

# Weekly Calendar and News

February 6-11, 2017

## Departmental Colloquium

### From Basic Science to Innovation – An example from the new science of attosecond light

François Légaré

INRS-ÉMT, Canada

Host: Ken Schafer

**3:30 PM Thursday, February 9, 2017**

**119 Nicholson Hall**

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

Funding agencies are increasingly asking scientists to work on projects that are linked with national strategic priorities, favoring applied research over basic science. While applied research is of crucial importance, basic science provides the best venue for scientists to express their curiosity. My own career began with being inspired by my mentors to follow a very basic research dream: using lasers to image and control materials with the highest spatial and temporal resolution, what has become attosecond science. But to realize this dream, I've had to work on the development of new laser technologies. Now, a former research associate of mine has started a spin-off company, Few-Cycle Inc., to market these new technologies as commercial products. If someone had asked me in 1999 if my research into attosecond science would lead to economic development, I would have answered "no". The right answer should have been: "I don't know". It is difficult to predict what comes out of science. This is the beauty of curiosity driven research.

Dr. François Légaré is a professor at *INRS (Institut National de la Recherche Scientifique)* in Canada, as well as director of Advanced Laser Light Source (ALLS) located in Varennes, Quebec. He is the recipient of the Canadian Association of Physics 2015 Herzberg Medal, and the 2016 Rutherford Memorial Medal in Physics from the Canadian Royal Society.

# LSU Physics & Astronomy in the News

- LSU Announces New CAMD Director Richard Kurtz  
[http://www.lsu.edu/mediacenter/news/2017/01/30camd\\_kurtz.as.php](http://www.lsu.edu/mediacenter/news/2017/01/30camd_kurtz.as.php)
- Chinese Academy of Sciences Awards Ward Plummer for International Scientific Contributions [http://www.lsu.edu/physics/news/2017/01/plummer\\_cas\\_award.php](http://www.lsu.edu/physics/news/2017/01/plummer_cas_award.php)

## Publications:

- Mark Wilde's Second Edition of his book "Quantum Information Theory" has been published. [http://www.lsu.edu/physics/news/2017/02/wilde\\_book.php](http://www.lsu.edu/physics/news/2017/02/wilde_book.php)
- "Milestones of general relativity" Reports on Progress in Physics, Volume 80, Number 2, by Jorge Pullin  
<http://iopscience.iop.org/article/10.1088/1361-6633/80/2/026001/meta>
- "Brief review on black hole loop quantization" Universe 2016, 2 (2), 12, by Javier Olmedo. <https://arxiv.org/abs/1606.01429>

## Events

- **Landolt Observatory Public Viewing Night:** [Venus and Mars conjunction](#)  
**When:** Saturday, February 4, 6:30 PM - 7:30 PM  
**Where:** Nicholson Hall roof - Landolt Observatory
- **Special Seminar:** About Chemical Waves, Migraine auras, and Forest Fires  
**When:** February 8, 2017. 1:30 PM  
**Where:** 210 Williams Hall

Please see the attached flyer

## **Special Seminar**

**February 8**

**1:30 PM**

**210 Williams Hall**

### **About Chemical Waves, Migraine Auras, and Forest Fires**

**Niklas Manz**

College of Wooster

<http://physics.wooster.edu/Manz/>

Excitation waves are propagating spatiotemporal structures observed in many biological, chemical, and physical systems. They can be described as a reaction-diffusion (RD) wave in which an autocatalytic reaction zone propagates via diffusion without mass transport. Examples of RD waves are the propagation of an action potential in a nerve, the spread of electrical depolarization waves on the heart surface (responsible for the heart beat) or the visual cortex (responsible for migraine auras), the (human spectator) stadium wave, or a forest fire.

All RD systems can be described with one set of nonlinear differential equations and experimentally investigated with, for example, a chemical tabletop model system, the Belousov-Zhabotinsky reaction or with match sticks.

I will give an overview of this research field and present ongoing projects in the Wave Lab at The College of Wooster.

For more information, contact Professor John Pojman ([john@pojman.com](mailto:john@pojman.com))