Physical Sciences welcomes eight new faculty members

Tuesday, December 17, 2019

Fe Valencia

Eight new faculty members join the School of Physical Sciences from universities across the world, bringing new research right from their Ph.D. programs and others bringing their established research ready to revamp. Here are the new faculty members:

Paulo Brando
Assistant Professor, Department of Earth System Science

- Paul Brando's research explores the vulnerability of terrestrial natural ecosystems to repeated disturbances and prolonged degradation. His scientific toolbox includes a combination of field manipulation experiments, statistical and dynamic vegetation models, and remote sensing. These skills have helped him to scale up results from the local to the regional scale.
- His Ph.D. in Interdisciplinary Ecology has also facilitated his interaction with a wide range of disciplines to integrate knowledge from research specialists across different fields to contribute to potential solutions to tropical forest sustainability. He is particularly interested in collaborating with policyoriented NGOs (WHRC and IPAM, in particular) to disseminate scientific findings about land use change and climate change to a wide range of different societal groups.
- He received his bachelor's degree in Forest Engineering from the University of São Paulo and his Ph.D. in Interdisciplinary Ecology from the University of Florida.

Benis Egoh
Assistant Professor, Department of Earth System Science

- Benis Egoh's research focuses on the mapping and valuing of ecosystem services to understand the economic consequences of land degradation on human wellbeing; understanding links between ecosystem services and underpinning biodiversity; and the implementation of current policies related to biodiversity and ecosystem services and options that exist to safeguard or restore priority areas important for both.
- She has an MSC in Conservation Biology from University of Cape Town and a Ph.D. in Zoology from the University of Stellenbosch.

Asaf Ferber
Assistant Professor, Department of Mathematics

- Asaf Ferber's research areas are mostly under the topic of probabilistic methods in discrete mathematics. More specifically, he is interested in: Extremal Combinatorics, Graph Theory, Random Graphs/hypergraphs, Discrete Random Matrices, Combinatorial Number Theory.
- Ferber received his Ph.D. from Tel Aviv University in 2013 and then spent 1.5 years in ETH Zurich. Afterwards, he spent 1.5 years in Yale as a Gibbs Assistant Professor and then moved to MIT as

an instructor for 3 additional years.

Sarah Finkeldei
Assistant Professor, Department of Chemistry

- In July 2019, Sarah joined the Chemistry Department where she is currently building up a radiochemistry laboratory dedicated to materials chemistry in the nuclear context. Her research interests span from advanced fuel forms to nuclear waste forms.

- Sarah received her Ph.D. from RWTH Aachen, Germany in 2014. She has also received several awards for her work including the Excellence Award of the Forschungszentrum Juelich and the Ph.D. award of the German Chemical Society, Nuclear Chemistry Division for her Ph.D. thesis.

Luis Jauregui Padres
Assistant Professor, Department of Physics & Astronomy

- Luis Jauregui Padres's research includes lightmatter interaction in quantum opto-electronic devices, and quantum transport of modular nano-devices. He also oversees an interdisciplinary laboratory, QMDL, focused on the transport and opto-electronics properties of emergent quantum materials.
- Padres received his Ph.D. from Purdue University in 2016 and he also was a postdoctoral fellow at Harvard University.

Roberto Pelayo
Teaching Assistant Professor, Department of Mathematics

- Roberto Pelayo's research area shifted from geometric topology to computational algebra to better fit the needs of his students. Through several National Science Foundation grants, Roberto worked with dozens of students on research experiences and pedagogical training in the mathematical sciences. His current interests lie in Data Science curricular development and in training future mathematics teachers in novel educational techniques.
- Pelayo received his B.A. in Mathematics and Psychology at Occidental College and his Ph.D. in Mathematics from the California Institute of Technology

Judit Romhanyi
Assistant Professor, Department of Physics & Astronomy

- Judit Romhanyi is a theoretical physicist working in the field of strongly correlated electron systems. Her research focuses on novel quantum phases and unconventional excitations of insulating quantum magnets. Recently, she became interested in topological properties of magnetic excitations. She addresses mostly experimentally motivated problems and work sideby-side with experimental colleagues.

Jin Yu
Assistant Professor, Department of Physics & Astronomy

- Jin Yu's research includes biomolecular machines that are reminiscent of life's fundamental delicacies in molecular design. They are made by nano to micrometer scale protein complexes with cyclic functional cycles of mechano-chemistry, being able to achieve comparatively high energy efficiency and accuracy, and balance well between functions and constraints in cellular

environment and under evolution. Her research has focused on revealing physical mechanisms underlying some of these protein complexes and machinery.

- Yu received her BS and MS from Tsinghua University, Physics and Ph.D. from the University of Illinois at UrbanaChampaign, Physics. She also was a Principal Investigator at Beijing Computational Science Research Center.

Feature Stories
Earth System Science
Math
Physics & Astronomy
Chemistry
View PDF