



April 17- April 23, 2011

LSU Assistant Professor Xin Li Explores Computer-Aided Forensic Facial Reconstruction

For forensic law enforcement, facial reconstruction from skeletal remains plays an important role in identification of the dead where post-mortem deterioration makes it difficult.

Facial reconstruction has been typically conducted manually using clay--until now, that is.

Xin Li, assistant professor of the LSU Department of Electrical & Computer Engineering and Center for Computation & Technology, has received \$10,000 from the Louisiana Board of Regents to develop new methods for computer-aided facial modeling and reconstruction. Li's proposal is titled "Surface and volumetric matching for forensic facial reconstruction from incomplete skulls."

As a nationally renowned center for facial reconstruction, the LSU Forensic Anthropology and Computer Enhancement Services (FACES) Lab has reported that currently one skull reconstruction usually takes an experienced and skillful specialist on average two weeks to finish. Furthermore, when the input skull data are incomplete, direct manual reconstruction becomes much harder. While manual methods remain of great interest for forensic identification, it is imperative to develop new computerized digital methods, which are also well justified by their rapidity and the decrease in subjectivity.

"New 3D data acquisition hardware allows precious models to be digitized accurately," said Xin Li. "Our plan is to develop novel data modeling and processing algorithms, so that shapes can be analyzed, edited, and synthesized for various scientific tasks within the digital environment, while reducing manual labor, time, and costs tremendously."

"By creating a unified digital forensic craniofacial reconstruction framework that integrates domain knowledge from specialists such as anthropologists, pathologists, and odontologists, three challenging problems can be solved. These being automation of skull assembly from fragile fragments, repair of damaged and incomplete skull models while preserving substrate details, and muscle/skin placement based on tissue depths," said Li.

Computer scientists and experienced forensic anthropologists will closely collaborate in

this project to evaluate the effectiveness of this data modeling paradigm in completing facial reconstructions and advocate the smooth transition from current manual reconstruction approaches to digital methodologies.

Pats on the back:

A message from Joel E. Tohline:

“Dear Friends and Colleagues,

I am extremely delighted to announce that the LSU Board of Supervisors has approved moving forward with construction of the new building that will jointly house EA and CCT. The article that appeared in Thursday morning's Advocate (<http://www.2theadvocate.com/news/latest/LSU-EA-team-up-for-new-facility-.html>) correctly foretold Friday afternoon's action by the Board.

I want to take this opportunity to congratulate and thank everyone at the CCT who has played a role over the past half-a-dozen years in nurturing this project to its present state of success. Projections are that groundbreaking will happen toward the end of this summer (2011) with occupancy by the end of the 2012 calendar year.

You all have a right to be proud and excited about this accomplishment.

Joel”

CCT Spotlight:

Erik Schnetter



Erik Schnetter joined the CCT in 2005 and is part of the Coast to Cosmos Focus Area. He is from Offenburg, Germany, in the Black Forest. Erik is married to fellow CCT employee, Bety Rodriguez-Milla.

Erik lives in Waterloo, Ontario, Canada, and works at the Perimeter Institute for Theoretical Physics. He also works part-time for the CCT, as part of the relativity group and is involved in the Einstein Toolkit and the Cactus Framework.

"I do what I do because it is fun and satisfying. Research in physics and in high performance computing leads to something new every few months, and it is amazing how bright and clever many of my colleagues and collaborators are. This inspires and motivates me," said Erik.

Erik's prescription for life is "hakuna matata," a Swahili phrase meaning, "there are no worries." His hero is the character Baloo in Disney's "Jungle Book."

In his spare time, Erik likes to read, eat, watch his cat, and walk the dog, although the dog prefers to run. His favorite gadget is his iPhone. He said, " I switched to a BlackBerry and I regret it." Erik prefers LSU Symphony to football and when asked if he prefers Spring or Fall, he said Winter.

CCT in the News:

LSU Assistant Professor Xin Li Explores Computer-Aided Forensic Facial Reconstruction

Source: [LSU Office of Communications & University Relations](#)

[hello world]

Source: [Patrick McCurry Blogspot](#)

Supercomputing experts gather at UD

Source: [University of Delaware](#)

LSU, EA team up for new facility

Source: [The Advocate](#)

Gov. Jindal Announces Planned Expansion Of Electronic Arts Inc.'s North American Test Center At LSU

Source: [Louisiana Economic Development](#)

Electronic Arts Expanding on LSU Campus in Baton Rouge, Louisiana

Source: [Area Development Online](#)

Please Note:

- The University will be closed Friday, April 22nd in observance of Good Friday and will reopen Monday, April 25th
- The Office of Human Resource Management (HRM) is holding Annual Enrollment for employee benefits (health, dental, vision, flexible spending accounts, and premiums only plan) from April 1, 2011 - April 30, 2011. Employees are encouraged to review all benefits and make selections/changes consistent with your individual

needs. Annual Enrollment updates, information and forms can be found at <http://www.lsu.edu/benefits>.

- Upcoming Purchasing deadlines:
 - May 18: All requisitions less than \$25k and not on state contract are due to Purchasing
 - May 20: All requisitions on state contract are due to Purchasing
 - June 3: All requisitions regardless of dollar value are due to Purchasing
 - Please email CCT Purchasing Coordinator, Andy Cox (acox8@cct.lsu.edu), the LSU property tag on all moveable (laptop, camera, etc.) and off-campus equipment as soon as possible, if you have not done so already.

- Due to the overwhelming response, we have opened a second session for the Alice in Computation Land Summer Camp July 18-22, 2011, sponsored by the LSU Center for Computation & Technology. The camp is a five-day workshop for girls entering grades 6-8 who are interested in learning more about computational science and technology. For more information and to register, visit <http://www.cct.lsu.edu/CampAlice>

- Registration is now open for “Stop Motion Summer Camp,” July 11-15, 2011. This exciting summer education opportunity offers high school students a unique opportunity to build upon their interests in animation. Registration fee is \$125. For more information and to register, visit <http://www.cct.lsu.edu/StopMotion>

- Applications for the [SC11](#) Student Volunteer Program will open April 1 and close on August 12, 2011. Undergraduate and graduate students are encouraged to apply as volunteers to help with the administration of the conference. In exchange for volunteering, they will receive complimentary conference registration, housing, and most meals. In addition, limited support will be provided for transportation expenses (such as airfare) for international students and students from groups that traditionally have been underrepresented in HPC. For more information visit <http://sc11.supercomputing.org/?pg=studvol.html> or email student-vols@info.supercomputing.org.

- 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, especially now that state funds are under a spending freeze. Please contact Susie Poskonka (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 Claudet 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

Upcoming Grant Deadlines:

Note: Please check the [CCT deadline Web site](#), since it is updated daily.

[Faculty Early Career Development \(CAREER\) Program](#)

July 23, 2011 10:00 am

At Least \$ 400,000.00 available