



**Association for
Computing Machinery**

Advancing Computing as a Science & Profession

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**CACM REPORTS: HOW TO INSPIRE, RECRUIT, AND RETAIN WOMEN FOR COMPUTER
SCIENCE CAREERS**

February Issue also Covers the Growing Web, Net Neutrality, and the First Internet President

NEW YORK, NY, February 19, 2009 – While women’s representation in the computing field has improved in some sectors, it is still far short of equal. In its cover story, the [February 2009 issue of *Communications of the ACM* \(CACM\)](#) assesses the progress of women in the field over the last 15 years, and presents successful strategies and promising initiatives to increase women’s participation. The issue also reports on how the growing Web is moving from a Web of content to a Web of applications; improving performance on the Internet to accommodate fast, scalable, content-delivery systems; differing paths to preserving network neutrality; and how the first Internet president changed the way politicians and the public interact. [CACM](#), the flagship publication of ACM, offers readers access to this generation’s most significant leaders and innovators in computing and information technology, and is available online in digital format.

Responding to the question, “Why should computing professionals be concerned that women and other groups are underrepresented in the field?”, “Women in Computing – Take 2” contends that diversity often leads to enhanced abilities to perform tasks, greater creativity, and better decisions and outcomes. The article is by Harvey Mudd College President Maria Klawe, Anita Borg Institute for Women and Technology President and CEO Telle Whitney, and Director of Research Caroline Simard. It cites recent data that paints a decidedly mixed picture of progress for women graduates, undergraduates, professors and practitioners in computing. The authors provide an extensive list of initiatives that have shown success in overcoming the challenges to greater representation of women and minorities in the computing field.

In a Practice section article, Tom Leighton, cofounder of Akamai Technologies, investigates the bottlenecks to building fast scalable, content-delivery systems for the Internet and identifies the culprit as the “middle mile” of heterogeneous infrastructure. This complex “no mans land” is owned by many competing entities, typically spans hundreds or thousands of miles, and injects latency bottlenecks, throughput constraints, and reliability problems into the Web application performance equation. Leighton proposes four approaches that are required for effective delivery of content and applications over the Internet.

In a contributed article, T.V. Raman, a research scientist at Google, surveys Web 2.0, the current-generation Web platform, and predicts what he calls 2^w, a Web that encompasses all Web-addressable information. Raman posits that much of the impetus for the move from Web 1.0 to Web 2.0 and eventually to 2^w is a consequence of the user's need to consume information (i.e. aggregations, projections, and mashups) in a form that is most suited to a given task. With data moving from individual devices to the Web cloud, he says that users today have ubiquitous access to their data.

A Viewpoints article on rethinking the K-12 experience in education, by George H.L. Fletcher of Washington State University and James J. Lu of Emory University, explores reasons why computer science has difficulty attracting students. Acknowledging the role of career instability in the fallout from the dot-com downturn, the authors attribute the major problem to the misconception that computer science is "just programming." They advocate an approach that teaches computational thinking as a basic skill early in the educational process, and introduces programming only after students have had substantial practice acting and thinking as computational agents.

Other February *CACM* articles:

- A News essay by technology writer Kirk L. Kroeker on using computer vision, computer graphics, and applied optics to bring new capabilities to digital cameras.
- A Viewpoints article by Ashish Arora and Matej Drev of Carnegie Mellon University, and Chris Forman of Georgia Institute of Technology on whether software development laboratories will follow the production mills toward global disbursement.
- A Policy Letter by Eugene H. Spafford, chair of ACM's U.S. Public Policy Committee (USACM), on its priorities for providing information to the new administration, including privacy, reliability and security, voting, intellectual property, and accessibility.
- An Inside Risks column by Peter G. Neumann on problems with election integrity, transparency, and accountability.

About ACM

ACM, the Association for Computing Machinery www.acm.org, is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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