



CCT Weekly May 13- 19, 2012

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LSU CCT Receives Top Paper Award by HPDC

A research paper whose co-authors include LSU's Gabrielle Allen, Werner Bengner, Andrew Merzky, and Ed Seidel has been named by the International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC) as one of the top 20 papers in the past 20 years of publications. Gabrielle Allen is associate professor of LSU's Department of Computer Science and Center for Computation & Technology (CCT), Werner Bengner and Andre Merzky are research scientists at the LSU CCT; and Ed Seidel is professor of the LSU Department of Physics & Astronomy and former director of the LSU CCT.

HPDC is the premier computer science conference for presenting new research related to high-performance parallel and distributed systems used in both science and industry. Since its inception, HPDC has been at the center of new discoveries in systems such as clusters, grids, clouds, and parallel and multicore computers.

Published in 2000, "The Cactus Code: A Problem Solving Environment for the Grid" explained how the intensive computing requirements of physics applications using the Cactus Code encourage the use of distributed and metacomputing, described the development and experiments which were performed with Cactus, and detailed how its design made it an ideal application test bed for Grid computing.

Originating in the academic research community, Cactus has been developed and used over many years by a large, international collaboration of physicists and computational scientists. Specifically, Cactus is an open-source problem-solving environment designed for scientists and engineers. Its modular structure facilitates parallel computation across different architectures and collaborative code development among different groups.

The Cactus group at CCT continue to innovate in software that advances both physics and computer science, and in particular lead the development of the Einstein Toolkit to provide a cutting edge toolkit for relativistic astrophysics which has been adopted by some 60 groups around the world.

The papers were nominated by members of the HPDC community at large, and a special committee narrowed the list to the best 20. A special edition issue containing the 20 papers will be distributed at the HPDC's 2012 meeting, to be held this summer in the Netherlands.

G. Allen, W. Bengner, T. Goodale, H.C. Hege, G. Lanfermann, A. Merzky, T. Radke, E. Seidel, and J. Shalf, The cactus code: "A Problem Solving Environment for the Grid," High-Performance Distributed Computing, 2000. Proceedings. The Ninth International Symposium on, IEEE, 2000, pp. 253-260.

Pats on the Back:

- ▶ Peter Diener, et al., were published in *Physical Review Letters*, one of the world's most prestigious publications in physics, providing weekly coverage on major advances in physics and cross disciplinary developments.
- ▶ Peter Diener, Ian Vega, Barry Wardell and Steven Detweiler, Phys. Rev. Lett. 108, 191102 (2012), "Self-Consistent Orbital Evolution of a Particle around a Schwarzschild Black Hole"
- ▶ The URL to access the paper is: <http://link.aps.org/doi/10.1103/PhysRevLett.108.191102>
- ▶ In the article they perform, for the first time, an orbital evolution of a scalar charge around a non-rotating black hole taking into account the interaction of the scalar charge with it's own field in a self-consistent way.
- ▶ Susanne Brenner was one of the invited one-hour speakers at the 2012 John H. Barrett Memorial Lectures at the University of Tennessee at Knoxville, May 9-11. The topic for this year's lectures was "Recent Developments in Discontinuous Galerkin Finite Element Methods for Partial Differential Equations".
- ▶ One of the main projects connected to the Cactus group at CCT, the Einstein Toolkit, just published it's main overview paper in Classical and Quantum Gravity: "The Einstein Toolkit: a community computational infrastructure for relativistic astrophysics." The paper is accessible via <http://iopscience.iop.org/0264-9381/29/11/115001/> and was a major effort from scientists at six institutions worldwide. A quite unique feature in this field of science is that all information used for examples and simulations within the publication is freely available. This includes the complete source code and the exact parameters used. Every simulation can be repeated by an interested reader, which was in fact done by one of the referees.
- ▶ Congrats to the following CCT students graduating this semester:
 - ▶ Graduate Students: Raj Nagaraju Palavarapu
 - ▶ Undergraduate Students: Philip LeBlanc
- ▶ Congrats to Adam and Katie Yates on the birth of their daughter Natalie Joy Yates, 1:13 AM, May 15, 2012!

CCT in the News:

The Red Stick International Animation Festival Announces Schedule for June 8-10

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Please Note:

- ▶ To mark the completion of the initial phase of a project to redesign our hallways, you're invited to a reception on the 17th of May in Johnston.
- ▶ Student Volunteer applications opened April 1, 2012 and will be available at the SC12 Submissions site: <http://submissions.supercomputing.org/>. Applications close on July 31, 2012. International attendees who will require a travel visa are strongly encouraged to apply as early as possible. **For more information** on the Student Volunteer program and other student-related programs at SC12, visit: <http://sc12.supercomputing.org/content/student-volunteers>. **Contact:** student-vois@info.supercomputing.org
- ▶ Volunteers are needed to help with the Alice in Computation Land Summer Camp, June 18-22. Contact Kathy Traxler at ktraxler.cct.lsu.edu.

- » 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 (Mondays @ 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:

- May 16: Video Game Development Group proposed curriculum/Industry meeting
- May 29- July 28: [REU Computational Sciences](#)
- May 29- July 28: [REU Materials Science](#)
- June 4-6: [LONI Parallel Programming Workshop](#)
- June 5-7: [HPC Users' Symposium](#)
- June 8-10: [Red Stick International Animation Festival](#)
- June 11-13: NW Chem Workshop
- June 18-22: [Alice in Computation Land Summer Camp](#)
- July 9-13: [Beowulf Boot Camp for High School Teachers & Students](#)

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