Welcome

Welcome to the May 2010 edition of the MAX Newsletter. In these updates we highlight current technical activities and policy initiatives amongst our staff, our participants, the Regional Optical Network and national networking communities. Please let us know your thoughts, and especially your suggestions.

Executive Director Message

IN MEMORIAM
Dr. Jeffrey Craig Huskamp

Our friend, colleague, and board member Jeff Huskamp, Vice President and Chief Information Officer at the University of Maryland, passed away peacefully at home on May 27, 2010. He was surrounded by his family.

Jeff's career, so sadly shortened, spanned many years at several of our nation's Supercomputer Centers as well as universities.

He attended Purdue University, where he earned a bachelor of science in electrical engineering and a master of science in computer science. He graduated from the University of California, Berkeley in 1978 with a doctorate in electrical engineering and computer science, with his thesis on computer security.

Highly intelligent, thoughtful and reserved, Jeff liked to challenge us all, ask difficult questions and play devil's advocate. In any project he tackled, he believed that everything could be done better. It was his uncompromising nature to strive for the best possible solutions for everyone involved. Although he set the bar high, he believed in people and what they could accomplish. He loved clear processes and procedures, logic, stability and rationality.

Yet at the end of the workday, Jeff changed out of his suit and tie into his leather jacket and jeans. And he'd hop on one of his motorcycles for the commute home.

Jeff's caring for MAX and involvement in our new future continued right up to the moment when his lungs sought their last breath. His thoughtful questioning and voice amongst us is already missed. We will strive to honor his many gifts by practicing the model of integrity he so frequently demonstrated.

- Peter O'Neil

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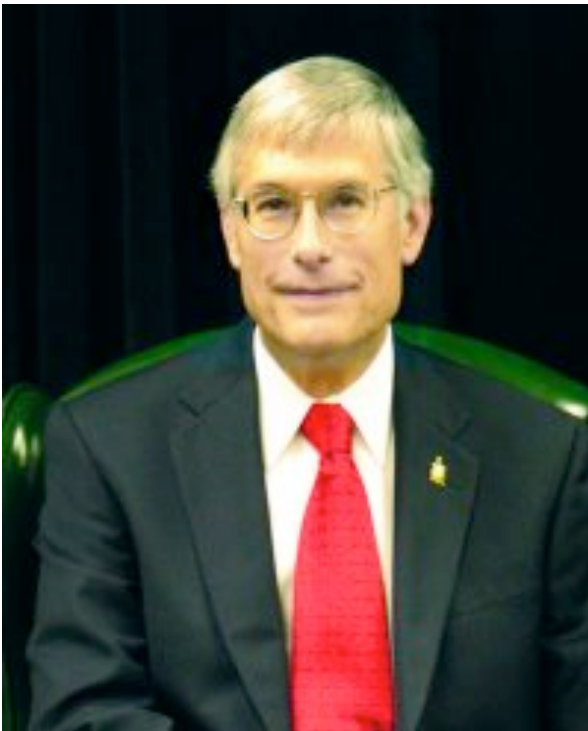   College Park, Maryland 20740
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ALL THINGS TECHNICAL

A Piece of Internet History Shuts Down

Duke University shut down its Users Network server on May 20th because of increasing costs and low usage. Usenet, as it's called, was developed by three graduate students in 1979 and it quickly became popular internationally as an electronic discussion forum. Since then e-mail, blogs, and social websites have become more popular.
http://www.dukenews.duke.edu/2010/05/usenet.html

The Digital Universe Decade: Are You Ready?

International Data Corporation (IDC) consultants estimate that the amount of digital information created and replicated in the world is expected to reach 35 trillion gigabytes over the next ten years. Consumer technology is expanding and as people send more e-mails, post more videos online, take more pictures, and post more blogs the concern becomes how to manage and store this vast amount of information.
http://www.emc.com/collateral/demos/microsites/idc-digital-universe/iview.htm

NIST Releases New Digital and Printed Mathematical Functions Publications

The National Institute of Standards and Technology (NIST) released its new reference sources for mathematical tools in May. *The Digital Library of Mathematical Functions* and its printed version, The *NIST Handbook of Mathematical Functions*, are updates and expansions of the widely popular *Handbook of Mathematical Functions* from 1964. The new publications are again expected to be essential tools for engineers and scientists but NIST assumes they will also be vastly used by other specialists that work with computer-based models, especially since it has been made available in an online version now.
http://www.nist.gov/itl/math/math_051110.cfm

Worst Case Thinking About Security

After attending a security conference last month, computer security specialist Bruce Schneier blogged that he thinks other cybersecurity professionals are too caught up on the thought of possible attacks on the communications framework and other major systems. He feels that worst-case thinking blinds the imagination and promotes a sense of fear and defenselessness. He also said that decision making can not be effective if it is assumed that the most extreme scenarios will happen. People too often speak about what is possible and not what is probable.
http://www.schneier.com/blog/archives/2010/05/worst-case_thin.html

More Interesting Articles...

Comparing Genomes to Computer Operating Systems
http://www.pnas.org/content/early/2010/04/28/0914771107.full.pdf+html

HOW COOL!

A New Approach to Peeling a Banana?

Yale professor and economist Barry Nalebuff used a banana-peeling demonstration during a lecture to prove that there is more than one way of doing things. The illustration was one of many examples used to show that the old-fashioned traditions we follow are not necessarily optimal. His goal of the message was to encourage what he calls the *idea generation* in which people use inspiration and ingenuity to come up with great ideas to solve problems. See the entire video here:
http://www.google.com/imgres?imgurl=http://academicearth.org/img/lectures/AEaccount5-YaleNalebuffShortened483-180.jpg&imgrefurl=http://academicearth.org/speakers/barry-nalebuff&h=239&w=359&sz=95&tbnid=gS1UQ62T3bikRM:&tbnh=81&tbnw=121&prev=/images%3Fq%3Dbarry%2Bnalebuff&usg=__sUHQ9eAD2zOnaT-0hSE4SjSZS2s=&ei=GOTzS_7BNYO8NpSb0awO&sa=X&oi=image_result&resnum=10&ct=image&ved=0CDQQ9QEwCQ

Economist Eric Falkenstein referenced Nalebuff's lecture in his blog and stated that great economic theories are not always derived from complex mathematics, but often come from good ideas. Mathematics is just a compliment.
http://falkenblog.blogspot.com/2010/05/barry-nalebuffs-banana.html

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Miniature Device Can Detect 3,000 Viruses and Bacteria

The Lawrence Livermore National Laboratory created a three-inch device that can detect and identify up to 3,000 viruses and bacteria in just twenty-four hours. The bio-detector can aid in several areas such as identifying biological and chemical agents, diagnosing medical problems, improving food product safety, and assuring pharmaceutical vaccine safety.

http://inhabitat.com/2010/05/07/three-inch-device-detects-3000-types-of-viruses-and-bacteria/

http://www.popsci.com/science/article/2010-05/three-inch-bio-detector-scans-all-bacteria-and-viruses-we-know-all-once

More Interesting Articles...

First Self-Replicating Synthetic Bacterial Cell

http://www.jcvi.org/cms/press/press-releases/full-text/article/first-self-replicating-synthetic-bacterial-cell-constructed-by-j-craig-venter-institute-researcher/

http://www.economist.com/node/16163154?story_id=16163154&source=features_box_main

Directed Evolution in the Laboratory

http://web.mit.edu/newsoffice/2010/explained-directed-evolution-0513.html

Solving the 140-Year-Old Boltzmann Equation

http://www.upenn.edu/pennnews/news/university-pennsylvania-mathematicians-solve-140-year-old-boltzmann-equation-gaseous-behaviors

Flip on the Memory Switch

http://hplusmagazine.com/articles/neuro/switch-memory

The Power of Language: Cartoon Introduces New Word

http://xkcd.com/739/

http://www.bbcnewsamerica.com/malamanteau-wikipedia.html

http://en.wikipedia.org/wiki/Talk:Malamanteau

MAKES YOU SAY "HMMM"

What Our Eyes See While We're Asleep

REM (rapid eye movement) sleep is the final phase of the sleeping process when dreaming occurs. During REM sleep the eyes move rapidly, breathing becomes irregular, and the muscles in the body become immobile causing a paralysis effect. But people that have REM sleep behavior disorder do not experience that paralysis phase, or it is disrupted, allowing them to act out their dreams by talking, kicking, grabbing for things, etc. Although everyone experiences rapid eye movement during sleep, researchers studied individuals with the REM sleep behavior disorder to try and determine what causes the eye movement and what exactly people are looking at in their sleep.

http://www.mindhacks.com/blog/2010/05/the_eyes_are_a_windo.html

http://www.ncbi.nlm.nih.gov/pubmed/20478849

How to Build a Time Machine: Is Time Travel Possible?

In a recent article scientist Stephen Hawking explained that everything has dimensions in space: length, width, and height. But everything also has a fourth dimension: a length in time. Traveling through time would involve traveling through that fourth dimension. Like many physicists, he believes that wormholes exist everywhere. These wormholes are tiny tunnels that link the past to the future. If these wormholes can be enlarged enough to allow humans to pass through, will time travel be possible?

http://www.dailymail.co.uk/home/moslive/article-1269288/STEPHEN-HAWKING-How-build-time-machine.html#ixzz0mxPF4phM

Climate Change and the Integrity of Science

Climate Scientists are bothered by recent attacks by people saying their conclusions about climate change are not supported by scientific evidence. Climate science is the specific discipline of studying climate, not just the weather, and climate scientists believe that human activities like deforestation and burning of fossil fuels are changing climate patterns in ways that are harmful to eco-

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systems.
http://www.sciencemag.org/cgi/content/full/328/5979/689

The Benefits of Boredom

Writer Jonah Lehrer reposted a previous blog about the benefits of boredom. Some authors and poets believe that we should appreciate the moments of silence in the external world and not always use that time to look for some form of entertainment. Perhaps boredom is important mentally.
http://scienceblogs.com/cortex/2010/05/vacation_2.php

Here Comes the Neighborhood

The housing market has always had a direct relationship with the overall economy. Over the past ten years a large number of homes were built in suburban fringes. But with home values there dropping up to thirty percent more than homes in urban areas over the past few years, many suburban homeowners now owe more than what their homes are worth. Developers have no incentive to build in those areas anymore. Housing in dense inner suburbs and urban neighborhoods is in demand now, and building in those areas is necessary to energize the economy. But building in urban areas will be unsuccessful if good public transportation options aren't available.
http://www.theatlantic.com/magazine/archive/2010/06/here-comes-the-neighborhood/8093/1/

FTC Concerned About Private Information Stored on Copy Machine Hard Drives

Most copy machines built since 2002 store all documents that are photocopied, scanned and e-mailed onto their hard drives. This is a concern for businesses that handle sensitive consumer information such as social security numbers, bank records, medical records, etc. After a machine is discarded or returned after the lease is over, the information can be easily extracted from the hard drive by anyone. Because of these concerns, Xerox gives their customers the option to delete the information off the hard drive or remove the hard drive all together. Other copy machine manufacturers either don't have these security features available on their machines or they charge customers for the option. The FTC is now contacting manufacturers and office-supply stores that sell the machines to make sure they are informing customers about the privacy risks and determine whether security options are being offered.

http://www.itworld.com/hardware/108219/ftc-targets-privacy-concerns-related-copy-machines

More Interesting Articles...

The Attributes of Great College Teachers
http://asp.okstate.edu/baileynorwood/Bailey/filesnb/Final%20Paper.pdf

The Hunt for Universal Music
http://www.newscientist.com/article/mg20627591.300-harmonious-minds-the-hunt-for-universal-music.html?full=true

How Our Brains Make Memories
http://www.smithsonianmag.com/science-nature/How-Our-Brains-Make-Memories.html?c=y&page=1

Socializing Brain Cells

http://www.smithsonianmag.com/science-nature/The-Social-Brain.html

Credibility in Empirical Economics & Asymptopia
http://econ-www.mit.edu/files/5326

http://www.anderson.ucla.edu/faculty/edward.leamer/selected_research/Tantalus%20by%20Leamer.pdf

Deterministic Clocks and Complex Clouds
http://www.wired.com/magazine/2010/04/st_essay_particles/

NOAA Reports Warmest April Global Temperature on Record
http://www.noaanews.noaa.gov/stories2010/20100517_globalstats.html

http://www.ncdc.noaa.gov/sotc/?report=global

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A Rising Mindfulness About Food
http://www.nybooks.com/articles/archives/2010/jun/10/food-movement-rising/

MEMBER SPOTLIGHT

Montgomery College

Dr. DeRionne P. Pollard has been named as the next president of Montgomery College, a community college located in Montgomery County, Maryland. The College's Board of Trustees made the announcement on May 18 in a communication to students, faculty, and staff.

Dr. Pollard brings 15 years of community college teaching and leadership experience to Montgomery College. She currently serves as the president of Las Positas College in Livermore, California.

"The Board of Trustees looks forward to the leadership that Dr. Pollard will bring to one of the country's best community colleges," said Dr. Michael Lin, chair of the Montgomery College Board of Trustees. "Throughout the search process, Dr. Pollard impressed both the board and the search advisory committee by her passion and devotion to the advancement of the community college mission and the students we serve. Montgomery College students have long benefited from the dedication of faculty and staff, and the support from alumni, elected officials, business leaders, and the community. Dr. Pollard has the perfect combination of experience and leadership skills to help Montgomery College build on our long history of success and move confidently into the future."

Dr. Pollard will officially start her role as president on August 2, 2010. She will become the ninth chief executive officer in the College's 64-year history.

"I am thankful and truly honored that the Board of Trustees selected me as the next president of Montgomery College," said Dr Pollard. "I am impressed with the caliber of the faculty, staff, administrators and students at Montgomery College. I look forward to meeting and learning from them and the alumni, donors, business community and elected officials who support this wonderful institution and its mission of changing lives."

The board's selection of Dr. Pollard marks the culmination of a five-month, nationwide search. A 17-member presidential search advisory committee, chaired by Trustee Steve Kaufman, assisted in the process and reviewed more than 50 applications for the position.

Dr. Pollard's community college career began as a professor of English at the College of Lake County (IL) in 1995. She taught courses ranging from developmental reading and college composition to minority literature and early American literature. Additionally, she developed the institution's award-winning New Faculty Institute and its Center for Teaching and Learning. After several progressive administrative positions, Dr. Pollard was selected as the college's vice president of educational affairs. She served in the position until her appointment as president of Las Positas College.

Dr. Pollard serves on the boards of the Tri-Valley YMCA and EdSource. She is a member of the Commission on Research and Emerging Trends for the American Association of Community Colleges (AACC) and the Presidents' Round Table of the National Council of Black American Affairs. Additionally, Dr. Pollard was appointed to the Commission on the Future of the Community College League of California, a taskforce dedicated to developing a vision for the future of the California Community College System.

Dr. Pollard received her Ph.D. in educational leadership and policy studies in higher education from Loyola University Chicago, and both her M.A. and B.A. in English from Iowa State University.

Montgomery College is a public, open admissions community college with campuses in Germantown, Rockville, and Takoma Park/Silver Spring. The College serves nearly 60,000 students a year, through both credit and noncredit programs, in more than 100 areas of study.

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MAX Participants

Federal Labs and Agencies:

- ATDnet - NRL, LTS, DISA
- D.C. Government
- Energy Sciences Network (ESNet)
- Laboratory for Telecommunications Sciences
- Library of Congress
- NASA / GSFC
- National Archives and Records Administration (NARA)
- National Institutes of Health (NIH)
- National Institute of Standards and Technology
- National Library of Medicine (NLM)
- National Oceanic and Atmospheric Administration (NOAA)
- National Science Foundation (NSF)
- USDA, Beltsville Agricultural Research Center
- U.S. Department of Health and Human Services
- U.S. Department of State (through GWU)
- U.S. Department of Veterans Affairs
- U.S. Holocaust Memorial Museum

Higher Education:

- American University
- Baltimore Education & Research Network
- Catholic University
- GEANT
- Georgetown University
- George Mason University
- George Washington University
- Johns Hopkins University
- Johns Hopkins University - Applied Physics Laboratory (JHU-APL)
- Montgomery College
- National Consortium for Supercomputing Applications / ACCESS
- Network Virginia
- Smithsonian Institution
- Southern Universities Research Association (SURA)
- University of California, D.C. campus
- University Consortium for Advanced Internet Development (UCAID / Internet2)
- University of Maryland, College Park
- University of Maryland, Baltimore
- University of Maryland, Baltimore Co.
- Univ. System of Maryland Network
- University of Southern California, Information Sciences Institute / East
- Washington Research Library Consortium

Corporate and Non-profit:

- Columbia Telecommunications Corporation (CTC)
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- Northrop Grumman Corporation
- The Institute for Genomic Research
- Windber Professional Services, Inc.
- World Bank
- The Venter Institute