



# The Hispanic Physicist

The Newsletter of the National Society of Hispanic Physicists

Year 20

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[This month's HP profile](#) is dedicated to Sara Tafoya. At the time of the interview Sara Tafoya was a PhD student at the University of California in Berkeley with the group of Carlos Bustamante in the area of biophysics. In her Spanish language 2 min radio capsule Sara talks about molecular motors and their role in carrying energy from our food to our cells. In her Spanish language 16 min interview Sara talks about her origins and how she became a biophysicist. To listen to the Spanish language 2 min radio capsule [click here](#). To listen to the Spanish language 18 min interview [click here](#). NSHP salutes Sara!

**Please forward the links to your favorite high school teacher and local radio stations!**



### Ivan Schuller's movie "When things get small" is now in Spanish.

The 30 min movie "When Things Get Small" was produced by Rich Wargo and Ivan Shuller from UC San Diego in 2013, and now –thanks to Chile's CEDENNA– it can be enjoyed in Spanish. For more information contact: Dr. Ivan K. Schuller, Director, Center for Advanced Nanoscience, <http://can.ucsd.edu>. Here are the links to the movies:

English version: <https://www.youtube.com/watch?v=Zuj5LWzb0U1>.

Spanish version: [https://www.youtube.com/watch?v=P\\_IW\\_q7ya5E](https://www.youtube.com/watch?v=P_IW_q7ya5E)[https://www.youtube.com/watch?v=P\\_IW\\_q7ya5E](https://www.youtube.com/watch?v=P_IW_q7ya5E).

**Feel free to post the links in your social media and institutional websites, and please forward the links to your favorite high school teacher and local radio stations!**



### Sekazi Mtingwa shares APS' 2017 Robert R. Wilson Prize

Theoretical physicist Sekazi Mtingwa, will share the APS' 2017 Robert R. Wilson Prize for Achievement in the Physics of Particle Accelerators for groundbreaking theoretical work on the intensity and focus of particle beams in accelerators. Citation reads

*"For the detailed, theoretical description of intrabeam scattering, which has empowered major discoveries in a broad range of disciplines by a wide variety of accelerators, including hadron colliders, damping rings/linear colliders, and low emittance synchrotron light sources."*

Mtingwa shares the award with James D. Bjorken, (Stanford University) and Anton Piwinski (DESY).

Mtingwa is an indefatigable supporter of minority scientists. He was co-founder of the African Laser Centre, a nonprofit based in South Africa that promotes laser science in Africa, and is President of [INCREASE](#), a consortium of minority-serving institutions based at Hampton University in Virginia. Mtingwa is the first African-American scientist to receive an APS prize (not award) from the American Physical Society; he also received the American Nuclear Society 2015 Distinguished Service Award for his work in nuclear energy policy.

**NSHP congratulates Sekazi!**



### The Science, Mathematics and Research for Transformation Scholarship

The Science, Mathematics and Research for Transformation (SMART) Scholarship for Service Program is an opportunity for students pursuing an undergraduate or graduate degree in Science, Technology, Engineering, and Mathematics (STEM) disciplines to receive a full scholarship and be gainfully employed upon degree completion with a Department of Defense facility. The Program will pay for all educational expenses for a B.S., M.S. or Ph.D. degree, and then provide scholars unique opportunities to work as research scientists or engineers on cutting edge technology in world class Department of Defense facilities.

SMART Scholars receive: Full tuition and educational fees, generous cash stipend ranging from \$25,000 - \$38,000 per year, paid summer internships, health insurance, and miscellaneous allowance, employment with Department of Defense facilities after graduation. Basic eligibility requirements are as follows: a U.S. citizen at time of application (some exceptions apply), 18 years of age or older as of August 1, 2017, able to participate in summer internships at DoD laboratories, willing to accept post-graduate employment with the DoD, a student in good standing with a minimum cumulative GPA of 3.0 on a 4.0 scale and, pursuing an undergraduate or graduate degree in one of the disciplines listed above. The application is currently open and the deadline to apply is December 1st, 2016. For more information and to apply please visit <http://smart.asee.org>.



### The Biophysical Society Summer Research Program

The Biophysical Society Summer Research Program is an 11 week program for underrepresented students that offers the opportunity to learn from top scientists from all over the country. Students attend lectures by local and visiting professors and engage in hands on lab work at the University of North Carolina's Chapel Hill campus. The program includes lectures, seminars, mentorship, teambuilding activities, and field trips. The Summer Research Program is designed to reflect a graduate-level research program and prepare students for the next step in their careers. All tuition and fees during the program are covered. Participants also receive travel assistance, and a stipend totaling \$4,480 for meals and living expenses throughout the summer. The 2017 Summer Program will take place from May 9-July 28. For more information and to apply visit [biophysics.org](http://biophysics.org). **Priority Application Deadline\*: February 15, 2017.**



### Faculty Position in Theoretical Condensed Matter Physics at Rutgers

The Department of Physics and Astronomy at Rutgers, The State University of New Jersey, invites applicants for a tenure-track Assistant Professor position in Theoretical Condensed Matter Physics. For an exceptional candidate, appointment at a more senior level may be considered. Applicant must have a Ph.D. degree and an outstanding record of research and publication, preferably in a field related to correlated, topological, magnetic or electroactive materials; non-equilibrium systems; nanostructures; or large-scale computation or computational design. The successful candidate will be expected to establish an independent research program that will attract external funding, and should be strongly committed to teaching. A start date of 1 Sep. 2017 is anticipated. Applicants should apply online via Interfolio at <https://apply.interfolio.com/36865>, providing a cover letter, a CV including list of publications, a statement of research plans, and a teaching statement, and should follow the Interfolio instructions to arrange for three letters of recommendation. Review of applications will begin on 1 October 2016, with those arriving by 1 November receiving the fullest consideration.



### Full-time Instructor - The Western Kentucky University

The Western Kentucky University Physics and Astronomy Department invites applications for a full-time Instructor starting on Aug. 16, 2017. We seek a person with a strong commitment to teaching undergraduate physics or astronomy courses and labs and engaging students in research activities. The successful candidate will have a graduate degree in Physics, Astronomy or a related field and classroom and lab teaching experience at the undergraduate level. Consideration of applications will begin Jan. 9, 2017 and continue until filled. Please submit applications through <https://wku.interviewexchange.com/jobofferdetails.jsp?JOBID=76548>. Questions can be directed to Dr. Scott Bonham, Search Committee Chair at [scott.bonham@wku.edu](mailto:scott.bonham@wku.edu).



### Postdoctoral Associate (Center for Bright Beams) Cornell University

The Cornell Laboratory for Accelerator-based Sciences and Education (CLASSE) has an opening for a postdoctoral research associate to work on advanced photocathode materials for generation of high brightness electron beams for applications in accelerators physics and ultrafast electron imaging within the Center for Bright Beams. A Ph.D. or an equivalent in physics, material science, or chemistry is required. Applicants should have extensive experience with UHV systems, thin film growth and be well-versed with surface analyzing techniques. Some hands-on experience with lasers and familiarity with basics of accelerator physics and beam operation are desired.

Located on campus of a premier Ivy League Research University, CLASSE has a long history of excellence in various aspects of accelerator-related sciences and technology. The research will be conducted using cutting-edge tools available at CLASSE, with access to state-of-the-art facilities at Cornell Center for Materials Research (CCMR), Cornell Nanoscale Science & Technology Facility (CNF), and Cornell High Energy Synchrotron Source (CHESS), as well as those of the National Laboratories. The initial Postdoctoral Associate appointment will be for one year, with the expectation for renewal for an additional two years.

Applications should be submitted at <https://academicjobsonline.org/ajo/jobs/8095> and should include a cover letter, a CV, and a detailed summary of research experience and interests. Applicants must arrange to have at least three letters of recommendation uploaded, as per instructions on the academicjobsonline website. For information about the position, contact: Prof. Ivan Bazarov, Chair, Photocathode Postdoctoral Associate Search Committee, Newman Laboratory, Cornell University, Ithaca, NY 14853, USA. Electronic submissions and inquiries may be addressed to [search-CLASSE@cornell.edu](mailto:search-CLASSE@cornell.edu).



### Creighton University - Tenure-Track Faculty Position in Physics

We seek a candidate with effective communication skills who will join us in our commitment to outstanding teaching and the tradition of involving undergraduate and master's students in externally-funded laboratory research. Creighton, a Jesuit University committed to excellence in the liberal arts tradition, has been consistently rated as the top Master's-granting university in the Midwest. Creighton is located in downtown Omaha, a vibrant community of 900,000 that was recently rated the sixth most livable city in the U.S. The Physics Department offers both Bachelors and Masters degrees. We have an opening for a tenure-track position at the rank of Assistant Professor beginning in August 2017. Successful candidates should expect to teach a wide range of courses, from the introductory-level through graduate-level. Preferred research areas are high energy nuclear physics, medical physics, or biophysics, although highly qualified candidates in other fields will be considered. A Ph.D. in physics or engineering is required. More information about our department and this position can be found at <http://physicsweb.creighton.edu>.

The initial application includes a cover letter, a current curriculum vitae, a statement of teaching philosophy consistent with the tradition of Jesuit liberal arts education, a research plan, and names and contact information for three professional references. Initial applications must be submitted electronically at <https://careers.creighton.edu>. Applicants who advance beyond the initial selection process will be asked to provide the following additional documents directly to the Physics department: undergraduate and graduate transcripts, letters of recommendation from the candidate's three references, and evidence of successful teaching (if available). These materials must be provided within one week of being requested for full consideration, so applicants may wish to ask references to have letters prepared prior to notification. Initial submission of the documents may be electronic, but original copies will be required prior to a campus visit.

Applications will be accepted until the position is filled, but review of applications will begin October 15, 2016. Creighton is an EO/AA Employer: M/F/Disabled/Vet and seeks a wide range of applicants for this position in support of one of our core values—gender, ethnic and cultural diversity. Questions regarding the position may be directed to the chair of the search committee, Dr. Jack Gabel, at [jackgabel@creighton.edu](mailto:jackgabel@creighton.edu) or 402-280-3066.

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### Tenure-Track Faculty Position in Experimental Nanoscale Science - Virginia Tech

The College of Science at Virginia Tech and the Academy of Integrated Science, through its Division of Nanoscience (<http://www.science.vt.edu/ais/nano>), are placing strong emphasis on research in nanoscale science, quantum phenomena, complex materials, and energy through interdisciplinary faculty hires across departments. As part of this initiative, the Department of Physics (<http://www.phys.vt.edu>) is recruiting an experimentalist working on nanoscale science for a tenure-track faculty position, to start in fall of 2017. Appointment at the assistant professor level is anticipated but exceptional candidates will be considered. Preference will be given to experimentalists who can expand our existing condensed matter efforts in nanoscale physics. Applicants must have a Ph.D. in physics or a closely related field and postdoctoral experience. Successful candidates will be expected to establish vigorous research programs and teach effectively at the undergraduate and graduate levels and work closely with the existing nanoscience degree program.

Further information can be found at <http://www.phys.vt.edu>, and questions regarding the position can be directed by email to: [search-nano@vt.edu](mailto:search-nano@vt.edu). Applications must be submitted online at <http://listings.jobs.vt.edu/postings/69181> and should include a cover letter, curriculum vitae, a research plan (3-5 pages), a statement of teaching philosophy that describes an integrated vision for nanoscience education, and contact information for at least three references (five for senior candidates). The references will be notified by email to upload their letters using the online system. Review of applications will begin on December 1, 2016 and continue until the position is filled; to ensure full consideration, complete application packages and reference letters should be received by December 1, 2016.

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### Tenure-Track Faculty Position in Theoretical and/or Experimental Soft Matter and Biological Physics - Virginia Tech

The Department of Physics at Virginia Tech invites applications for a tenure-track faculty position in the areas of experimental and/or theoretical Soft Matter and/or Biological Physics. Appointment at the Assistant Professor level is anticipated but exceptional senior candidates will also be considered. We especially encourage candidates to apply who complement, extend, or charter new directions to the department's existing strengths in complex biological systems and processes, synthetic biology, statistical and polymer physics, characterization and self-assembly of soft materials, advanced optics, and terahertz spectroscopy. Our recently chartered Center for Soft Matter and Biological Physics ([www.phys.vt.edu/CSMBP](http://www.phys.vt.edu/CSMBP)) provides broad opportunities for interdisciplinary collaborations within Virginia Tech's colleges and institutes.

Applicants must hold a Ph.D. or equivalent in physics or a closely related field, and have postdoctoral experience at the time of appointment. The successful candidates will be expected to establish a vigorous and externally well-funded research program; teach effectively at the undergraduate and graduate levels; continue development of scholarly activities and professional capabilities; occasionally travel, for example, to attend professional conferences and present research seminars; and actively participate in department, college, and university governance. Further information can be found at <http://www.phys.vt.edu>, and questions regarding the position may be directed to the chair of the Search Committee, Uwe C. Tuber, at [smb\\_search@phys.vt.edu](mailto:smb_search@phys.vt.edu), (540) 231-8998. Candidates should apply at <http://listings.jobs.vt.edu/postings/69219>. The application package must include a cover letter, curriculum vitae with publication list, a statement of ongoing and planned research, a brief description of teaching philosophy, and contact information for at least three references (five for senior candidates). The references will be notified via email to upload their recommendation letters through our online system.

Review of applications will begin on December 1, 2016, and will continue until the position is filled; to ensure full consideration, complete application packages and reference letters should be received by December 1, 2016. The expected position starting date is August 10, 2017.



### Postdoctoral Research Fellows and Research Scientist Position at TRIUMF

The theory department has openings for one or more Postdoctoral Research Fellows in theoretical subatomic physics beginning September 2017. Interested parties are encouraged to contact one of the theory department members (<http://www.triumf.ca/node/2604/>). Specific details as well as instructions for how to apply before the deadline of November 15, 2016 can be found here: <https://academicjobsonline.org/ajo/jobs/6229>.

The theory department also has an opening for a Research Scientist position. Specific details can be found here: <http://admin.triumf.ca/d2w-pub/jobdetail/REPORT?comp=538&mbr=c538>. Deadline of Oct. 31, 2016.

The Nuclear Theory Group at Ohio University anticipates hiring a post-doctoral research associate to take up a position starting in the Fall of 2017. Applicants must have a Ph.D. in physics (or anticipate having a Ph.D. in hand by September 2017). The research interests of the group cover a broad range of topics: nuclear and electromagnetic reactions in light systems, reactions involving nuclei near the neutron- and proton-driplines with particular emphasis on halo nuclei and direct reactions, and implications of the physics of dense matter for astrophysics. We attack these problems using a variety of forefront techniques including effective field theory, Faddeev techniques, and finite-temperature methods. We expect the successful candidate to contribute to these efforts. Thus applicants should have a strong research record and display significant initiative to complement their research skills. The appointment will initially be for one year. Renewal for a second year is highly probable, but is contingent on funding and job performance.

Interested candidates are requested to submit a curriculum vitae, and a statement of research interests which should include a complete list of publications to <http://www.ohiouniversityjobs.com/postings/20685>. Only submissions via this method will be accepted. When you submit your application you will be asked to provide the names of three people willing to write a reference letter on your behalf. Those individuals will then be contacted by email and asked to upload a letter to our system. Questions about the position should be addressed to Prof. Charlotte Elster, [elster@ohio.edu](mailto:elster@ohio.edu). Review of applications will begin December 12, 2016.

**Tenure-Track Faculty Positions in Physics, Astronomy, or Astrophysics**

THE DEPARTMENT OF PHYSICS within the Division of Physical Sciences at UC San Diego (<http://physics.ucsd.edu>) is committed to academic excellence and diversity within the faculty, staff, and student body and invites applications for tenure-track faculty positions. This is a broad search that is open to theoretical and computational physicists in all research areas of interest to the Department of Physics, including astronomy/astrophysics, atomic physics, condensed matter physics, elementary particle physics, plasma physics, and quantum information. All positions are subject to budget approval.

Successful candidates must have a Ph.D. in Physics or a closely related field and demonstrated potential for a recognized program of excellence in both teaching and research. Preferred candidates will have a desire to play a future role in helping to shape and expand the University's diversity initiatives (<http://diversity.ucsd.edu/>). We especially welcome candidates who have experience with and wish to contribute to programs that increase the access and success of underrepresented students and faculty in the sciences. Candidates will be judged on research and teaching accomplishments, as well as on potential for leadership in areas contributing to diversity, equity and inclusion. Salary is commensurate with qualifications and based on University of California pay scale.

Review of applications will commence on November 14, 2016 and continue until the position is filled. Applications are to be submitted online at: <https://apol-recruit.ucsd.edu/apply/JPF01246>. Please submit a cover letter, curriculum vitae with a list of publications, statement of past and proposed research, statement of past and proposed teaching, and a statement on past experience and leadership in equity, diversity, and inclusion, and/or proposed future contributions (see <http://facultyexcellence.ucsd.edu/c2d/index.html> for further information). Candidates must also arrange to have three to five letters of reference addressing research, teaching and professional service posted to the above website by the deadline. Information about spousal/partner employment is available on the Partner Opportunities Program website: <http://academicaffairs.ucsd.edu/offices/partneropp/>.

**Rochester Institute of Technology- Tenure-track faculty position in computational physics in materials or condensed matter physics**

The School of Physics and Astronomy at the Rochester Institute of Technology invites applications for a tenure-track faculty position in computational physics within the general area of materials or condensed matter physics to begin August 2017. The position is anticipated to be at the rank of Assistant Professor, however, exceptional candidates with experience and qualifications consistent with appointment at a higher rank may also be considered. Applicants must have the demonstrated ability to establish and maintain a strong computational physics research program aimed at modeling properties of strongly correlated materials, electronic and photonic materials, or materials for energy applications. Individuals with programs having the potential to

enhance active research areas at RIT are particularly desirable. Examples include ab-initio calculations for modeling material properties and nanostructures, modeling of thin film growth, density functional calculations of surface processes, and modeling properties such as found in soft matter or magnetic systems. Applicants must have a Ph.D. in physics, materials science, or closely related field, and have postdoctoral experience. In addition, candidates are expected to have the demonstrated ability, or strong potential, to obtain external research funding.

Effective teaching and the education of our students is a high priority. The primary teaching effort within the RIT School of Physics and Astronomy serves undergraduate students, accompanied by a growing teaching mission in support of RIT's graduate programs in science and engineering. Successful candidates must have a demonstrated strong commitment to excellence in teaching. Individuals are expected to desire and be capable of teaching courses across all levels of the Physics and Materials Science & Engineering Programs, and are expected to contribute to curriculum development efforts. A plan to integrate and mentor students at the undergraduate and graduate levels must be part of the candidate's research program. Candidates must have strong communication skills and demonstrate an overall commitment to the educational, research, and teaching mission of the School of Physics and Astronomy. Applicants must be legally eligible to work in the United States beginning August 10, 2017.

We are seeking an individual who has the ability and interest in contributing to a community committed to Student Centeredness; Professional Development and Scholarship; Integrity and Ethics; Respect, Diversity and Pluralism; Innovation and Flexibility; and Teamwork and Collaboration. Select to view links to RIT's [core values](#), [honor code](#), and [diversity commitment](#).

#### REQUIRED MINIMUM QUALIFICATIONS:

- A Ph.D. in physics, materials science, or related fields
- Post-doctoral experience
- Demonstrated commitment to research and excellence in teaching at all levels of the curriculum
- Ability to establish and maintain a research program in computational physics in materials or condensed matter
- Demonstrated ability, or strong potential, to obtain external research funding
- A commitment to the educational and teaching 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 August 10, 2017
- Ability to contribute to the college's commitment to cultural diversity, pluralism, and individual differences

#### HOW TO APPLY:

Apply online at <http://careers.rit.edu/faculty>. Search: 2700BR. Please submit your application, curriculum vitae and cover letter, and upload the following:

- Statement of research goals and plans for securing external funding (not to exceed 4 pages)
- Teaching philosophy statement (not to exceed 4 pages)
- List of three current professional references, along with their contact information

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 arrange to have their three references send letters of support directly to Chair, Faculty Search Committee, RIT School of Physics & Astronomy. These letters must be submitted to [physsrch@rit.edu](mailto:physsrch@rit.edu) and must be in PDF format. Inquiries regarding the position may also be sent electronically to [physsrch@rit.edu](mailto:physsrch@rit.edu). To receive full consideration, all application materials should be received by Friday, November 18, 2016.



UNIVERSITY OF CALIFORNIA  
**SANTA CRUZ**

#### **University of California, Santa Cruz - Assistant Professor - Theoretical Materials Physics**

The Physics Department at the University of California, Santa Cruz (UCSC) invites applications for a tenure track faculty position in theoretical materials physics at the Assistant Professor level. Candidates with a strong record of publication in theoretical and computational materials physics, and with a strong commitment to research and teaching, are encouraged to apply.

The successful candidate will be expected to participate in a new campuswide, interdisciplinary materials science program, to pursue a vigorous research program, to teach courses and mentor students at the undergraduate and graduate levels, and to perform service to the department and university. The successful candidate must be able to work with students, faculty, and staff from a wide range of social and cultural backgrounds. We are especially interested in candidates who can contribute to the diversity and excellence of the academic community through their research, teaching, and/or service.

RANK: Assistant Professor

SALARY: Commensurate with qualifications and experience; academic year (9-month) basis

BASIC QUALIFICATIONS: A Ph.D. or equivalent foreign degree in physics or a closely related discipline, a demonstrated record of research, and a record of publications in the fields of theoretical materials physics and theoretical condensed-matter physics.

PREFERRED QUALIFICATIONS: One year or more of postdoctoral research experience.

POSITION AVAILABLE: July 1, 2017, with academic year beginning September 2017.

TO APPLY: Applications are accepted via the UCSC Academic Recruit online system and must include a letter of application, curriculum vitae (including a list of publications in the fields of materials physics and condensed-matter physics), research statement, teaching statement, and at least 3 but not more than 5 confidential letters of recommendation\* evaluating the candidate's scholarly contributions, potential for leadership, teaching, and other professional attributes. Applicants are invited to submit a statement addressing their contributions to diversity through research, teaching, and/or service. Documents/materials must be submitted as PDF files.

Apply at <https://recruit.ucsc.edu/apply/JPF00398>. Refer to Position #JPF00398-17 in all correspondence.

CLOSING DATE: Review of applications will begin on December 09, 2016. To ensure full consideration, applications should be complete and letters of recommendation received by this date. The position will remain open until filled, but not later than 6/30/2017.

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