

## **Biographical Sketch - Kris Stewart**

### **San Diego State University**

#### **(i) Professional Preparation**

1981-1987, University of New Mexico, Ph.D., Applied Mathematics

1976-1979, San Diego State University, MS, Computer Science

1969-1973, University of California, San Diego, BS, Mathematics

#### **(ii) Appointments**

1999-present, Professor, Computer Science Department, SDSU

1991-1999, Associate Professor, Computer Science Division, Mathematical & Computer Sciences Department, SDSU

1984-1991, Assistant Professor, Dept. Mathematical Sciences, SDSU

#### **(iii) Publications Most Closely Related To The Proposed Project:**

Stewart, K., "How 3d Game Programming can Benefit the TeraGrid", TeraGrid08 Conference, Las Vegas NV, June 2008.

Stewart, K., "3d Game Programming as a Computer Science Service Learning Curriculum for High School Science Courses", ACM SIG CSE07, Covington, KY March 07.

Stewart, K., "Assessment - A Partner for Curriculum Development - Useful Online Tools", SIAM-CSE Conference, Orlando FL, 2005.

Turner, P. R., Stewart, K., co-Chairs, (2003) Minisymposia on Undergraduate Education at SIAM-CSE, San Diego, Feb. 10-12, 2003.

Turner, P. R., Cunningham, S., Phillips, A. T., Shiflet, A. B., Stewart, K., and Vakalis, I. (2003) Undergraduate Computational Science and Engineering: Programs and Courses. ACM SIGCSE Northern Kentucky. New York City, NY, 96-97.

Stewart, K. and Zaslavsky, I., "Building the Infrastructure for High Performance Computing in Undergraduate Curricula: Ten Grand Challenges and the response of the NPACI Education Center," IEEE/ACM SC98 Conference, Orlando FL, November 1998.

Stewart, K. and Bowers, J. "STEP: A Case Study on Building a Bridge between HPC Technologies and the Secondary Classroom," IEEE/ACM SC97 Education Program, San Jose, CA, November 1997.

Stewart, K., "HPC Undergraduate Curriculum Development at SDSU Using SDSC Resources," IEEE/ACM Supercomputing '95 Conference, San Diego, December 1995.

#### **(iv) Other Significant Publications:**

○ Geveci, T., and Stewart, K., "Numerical Experiments with a Nonlinear Evolution Equation which Exhibits Blow-up," *Applied Numerical Mathematics*, 10, pp. 139-147, 1992.

○ Stewart, K., "A Model for Stability of the Semi-implicit Backward Differentiation Formulas," *J. Computational and Applied Mathematics*, 33, pp. 245-259, November 1990.

○ Stewart, K., "Avoiding Stability-induced Inefficiencies in BDF Methods," *Journal of Computational and Applied Mathematics*, 29, pp 357-367, 1990.

#### **(v) Synergistic Activities**

"Education Center for Computational Science and Engineering," part of the National Partnerships

for Advanced Computing Infrastructure (NPACI), for NSF High Performance (Supercomputer) Centers. From October 1, 1997 to June, 2006, Stewart was been the director of the Center helping build the infrastructure for transferring interactive technologies and education activities of the NPACI partnership so that faculty may incorporate these tools of discovery in their undergraduate curricula.

This led to the Engaging People in CyberInfrastructure (EPIC) NSF Grant to pursue 3d Game Engines as a curriculum tool in CI.

<http://www.eotepic.org/modules.php?op=modload&name=News&file=article&sid=503>

“Undergraduate Computational Science Education Consortium”, June 2002 – June 2006. Capital University was awarded a grant from the W. M. Keck Foundation of Los Angeles to establish the Keck Undergraduate Computational Science Educational Consortium. Dr. Kris Stewart was the San Diego State University representative for the ten-school consortium, of which Capital served as the lead institution. The consortium developed and implemented educational materials for an undergraduate curriculum in computational science.

“Supercomputer Teacher Enhancement Projects (STEP)”, NSF/EHR Research Grant with Don Anderson (PI), UCSD Extension and SDSC, 1993-96. Provided full time support Spring 1993 and Summer Salary 1993-96 to perform duties as Program Coordinator.

“Undergraduate Curriculum Development in Advanced Computing,” NSF/DASC Research Grant with Dan Sulzbach (PI), San Diego Supercomputer Center, 1990-93.

#### **(vi) Collaborators & Other Affiliations**

##### **(a) Collaborators and Co-Editors**

Dr. Roscoe Giles, Boston University  
Dr. Peter Turner, Clarkson University  
Dr. Angela Shiflet, Wofford College  
Dr. Ignatis Vikalis, CalPoly San Luis Obispo  
Dr. Janet Bowers, Math & Statistics Dept, SDSU  
Dr. Ilya Zaslavsky, San Diego Supercomputer Center

##### **(b) Graduate and Postdoctoral Advisors**

Professor L.F. Shampine, now with Southern Methodist University. Dissertation: “Semi-Implicit Backward Differentiation Formulas,” University of New Mexico, Albuquerque, New Mexico, 1989.