



## February 17- February 23, 2013

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### LSU Researcher Seeks Breakthrough in Nanophotonic Devices

Georgios Veronis, Charles Siess, Jr., Distinguished Assistant Professor of the LSU Division of Electrical & Computer Engineering and Center for Computation & Technology (CCT), has received a five-year NSF Faculty Early Career Development, or CAREER, award. The CAREER award is one of the NSF's most prestigious grants, awarded to promising junior faculty who exemplify the role of teacher-scholar through outstanding research, excellence in education, and the integration of research and education.

Veronis will receive \$400,000 to support the development of physics-based modeling techniques, which could lead to novel nanoplasmonic devices with optimal performance and minimum size for high-density optical information processing.

"The realization of such devices would tremendously expand the applicability of plasmonics and would have profound implications for computing and communications," said Veronis.

Veronis' plan consists of developing physics-based models for 3D plasmonic waveguides and devices and using these models to develop optimization techniques of multi-parameter nanoplasmonic devices that greatly reduce the required number of computationally expensive full-wave device simulations. In addition, modeling techniques that calculate the effect of random manufacturing imperfections on nanoplasmonic devices will be developed. These techniques will, in turn, be utilized to design robust nanoplasmonic devices.

"The results of the project will represent important breakthroughs in integrated optics, optical information processing, and renewable energy sources, which have broad impacts on modern technology and human life," added Veronis.

As part of the award, Veronis will develop a new interdisciplinary course, provide research opportunities for undergraduate students, and also enhance minority undergraduate research and education opportunities. In addition, through outreach to three local high-schools with a strong science curriculum, Veronis will introduce students to the field of nanophotonics to generate excitement for careers in science and technology.

Veronis earned a diploma in electrical and computer engineering from the National Technical University of Athens, Greece, and an M.S. and Ph.D. in electrical engineering from Stanford University. His research is centered on theory and simulation of photonic materials, nanoscale photonic devices, plasmonics, and computational electromagnetics.

For more information on Veronis' research or the LSU CCT, visit [cct.lsu.edu](http://cct.lsu.edu).

### Pats on the Back:

- ▶ The results of the 2012 AAAS election have been announced. Susanne Brenner was elected as a member of the Electorate Nominating Committee of the Section on Mathematics. Her term began on February 19, 2013, and will run through February 15, 2016.
- ▶ Shawn Walker presented a lecture in a minisymposium on Numerical Methods for Optimization and Control of Partial Differential Equations at WONAPDE 2013.

### Lectures this Week:

#### WEDNESDAY –

There will be a lecture on "[Jamoma: A Diverse Ecosystem in Which Software Grows Organically](#)" by Timothy Place, Cycling 74. The lecture will take place on Wednesday, February 20 at 1:30 PM in 338 Johnston.

There will be an [EMDM Jamoma Workshop](#) by Timothy Place. The workshop will place on Wednesday, February 20 in 248 Music & Dramatic Arts Building at 3:30 PM.

#### THURSDAY –

There will be a lecture on "[Success & Failure Baking Apps with Apple's iOS](#)" by Timothy Place, Cycling 74. The lecture will take place on Thursday, February 21 in 338 Johnston at 3:00 PM

#### FRIDAY –

Core faculty candidate Clint Whaley will give a seminar in 338 Johnston on Friday, February 22 at 9:30 a.m. titled, "[Automated Empirical Optimization of High Performance Floating Point Kernels](#)"

### Please Note:

- ▶ The Beowulf Bootcamp is open for registration. CCT will host the sixth Beowulf Boot Camp July 8-12 on the LSU campus. This exciting course offers students and teachers a unique opportunity to work with advanced research technology not usually available in a typical classroom setting. During Beowulf Boot Camp 2013, students will work hands-on with a number of LSU professors as they learn how to build and use supercomputers.

- ▶ **WHO:** Louisiana High School Students, Baton Rouge Community College Students, and Louisiana Teachers
- ▶ Students will engage in the following activities:

- ▶ building a computer cluster from scratch
- ▶ installing the Linux operating system on the computer they've built
- ▶ connecting computers put together by their peers to make a mini-supercomputer
- ▶ learning how to program a mini-supercomputer in parallel with Python
- ▶ interactive activities to help understand how Parallel computing works in Supercomputing
- ▶ running performance benchmarks to determine how your cluster ranks in comparison with the fastest and largest supercomputers in the world

- ▶ This camp is introductory so students do not need a strong computational science background to participate. Some knowledge of programming a plus.
- ▶ For more information and to register, visit <http://www.cct.lsu.edu/beowulfcamp2013>

▶ Registration is open for Finite Element Circus & Rodeo, March 8-9, 2013, at Louisiana State University. For more information and to register, visit <http://www.cct.lsu.edu/events/finite-element-circus-rodeo>.

▶ 2013 Clifford Lectures at Tulane University, March 13-16, 2013: <http://129.81.170.14/~kurganov/CliffordLectures2013/index.html>

▶ Prior approval is required for Special Meal Requests. Employees who make meal purchases without prior approvals may find that they must cover the cost of any monies spent for an unapproved event out of pocket. Dine-in restaurant meals are not allowed on LaCarte credit cards. Please contact Susie McGlone ([susie@cct.lsu.edu](mailto:susie@cct.lsu.edu)) prior to any special meal with visitor(s) to file the appropriate request for approval. Prior approval could take up to two weeks, so please plan accordingly.

▶ Please remember to send your news concerning grants, awards, conferences, or other pertinent information to CCT Event Coordinator Jennifer Fontenot at [jennifer@cct.lsu.edu](mailto:jennifer@cct.lsu.edu)

▶ Follow CCT with social media to access photos and see news, events or updated information. These pages are public; you do not need an account to view the information.

- ▶ [Facebook group](#) : LSU Center for Computation & Technology
- ▶ [Twitter](#) : LSUCCT
- ▶ [YouTube channel](#) : LSUCCT

#### Interest groups:

▶ **MAG (Mobile App-Art-Action Group)**: Everyone interested in the potential for Mobile Apps is invited to come and add their vision for these revolutionary devices.

▶ Spring 2013 semester MAG meeting schedule; 4:30- 6:00 pm, 338 Johnston Hall:

- ▶ February 28
- ▶ March 21
- ▶ April 18

▶ For more information visit: <http://www.cct.lsu.edu/MAG>

▶ Contact: Jesse Allison ([jallison@lsu.edu](mailto:jallison@lsu.edu))

▶ **GPU**: meets weekly (Thursdays @ 12:30 pm in 338 Johnston) and encourages participation from anyone who would like to join in the discussions. Join the mailing list: [lasigma-gpu@loni.org](mailto:lasigma-gpu@loni.org)

▶ Contact: Zhifeng Yun ([zyun@cct.lsu.edu](mailto:zyun@cct.lsu.edu))

#### Upcoming events:

**February 20:** [HPC Training: Regular Expression](#)

**February 21:** [Apple At-Home Work Program for Students—Informational Meeting](#)

**February 25:** [SuperMike II Launch Workshop](#)

**February 27:** [HPC Training: Advanced Shell Scripting](#)

**March 1:** [REU- Computational Sciences Applications Due](#)

**March 1:** [REU- Materials/LA-SIGMA Applications Due](#)

**March 1:** [RET- Research Experiences for Teachers Applications Due](#)

**March 8-9:** [Finite Element Circus & Rodeo](#)

[Apply for positions w/Apple \(for Students\): At-Home Advisor program](#)

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