

**Weekly Calendar & News**

Sept.16 - 22, 2017

**Departmental Colloquium**

**Using Computational Methods to Understand  
Correlated Quantum Systems**

**Herbert Fotso**

University at Albany

**Host:** Juana Moreno

**3:30 PM Thursday, September 21  
109 Nichols on Hall**

**• Refreshments served at 3:10 PM in 232 (Library) Nichols on Hall •**

Correlated quantum systems have the potential to significantly transform the world around us. In order to harness this potential, a detailed understanding of their behavior is needed. However, the many degrees of freedom that confer to these systems their rich properties have also made them rather elusive to a theoretical understanding that is based on previously well-established analytical methods. Computational approaches have, as a result, played an essential role. I will highlight the success of computational approaches and also identify some of their current limitations. Useful as they may be, the scope of these methods is still restricted and may ultimately be tied to, as postulated by Richard Feynman over 30 years ago, the fact that classical computers are being used to study quantum systems. Today, a new avenue is being explored in which quantum simulators and quantum computing may alter this paradigm. I will introduce quantum simulators and quantum computers from this perspective and also discuss some of the challenges that need to be overcome in this effort.

# LSU Physics & Astronomy in the News

- 2017 Physics Block Party online gallery and results of challenges and games:  
<http://www.lsu.edu/physics/graduate-programs/block-party.php>

## New Publications

- "[Impact of multileaf collimator configuration parameters on the dosimetric accuracy of 6-MV Intensity-Modulated radiation therapy treatment plans](#)" by N. Petersen, D. Perrin, W. Newhauser and R. Zhang. Journal of Medical Physicists, Volume 42, Issue 3, Page 151-155

## Events

- 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

# SATURDAY SCIENCE

## Systems Thinking and Ecosystem Design: Applications to Restoring Coastal Louisiana

A public lecture by  
**Dr. Robert R. Twilley**

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### 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.

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

Room 130 Nicholson Hall, LSU

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Science  
Department of Physics  
& Astronomy