LSU College of Science

LSU Department of Physics & Astronomy

Weekly Calendar & News

March 25-April 1, 2017

Monday, March 27th Colloquium

Breakthrough Listen: Expanding the Search for Life Beyond Earth

Steve Croft
University of California, Berkeley

Host: Tabetha Boyajian

3:30 PM Monday, March 27
130 Nicholson Hall

The $100M, 10-year philanthropic "Breakthrough Listen" project is driving an unprecedented expansion of the search for intelligent life beyond Earth. Modern instruments allow ever larger regions of parameter space (luminosity, duty cycle, frequency coverage) to be explored, which will enable us to place meaningful physical limits on the prevalence of transmitting civilizations. Data volumes are huge, and preclude long-term storage of the raw data products, so real-time and machine learning processing techniques must be employed to identify candidate signals as well as simultaneously classifying interfering sources. However, the Galaxy is now known to be a target-rich environment, teeming with habitable planets, in addition to intriguing objects such as Boyajian's Star. Data from Breakthrough Listen can also be used by researchers in other areas of astronomy to study pulsars, fast transient sources, or a range of other science targets.

Breakthrough Listen is already underway in the optical and radio bands, and is also engaging with Square Kilometer Array precursors to explore the pathway to SETI science with SKA. I will discuss the technology, science goals, data products, and roadmap of Breakthrough Listen, as we attempt to answer one of humanity's oldest questions: Are we alone?

No Colloquium on Thursday, March 30th

LSU Physics & Astronomy in the News

- Small Science Wields Big Ideas - LSU Celebrates NanoDays: The Biggest Event for the Tiniest of Science http://www.lsu.edu/physics/news/2017/03/nanodays.php
- Controlling Fast X-ray Pulses with Laser Light. http://www.lsu.edu/physics/news/2017/03/laser_xray_research.php
- How LIGO got the word out about gravitational waves http://blog.physicsworld.com/2017/03/22/how-ligo-got-the-word-out-about-gravitational-waves/
- Former space shuttle commander presents two students with scholarships. http://bit.ly/2nZ4yIe

Events

- **Saturday Science: Unraveling evolutionary tales hidden in genomes"** by Jeremy Brown **(flyer attached below)**
  Where: Room 130 Nicholson Hall
  When: Saturday March 25, 10:00 AM

- **Nano Days 2017 at Highland Road Park Observatory (flyer attached below)**
  Where: Highland Road Park Observatory
  When: Saturday March 25, 2:00-6:00 PM

- **What I did with my Physics Degree** - By Alumnus Tom Harrington, Co-Founder & Chief Technology Officer at D3 Semiconductor, LLC **(flyer attached below)**
  Where: 435 Nicholson Hall
  When: Thursday March 30, 5:00-6:00 PM

- **Landolt Observatory Public Night: Mercury at greatest elongation**
  Where: Landolt Astronomical Observatory, roof of Nicholson Hall
  When: Saturday April 1, 8:00-9:00 PM

SATURDAY SCIENCE

Unraveling evolutionary tales hidden in genomes

A public lecture by

Dr. Jeremy Brown

About the Speaker

Dr. Jeremy M. Brown is an Assistant Professor in LSU's Dept. of Biological Sciences, and he is fascinated by the deep genealogical connections among all living things. His research compares the genomes of different organisms to understand how they are related, how they have been shaped by evolution, and how we can use this information to answer important questions.

Dr. Brown has helped to describe an unusual new species of Amazonian ant, has solved crimes by comparing HIV from different people to see how the virus was transmitted, and is trying to settle an old debate about where turtles belong in the tree of life. He will also talk about how he accidentally became a computational biologist and why he spends a lot of his time creating software and developing new statistical methods to provide better answers to questions like these.

25 March 2017, 10-11:00 a.m.

Room 130 Nicholson Hall, LSU

LSU | College of Science
Department of Physics & Astronomy

NanoDays

2-6 p.m.

Saturday, March 25
Highland Road Park Observatory

The observatory will have this month's solar viewing session from 2:00-4:00 p.m. through HRPO's Coronado Solar Max II.

Lunar viewing will take place from 4:30-6:00 p.m. showing a magnified daytime waxing crescent moon.

Small Science Wields *BIG IDEAS*

NanoDays 2017

Join LSU for the 8th annual NanoDays at the Highland Road Park Observatory on Saturday, March 25, from 2-6 p.m. The free family-friendly event is open to the public and will feature several hands-on activities for guests of all ages:

- Learn first-hand how a Scanning Probe Microscope explores the nanoworld
- See how nanomaterials are used to make stain-free clothes
- Play with liquid crystals and magnets
- Make an Oobleck, a liquid with both liquid and solid properties
- At 4 p.m., get inside the mind of physicist Daniel Sheehy, a professor in the LSU Department of Physics & Astronomy, who will present "Living in the Age of Quantum Physics"

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What I Did with My LSU Degree

LSU alumnus Tom Harrington shares his entrepreneurial experience from physics & electrical engineering degrees to Co-founding D3 Semiconductor, LLC

Thursday
March 30
5:00 p.m.
Room 435
Nicholson Hall
Join us with
FREE PIZZA

Tom Harrington

Entrepreneur
Co-Founder
Chief Technology Officer
D3 Semiconductor, LLC

B.S., Physics, 1981
M.S., Electrical Engineering, 1983

14 US patents and several international patents awarded

More than 30 years of semiconductor industry engineering and management experience.

- Talk with Tom about how his LSU physics degree was/is the underpinning for his career path.
- ***"I'm convinced that no matter which technical field a person is ultimately interested in, the physics curriculum provides the best grounding and launch pad for all of the other fields."***
- Leverages his mixed signal experience from Maxim and Dallas Semiconductor to drive innovation into D3's power technology.
- Helped launch Dallas Semiconductor and really enjoys a technical challenge.

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