LSU College of Science

LSU

Department of Physics & Astronomy

Weekly Calendar & News

Sept. 11-16, 2017

Departmental Colloquium

The AAVSO Program: A Resource for Variable Star Research

Stella Kafka
American Association of Variable Star Observers

Host: Arlo Landolt

3:30 PM Thursday, September 14
109 Nicholson Hall

• Refreshments served at 3:10 PM in 232 (Library) Nicholson Hall •

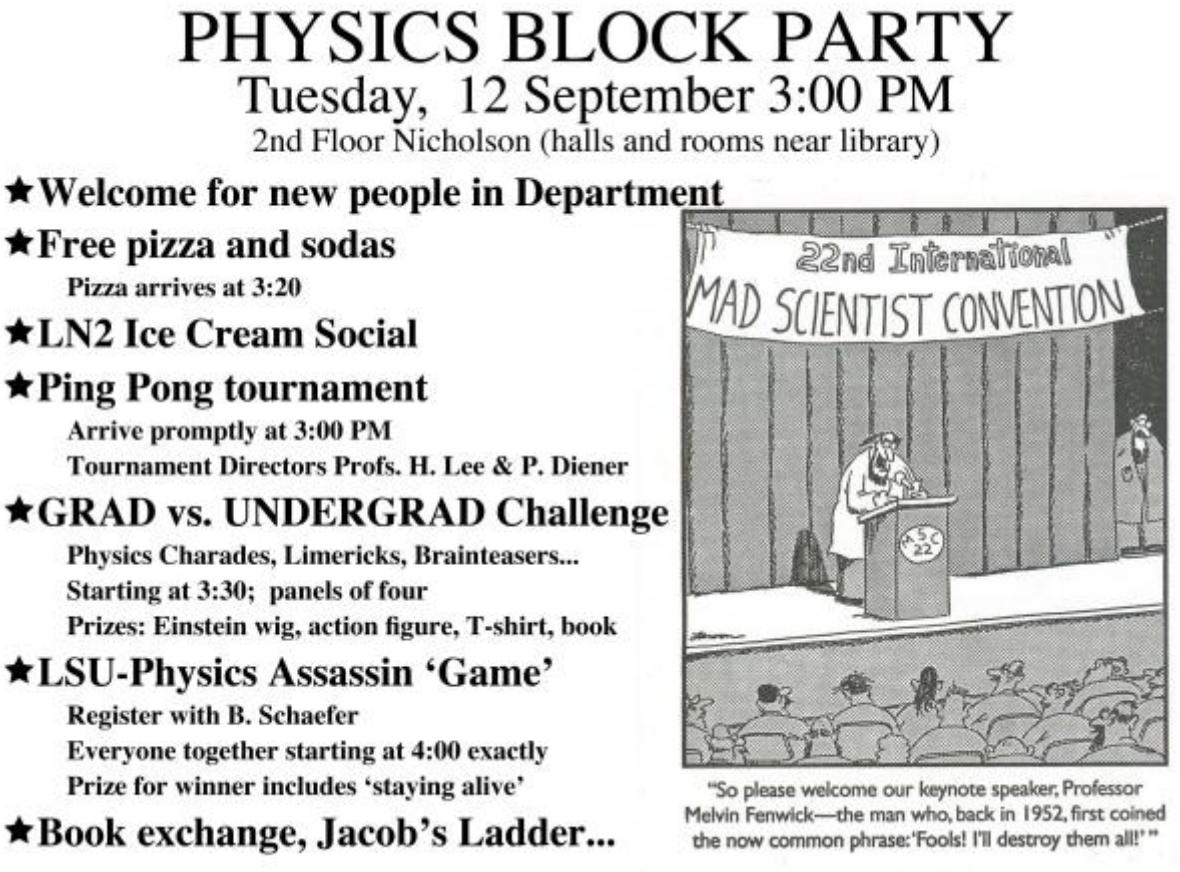
The AAVSO was formed in 1911 as a group of US-based amateur observers obtaining data in support of professional astronomy projects. Now, it has evolved into an International Organization with members and observers from both the professional and non-professional astronomical community, contributing photometry to a public photometric database of about 22,000 variable objects, and using it for research projects. As such, the AAVSO's main claim to fame is that it successfully engages backyard Astronomers, educators, students and professional astronomers in astronomical research. I will present the main aspects of the association and how it has evolved with time to become a premium resource for variable star researchers. I will also discuss the various means that the AAVSO is using to support cutting-edge variable star science, and how it engages its members in projects building a stronger international astronomical community.

LSU Physics & Astronomy in the News

- CGTN America: Dr. Gabriela Gonzalez: Scientist of the Future
- Newsweek magazine: "Solving the Mystery of KIC 8462852—the Most Bizarre Star in the Universe"

Events

- LaCNS Seminar: “Photon Management in NIR and SSM Dye-Sensitized Solar Cells” by Prof. Jared Delcamp from Dept. of Chemistry & Biochemistry, Univ. of Mississippi
  - **Where:** Williams (Virginia Rice) Hall - Room 215
  - **When:** September 12, Tuesday, 12:00 PM
- Physics Department Block Party
  - **Where:** The second-floor of Nicholson hall around the library
  - **When:** September 12, Tuesday, 3:00 PM - 6:00 PM
- Saturday Science: "Systems Thinking and Ecosystem Design: Applications to Restoring Coastal Louisiana" by Dr. Robert R. Twilley from School of the Coast & Environment
  - **Where:** Nicholson Hall – Room 130
  - **When:** September 16, Saturday, 10:00 AM - 11:00 AM



LACNS

Louisiana Consortium for Neutron Scattering

LaCNS/Organic Chemistry Seminar

Tuesday, September 12
12:00 PM
215 Williams Hall
Louisiana State University

Photon Management in NIR and SSM Dye-Sensitized Solar Cells

Recently, dye-sensitized solar cells (DSCs) were shown to be the highest power conversion efficiency technology of any solar cell technology when using photons from the beginning of the solar spectrum until 700 nm. Two key directions are apparent in further elevating this technology: (1) broadening the spectral window used, and (2) efficiently subdividing the spectrum further for multijunction devices which can be used in combination with many solar cell technologies. Progress toward designing optimal panchromatic organic sensitizers to use NIR photons based on physical organic concepts such as proaromaticity and cross conjugation will be discussed. Additionally, the design and realization of a series sequential multijunction dye-sensitized solar cell (SSM-DSC) system for effective photon management will be discussed. Ongoing research to optimize this system based on transition metal redox shuttle design and high voltage organic dye design will be analyzed. The SSM-DSC system coupled with electrocatalysts as solar-to-fuel systems has been shown to power water splitting and CO_2 reduction coupled with water oxidation from a single illuminated area without external bias.

SEMINAR SERIES 2017

Guest Speaker

Dr. Jared Delcamp

Assistant Professor of Chemistry & Biochemistry

The University of Mississippi

Free and open to the public

EPSCoR

www.lsu.edu/physics/lacns

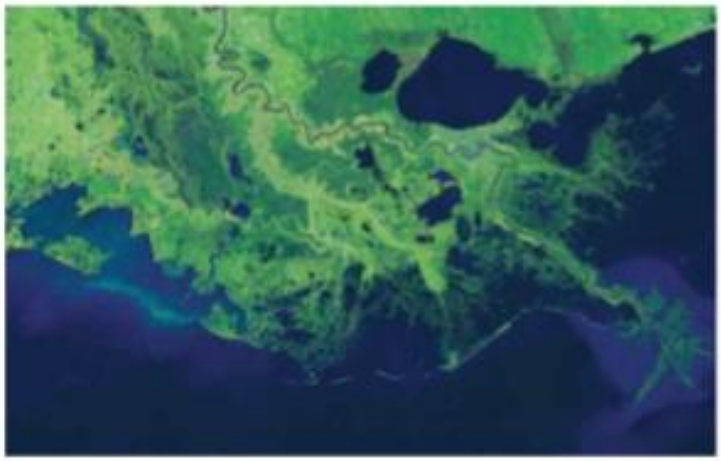
LSU Louisiana State University | Louisiana Tech University | University of New Orleans | Tulane University

SATURDAY SCIENCE

Systems Thinking and Ecosystem Design:
Applications to Restoring Coastal Louisiana

A public lecture by

Dr. Robert R. Twilley



About the Topic

Deltas are a unique type of coastal landscape where huge amounts of sediment from the interior of continents flow by way of large rivers and are deposited just before reaching the sea – building new land. Most major human population centers around the world are located on deltas because of their rich fertile soils and plentiful natural resources, but it is not clear if human occupation on many coastal river deltas is sustainable. This includes the Mississippi River Delta, the seventh largest in the world, where a history of designs to control flooding have restricted the flow of sediments that help build the land that formed delta. Over the last 100 years, Coastal Louisiana has lost over 1900 square miles of wetlands, the largest wetland loss rate in the world. This lecture will describe the nature of the problem of coastal wetland loss, the significance of wetlands to our state and nation, and some of the ecosystem design approaches to fixing the problem. New concepts on ecosystem restoration, building upon systems and design thinking, focus on comprehensive restoration alternatives based upon a three-layered framework integrating Ecosystem, Economy, and Community. The idea is to put the Mississippi River back to work not only for society, but also for the wetlands that provide many services to society such as habitat for fisheries, clean air and water, and reducing flood surges during storms.

16 September 2017, 10-11:00 a.m.

Room 130 Nicholson Hall, LSU

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