CENTER FOR COMPUTATION & TECHNOLOGY
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LOUISIANA STATE UNIVERSITY

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CCT Weekly April 14- April 20, 2013

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CCT Weekly, April 16, 2013

LSU Researcher Francisco Hung Awarded NSF CAREER Grant

Francisco Hung, Assistant Professor of the LSU Cain Department of Chemical Engineering and the LSU Center for Computation & Technology (CCT), has received a five-year NSF Faculty Early Career Development, or CAREER, award. The CAREER award is one of 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.

Hung will receive $400,000 over five years to research computer simulations at the molecular level of detail to fundamentally understand the behavior of ionic liquids (ILs) confined in nanoporous materials.

ILs are organic salts that are in liquid state near room temperature and have been proposed as alternative electrolytes for several energy-related devices. Inserting organic salts inside nanoporous materials is one step in the synthesis of nano materials based on organic salts, which have potential applications in sensors, biomedical applications, energy storage and CO_2 sequestration.

"If successful, the proposed simulation studies will deliver a fundamental understanding of the structure-property relationships of nanoconfined phases of ILs, which is needed to rationally design IL-based nanomaterials with optimal properties for those applications," said Hung.

The education component of Hung's proposal involves close collaboration with the pre-college programs of the LSU College of Engineering, specifically targeting students in grades 6-12. Due to his Hispanic background, Professor Hung is fully committed to encouraging underrepresented Hispanic students majoring in engineering.

"The proposed studies have the potential to be transformative, taking IL-based nanomaterials from promising lab curiosities to being the first choice in fields as diverse as optoelectronics, photovoltaics, separations, sensing, analytical chemistry and biomedicine. Our proposed studies also provide opportunities for multiple synergies with our current efforts in graduate and undergraduate research, and outreach and diversity," added Hung.

Hung earned both his B.Sc. and M.Sc. in Chemical Engineering from the Universidad Simón Bolivar, Venezuela, and his Ph.D. in Chemical Engineering from North Carolina State University. His research interests include focus on molecular modeling of several systems relevant to energy storage, nanomaterials and environmental applications investigating the properties of different soft matter systems at the molecular level, using computational modeling and molecular simulation.

For more information on Hung's research or the LSU CCT, visit cct.lsu.edu.

Pats on the Back:

Susanne Brenner was one of the plenary speakers at the recent South African Symposium on Numerical Analysis and Applied Mathematics at the Stellenbosch University, April 3-5, 2013.

Please Note:

- CCT will host the **PyFUN Programming Summer Camp, June 17- 21, 2013 on the LSU Campus,** for boys and girls entering grades 6-8 in the Baton Rouge and surrounding areas. This 5-day camp will consist of basic concepts of programming that are used in any programming language, and will include:
  - Problem solving
  - What the parts of a computer are and how they work together
  - Syntax
  - Strings and console output
  - Conditionals and flow control
  - Functions, lists, dictionaries, and loops
  - Introduction to classes
  - File input and output

  For more information and to register, visit

  https://www.cct.lsu.edu/events/pyfun-programming-summer-camp-2013

- 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 the LSU iOS App Boot Camp 2013. CCT will host the LSU iOS App Boot Camp for its third year, August 5 - August 15, 2013, (10 day camp not including Sunday), on the LSU Campus. This educational experience will offer participants the opportunity to gain knowledge while enhancing their entrepreneurial spirit. Participants will work in groups to create their own

functional iOS app and have it loaded on their personal device by end of camp. The course will be taught by LSU faculty who push the boundaries of mobile applications in computer science and digital media fields. Post-camp programs to expand and hone new skills will also be offered. For more information and to register visit https://www.cct.lsu.edu/events/lsu-ios-app-boot-camp-2013

▷ 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) 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

▷ 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.
> ▷ For more information visit: http://www.cct.lsu.edu/MAG
> ▷ Contact: Jesse Allison (jtallison@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
> ▷ Contact: Zhifeng Yun (zyun@cct.lsu.edu)

Upcoming events:

April 17: HPC Training: Introduction to GnuPlot

June 10- 14: Alice in Computation Land Summer Camp

June 12- 13: High Performance Computing User Symposium

June 14- 15: Scientific Visualization with VisIt, Mathematica, and ImageJ

June 17- 21: PyFUN Programming Summer Camp 2013

July 8-12: Beowulf Boot Camp

August 5- August 15: LSU iOS App Boot Camp

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