

# Learning with nanoHUB

Presented

By

Quincy Leon Williams

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## Quincy Leon Williams

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### Taming Light and Electrons with Metamaterials

0.0 RANKING

11 Jul 2011 Online Presentations Contributor(s): [Nader Engheta](#)

In recent years, in my group we have been working on various aspects of metamaterials and plasmonic nano-optics. We have introduced and been developing the concept of "metatronics", i.e. metamaterial-inspired optical nanocircuitry, in which the three fields of "electronics", "photonics" and ...

### Putting the Electron's Spin to Work

0.0 RANKING

14 Apr 2011 Online Presentations Contributor(s): [Daniel Ralph](#)

I will discuss recent progress in experimental techniques to control the orientations of nanoscale magnetic moments and electron spins, and to use these new means of control for applications. One powerful new capability arises from the fact that thin magnetic layers can act as filters for spins.

### ME 597 Lecture 8: Interaction Forces II

7.1 RANKING

08 Mar 2010 Online Presentations Contributor(s): [Arvind Raman](#)

### ME 597 Lecture 27b: Recent Advances in AFM

6.8 RANKING

16 Feb 2010 Online Presentations Contributor(s): [Arvind Raman](#)

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an NICT project Quincy Leon Williams (qwilliams007)

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## The Optical Frequency Comb: A Remarkable Tool for Metrology, Science and Medical Diagnostics

By John L. Hall  
JILA, University of Colorado, Boulder


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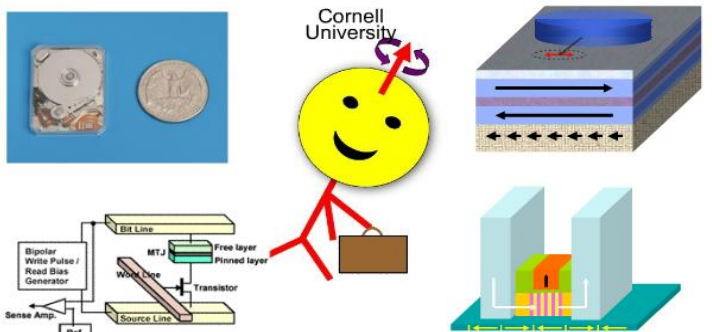
Category Online Presentations

Bio John L. Hall was born in 1934 in Denver, Colorado, and earned his PhD (1961) degree from Carnegie Tech (now Carnegie Mellon University). He had 44 good years of research at the National Institute of Standards and Technology (NIST), working in laser technology, opto-electronic development and precision measurement. He is now NIST Senior Fellow Emeritus, Adjoint Professor of the University of Colorado, and an Adjoint Fellow of JILA (formerly the Joint Institute for Laboratory Astrophysics), a cooperative institute of NIST and the University of Colorado-Boulder. Known as a preeminent laser experimentalist and innovator, Dr. Hall has contributed significantly to the evolution of the laser from a laboratory curiosity into one of the fundamental tools of modern science. He is known also for his training and mentoring of new generations of inspired physicists, several now being star researchers themselves.



## Putting the Electron's Spin to Work

Dan Ralph  
Cornell University



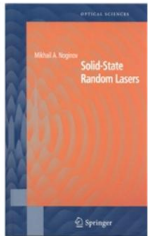
Chen Wang, Jack Sankey, Yongtao Cui, Luqiao Liu, Vlad Pribiag, Ilya Krivorotov, Kiran Thadani, Nathan Emley, Greg Fuchs, Ozhan Ozatay, Bob Buhman

nanoHUB.org online simulations and more

## Solid-State Random Lasers

Mikhail A. Noginov

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NSU NORFOLK STATE UNIVERSITY \$\$\$: NASA #NCC3-1035, NSF HRD-0317722 CMR

Mikhail A. Noginov

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## Nanoparticle Synthesis and Encapsulation

Mark Hersam  
Bio

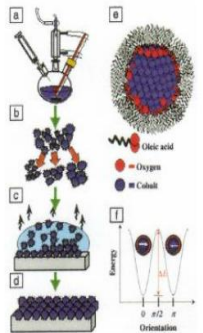


Figure 1. Schematic representation of (a) nanoparticle (NP) synthesis by high-temperature solution-phase routes; (b) size-selective precipitation, used to narrow NP sample-size distributions; (c) self-assembly of NP dispersions; and (d) formation of ordered NP assemblies (superlattices). (e) Model nanoparticle with its close-packed metallic core, oxidized surface, and a monolayer coat of organic stabilizers (surfactants). (f) Graph of the energy-dependence of NP magnetization. The left and right arrows represent spin states.

C. B. Murray, et al., MRS Bulletin, 26, 985 (2001).

Nanomaterials: Lecture 5  
Chemical Synthesis

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# Really cool experimentation labs!

