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## National Partnership for Advanced Computational Infrastructure: Archives

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## **NPACI Ed Center: A Growing National Community**

SAN DIEGO STATE UNIVERSITY -- Ten months after its official charter, NPACI's <u>Education Center on Computational Science and Engineering (Ed Center)</u> can boast progress toward completing its first-year goals. These goals center on outreach; building infrastructure; establishing contacts and collaborations within NPACI and the among national Education, Outreach, and Training Partnership for Advanced Computational Infrastructure (<u>EOT PACI</u>) partners; promoting NPACI methodologies; and developing in-house projects based on instruction with high-performance computing tools.

"They used to call this the bowling alley," explains <u>Kris Stewart</u>, director of the Ed Center on the <u>San Diego State University (SDSU)</u> campus. Stewart's statement refers to the Center's quarters' alias in its previous capacity: long, barren, storage space in the Malcolm Love Library Addition. On October 10, 1997, the "bowling alley" gave way to walls, workstations, and murals for the Ed Center's opening ceremony.

The Ed Center is a product of--and participant in--the National Science Foundation's (NSF) vision of melding NPACI and Alliance outreach efforts in EOT PACI. The Center's goal is to forge a bridge between undergraduate curriculum nationwide and high performance computing and research tools developed for scientific research, visualization of data, and interactive collaborative environments. In doing so, Stewart plans to expand the use and understanding of computational tools in areas of science and society not traditionally associated with high performance computing.

Stewart and fellow members of the Ed Center's staff--Ilya Zaslavsky, Geographic Information Systems (GIS) staff scientist and assistant professor at <u>Western Michigan University (WMU)</u>; Dolores Candelario, assistant to the director; and five student assistants--work together to achieve these goals. The staff's efforts include working with SDSU in what Stewart refers to as a "conduit and catalyst capacity"--raising faculty awareness of the possibilities of using computational resources by incorporating these resources into established curricula.

As part of the supercomputing community's national effort to develop and test the most appropriate tools for synchronous distance learning, the Ed Center has installed and is in the process of testing several Internet-based collaborative environments, including Microsoft NetMeeting, Habanero (by the National Center for Supercomputing Applications), Tango, and SciViz (by the Northeast Parallel Architecture Center at Syracuse University). In addition, Zaslavsky has been teaching two geography courses at WMU from the Ed Center facilities at SDSU.

The Ed Center's charter includes outreach to the entire California State University (CSU) system, of which SDSU is a part. To that end, Stewart has made presentations on behalf of the Ed Center before representatives of the other 23 CSU campuses and has begun efforts to partner with NPACI universities.

One partnership has come about from the January 8, 1998 NPACI All-Hands meeting, at which Stewart began discussing a collaboration with John Unsworth of the <u>Institute for Advanced Technologies in the Humanities</u> (IATH) at the University of Virginia, another NPACI partner.

The goal of this collaboration will be to form a bridge between humanities disciplines and high performance computing. IATH provides their Fellows with consulting, technical support, applications programming, and

networked publishing facilities. IATH also cultivates partnerships and participates in humanities computing initiatives with libraries, publishers, information technology companies, scholarly organizations, and others interested in the intersection of computers and cultural heritage.

On May 29, Stewart attended a forum held by the <u>National Science Board (NSB)</u>. The one-day hearing, titled "<u>Enriching Lives Through Informal Education</u>," was hosted by the NSF Committee on Education and Human Resources (EHR) and chaired by <u>Richard Tapia</u> of the Department of Computational and Applied Mathematics at Rice University, who is also co-chair of EOT PACI. At the meeting Stewart represented the Ed Center, prompting discussion focused on enhancing undergraduate curricula and raising local awareness of SDSU, SDSC, and NPACI. "We need to have tighter coupling between higher education, the K-12 community, and informal science efforts," Stewart stated.

NSB members heard panelists and local attendees discuss the range, impact, and future of informal (non-school-based) education. Common themes expressed at the hearing included pleas for longer and larger NSF grants to build on promising experiments and extend proven programs; the need for more research on the nature of learning; the value of informal education (such as science museums) in training K-12 teachers; and suggestions for stronger connections with formal (school-based) education organizations.

Bob Suzuki, who is the NSB education committee chair and President of California State Polytechnic University in Pomona, called the hearing a success. "We've gotten a lot of great ideas, and a better sense of what is needed in informal education, which we could not have gotten back in Washington, D.C. That's really the point of these field hearings," he said.

Other recent Ed Center outreach activities have included:

- In June, Stewart presented a workshop on computational science at Macalestar College, a liberal arts college in St. Paul, Minnesota. Professor David Bressoud, chair of the Macalester Mathematics and Computer Science department, organized the workshop. Attendees included 32 faculty members from midwestern liberal arts colleges who are funded by NSF¹s "InterMath" program.
- Stewart, Zaslavsky and CSU representatives spoke at the Social Science Research and Instruction Council (SSRIC) in May. SSRIC is a CSU organization bringing together the social scientists from among the 23 campuses to discuss their research and instructional needs. The focus of their presentation was to acquaint the council with NPACI and to learn about the University of Michigan's summer institute for social scientists, the Intercollegic Consortium for Political and Social Research (ICPSR). Stewart hopes Ed Center collaboration with the Institute will build a bridge between social science and high performance computing.
- Also in May, Stewart presented information about the Ed Center at the "From Chalkboards to Employment" conference and exhibition sponsored by Procopio, Cory, Hargreaves & Savitch LLP, Data Processing Resource Center, and Rhythms NetConnections Inc. Joe Rodota, Deputy Chief of Staff for Governor Wilson and Executive Director for the California Virtual University Design Team, served as the keynote speaker. Representatives from more than 24 local organizations and schools attended, including San Diego Business Journal, Global Schoolhouse, and Net Connections.

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