

# Kostadin Damevski

Vita  
As of Oct 4<sup>th</sup>, 2009

## Personal Information

Name: Kostadin Damevski  
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Residency Status: U.S. Permanent Resident

## Education

Ph.D.	2006	University of Utah	Computer Science
M.S.	2002	University of Utah	Computer Science
B.S.	2000	University of Central Oklahoma	Computer Science

## Professional Employment

Date	Position	Institution
2008–present	Assistant Professor	Virginia State University
2006–2008	Postdoctoral Reasearch Associate	University of Utah
2007–2008	Adjunct Professor	Virginia Commonwealth University
2002–2006	Research Assistant	University of Utah
Fall 2001	Teaching Assistant	University of Utah
2000–2001	Software Engineer	Grub.org

# Scholarship

## Publications — Book chapters

- Steven G. Parker, Kostadin Damevski, Ayla Khan, Ashwin Swaminathan, Chris R. Johnson. The SCIJump Framework for Parallel and Distributed Scientific Computing. In *Advanced Computational Infrastructures for Parallel/Distributed Adaptive Applications*. Edited by Manish Parashar, Xiaolin Li, and Sumir Chandra, Wiley Press, 2007
- Steven G. Parker, Keming Zhang, Kostadin Damevski, and Chris R. Johnson. Integrating Component-Based Scientific Computing Software. In *Parallel Processing For Scientific Computing*. SIAM book series in Software, Environments, and Tools 2005. Edited by Michael A. Heroux, Padma Raghavan, and Horst D. Simon

## Publications — Refereed Journals

- F. Bertrand, R. Bramley, D. Bernholdt, J. Kohl, J. Larson, A. Sussman and K. Damevski, "Data redistribution and remote method invocation for coupled components", *Journal of Parallel and Distributed Computing*, volume 66, issue 7, pp: 931-946, 2006.
- David E. Bernholdt, Benjamin A. Allan, Robert Armstrong, Felipe Bertrand, Kenneth Chiu, Tamara L. Dahlgren, Kostadin Damevski, Wael R. Elwasif, Thomas G. W. Epperly, Madhusudhan Govindaraju, Daniel S. Katz, James A. Kohl, M anoj Krishnan, Gary Kurfert, J. Walter Larson, Sophia Lefantzi, Michael J. Lewis, Allen D. Malony, Lois C. McInnes, Jarek Nieplocha, Boyana Norris, Steven G. Parker, Jaideep Ray, Sameer Shende, Therisa L. Windus, and Shujia Zhou, "A Component Architecture for High Performance Scientific Computing" *International Journal of High-Performance Computing Applications* (2004) ACTS Collection special issue.
- K. Damevski and S. Parker. "M-by-N Data Redistribution through Parallel Remote Method Invocation". *International Journal of High-Performance Computing Applications* 2005.

## Publications — Refereed Conferences

- K. Damevski. "Expressing Measurement Units in Interfaces for Scientific Component Software". *Proceedings of the 2009 Workshop on Component-Based High Performance Computing, collocated with the 22nd Supercomputing Conference (SC09)*, Portland, Oregon, 2009.

- K. Damevski, H. Chen, T. Dahlgren. “Reducing Component Contract Overhead by Offloading Enforcement”. *Proceedings of the 2009 Workshop on Component-Based High Performance Computing, collocated with the 22nd Supercomputing Conference (SC09)*, Portland, Oregon, 2009.
- K. Damevski, H. Chen. “Automated Provenance Collection for CCA Component Assemblies”. *Proceedings of the 9th International Conference on Computational Science (ICCS 2009) (main track)*, Baton Rouge, Louisiana, 2009.
- S. Yau, K. Damevski, V. Karamcheti, S. Parker, D. Zorin. “Application-Aware Management of Parallel Simulation Collections”. *Proceedings of the 14th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPOPP 2009)*, Raleigh, North Carolina, 2009.
- K. Damevski, A. Khan, S. Parker. “Scientific Workflows and Components: Together at Last”. *Proceedings of 3rd Workshop on Component-Based High Performance Computing (CBHPC 2008)*, Karlsruhe, Germany, 2008.
- S. Yau, K. Damevski, D. Zorin, V. Karamcheti, S. Parker. “Result Reuse in Design Space Exploration: A Study in System Support for Interactive Parallel Computing”. *Proceedings of the 22 International Parallel and Distributed Processing Symposium (IPDPS 2008)*, Miami, Florida, 2008.
- K. Damevski, K. Zhang, S. Parker. “Practical Parallel Remote Method Invocation for the Babel Compiler”. *Proceedings of the joint HPC-GECO/CompFrame Workshop*, Montreal, Canada, 2007
- K. Damevski, A. Swaminathan, S. Parker. “Highly Scalable Distributed Component Framework for Scientific Computing”. *Proceedings of the 3rd International Conference on High Performance Computing and Communication (HPCC 2007)*, Houston, Texas, 2007.
- K. Damevski, A. Swaminathan, S. Parker. “CCALoop: Scalable Design of a Distributed Component Framework”. *Proceedings of the 16th IEEE International Symposium on High Performance Distributed Computing (HPDC 2007) (poster/short paper)*, Monterey, California, 2007.
- K. Damevski. “Generating Bridges Between Heterogeneous Component Models”. *Proceedings of the 7th Generative Programming and Component Engineering (GPCE) Young Researchers Workshop*, Talinn, Estonia, 2005.
- F. Bertrand, R. Bramley, K. Damevski, D. Bernholdt, J. Kohl, J. Larson and A. Sussman ”Data Redistribution and Remote Method Invocation in Parallel Component Architectures”. *Proceedings of the 19th International Parallel and Distributed Processing Symposium (IPDPS 2005) (Best Paper Award)*, Denver, Colorado, 2005.
- K. Damevski and S. Parker. ”Imprecise Exceptions in Distributed Parallel Components”. *Proceedings of the 9th European Conference on Parallel Computing (EURO-PAR 2004)*, Piza, Italy, 2004.
- K. Zhang, K. Damevski, V. Venkatachalapathy, and S. Parker. “SCIRun2: A CCA Framework for High Performance Computing”. *Proceedings of the 9th International Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS 2004)*, 2004.
- K. Damevski, and S. Parker. “Parallel Remote Method Invocation and M-by-N Data Redistribution”. *Proceedings of the 4th Los Alamos Computer Science Institute Symposium (LACSI 2003)*, Santa Fe, New Mexico, 2003.

## Invited Talks

- Colloquium, Department of Applied Mathematics and Statistics, State University of New York - Stony Brook, September 2009.

## Thesis

- K. Damevski. "Component Model Interoperability for Scientific Computing" , *PhD Thesis*, 2006.
- K. Damevski. "Parallel Component Interaction using an IDL Compiler" , *MS Thesis*, 2002.

## Honors and Awards

- Best Paper, "Data Redistribution and Remote Method Invocation in Parallel Component Architectures". *The 19th International Parallel and Distributed Processing Symposium (IPDPS 2005)*

## Courses Taught

- Fall 2009 - Virginia State University
  - *Introduction to Computer Science*
  - *Introduction to Programming in C++*
  - *Software Engineering (graduate & undergraduate)*
- Spring 2009 - Virginia State University
  - *Introduction to Computer Science*
  - *Object Oriented Programming*
  - *Embedded Systems (graduate)*
- Fall 2008 - Virginia State University
  - *Introduction to Computer Science*
  - *Introduction to Problem Solving using Computers (using Alice)*
- Spring 2008 - Virginia Commonwealth University
  - *Operating Systems*

- Fall 2007 - Virginia Commonwealth University
  - *Introduction to Programming for Chemical and Life Science Engineers*

## Students Supervised

- Nevil Kabrawala, Undergraduate Research Mentor — Virginia State University, Department of Mathematics and Computer Science
- Vanja Milosevski, Senior Capstone Project Advisor — University of London, Computing and Information Systems (External Programme)
- Ashwin Swaminathan, MS Thesis Mentor — University of Utah, School of Computing

## Professional Service

- The 2009 Workshop on Component-Based High Performance Computing
  - Technical Program Committee Member
- DOE Common Component Architecture Forum (CCA)
  - Voting Member (since 2002)
  - Event Service Specification Committee Chair
- *goHazel.com* External Advisory Board Member
- Member, ACM

## Paper Reviews

- Special Issue on Wireless Network Security of EURASIP Journal on Wireless Communications and Networking (2009)
- 9th International Workshop on State-of-the-Art in Scientific and Parallel Computing (PARA 2008)
- 22nd International Parallel and Distributed Processing Symposium (IPDPS 2008)
- Journal on Advances in Engineering Software (2005)
- 9th International Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS 2004)

## Selected Software

- *CCALoop*. A Common Component Architecture (CCA) compliant distributed framework intended to be highly scalable and highly distributed. It relies on a distributed hash table mechanism to support tens of thousands of nodes and hundreds of thousands of components.
- *SCIRun2 - SCIJump*. A problem-solving environment based on the Common Component Architecture (CCA) and on its successful predecessor SCIRun. Provides support for distributed computing, parallel components (including data redistribution and parallel remote method invocation), and integration of multiple component models. Version 1.2 was released in 2007. Development is currently under-way for version 1.3, which will be completely revamped to support the BABEL compiler, which is becoming a de-facto CCA standard.