXS. Appointments are for one year at a time and are renewable for additional years, contingent upon availability of funds and employee performance. Located on an Ivy League university campus in picturesque upstate New York, the Cornell High-Energy Synchrotron Source (CHESS) serves a world-wide user base of structural biologists, chemists, physicists, and engineers. MacCHESS is an NIH-supported National Resource providing support for structural biology at CHESS. MacCHESS is a heavily team-oriented environment.

Applications should be submitted at <http://academicjobsonline.org/> (posting #5329) and should include a cover letter, a CV, a list of publications, and a detailed summary of research experience and interests. Applicants must arrange to have at least three letters of recommendation sent, as per instructions on the academicjobsonline website. The starting date is negotiable. For information about the position, contact Dr. Marian Szebenyi at dms35@cornell.edu.



Summer Research Program

Programs

- [Applied Mathematics](#)
- [Bioenergy Systems](#)
- [Biomedical Engineering](#)
- [Chemistry](#)
- [Optics and Laser Physics](#)
- [Minority Health Disparities](#)
- [Nanohybrid Functional Materials](#)
- [Redox Biology](#)
- [Sustainability of Civil Infrastructure](#)
- [Virology](#)

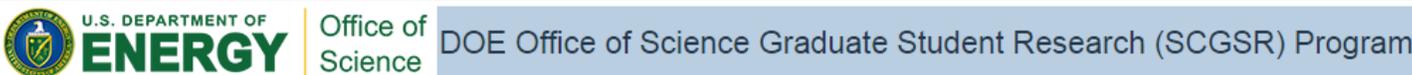
Application Dates

APPLICATION OPENS	Saturday, November 15, 2014
PRIORITY DEADLINE	Sunday, February 1, 2015
DEADLINE	Sunday, March 1, 2015 <i>See app form for exact time when form will stop accepting submissions.</i>
DECISIONS COMPLETE	Wednesday, April 1, 2015



Nanotechnology Fellowship - *Office of Regulatory Affairs*
Arkansas Regional Laboratory
U.S. Food and Drug Administration, Jefferson, AR

A fellowship opportunity is currently available with the Office of Regulatory Affairs (ORA) at the Arkansas Regional Laboratory of the U.S. Food and Drug Administration (FDA). The selected participant will be located at the Nanotechnology Core Facility, which was developed to support the technical needs of scientists involved in determining the toxicity, safety, and characterization of nanomaterials. Under the guidance of a mentor, the selected participant will collaborate with multi-disciplinary research efforts within the National Center for Toxicological Research (NCTR)/ORA Nanotechnology Core Facility. Additional information may be found here: <http://orau.org/science-education/internships-scholarships-fellowships/description.aspx?JobId=14882>



The Department of Energy's (DOE) Office of Science is pleased to announce that the Office of Science Graduate Student Research (SCGSR) program is now accepting applications for the 2015 solicitation. Applications are due 5:00pm ET on Tuesday April 14, 2015.

The SCGSR program supports supplemental awards to outstanding U.S. graduate students to conduct part of their graduate thesis research at a DOE national laboratory in collaboration with a DOE laboratory scientist for a period of 3 to 12 consecutive months—with the goal of preparing graduate students for scientific and technical careers critically important to the DOE Office of Science mission.

The SCGSR program is open to current Ph.D. students in qualified graduate programs at accredited U.S. academic institutions, who are conducting their graduate thesis research in targeted areas of importance to the DOE Office of Science. The research opportunity is expected to advance the graduate students' overall doctoral thesis while providing access to the expertise, resources, and capabilities available at the DOE laboratories. The supplemental award provides for additional, incremental costs for living and travel expenses directly associated with conducting the SCGSR research project at the DOE host laboratory during the award period.

Detailed information about the program, including eligibility requirements and access to the online application system, can be found at: <http://science.energy.gov/wdts/scgsr/>. For any questions, please contact the SCGSR Program Manager, Dr. Ping Ge, at sc.scgsr@science.doe.gov.

Faculty Position in Photonics - Rochester Institute of Technology



The School of Physics and Astronomy at the Rochester Institute of Technology invites applications for a tenure-track faculty position in observational astrophysics at the rank of Assistant Professor. The successful applicant will have a demonstrated ability to establish and maintain a strong research program in galaxy evolution or planetary systems. We are particularly interested in candidates with experience in research methods, such as statistical data-mining or advanced observing techniques, that can enhance the above science focus areas. A strong commitment to excellence in teaching at all levels of the curriculum in, and service contributions to, the School of Physics and Astronomy is also required. The position is anticipated to be at the rank of Assistant Professor, however, candidates with experience and qualifications consistent with appointment at a higher rank are also invited to apply. Candidates must have demonstrated ability, or strong potential, to obtain significant grant funding; show evidence of ongoing research excellence; and have experience with, or demonstrate a strong commitment to, mentoring student research at the graduate and undergraduate levels. The candidate must have the ability or potential to teach graduate level courses within the Astrophysical Sciences and Technology (AST) programs. Applicants must be legally eligible to work in the United States starting Fall 2015. Information about the RIT School of Physics and Astronomy can be found at <http://www.rit.edu/cos/physics/> and about the AST graduate program at <http://www.rit.edu/cos/astrophysics/>.

REQUIRED MINIMUM QUALIFICATIONS:

- A Ph.D. in astronomy, astrophysics, or related fields
- Research experience at post-doctoral level
- Demonstrated commitment to research and excellence in teaching at all levels of the curriculum
- Ability to establish and maintain a research program in observational astrophysics in the area of galaxy evolution or planetary systems
- A commitment to the educational mission of the College of Science
- Capable of including graduate and undergraduate students in research
- Strong communication skills
- Legally eligible to work in the United States beginning Fall 2015
- Ability to contribute in meaningful ways to the college's continuing commitment to cultural diversity, pluralism, and individual differences

HOW TO APPLY:

Apply online at <http://careers.rit.edu/faculty>. Search: 1487BR. Please submit your application, curriculum vitae, and cover letter, and also upload the following as one PDF attachment:

- statement of research goals,
- teaching statement, and
- a list of three current professional references.

Within the cover letter, candidates must include a statement about their contributions to diversity ([please refer to the Contribution to Diversity Statement: A guide for RIT candidates](#)). Candidates should also arrange to have the three references send letters of support directly to Chair, Faculty Search Committee, School of Physics and Astronomy, Rochester Institute of Technology, 85 Lomb Memorial Drive, Rochester, NY 14623-5603 or to physsrch@rit.edu. Inquiries regarding the position may also be sent electronically to physsrch@rit.edu.

Summer Research Program in Biophysics



This 11-week program at the University of North Carolina at

Chapel Hill, introduces undergraduate minority students, disadvantaged students and students with disabilities to the field of biophysics through lectures, seminars, lab work, team-building activities and field trips. The Summer Research Program is designed to reflect a graduate-level research program. Students who are US citizens or permanent residents and who have a strong quantitative background in basic or applied sciences are encouraged to apply. NIH provides full funding for this course, to include travel, housing, meals, course costs, and a stipend. Apply before Feb 16 at <http://www.biophysics.org/Education/Education/SummerResearchPrograminBiophysics/tabid/5543/Default.aspx>.

Please contact Ellen Mackall at emackall@biophysics.org or 240-290-5611 with any questions.

UNIVERSITY OF NOTRE DAME - 2015 SUMMER RESEARCH POSITIONS FOR SOPHOMORE AND JUNIOR UNDERGRADUATE PHYSICS MAJORS

Areas of research include Astronomy, Astrophysics, Condensed Matter Physics, High Energy and Nuclear Physics. Students will work closely with faculty and graduate students on a variety of current research projects.

- 10-week Appointment
- \$4900 Stipend plus Housing
- Dates: May 25 (arrival) to August 1 (departure)
- On-campus housing, transportation allowance, and many group meals and events
- Application Deadline: February 19, 2015
- Apply at physics.nd.edu/research/reu/
- To be eligible students should:
- Have a background in physics
- Have completed sophomore or junior year
- Be a U.S. citizen or permanent resident



All applications must be submitted electronically with a letter describing your interests and relevant background (math, computer and research experience), a transcript and two faculty letters of recommendation. Selection begins the day after the deadline so please be sure everything gets turned in prior to February 19, 2015!

For more information contact Professor Umesh Garg or Sue Coyne, Umesh.Garg.1@nd.edu or Scoyne1@nd.edu, 574.631.4086

INCLUSIVE ASTRONOMY 2015

June 17-19, 2015
Vanderbilt University, Nashville, Tennessee

We are pleased to announce and invite the participation of all to the inaugural meeting on Inclusive Astronomy to be held June 17-19, 2015, at Vanderbilt University in Nashville, Tennessee. Inclusive Astronomy 2015 will serve as a welcoming, strategic venue to advocate and provide resources for the inclusion in the astronomy community of: people of color; lesbian, gay, bisexual, transgender, intersex, queer, or questioning (LGBTIQ) people; people with disabilities; women; and anyone who holds more than one of these identities. Those who seek to aid in such inclusion are also invited to attend. The organizing committee includes members of the Committee on the Status of Minorities in Astronomy, Committee on the Status of Women in Astronomy, and Working Group on LGBTIQ Equality of the American Astronomical Society.

Anticipated conference sponsors include the National Science Foundation, the American Astronomical Society, and the Association of Universities for Research in Astronomy (AURA). We expect to be able to support travel costs for a number of early-career attendees. More information about registration, childcare grants, travel support, and the meeting program will be posted on our website: <http://nblo.gs/12qocG>, and you can reach us via email at: inclusiveastronomy2015@vanderbilt.edu.

The Hispanic Physicist. Published whenever there is news and the Editor has enough time. Send news, letters, congratulations, etc. to Jorge A. Lopez, jorgelopez@utep.edu. <http://www.hispanicphysicists.org/>.