

Empowering Leadership: Computing Scholars of Tomorrow Alliance



The EL Alliance Newsletter – Volume 2, No. 2

Welcome to the Empowering Leadership: Computing Scholars of Tomorrow (EL) Alliance! The EL Alliance Newsletter is designed to provide EL Alliance participants, partners, and colleagues with information about the EL Alliance; opportunities for students, mentors, and partners; and news about the computing community. More comprehensive information can be found at the EL Alliance Website, <http://www.empoweringleadership.org>.



A Letter from Richard A. Tapia

Dear Empowering Leadership Alliance Community,

We've just started the second year of the Empowering Leadership (EL) Alliance, and it's a good time to reflect upon what we've accomplished in our first year and plan for the future. We've seen a lot of activity throughout the EL Alliance, including the participation of students, faculty, representatives from industry, and others in person and online, through virtual communities, at national conferences, and in local and regional activities. Our membership increases literally each week, and each person who signs up selects the programs most appropriate for their interests. I'm pleased we can offer tailored programs of value to each individual involved, including mentoring, student group meetings, support to attend conferences, research opportunities, and much more.

We're seeing the development of regional EL Alliance groups, and we have resources to support those groups. If you're interested in a regional group for your area, please write to us at info@empoweringleadership.org or at <https://my.rice.edu/survey/entry.jsp?id=1197581794996>. We've just had a terrific regional event in Texas that brought together students from several campuses (see http://empoweringleadership.org/texas_meeting/index.html for more information), and we're looking forward to more events like this in the coming years.

We're planning our involvement in a number of conferences and workshops nationwide. Most recently, we were part of a collaborative presence at the SIGCSE (Special Interest Group on Computer Science Education) conference in March, where seven groups interested in diversity in computing worked together on a booth and informational materials. We'll keep you posted on our involvement in these events, and we'd like to hear from you about your visibility in our community, as well. Write to us at info@empoweringleadership.org.

Sincerely,
Richard A. Tapia
Principal Investigator, EL Alliance



We Hear from the Community

In each issue, we ask a question (or more) about life experiences, professional opportunities, or other areas of interest to the EL Alliance community, and report back on your (anonymous) input in the next issue. Feel free to respond to any or all of the following questions. Your input is just one click away at <https://my.rice.edu/survey/entry.jsp?id=1204835829980>.

This Issue's Question:

A student (your friend, colleague, or, for faculty members, a student of yours) has academic problems and is thinking of dropping out of computing for something *easier*. What would you tell him/her? If you are a student and were facing this situation yourself, what actions would you take?

Your Answers from the Last Issue!

The questions in the last issue were about leadership—we've included some of the responses below. There were so many excellent responses that it was difficult to select a few for this issue!

What national computing leader(s) inspires you?

Frederick Brooks, author of The Mythical Man-Month
John Carmack Id Software, Inc.
Edwin Catmull, Academy Award winning computer scientist at Disney
Donna Cox, National Center for Supercomputing Applications
Mark Dean, IBM
Jeri Dunn, Nestle
Juan Gilbert, Auburn University
Alan Kay, Viewpoints Research Institute and UCLA
John Maeda, MIT Media Lab
Nicholas Negroponte, One Laptop per Child
Richard Matthew Stallman, Free Software Foundation President
Loretta Moore, Jackson State University
Dave Patterson, University of California, Berkeley
Ed Seidel, Louisiana State University
John Shalf, Lawrence Berkeley Laboratory
Larry Smarr, California Institute for Telecommunications and Information Technology
Richard Tapia, Rice University
Brygg Ullmer, Louisiana State University
Microsoft Corporation
The Open Source Software Movement

What traits do you most admire in leaders?

... leaders are open to new thoughts and new ways of doing things

Ability and willingness to listen and think outside the box, consistent direction, lead by example

Vision Unorthodox Thinking Compassion Excellence Creativity Flexibility Perseverance Confidence
Humility a Sense of Irony

I admire honesty, creativity, the ability to contribute to their community in the places of greatest need, and to do this in meaningful ways. I also admire leaders that are able to motivate and nurture those that are aspiring to achieve at the level that they currently sit. I think that it is also important to be understanding and compassionate towards those that the person leads.

Leaders are those who listen, build consensus and then execute a plan to accomplish a task, getting everyone on board. One who has the foresight to yield some of their responsibility to those more competent in the subject at hand. Has the wisdom to continue learning from others, as well as the strength to stand firm when challenged on principal

In my opinion in order to be a good leader one needs to have learned to observed, listen and not just hear, not judge without knowing facts from trust it sources among some other things. The individual also needs to be humble, forgiving, and inspiring.

When I was finishing undergraduate and beginning graduate school, I once read an interview that was done to Carlos Castillo-Chavez...after (he) met Tapia said that he was going to become the next Richard Tapia... He became an internationally known first-rate mathematician with many awards and honors. After reading that, I thought to myself, if Castillo-Chavez and Tapia did it, what is stopping me from doing it...!

What leadership aspirations do you have?

I would like to be an inspiration to young programmers.

To be very accomplished in my field of dreams. I also want to be known for helping people as I often do. I would mentor or advise a handful of people or however many I could handle, and try to lead them in the right direction and help them accomplish what they want out of life. I think everyone should know what it feels like to accomplish something great.

I'd like to head my own research and development firm, and start businesses around the technologies that it develops. I aspire to help my alma mater's computer science department become more competitive. I'd like to someday seed into others' visions and life work through venture capitalism, entrepreneurship, and patronage of the arts & sciences.

...to always be: service oriented, giving back to community, and working hard to help others achieve their goals no matter what professional position I am in.

I would like to lead in a mentor capacity to other students and young professionals of color in the field of computing.

To live the world a little better off than when I came in. Shaping a world that will be just and prosperous for future generations

What more would you like to do as a leader in your community or chosen field?

As a leader in my community I would come up with programs for students that would be like a think tank.

Make a difference - I'm just not sure how yet...

I would love to advance the field of Social Computing by creating software that impacts and improves the

lives of those who may be socially disenfranchised by economic or social status.

I would like to create a pipeline that would enable our field to foster more interest and early skill development in young minority children from economically depressed areas. I feel as if these communities are completely cut off from a lot of the opportunities that technology provides to society in the way of education and job opportunities.

To be a contributor to my field and a discoverer of new knowledge. To be a leader in my local community, lifting it out of poverty and ignorance as well as setting an example for others to follow

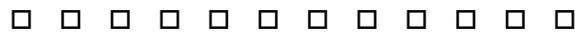
... I'd like to design computing systems to aid people in their creative and problem-solving pursuits. ... I'd like to help young people learn deep computational skills and build businesses based on them. I'd like to help find ways to use computing to drive economic development.

Any other thoughts you'd like to share on leadership?

Philosophers have always interpreted the world, but the point is to change it

My favorite quote is by another leader I admire, Steve Jobs (Apple Computers & Founder of Pixar) -- "BE the change in the world you wish to SEE in the world." (Editor's note: the original source is Mahatma Gandhi, who said, "You must be the change you wish to see in the world.")

I think one important type of leadership we need more of is the type that motivates people to take ownership and leadership within their own lives. I think we also need more of the type of leadership that looks in the places and at the people that are usually overlooked to bring out more of what's possible. ... People tend to focus on singular, heroic leadership from the top down, but probably the most important and effective types are collective leadership from the bottom up, and the type of leadership that encourages and supports grassroots leadership. Ultimately, leadership is about service and accountability.



Student Opportunities

Learn more at <http://www.empoweringleadership.org>. Deadlines are variable unless otherwise noted.

IBM Almaden Research Center Summer 2008 Intern Opportunities

Deadline: Until all positions are filled; apply ASAP

Opportunities for MS or PhD candidates who will be enrolled in a fall 2008 academic program. Internships cover computer science, engineering, science management, and other areas. Candidate skills may be in: software design, implementation, documentation, software programming, virtual world experience, information analytics, machine learning, system design, and data mining.

Send resumes to: Terry Davis, HR Partner, IBM Almaden Research Center, 650 Harry Road, San Jose, California, 95120, (408) 927-1304, davistb@us.ibm.com

Mathematics Research Communities

June 14 – June 27, 2008 - Snowbird Resort, Utah

<http://www.ams.org/amsmtgs/mrc.html>

Deadline: Until all places are filled

The American Mathematical Society (AMS) invites mathematicians just beginning their research careers to become part of Mathematics Research Communities (MRC), a new program to develop and sustain long-lasting cohorts for collaborative research projects in many areas of mathematics. The program is geared toward mathematicians at the "peridocctoral" stage, meaning those who are close to finishing the doctorate or have recently finished, and includes: one-week summer conferences for each topic, special sessions at the national meeting, discussion networks by research topic, ongoing mentoring, and a longitudinal study of early career mathematicians.

Collaborative Research Experiences for Undergraduates (CREU) and Multidisciplinary Research Opportunities for Women (MRO-W)

CREU: <http://www.cra.org/Activities/craw/creu/>
MRO-W: <http://www.cra.org/Activities/craw/mrow/>
Deadline: May 9, 2008

The CRA's Committee on the Status of Women in Computing Research (CRA-W) and the Coalition to Diversify Computing (CDC) are offering two programs of interest: 1) the CREU program, geared toward increasing the number of women and minorities who go on to CS&E graduate programs, and 2) the MRO-W program, designed to provide positive multidisciplinary research experiences for teams of undergraduates from at least two academic disciplines at their home institutions. MRO-W students work collaboratively on a multidisciplinary project during the academic year and during the following summer. Students will work with one or two sponsoring faculty members on a project for which monetary support is typically not available. Students will each receive a stipend of \$3,000 for their work during the academic year and \$4000 for their MRO-W summer work. CREU may also receive \$500 and MRO-W may receive \$1500 to be used for associated special equipment, travel, or supporting materials.

GEM Fellowships

<http://www.gemfellowship.org>
Deadline: November 1, 2008

Fellowships are offered to support pursuit of an MS in engineering, Ph.D. in engineering, or Ph.D. in science. The National GEM Consortium focuses on internships for under-represented students, and has 169 university members and 67 employers

Smithsonian Institution Opportunities for Research and Study

<http://www.si.edu/ofg/intern.htm>
Deadline: varies

Internships for minorities who are underrepresented in the Smithsonian scholarly programs, research, and the museum field. Ten weeks of support are provided through the Smithsonian's Office of Research Training and Services.

InternshipPrograms.com

<http://www.InternshipPrograms.com>
Deadline: varies

Much like Monster.com (for jobs), this site allows you to post your resume and search for internships in a range of fields. Includes more than 2500 programs and 200,000 positions and a free on-line newsletter.



Student News and Research

University of Wisconsin, Madison Ph.D. Candidate Dorian Arnold's Commitment to Academia is Fueled by Diverse Experiences, Determination, and Strong Network

Dorian Arnold, a Ph.D. candidate at the University of Wisconsin, Madison, is building a strong network of colleagues and supporters and is well on his way to his goal of a faculty position at a leading university. * He grew up in Belize, where he graduated from the equivalent of a U.S. junior college. According to Dorian, at the time he was considering college, "if you wanted to advance academically, you would go to another commonwealth country, like Canada, or the U.S." A scholarship was critical to him, and he accepted an offer to attend Regis University in Denver, Colorado, where he earned a B.S. in Mathematics and Computer Science. While at Regis he met his wife, Janice, who, although from Guam (a U.S. territory), was practically an international student as well. They now have a daughter, Denice, and a son, DJ (Dorian Jr.).

Dorian said, "It was a natural progression to go on for my master's degree. I had an expectation for myself to continue in academia." He attended the University of Tennessee and after completing his M.S. in

Computer Science, he worked with Professor Jack Dongarra, who is well known in the international computing community for many reasons, including as the keeper of the "Top 500" list of supercomputer sites (<http://www.top500.org>). Dorian worked for Dongarra for three years but always knew he wanted to complete his Ph.D. and moved on to the University of Wisconsin, Madison in 2001 to do so. He is studying under Professor Barton Miller in the Computer Science Department, and plans to finish his Ph.D. this year. The title of his dissertation is "Failure Recovery Models for Scalable Tree-based Overlay Networks," and his research focuses on making high-performance computing resources easier for non-experts to use in efficient, robust, scalable ways.

What's next for Dorian? He plans a career in academia. "I want to be in an environment where I do productive research while working with talented students," said Dorian. "Research alone can be rewarding, especially if your algorithms and technology become popular, but interacting with students to help them accomplish their goals makes an even greater contribution to our field, and to society."

Dorian's path to joining the EL Alliance started with a chance meeting with Professor Brian Blake of Georgetown University, who told him about a future faculty mentoring program directed by Professor Juan Gilbert of Auburn. While participating in the mentoring program, he heard about the Tapia Celebration of Diversity in Computing (October 2007), which he attended using funds from an Intel fellowship, and there he joined the EL Alliance. Dorian said, "Before these interactions, I encountered very few minorities professionally -- we have a very long way to go. Nonetheless, it was enlightening to learn of other minorities (students, professors, and professionals) in the field. My professional network now includes a great number of leaders, future leaders and colleagues, and I look forward to sharing that network with my future students."

*Editor's Note: Since the time of this interview, Dorian has accepted an assistant professorship at the University of New Mexico to start this fall. Our congratulations!

Competitive by Nature: UC Berkeley Postdoc Doug Densmore's New Role in Encouraging Minorities to Pursue Ph.D.s-and More

Douglas Densmore, a UC Chancellor's postdoc in electrical engineering at the University of California, Berkeley is competitive by nature, and he's using this trait to excel in his own research and to serve as an example to others regarding the benefits of pursuing advanced degrees. After completing his B.S.E. in computer engineering from the University of Michigan (2001), he came to UC Berkeley where he completed his Masters (2004) and Ph.D. (2007) and is focused on embedded system design methodologies as a postdoc. He plans a career in academia, and is encouraging others to do so, as well. "A primary concern of mine is finding opportunities for minorities in science, technology, engineering, and mathematics careers. A career in academics allows me to impact the scientific community while still directly helping others to achieve their goals," said Doug.

His actions exemplify that concern. Doug is a leader in UC Berkeley's Black Graduate Engineering and Science Students group (BGESS), is mentoring other minority students through the Summer Undergraduate Program in Engineering Research (SUPERB), and has coordinated numerous Oakland area high school science fairs during Berkeley's annual "Cal Day". He's given his presentation on "Why Postdoc?" (available at <http://www.empoweringleadership.org/resources>) numerous times to a range of student groups and colleagues. Furthermore, he is a member of the National Society of Black Engineers (NSBE), and serves as a representative to national conferences for organizations such as the National Action Council for Minorities in Engineering (NACME). He recently joined the EL Alliance to further expand his network of professional contacts and resources.

According to Doug, "I'm a competitive person, and that always carried over to math and science. It started with sports--I was strong in soccer and basketball and it always frustrated me that as a black male it was often expected that this is where I should put my energy. But in high school, I had a chance to attend an advanced school for science and math, and it appealed to the left side of my brain as well as my competitive side. From then on, I saw how the same traits that made me successful in other areas (practice, dedication, knowing how to win or lose) also made me successful in math and science. I was

interested in academics as a means to empower myself, and focused my competitive drive on my coursework and on getting into the best universities."

Early on, his mother recognized his interest in computing and encouraged him to attend the University of Michigan for his undergraduate degree. During that time, Doug held several internships at Intel. "Internships are a great way to help you make decisions about what you are--or are not--interested in for a career. I learned that I'm much more interested in a career in academia, and in working with students while also pursuing research that interests me, rather than research driven by marketing and commercial needs. I like the prospect of failure in research, in a way--trying new approaches to a problem and taking risks. Why something didn't work is as interesting to me as something that did work."

Doug plans to stay active in professional organizations and mentoring programs, and sees his efforts at UC Berkeley as critical to his career. "I wanted to stay at UC Berkeley for my postdoc. I received an UC Chancellor's Fellowship, and am enjoying my ability to combine research with encouraging other minority students to attend college and pursue degrees. Passion is important, in any field or endeavor."



EL Alliance Partners and Partner News

University of Texas at Austin Kicks Off EL Alliance Student Group

<http://www.cs.utexas.edu/~yadi/ela/>

<http://www.utexas.edu/diversity/student/index.php>

More than 30 students at UT Austin participated in the first meeting of the EL Alliance Student Group on February 5, 2008. "The meeting was led by Juan Segueda, a UT Austin senior who is entering our Ph.D. program this fall, and the Chair of Computer Science, J Strother Moore, gave an inspiring opening talk," said Tiffany Grady, assistant director for academic initiatives, outreach, and retention. "I was really thrilled with everyone's energy and enthusiasm - Juan emphasized how important it was that the students become leaders and role models in the field and we brainstormed on what we want the organization to be." In addition to J. Moore, the faculty participants were Clint Dawson, Aerospace Engineering and Engineering Mechanics, and Steve Keckler, Computer Science. That same week, some of the students took a road show about computer science to more than 1000 students at South Texas high schools. The UT Austin students talked about the field of computer science and demonstrated "robo soccer dogs." The group has even more ambitious plans, including creating a mentoring and tutoring community, providing outreach programs, and developing service projects. Several students also participated in the first Texas EL Alliance meeting at Rice University in April (http://empoweringleadership.org/texas_meeting/index.htm).

Leadership Team Member R. M. Holmes' Book Released

<http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471164208.html>

Raquell M. Holmes, an EL Alliance Leadership Team member, just published a book entitled, "A Cell Biologist's Guide to Modeling and Bioinformatics." According to the publisher's (Wiley) Website, the book is "A step-by-step guide to using computational tools to solve problems in cell biology. Combining expert discussion with examples that can be reproduced by the reader, *A Cell Biologist's Guide to Modeling and Bioinformatics* introduces an array of informatics tools that are available for analyzing biological data and modeling cellular processes. All that you need is a working knowledge of algebra and cellular biology; the author provides all the other tools you need to understand the necessary statistical and mathematical methods." See a list of all of the EL Alliance Leadership Team members at http://www.empoweringleadership.org/About_Us/leadership.html

University of California Berkeley Hosts Internationally Renowned Speakers

<http://www.eecs.berkeley.edu/>

<http://www.eecs.berkeley.edu/Colloquium/Regents/allen.shtml>

<http://www.eecs.berkeley.edu/Colloquium/McKay/estrin.shtml>

The students and faculty involved with the EL Alliance and other groups in Electrical Engineering and Computer Science (EECS) at the University of California, Berkeley, have had a number of special programs that featured notable speakers, including:

Marie-Ange Eyoum, who came to the US from Cameroon, West Africa, and earned her Ph.D. at UC Berkeley in 2006—her dissertation was on “Modularly Integrated MEMS Technology” from UC Berkeley. She is now a Technical Analyst to Chief of Staff of Intel Chairman, as well as an Intel Engineer. Eyoum spoke at two events: one for graduate students and the second for students and faculty at the Intel Research Center associated with UC Berkeley. She makes an annual humanitarian visit to Africa or India, with leave from Intel.

Frances Allen, IBM Fellow Emerita & 2006 Turing Award Winner, IBM T. J. Watson Research Center, who gave a Regents' Lecture on January 31, 2008 entitled, “The Challenge of the Multi Cores: Think Sequential, Run Parallel.” She was featured at the day-long 30th anniversary program celebrating the graduate women’s group at UC Berkeley, (WICSE) with faculty speakers Professors Susan Graham (Berkeley), Teresa Meng (Stanford), and Dean Belle Wei (San Jose State University)
<http://www.eecs.berkeley.edu/IPRO/WICSE/index.html>.

Deborah Estrin, Director of the NSF Center for Embedded Network Systems, based at UCLA, who gave the McKay lecture on March 5 on “Wireless Sensing Systems: From Ecosystems to Human Systems.” Estrin’s center offers summer research opportunities for students. She was awarded the Anita Borg Woman of Vision Award for Innovation in May 2007.



Resources

[Careers in Science and Engineering: A Student Planning Guide to Grad School and Beyond by the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine](http://www.nap.edu/readingroom/books/careers/)

<http://www.nap.edu/readingroom/books/careers/>

From the Website: “This volume was produced as part of a project approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. It is a result of work done by the Committee on Science, Engineering, and Public Policy (COSEPUP) as augmented, which has authorized its release to the public.”

[Women, Minorities, and Persons with Disabilities in Science and Engineering](http://www.nsf.gov/statistics/wmpd/)

<http://www.nsf.gov/statistics/wmpd/>

Tables are provided from 1997-2004 covering student enrollment, degrees granted, postdocs and employment.

[NAEP Data Explorer: National Assessment of Educational Progress](http://nces.ed.gov/nationsreportcard/naepdata/)

<http://nces.ed.gov/nationsreportcard/naepdata/>

Provides data, directions, and a tutorial for creating tables to compare achievements in math and science, covering a range of demographics.

[WebCASPAR](http://caspar.nsf.gov)

<http://caspar.nsf.gov>

Includes data from the National Science Foundation's (NSF) Survey of Earned Doctorates, the Department of Education's Integrated Postsecondary Education Data System, and the NSF-National Institutes of Health Survey of Graduate Students and Post doctorates in Science and Engineering. Tables can be generated that feature data about demographics, sources of educational support, and more.

Download: The True Story of the Internet

<http://science.discovery.com/tv/download/download.html>

<http://science.discovery.com/tv-schedules/series.html?paid=48.14998.25448.32270.2>

This four-part documentary, featured on the Discovery Channel, was described as a story about “a revolution – the technological, cultural, commercial and social revolution that has radically changed our lives. The program features information from the founders of eBay, Yahoo, Amazon, Netscape, Google and many other visionaries.



Quote of the Month

"Black students are hesitant to pursue a field where no leaders of the same race have been before. You need to see faculty achieving in these fields to go into those fields. There needs to be a synergy between (increasing) black faculty and black students...which will generate more and more students."

-- *Arlie Petters, Professor, Duke University*