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**Research Summary**

Marlon E. Pierce is a Senior Research Associates at the Community Grids Lab at Indiana University. He received a Ph. D in Physics in 1998 from Florida State University under the direction of Prof. Efstratios Manousakis. His research work is in the overlap of computational science and Web technology. His graduate training is in computational condensed matter physics, and his thesis research work involved the development of path integral Monte Carlo techniques and codes to study atomically thin quantum films, with a particular focus on monolayer helium films physically adsorbed on graphite substrates. Following completion of his doctorate, Pierce then shifted the focus of his research work towards computational science. In this area, Pierce has worked in Prof. Geoffrey Fox's research group and has served as project manager, developer, and architect for several projects based on Web Service and Grid architectures, including the NSF funded Open Grid Computing Environments project and the VLab computational material science project, as well as the NASA-funded QuakeSim/SERVOGrid projects for supporting Grid-based earthquake simulations.

**Education**

- Ph.D. in Physics, December 1998, Florida State University, under the direction of Professor E. Manousakis. Thesis titled "Path Integral Monte Carlo Simulation of Helium Adsorbed on Graphite".
- B.S. in Physics, Suma cum laude, 1990, Louisiana Tech University

**Professional Appointments**

- 2004-Present: Senior Research Associate, Community Grids Lab, Indiana University
- 2001-2004: Senior Postdoctoral Research Associate, Community Grids Lab, Indiana University.
- 1999-2001: Information and Communication/Enabling Technologies On-Site Lead, Aeronautical Systems Center Major Shared Resource Center for the Department of Defense High Performance Computing Modernization Program.  
1999: Postdoctoral Researcher, Florida State University

**Selected Publications**

1. Geoffrey Fox, Sang Lim, Shrideep Pallickara, Marlon Pierce: Message-based cellular peer-to-peer grids: foundations for secure federation and autonomic services. *Future Generation Comp. Syst.* 21(3): 401-415 (2005).

2. Sang Boem Lim, Geoffrey Fox, Ali Kaplan, Shrideep Pallickara, Marlon E. Pierce: GridFTP and Parallel TCP Support in NaradaBrokering. ICA3PP 2005: 93-102.
3. Choonhan Youn, Marlon E. Pierce, Geoffrey Fox: Building Problem-Solving Environments with Application Web Service toolkits. Future Generation Comp. Syst. 21(6): 856-867 (2005) 16.
4. Mehmet S. Aktas, Marlon E. Pierce, Geoffrey Fox, David B. Leake: A Web based Conversational Case-Based Recommender System for Ontology aided Metadata Discovery. GRID 2004: 69-75.
5. Choon-Han Youn, Marlon E. Pierce, Geoffrey Fox: Developing Secure Web Services for Computational Portals. Security and Management 2003: 367-372.
6. Stephen Mock, Choon-Han Youn, Marlon E. Pierce, Geoffrey Fox, Mary Thomas: A Batch Script Generator Web Service for Computational Portals. HPDC 2002: 421.
7. Marlon E. Pierce, Choon-Han Youn, Geoffrey Fox: The Gateway Computational Web Portal: Developing Web Services for High Performance Computing. International Conference on Computational Science (1) 2002: 503-512.
8. Marlon E. Pierce, Choon-Han Youn, Geoffrey Fox: The Gateway Computational Web Portal: Developing Web Services for High Performance Computing. International Conference on Computational Science (1) 2002: 503-512.
9. Marlon E. Pierce, Geoffrey Fox, Choon-Han Youn, Stephen Mock, Kurt Mueller, Ozgur Balsoy: Interoperable Web services for computational portals. SC 2002: 1-12.
10. Marlon E. Pierce, Choon-Han Youn, Geoffrey Fox: The Gateway computational Web portal. Concurrency and Computation: Practice and Experience 14(13-15): 1411-1426 (2002).

## **Collaborators**

**Geoffrey Fox**, Indiana University; **Dennis Gannon**, Indiana University; **Stephen Wilkerson**, Army Research Laboratory; **Mary Thomas**, Texas Advanced Computing Center, University of Texas; **Tomasz Haupt**, Mississippi State University; **John Rundle**, University of California-Davis; **Andrea Donnellan**, Jet Propulsion Laboratory; **Jay Parker**, Jet Propulsion Laboratory; **Jay Alameda**, NCSA, University of Illinois; **Gregor von Laszewski**, Argonne National Laboratory; **Dennis Mcleod**, University of Southern California.