

Kris Stewart Credentials and Reference for UNM CyberInfrastructure Day 29 April 2011

Professor, Computer Science, San Diego State University, since 1984

<http://www.stewart.cs.sdsu.edu> web page since 1994

Publications:

Bresciani, M.J., Morsi, K., Duncan, A., Tucker, M., Siprut, M., & Stewart, K.. "Exploring the Challenges in Designing and Implementing an Assessment Plan for a Virtual Engineering Lab.," *Eludamos: the Journal for Computer Game Culture*, v.4(2), 2010, p. 1.

K. Stewart, "3d Game Programming as Service-Learning for CS Students", Second Annual Consortium for Computing Sciences in Colleges, Southwestern Regional Conference Proceedings, April 2009, San Diego CA, pp. 246-251., Available online from ACM Portal <http://portal.acm.org/citation.cfm?id=1516586>

K. Stewart, "How 3D Game Programming Can Benefit the TeraGrid", TeraGrid '08 Education Track, June 2008, Las Vegas NV.

K. Stewart, "3d Game Programming as a Computer Science Service Learning Curriculum for High School Science Courses", ACM Special Interest Group in CS Education, 2007, Covington, KY, March 07.

K. Stewart, J Bowers, STEP: A Case Study on Building a Bridge between HPC Technologies and the Secondary Classroom, SC97 Education Program
<http://www.stewart.cs.sdsu.edu/SC97/>

Grants:

NSF DUE #0837162 Accessibility of Materials Laboratory Experience for Engineering Undergraduates , K. Morsi kmorsi@mail.sdsu.edu (Principal Investigator) , Kris Stewart (Co-Principal Investigator), Marilee Bresciani (Co-Principal Investigator), Mark Siprut (Co-Principal Investigator), 2008-present

NSF OCI #520146 EPIC - Engaging People in Cyberinfrastructure, Roscoe Giles roscoe@bu.edu (Principal Investigator), CI-TEAM, 2005-06

NSF OCI #9619020 National Partnership for Advanced Computational Infrastructure, Education Center for Computational Science & Engineering, CSU Participation at SDSU, Kris Stewart, 1997-2004

Keck Undergraduate Computational Science Educational Consortium (KUCSEC) grant to Capital University, Columbus OH, 2006, Kris Stewart wrote on Computable Performance Metrics
<http://www.capital.edu/21424/Computational-Studies/7168/>

NSF OCI #9015552 21Sept 1990, Undergraduate Curriculum Development in Advanced Computing , Dan Sulzbach (Principal Investigator) General Atomics / San Diego Supercomputer Center

NSF CNS #9729574 CalREN-2: The California Research and Education Network- Phase 2 , David Ernst dernst@calstate.edu (Principal Investigator) , Thomas West (Former Principal Investigator) , Jack Paris (Co-Principal Investigator), Elhami Ibrahim (Co-Principal Investigator), Yasha Karant (Co-Principal Investigator), Gary Adams (Co-Principal Investigator), Kris Stewart (Co-Principal Investigator)

July 2008 From: <http://www.stewart.cs.sdsu.edu/bio/>

Dr. Stewart (Ph.D. "Semi-Implicit Backward Differentiation Formulas", University of New Mexico, 1987, Advisor: L.F. Shampine) has done research on mathematical software for ordinary differential equations and teaches courses on scientific problem solving, compiler construction and 3d game programming at San Diego State University, where she joined the faculty in 1984. She has worked with the San Diego Supercomputer Center since 1986, first as a user, then as a Senior Fellow to develop curricular materials for the undergraduate supercomputing course at SDSU focusing on the Cray. In 1994 she received the Dept. of Energy Undergraduate Computational Science Award. She has been invited to give numerous presentations, a subset is

3d Game Programming as Service Learning for CS students ACM SIG CSE 2007, Covington KY 10 March 2007

Computer Game Engines for Computational Science Curr. Development 11Aug06 Rochester, NY ICCSE 06

Wild World of Supercomputers: It's Not Just FLOPs, Computer and Computational Sciences Program for Minority Youth, California Institute of Technology, Pasadena CA 19Mar96

HPC Curriculum Development: Web Browser for Developing, Presenting and Sharing Resources, MUSPIN Users Conference, Morgan State U, Baltimore MD 05Oct95

Education Issues in Scientific Computing, SCICADE95, Stanford U. 30Mar95

HPC Curriculum Development at SDSU using SDSC Resources (SC'95) Nov95, San Diego CA

Dr. Stewart became the Director of the Education Center for Computational Science & Engineering (EC/CSE) representing the California State University (CSU), and housed at San Diego State University in April 1997. This was part of the funding by the NSF for two national partnerships for advanced computing infrastructure, the rebirth of the NSF Supercomputer Centers Program. The National Partnership for Advanced Computing Infrastructure (NPACI) was led by the San Diego Supercomputer Center (SDSC) and includes partner institutions from academia, research institutions and private commercial concerns. The National Computational Science Alliance (NCSA) was centered in Urbana-Champaign, Illinois and comprises another broad ranging national partnership. Educators from both funded groups collaborated to form the Education, Outreach and Training (EOT-PACI) and fashion a national plan to facilitate the transfer of technology from the high performance sites among the partnerships to infuse the curriculum, especially at the undergraduate level.

The activities involved Visualization for Education, using the widely available 3d game engines, through the NSF Grant from the Office of CyberInfrastructure (OCI) to sponsor the partnership, EPIC, Engaging People in Cyberinfrastructure. A summary of the accomplishments in 2005/6 is found on line from Using Torque 3D Game Engine, to benefit high school science curricular with the Torque Game Engine from GarageGames.com.

Dr. Stewart worked at the Jet Propulsion Laboratory (JPL) from 1979 to 1981 after receiving her Masters Degree in Computer Science from SDSU. The software for her Masters project, SCRUNCH, translating Fortran math software to run on the PC in Basic, is still available from NIST. She was a consultant at the Los Alamos National Laboratory while working on her Ph.D. under Dr. Larry Shampine at the University of New Mexico (UNM) [1981-87].