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Cebrowski Institute to Reboot the 'Magic and Beauty' of Computing
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Mass Communication Specialist 2nd Class Kellie Arakawa

Dr. Peter Denning, the Director of the Cebrowski Institute for Innovation and Information Superiority at the Naval Postgraduate School (NPS), first discovered his passion for computer science as a teenager when he built his first computer for a high school science fair and was awarded the top prize for his project. At the time, computer science was just beginning to emerge in academia, and much like Denning, many who pursued careers in the field were fascinated by its unique innovation and vast potential.

Today, the computing field is facing recruitment challenges and according to Denning, computer science enrollment in undergraduate institutions has dropped 50% since 2001, even though job growth in the field has increased 10% annually. Denning believes that the public's negative image of computing has played a significant role in this trend.

"Inside our field we use the term 'programmer' in a very expansive way - as the person who masters all of computer science and can bring everything that's known to bear, solve a problem, put together a beautiful piece of software, and do social good," said Denning. "Outside the field people hear the word 'programmer' and think of someone who is stuck in a dark room with a flickering computer screen and no social contact - which doesn't sound like a very interesting life."

Graphic Artist Matt Rose's whimsical images of computing allegories stir the creative juices of future computer scientists. Rose's full canvases can be found at the Cebrowski Institute and the newly constructed Glasgow West annex at the Naval Postgraduate School.

To reconfigure this image and ignite new interest in the discipline, the Cebrowski Institute has organized a diverse team of industry and academic professionals to design a three-day summit, "Rebooting Computing, The Magic and Beauty of Computer Science," scheduled for January 2009 at the Computer History Museum in Mountain View, Calif. By bringing together approximately 250 participants from around the world, the summit will explore ways to cultivate new ideas and projects that will move computer science forward. Denning, who chairs the design team, said he hopes it will help "recover the sense that working on computing is magical and beautiful, a sense we've somehow lost over the last two decades."

Denning described the summit as a "working conference" where participants can generate new ideas that will invoke change in the computing field. "There are no formal paper presentations, just people

rolling up their sleeves, talking to each other, getting in contact with what first attracted them to computer science and maintaining that sense as they move from personal experiences to projects they can propose to the group," he said.

More specifically, the summit will use the Appreciative Inquiry process, a method of discussion that brings together stakeholders from an entire system to generate positive outcomes and actions, explained Sue Higgins, the Deputy Director of the Cebrowski Institute. "As opposed to just looking at problems,what we're doing is creating shared aspirations of what we really care about and want to create to move something forward," she added. NPS Prof. Frank Barrett, a pioneer of the Appreciative Inquiry process, will serve as the lead facilitator for the summit.

To help broaden the scope of the conference Denning also invited Josh Kroll, a Harvard University student and former NPS intern, to join the design team and offer his perspective as a current student. Kroll, who is the president of an academic club that promotes advanced technology use and explores computer science, said the organization he leads often struggles to recruit new members. One of the reasons, he stated, is that many students view computing as a practical skill rather than an academic discipline and want to pursue subjects that seem more established in academia. Kroll called this misconception "unfortunate," and he hopes the work developed at the summit will help people understand the academic relevance of computer science and its relation to other academic fields.

For Denning, one of the long-term objectives is to increase enrollments in computer science at both civilian institutions and NPS. He said the Department of Defense has expressed concern over the growing retirements of personnel with vital computer systems knowledge, and Higgins noted that the declining interest in computer science combined with the rising number of retirements could greatly impact national security.

"Here at NPS, we're about growing the next generation of national security leaders, so this (summit) is a very strong fit for us," she said. "We're mustering our expertise in bringing together technical and social networks to facilitate innovations, and this summit is a great opportunity for us to impact something as important as computer science, which is core to so many other facets of what we do throughout the national security arena and throughout the nation."

For more information about the Cebrowski Institute or inquiries related to the summit, visit www.nps.edu/cebrowski .

Cebrowski Institute to Reboot the 'Magic and Beauty' of Computing

Dr. Peter Denning, the Director of the Cebrowski Institute for Innovation and Information Superiority, poses with artwork displayed at the institute's center in Glasgow Hall. Denning, who also serves as the Computer Science Department Chair, is heading a design team for a summit titled, "Rebooting Computing, the Magic and Beauty of Computer Science," which will explore new ways to ignite interest in the computing field. U.S. Navy photo by Mass Communication Specialist 2nd Class Kellie Arakawa. Full story