

FALL 2009

MAUREEN PALMER, Editor/Public Affairs Manager
GILLIAN GOLDMARK, Public Affairs/Programs Coordinator

CEE Celebrates its 25th Anniversary

The Center for Excellence in Education commemorated its 25th Anniversary with a week-end of events, September 11-13 in Cambridge, Massachusetts. Nearly 300 RSI and USABO alumni, CEE Trustees, and VIP guests enjoyed memorable panels, speakers and a formal dinner.

The celebration began on Friday, September 11th with a reception for mentors of the RSI program and continued in the evening with a viewing of *Fly Me to the Moon*, the first ever animated 3D movie produced by Summit Entertainment. Ron Hohaus, RSI '85, is the Chief Financial Officer at Summit.

At the Saturday evening dinner, Mr. Michael Jordan, a dedicated CEE Trustee, spoke about how strongly he believes in the Center's mission. He reflected on his early involvement with the Center beginning in 1985, shared stories about Admiral Rickover and RSI, discussed the growth of the "Great American Technology Industry," and acknowledged that the world is indeed changing. Mr. Jordan stated "there is a shift in innovation, and the U.S. must continue to lead in the conceptualization of products and technology." He closed by saying that the next 25 years should be quite interesting and exciting for those in science, technology, engineering and mathematics.

Congratulations to RSI Alumni Named Siebel Scholars: Zhou Fan, RSI'05, Brett Alexander Harrison RSI'05, and Ameya Velingker RSI'05.

The Siebel Scholars Foundation recognizes the top students from the world's leading graduate schools of business, computer science, and bioengineering based on exceptional leadership and academic performance. Of Harvard's five Siebel Scholars, three are 2005 alumni of the Research Science Institute. Zhou, Brett, and Ameya each will receive a \$35,000 award as they complete their final year of graduate studies. ♦

Joann DiGennaro, CEE's President, reflected on how the Center was publicly launched on February 28, 1983, the week of Admiral Rickover's birthday. She emphasized that the Center for Excellence in Education is the only non-profit of its kind to offer programs like RSI and USABO cost free to all students competitively selected. Also highlighted were the champions and donors of CEE - those who have rallied to ensure that excellence be allowed to prosper through the work of the Center.

Joann also proudly shared two wonderful announcements for the Center. She touted that CEE looks forward to jointly sponsoring the USA Biology Olympiad with Purdue University, the new home of the USABO, in 2010. Additionally, she announced that RSI will be inaugurated in India with the Indian Institute of Technology Madras (IITM) and the PSBB Group of Schools in Chennai, also in 2010.

Praise and recognition was given to alumni of both programs. Through the years, CEE's alumni have been awarded top prizes in the Intel Science Talent Search and Siemens Competition in Math, Science and Technology. CEE is proud of its Rhodes and Marshall Scholars, MacArthur Genius Grant Awardees, and Fields Medalists. RSI and USABO alumni assure this nation's competitive position through their vast amounts of talent and contributions to the STEM communities.

CEE bestowed Achievement Medals for Leadership and Commitment to Excellence in Education to three United States Awardees and two International Awardees.

The spotlight shone brightly on CEE, the alumni of RSI and USABO, the CEE Board of Trustees, and distinguished panelists and plenary speakers during this exciting quarter century celebration. Now, the light shines towards the next 25 years. ♦

"Nothing we bestow upon our children in the way of material advantages can compare with the gift of a good education."

Admiral H.G. Rickover
Founder of CEE



Mr. Michael Jordan delivers the heartfelt keynote address of the CEE 25th Anniversary Celebration Ceremony



Rickoids of all ages came together to revel in shared memories of summers at the RSI



Joann DiGennaro details the history of CEE and thanks all supporters who have helped keep the Center thriving for the past 25 years

Stand Up For Science – Stand Up For Your Nation

Presentation of Joann DiGennaro, CEE President, at the Centers 25th Anniversary Celebration

The Center was publicly launched on February 28, 1983, the week of Admiral Rickover's birthday. Presidents Nixon, Ford and Carter had agreed to serve as Honorary members of our Board, and it was the only Board on which the three former Presidents would serve together. President Richard Nixon was responsible for the program at the event. He asked that the media not be told of his help. The evening closed with a piano rolled on stage, Nixon playing *Happy Birthday*, and the Admiral saluted by hundreds of guests. The three U.S. Presidents believed passionately in the necessity of "Standing up for Science."

At the event in Washington, DC, Admiral and I laid out our plans to nurture very talented high school students to optimize their potential through advanced theoretical class lectures, individual research projects under the guidance of university and corporate scientists, and distinguished guest lecturers. J. Hamilton Lambert, then Fairfax County's Executive, became the first Chairman of CEE's Board of Trustees.

Admiral Rickover and I wanted the program to be cost free to students; however, neither Admiral nor I knew anything about fundraising to assure our program could be free. I just assumed that with Admiral's fame he could pick up the phone and, "Bingo," our organization would be endowed. It was Milton Dranow in 1984 who said to us, "That isn't the way money is made." With A.N. Pritzker of the Hyatt Dynasty, Arnold Clejan, and Milton, philanthropists in Los Angeles, minions (groups of ten Jewish philanthropists) donated the first half million dollars to the Center for the Rickover Science Institute, known presently as the Research Science Institute.

The first RSI in 1984 was a terrific experience for 50 students. Admiral and I learned a lot too! To lead that first session, Professor William T. Stuart, anthropologist at the University of Maryland, was chosen as the Director because it was the combination of humanities with science that Admiral and I thought would make the Research Science Institute unique. Three years later, Dr. Stuart's leadership of the RSI was followed by that of Dr. Mark Saul, one of this nation's leading educators. Both are with us at this event.

I can't help smiling as I recall the security guard at Xerox who had to rest for two

weeks after our rather precocious and creative Rickoids completed their six weeks of the Research Science Institute at the facility.

I recall returning from Admiral's speech at the Air Force Academy, the first forum that paid our Foundation to have Admiral speak. I had worked hard to write that speech. As Admiral stood at the podium, he folded up my beautifully crafted opus, and said, "What I really want to say is that this place should be closed down. We don't need an Air Force Academy. We have West Point and the Naval Academy and that's enough." Senator John Warner telephoned me when we returned to the East Coast and said, "Come in to this office as soon as possible," I did. "How did you allow the Admiral to say such things at the Air Force Academy?" I said, "Sir, in 64 years you could not stop the Admiral from saying what he wanted to say. How could I?" With that he laughed. I knew from that moment that my time with Admiral was going to be like a ship in a hurricane.

In 1986 Admiral Rickover passed away. I assumed that funding for the Center would continue. I was wrong. In 1987 we were \$35,000 behind in federal payroll tax. Several Board members said that we should close the Center or make the program fee based. I said no to both suggestions. I met with the Commissioner of the IRS; we paid the taxes; and several Board members loaned money to the Center not knowing if they would be repaid. God bless my family and those Trustees like Michael Jordan, Milton Dranow and Admiral Bob Inman for believing in my leadership.

It was because of the three year commitment of \$150,000 from Michael Jordan's company, at that time PepsiCo, that the Center survived those transition years. Board members, especially Gayle Wilson, former First Lady of California, and the CEE staff never gave up – even when there were no salary increases, and I cut back on staff. All believed in our mission....to nurture young scholars to careers of excellence and leadership in science, technology, engineering and math, and to encourage international cooperation among world leaders.

All "champions" of CEE know that equality of opportunity does not mean equality of results. Excellence must be allowed to prosper. Meritocracy must be praised.

There were others who were at my side through the worst of financial times. I thank David Finkel of Chicago, and Board members Nick Gouletas, Betty Dranow and Mel Chaskin for encouragement, advice and friendship. Hours and hours of work have been given by Mel Chaskin each year to help assure that CEE remains transparent, and that our financial matters are in order. American InvSCO and CBS/Westinghouse partnered to seed our endowment, and Nick Gouletas is presently planning new and exciting fundraising for CEE.

The Center has become a beacon of light in this country, and in the world, for assisting top achieving high school and college students. Our alumni lead those of all other programs combined in top prizes in the Intel Science Competition. Our alumni have won the Siemens competition. And we are proud of our Rhodes and Marshall Fellowships. Two years ago the coveted McArthur Genius Award and Fields Medal, an award comparable to the Nobel for mathematicians under 40 years old, was awarded to our RSI alumnus.

The Center is like the children's story of the little red engine going up the hill. I think I can, and then, I know I can. It is with your tremendous participation, your continued help, and financial gifts to CEE that have made our programs nationally and internationally recognized.

In 2002, CEE inaugurated the USA Biology Olympiad. Again, Professor Bill Stuart was brought in to inaugurate the national competition. In 2009, Team USA set the world record for gold medals for three consecutive years. All students on our U.S. Teams have medaled in the international competition.

All the "Nobodies", the RSI alumni who just show up to help at the Institute, and now the USABO alumni, assist year after year to maintain the standards of excellence that CEE expects. Mark Kantrowitz and Mark Horowitz, RSI Alumni of 1984 and 1987, respectively have left their footprints in every RSI. Since 1986, Maite Ballester, Vice President of Administration, has assiduously strengthened the Rickoid family. The RSI has been jointly sponsored with MIT since 1992.

Why does the Center stand passionately for science and for international cooperation in science and technology?

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With Expectations High, the U.S. Team Delivered the Gold

Expectations had never been higher for the continued success of Team USA at the International Biology Olympiad (IBO), this year in Tsukuba, Japan. In an incredible accomplishment, all four members of the 2008 IBO Team had cleared the Open Exam, Semi Final Exam, and National Finals hurdles to once again earn spots on the 2009 IBO Team. As the four member team garnered four gold medals in 2008, it was expected that they would again bring home four gold medals for the U.S. this year – and they did!

In 2009, the returning Team USA was comprised of Jonathan Gootenberg from Maryland, David Huang from Delaware, Seungsoo Kim from Washington, and Jonathan Liang from Maryland. These exceptional students were selected from the nearly 10,000 students from 41 states who participated in the 2009 USA Biology Olympiad (USABO).

The teams fielded at the IBO by the USABO have all returned home with four gold medals—a remarkable three years in a row. Additionally, every U.S. team

member since 2003 has medaled at the IBO, bringing home a total of 20 gold, 6 silver, and 2 bronze medals.

The Center for Excellence in Education developed and implemented the USABO in 2002 to train future leaders in the biological sciences. The USABO stimulates young scholars' intellectual curiosity and develops their critical thinking skills in biological reasoning.

"We are so proud of our IBO Team," said USABO Academic Coordinator Melissa Kosinski-Collins of Brandeis University as she celebrated the team's success. "The competition was not easy for them. We required these students to put in the work and earn their spots on the 2009 team. Nothing was assumed."

The drive of these students was remarkable, and all four knew they wanted to be on the team traveling to Japan. They went home after the 2008 IBO determined to refine their skills; they spent the school year studying biology



Team USA (from left to right), David Huang (DE), Jonathan Gootenberg (MD), Seungsoo Kim (WA), and Jonathan Liang (MD), make this nation proud at the 2009 International Biology Olympiad!

textbooks and enhancing their practical knowledge.

"What makes this accomplishment so special," elaborated Kosinski-Collins, "was the exceptional way the students responded to the stress of being returning IBO champions. All it takes is one mental error, one temporary distraction, to knock a student out of the gold medal range. To maintain that focus and skill level for two years in a row is tremendous."

The continued success of the U.S. Teams is a testament to CEE's efforts and to the dedicated USABO staff, faculty, and the extraordinary students. ♦

CEE is proud and excited to partner with Purdue University to sponsor the USA Biology Olympiad in 2010!

The National Finals will be held on the campus of the *Boilermakers* for the first time. USABO National Finalists will benefit from the exceptional lab facilities, faculty, and generous support from Purdue.

CEE thanks Purdue University and looks forward to a lasting and successful partnership!



Congratulations to Marianna Mao, RSI '08, Gold Medalist at the 2009 International Physics Olympiad held in Merida, Mexico. Marianna was the sole female on the 2009 U.S. Physics Olympiad Team!

The Research Science Institute Continues Tradition of Scholarship, Leadership, and Excellence in Education

The Center for Excellence in Education held the 26th annual Research Science Institute for six exciting weeks on the campus of the Massachusetts Institute of Technology (MIT).

A total of 41 students from 31 U.S. states and three Department of Defense Education Activity (DODEA) students attended RSI 2009. International students, numbering 25, were from the



Students from Rwanda diligently work on their RSI research projects

nations of Australia, Bulgaria, China, Greece, Israel, Lebanon, Rwanda, Saudi Arabia, Singapore, Sweden, Spain, and Turkey.

The Rickoids were treated to a Distinguished Lecture Series comprised of Nobel Laureates, Prominent Scientists and Researchers, and Corporate Leaders. The 2009 Speakers were:

- Dr. Jeremy Wolfe, Professor of Ophthalmology, Harvard University Medical School
- Dr. Dudley R. Herschbach, Frank B. Baird, Jr., Professor of Science, Nobel Laureate, Harvard University
- Dr. Phillip A. Sharp, Institute Professor, Nobel Laureate, MIT
- Dr. Jennifer Chayes, Managing Director, Microsoft Research New England

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CEE Hosts an Exciting Day of Panel Discussions and Plenary Sessions at the 25th Anniversary Celebration

The panel discussions at CEE's 25th Anniversary Celebration provided insight into topics that were historical, insightful, practical, and important.

Nobel Laureate Reflections:

The *Nobel Laureate Reflections* panel was led in discussion by *Dr. Shamit Kachru, RSI '86, Physics and SLAC Professor at Stanford University and Director of the Stanford Institute for Theoretical Physics*. He introduced Nobel Laureates:

- *Dr. Dudley Herschbach, Frank B. Baird, Jr. Professor of Science at Harvard University; Nobel Laureate, Chemistry*
- *Dr. Wolfgang Ketterle, John D. MacArthur Professor of Physics; Director of the MIT-Harvard Center*

for Ultracold Atoms; Nobel Laureate, Physics

- *Dr. John Mather, Senior Project Scientist on the James Webb Telescope at the NASA Goddard Space Flight Center; Nobel Laureate, Physics; CEE Trustee*
- *Dr. Craig Mello, Professor in the Program in Molecular Medicine at the University of Massachusetts Medical School; Nobel Laureate, Physiology or Medicine*

Each panelist provided information on his background, research (past and present), and spoke about what it means to be a Nobel Laureate. The Nobels collectively agreed that their achievements allow them to further scientific causes, to share their findings with others, and

to encourage others to research, ask questions and find answers/cures to the scientific unknown.

Financing Start-Ups:

Financing Start-Ups was moderated by *Susan Lee Ko, '91 RSI Alumna, Chimney Rock Investments and CEE Trustee*. The panel provided the attendees with industry expertise from:

- *Hillel Bachrach, Managing Partner at 20/20 Healthcare Partners*
- *Paul Davis, Founder and CEO of Intelligent Integration Systems*

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Esteemed "Engineering Challenges in the Development of the Nautilus" panel members (clockwise) Captain Jack W. Crawford, Vice Admiral George W. Emery, Dr. Neil Todreas, and moderator Admiral W. A. Owens USN (Ret.) with Joann DiGennaro



The illustrious "Nobel Laureate Reflections" panel (left to right) Dr. Shamit Kachru, RSI '86, moderator, with Dr. Dudley Herschbach, Dr. Craig Mello, Dr. Wolfgang Ketterle, and Dr. John Mather

From iBOTS to the Silver Screen: Dean Kamen and Richard Edlund Capture Audiences at CEE's 25th Anniversary Celebration

The Center for Excellence in Education's 25th Anniversary featured American inventor and entrepreneur Dean Kamen and visual effects supervisor and cinematographer Richard Edlund.

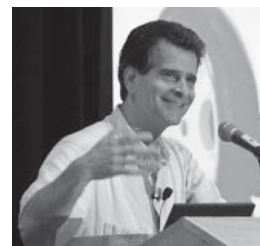
Dean Kamen kicked off the celebration with a discussion about the projects he has championed for the last three decades. The iBOT, Segway, AutoSyringe, the Stent, the Homechoice PD, the Thin Prep Pap Test, and the DEKA prosthetic arm were developed by this engineer, scientist, inventor and entrepreneur. He stated that he always had funding fantasies and has been innovating since high school.

After providing a historical glimpse of his mastermind inventions over the years, he focused on some of his recent projects to include portable energy and water purification for the developing world.

Dean referenced a quote by Albert Einstein, "The difference between stupidity and genius is that genius has its limits." He noted that as a society we have access to knowledge which allows us to master technology. Dean urged the audience to "Inspire the next generation; get involved and then fix the world."

He then steered the conversation toward one of his proudest accomplishments, the founding of FIRST (For Inspiration and Recognition of Science and Technology), an organization dedicated to motivating the next generation to understand, use and enjoy science and technology.

At the conclusion of his presentation, the Center for Excellence in Education honored Dean Kamen with its Leadership and Commitment to Excellence in Education Medal for his advocacy of science and technology, and for his contributions to student academic achievement through FIRST.



Mr. Dean Kamen delivers a captivating discussion about the importance of studying science and technology for the next generation.

Four time Oscar Winning special effects cinematographer Richard Edlund mesmerized the crowd in the afternoon with highlights from some of his most notable works, *Ghost, Raiders of the Lost Ark, Poltergeist, Star Wars, Die Hard* and *Charlie Wilson's War*.

Richard described this phenomenal time in Hollywood with technology as being a "Renaissance Digital Revolution."

"Movies are a medium where you need to achieve a high degree of realism in order to get people to lineup at the box office to experience them." Richard indicated this is exactly what his beloved

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CEE Recognizes Leaders in Education

The Center's Achievement Medal for Leadership and Commitment to Excellence in Education was bestowed by Dr. John Mather, Nobel Laureate and CEE Trustee, to five awardees at the formal dinner presentation on Saturday, September 12th in Cambridge, Massachusetts. CEE awarded medals to the following:

Mr. Milton Dranow and Mrs. Betty Dranow,

President of The Dranow Family Foundation, have played instrumental roles in furthering the Center's educational initiatives. The late Mr. Dranow co-founded California Friends of Admiral Rickover, and became a Charter Trustee of the Admiral H.G. Rickover Foundation – the non-profit known today as the Center for Excellence in Education. Mrs. Betty Dranow sits on the Center for Excellence in Education's Board of Trustees and has hosted events in California for CEE throughout the years.



Mr. Michael Jordan, Former Chairman and CEO of Electronic Data Systems (EDS),

has served as an honored member of the Center's Board of Trustees since 1986 and as its Chairman from 1988 to 1992. His vital financial support and guidance to the Center for Excellence and Education helped to assure that the Center would survive after Admiral Rickover's death, and that the Research Science Institute (RSI) would remain free of cost to all students competitively selected to attend.



Mr. Dean Kamen, President of DEKA Research & Development and founder of FIRST (For Inspiration and Recognition of Science and Technology),

is an inventor and entrepreneur. Dean Kamen's



DEKA Research & Development develops internally generated inventions and provides R&D for major corporate clients. FIRST is a nationally recognized robotics competition for thousands of U.S. high school students.

Dr. Petar Kenderov, President of the Sts. Cyril and Methodius International Foundation in Sofia, Bulgaria

is Professor at the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences where he tirelessly searches for and promotes young students who are highly talented in mathematics and informatics. He also supports the professional development of teachers for gifted and talented students. Dr. Kenderov recently served as President of the World Federation of the National Mathematics Competition (WFNMC).



Dr. Y.G. Parthasarathy, Dean & Director of the PSSB Group of Schools in Chennai, India

is an Indian legend in education, a staunch follower of Vaishnavism, an art connoisseur, and a visionary in progressive practices of schooling. She inaugurated assertive discipline for students and made her schools do away with ranks. Dr. YGP established the PSBB school system to enable students to discover the uniqueness in each of them by integrating creativity into the curriculum. Her trend setting ideas like Math Lab, Language Lab, Creative Science Lab, and Social Science Lab have been adopted by the Indian Central Board of Secondary Education (CBSE).



"CEE has been a leading organization promoting U.S. innovation, competitiveness, and international collaboration among nations for 25 years," said Joann DiGennaro, Center for Excellence in Education President. "I commend the Center's Achievement Medal Awardees for their commitment to excellence in education. It is an exceptional honor for CEE to bestow these medals to such esteemed individuals." ♦

From iBOTS to the Silver Screen: Dean Kamen and Richard Edlund Capture Audiences at CEE's 25th Anniversary Celebration (from page 4)

"ultra nerds" of Hollywood are doing. They know how to use the tools to make the movies super-real. Hence, this new technology is changing the infrastructure and shaking things up.

Richard said that at this point in time Hollywood is creating a new nomenclature of language for digitally captured movies with the new technology that is being incorporated. Digital projection is becoming a bigger and bigger part of

the theater business, and it truly heightens the moving going experience—as well as making quality 3D possible.

The internationally renowned "Industry Giant" said "pre-visualization is very popular right now in the film industry." It is like taking game technology to create sequences which lead to dialogue tracks. Digital armatures are being turned into animate able works. Richard indicated there is an incredible amount of number crunching that takes place so that the virtually impossible can be achieved.

Richard is putting together a deal on his sci-fi property *The Forever War* with director Ridley Scott and is excited that

the film will be made with the phenomenal new techniques of the digital era, and in 3D. He is a loyal friend to the Center, a former CEE Trustee, and has met with alumni of RSI seeking technology careers in the film industry at his Los Angeles studio. ♦



Mr. Richard Edlund dynamically and passionately speaks about today's technological advances in cinematography and his experience in Hollywood.



Dr. Y.G. Parthasarathy and Joann DiGennaro are delighted to inaugurate the Research Science Institute in India.

CEE's World Renowned Research Science Institute in India

The Center for Excellence in Education is proud to announce that the Research Science Institute (RSI) will be inaugurated in India in 2010. CEE is collaborating with the Indian Institute of Technology Madras (IITM) and the PSBB Group of Schools in Chennai to implement a RSI program for top achieving students in India.

Joann DiGennaro, CEE President, is working with high school principals, university administrators, and Dr. Y.G. Parthasarathy, Dean and Director of the PSBB Group of Schools in India, to develop this much needed program for which CEE will provide technical assistance. ♦

Spotlight on CEE Board of Trustees



Dr. Frederick Y. Chen, CEE Trustee, is currently on staff at Brigham and Women's Hospital where he performs approximately 200 cases of adult cardiac surgery per year.

He is Assistant Professor of Surgery at Harvard Medical School where he has responsibility for his NIH-supported laboratory as Director of the Cardiac Surgery Research Laboratory. His particular research interest is the application of engineering techniques to cardiac surgery and cardiovascular physiology with an emphasis on heart failure.

CEE's National Lab Skills Symposium Addresses a Problem Long Ignored in the United States

The Center for Excellence in Education learned through the USA Biology Olympiad (USABO) and the Research Science Institute (RSI), that inadequate lab facilities, insufficient training for teachers, and unsatisfactory lab curricula exist even in our allegedly highest performing schools. The neglect of laboratory skills is even more pronounced in rural and inner city schools. If the top achieving students in the country do not have sufficient laboratory training, we can only surmise that situation is far worse for mainstream students.

To date, the Center has produced and distributed two papers to summarize and integrate information about the status of high school STEM laboratory experiences since the 2005 publication of *America's Lab Report*. The Center's publications were distributed to members of Congress, targeted staffers of Senate and House committees, and stakeholders in STEM throughout the United States.

CEE's goal is to assure the future diverse, talented, and skilled STEM workforce that America requires to remain competitive and innovative. The National Lab Skills Symposium project will greatly impact the state of teachers' laboratory training and student learning in U.S. schools.

CEE assembled three Focus Groups at meetings held at the United Technologies Corporation facility in Washington, DC. Groups were comprised of leading members of academia at the high school and university levels, non-governmental organizations, education advocates,

Dr. Chen was born in Seattle, Washington and attended public secondary school in Athens, Georgia. He was awarded his Bachelor's, Master's, Ph.D., and M.D. degrees from Harvard and the Harvard-MIT Health Sciences Division. He trained in General Surgery at Brigham and Women's Hospital and in Cardiothoracic Surgery at Massachusetts General Hospital.

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governmental agency representatives, corporate leaders, and designees of U.S. Congressional members. With many perspectives voiced, the Center is researching numerous relevant laboratory education programs conducted throughout the country for selecting, refining, and recommending these "best practice" models.

CEE's Symposium participants will define the proposed "best practice" models and prepare them for implementation. At the conclusion of the Symposium, two to four models will be made ready for launch in states which can demonstrate the academic, administrative and collaborative support necessary for their success.

Dr. Jay Labov, Senior Advisor for Education and Communications for the National Research Council's Center for Education, Dr. Doug Hemberger, Senior Vice President of the University of Chicago's National Opinion Research Center, and Dr. David Asai, Director of Precollege and Undergraduate Science Education at Howard Hughes Medical Institute, served as moderators of the focus groups. They effectively guided participants to discuss remedies for the "leaking pipeline" which affects opportunities for all students to succeed in STEM studies.

The Focus Group dialogues have shown the inherent problem to be much larger than initially thought; however, there are solutions in sight. The Center has preliminarily selected states for possible implementation of the laboratory models. CEE also is currently compiling a survey to send to science educators within Virginia to gauge the preparedness, competency, and efficiency of the current science classroom experience in Virginia. The goal is to create and distribute surveys for each state in consideration. The data collected will be utilized to further examine the status of science teachings and student learning in lab settings.

The National Lab Skills Symposium participants will convene in Washington, DC on April 8-9, 2010. For additional information, email Gillian Goldmark at ggoldmark@cee.org. ♦



Congratulations to 2009 Davidson Fellow Nolan Kamitaki, RSI '09, one of 10 Davidson recipients of a \$25,000

scholarship. Davidson Fellows are extraordinary young people under the age of 18 who have completed a significant work in *Mathematics, Science, Literature, Music, Technology, Philosophy or Outside the Box*. David's winning project is entitled, "Programming a Network Approach to Contain the Spread of Epidemic."

RSI Alumni – Where Are They Now?

Many of CEE's Research Science Institute Alumni currently are faculty members at leading colleges and universities. Pretty impressive!

Dr. Eli Olinick, RSI '84, Associate Professor, Department of Engineering Management, Information, and Systems, Bobby B. Lyle School of Engineering, Southern Methodist University

Dr. Archon Fung, RSI '85, Ford Foundation Professor of Democracy and Citizenship, John F. Kennedy School of Government, Harvard University

Dr. Meredith Golomb, RSI '85, Associate Professor, Division of Pediatric Neurology, Department of Neurology, Indiana University School of Medicine

Dr. Dan Lee, RSI '85, Associate Professor, Department of Electrical and Systems Engineering, Department of Bioengineering (Secondary), GRASP (General Robotics, Automation, Sensing, Perception) Lab, School of Engineering and Applied Science, University of Pennsylvania

Dr. Andrew Charman, RSI '86, Lecturer and Researcher, Department of Physics, University of California, Berkeley

Dr. Shamit Kachru, RSI '86, Physics and SLAC Professor at Stanford University and Director of the Stanford Institute for Theoretical Physics

Dr. Michael Mitzenmacher, RSI '86, Professor of Computer Science, Division of Engineering and Applied Sciences, Harvard University

Dr. Eric Rains, RSI '86, Professor, Math Department, California Institute of Technology

Dr. Robert Rhew, RSI '87, Assistant Professor of Physical Geography, Department of Geography, University of California Berkeley

Dr. Leon Hsu, RSI '87, Associate Professor, Department of Postsecondary Teaching and Learning, University of Minnesota

Dr. Sarah Hung Ying, RSI '87, Assistant Professor of Neurology and Ophthalmology, Johns Hopkins University School of Medicine

Dr. Brian Rubineau, RSI '88, Assistant Professor, Organizational Behavior, Cornell University

Dr. Christopher Skinner, RSI '88, Professor, Department of Mathematics, Princeton University

Dr. David Goldhaber-Gordon, RSI '89, Associate Professor of Physics and Deputy Director, Center for Probing the Nanoscale, Stanford University

Professor Scott Hemphill, RSI '89, Associate Professor of Law and Milton Handler Fellow, Columbia Law School

Dr. Lenhard Ng, RSI '89, Assistant Professor, Department of Mathematics, Duke University

Dr. Jason Nielsen, RSI '89, Assistant Professor of Physics, Santa Cruz Institute for Particle Physics, University of California Santa Cruz

Dr. Vishal Nigam, RSI '89, Assistant Professor of Pediatrics (Cardiology), University of California San Diego

Dr. Jed Macosko, RSI '89, Assistant Professor of Physics, Department of Physics, Wake Forest University

Dr. Lauren Ancel Meyers, RSI '90, Associate Professor, Section of Integrative Biology, The University of Texas at Austin

Dr. Emily Brodsky, RSI '90, Associate Professor of Geophysics, Dept of Earth & Planetary Sciences, University of California Santa Cruz

Dr. David Chang, RSI '90, Assistant Professor, Department of Otolaryngology, Head and Neck Surgery, University of Missouri

Dr. Rebecca Christianson, RSI '90, Assistant Professor of Applied Physics, Franklin W. Olin College of Engineering

Dr. Ronald I. Kim, Visiting Professor, School of English, Adam Mickiewicz University

Dr. Jason Kumar, RSI '90, Assistant Professor, Department of Physics, University of Hawaii, Manoa

Dr. Forrest Michael, RSI '90, Assistant Professor of Chemistry, Department of Chemistry, University of Washington

Dr. Joel Moore, RSI '90, Associate Professor, Department of Physics, University of California Berkeley

Dr. Raga Ramachandran, RSI '90, Resident, Departments of Pathology and Laboratory Medicine, University of California, San Francisco

Dr. Laurie Russell, RSI '90, Assistant Professor, Department of Biology, Saint Louis University

Dr. Amy Szczepanski, RSI '90, Lecturer and Service Course Coordinator, Department of Mathematics, University of Tennessee, Knoxville

Dr. Anne Barnhill, RSI '91, Greenwall Fellow in Bioethics and Health Policy at Johns Hopkins University, Georgetown University

Dr. Jeremy Buhler, RSI '91, Associate Professor, Computer Science and Engineering and Genetics, Washington University in St. Louis

Dr. Olgun Guvench, RSI '91, Postdoctoral Fellow, University of Maryland; Assistant Professor, Medicinal Chemistry, University of New England College of Pharmacy

Dr. Remy Indebetouw, RSI '91, Assistant Professor of Astronomy, Department of Astronomy, University of Virginia, and Assistant Staff Scientist, National Radio Astronomy Observatory.

Dr. Peter Khalifah, RSI '91, Assistant Professor, Department of Chemistry, State University of New York at Stony Brook; Joint Appointment: Assistant Chemist, Brookhaven National Laboratory

Dr. Steven Lumetta, RSI '91, Associate Professor of Electrical and Computer Engineering, Affiliate Associate Professor of Computer Science, Research Associate Professor in the Coordinated Science Laboratory, Faculty Fellow at the National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign

Dr. Oliver Rando, RSI '91, Assistant Professor, Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School

Dr. Evan Scannapieco, RSI '91, Assistant Professor, School of Earth and Space Exploration, Arizona State University

Dr. Prasanna (Sonny) Tambe, RSI '91, Assistant Professor, Information, Operations and Management Sciences, Stern School of Business, New York University

Dr. Jeremy Veenstra-VanderWeele, RSI '91, Assistant Professor, Departments of Psychiatry, Pediatrics, and Pharmacology; Director, Treatment Resistant Autism Consultation Clinic, Center for Molecular Neuroscience, Kennedy Center for Research on Human Development, Vanderbilt University

Dr. Moon Duchin, RSI '92, Assistant Professor, Department of Mathematics, University of Michigan

Dr. Sara Goldhaber-Fiebert, RSI '92, Clinical Instructor, Anesthesia, Stanford University School of Medicine and Instructor for Medical Simulation at VA Palo Alto Healthcare System

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Dr. Scott Rifkin, RSI '92, Assistant Professor, Section of Ecology, Behavior and Evolution, Division of Biology, University of California San Diego

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Dr. Jonathan Weinstein, RSI '93, Associate Professor, Managerial Economics and Decision Sciences, Kellogg School of Management, Northwestern University

Dr. Jacinta Conrad, RSI '94, Assistant Professor, Chemical and Biomolecular Engineering, University of Houston (starting January 2010)

Dr. Rhiju Das, RSI '94, Assistant Professor, Biochemistry; Assistant Professor by Courtesy, Physics, Department of Physics, Stanford University

Dr. Samit Dasgupta, RSI '94, Assistant Professor, Department of Mathematics, University of California Santa Cruz

Dr. Lauren Williams, RSI '94, Assistant Professor, Department of Mathematics, University of California Berkeley; Benjamin Peirce Assistant Professor, Department of Mathematics, Harvard University

Dr. Dennis Ugolini, RSI '90 West, Associate Professor, Department of Physics and Astronomy, Trinity University

Dr. David "Jake" Wildstrom, RSI '95, Assistant Professor, Department of Mathematics, University of Louisville

Dr. Matthew S. Cain, RSI '97, Postdoctoral Associate, Center for Cognitive Neuroscience, Duke University

CEE Welcomes Kathy Frame as New Director of USA Biology Olympiad & Special Projects



Ms. Kathy Frame has assumed responsibilities as the Director of the USA Biology Olympiad, and Special Projects, currently working on CEE's National Lab Skills Symposium.

Ms. Frame is former Vice President for Educational Programs at the Biotechnology Institute located in Arlington, VA, where she led the Institute's major efforts to educate the public, especially youth, about the promise and challenge of biotechnology. Publications attributed to her leadership while at the Institute include *Your World* magazine and the *Teacher's Resource Guide* that accompanies Pfizer's traveling museum exhibit *Genome: The Secret of How Life Works*.

Kathy directed the Sanofi-Aventis International *BioGENEius Challenge the National Biotechnology Teacher-Leader Program* and the *Minority and Indigenous Fellows Program*. She served as the Director of Education for the National Association of Biology Teachers (NABT) for more than nine years as a writer and editor for more than a dozen publications.

Ms. Frame successfully wrote and administered several major grants funded by the National Science Foundation, the National Institutes of Health, and other organizations. She edited *Shoestring Biotechnology*, a manual that offers

teachers thoughtful, comprehensive classroom activities that promote hands-on student inquiry biotechnology activities at a low cost. The manual was released in the fall of 2002 and remains an invaluable tool for the Biotechnology Institute's teacher training efforts.

Ms. Frame currently serves as a professional advisory committee member for Interindustry Advisory Committee (IAC) and BiTmaP, an online bioinformatics training program initiated by the Chicago Technology Park (CTP) and conducted through the Bioengineering Program at the University of Illinois at Chicago (UIC). She is the Lead Education Consultant for Papillion Education Services LLC, established in 2007.

Kathy received her Master of Science in Biology from Johns Hopkins University and has 15 years of classroom experience teaching biology, chemistry, and other related sciences at the high school level.

"It is my pleasure to work with such a friendly, thoughtful, and hard-working staff," said Kathy. "Nothing is impossible to or for them. A prime example is CEE's current initiative—Lab Skills in Secondary Education. The state of lab experiences in STEM education today is an issue that is very important to me, personally. CEE is ready to stimulate a national reform in lab skills, and I look forward to being part of this change." ♦

Spotlight on CEE Board of Trustees (from page 6)

Dr. Chen enjoys spending his free time with his wife, Dr. Sherleen Chen, his son, Brandon (age 9), and daughter, Alyssa (age 6). He attended the Research Science Institute in 1986.

Congresswoman Jane Harman is a new Honorary Member of the Center for Excellence in Education's Board of Trustees.



"I look forward to supporting the Center for Excellence in Education's mission and outreach. It is so important to encourage U.S. students to concentrate on science, technology, engineering and mathematics," said Congresswoman Harman. "I am eager to work with my distinguished colleagues and the Center to ensure this country maintains a competitive edge by focusing on education."

Congresswoman Harman was first elected to represent the 36th Congressional District in Los Angeles' South Bay in 1992, and is regarded as an authority on counterterrorism, homeland security and intelligence matters. She is in her eighth term and is Chair of the Homeland Security Subcommittee on Intelligence & Terrorism Risk Assessment. Congresswoman Harman is also a member of the Energy & Commerce Committee, where she sits on the Health and Energy & Environment Subcommittees.

Congresswoman Harman replaces the Honorable Ellen Tauscher, former CEE Trustee, who represented California in the House of Representatives until she assumed responsibility as Undersecretary for Arms Control and International Security, U.S. Department of State. ♦

The Research Science Institute Continues Tradition of Scholarship, Leadership, and Excellence in Education (from page 3)

- Dr. Noam Elkies, Professor, Department of Mathematics, Harvard University
- Dr. Wolfgang Ketterle, John D. MacArthur Professor of Physics, Nobel Laureate, MIT
- Dr. Pardis Sabeti, Assistant Professor of Organismic and Evolutionary Biology, Harvard University
- Dr. Thomas Leighton, Founder and Chief Scientist, Akamai Technologies, Inc.
- Dr. Udayan Mohanty, Professor of Chemistry, Boston College
- Dr. Jonathan Kaplan, Quantitative Analyst, Futures Group, D.E. Shaw & Co.
- Dr. Jagadeesh Pamulapati, Deputy Director for Lab Management, U.S. Army

"RSI is an outstanding program provided by CEE that offers students the opportunity to take part in extraordinary research at MIT. Each year I am continually impressed by the high caliber of students and their genuine excitement for learning," said Amy Szczepanski, RSI On-Site Director. ♦



Rickoids perform exciting laboratory work with their mentor

CEE Hosts an Exciting Day of Panel Discussions and Plenary Sessions at the 25th Anniversary Celebration (from page 4)

- *Juan Enriquez, Managing Director, Excel Venture Management; CEE Trustee*
- *Dr. Tom Leighton, Chief Scientist, Akamai Technologies, Inc.; CEE Trustee*

The panelists provided an overview of their experience in not only investing in, but also in starting companies. Sound direction was provided by each of them, including information on how to develop a business plan, obtain advice from others in the industry, ensure there is a demand for intellectual property, and commercialize the actual concept.

Also they provided insight in what not to do when starting a company—assuming you can do it all. Each urged that those thinking about starting a company should realize what it is they do best and to hire others with expertise in administration, fundraising, human resources, etc. All concurred that those starting a business must make sure there are benefits to the investor and concrete deliverables.



The engaging "Financing Start-Ups" panel members Mr. Paul Davis and Mr. Hillel Bachrach (not pictured: Dr. Tom Leighton, Mr. Juan Enriquez, and moderator Ms. Susan Lee Ko, RSI '91)

Future of Medicine and Medical Research

Dr. James Benecke Otolaryngologist, Clinical Professor, Otolaryngology – Head & Neck Surgery at St. Louis University School of Medicine, and CEE Trustee, facilitated a discussion

about practicing medicine in the future.

Panelists included:

- *Dr. Frederick Chen '86 RSI, Director of Cardiac Surgery at Brigham and Women's Hospital; CEE Trustee*
- *Dr. Aimee Crago RSI '90, Fellow in Surgical Oncology at Memorial Sloan Kettering Cancer Center*
- *Dr. Jason Koh RSI '85, Assistant Professor and Orthopedic Surgeon at Northwestern Memorial Hospital*
- *Dr. Jamie Wells RSI '91, Pediatrician, Private Practice*

The discussion began with a forward look at what qualities physicians need to succeed over the next ten years. Each panelist conveyed that one of the most important skills for a physician is effective communication skills. They all indicated that it is inherent to listen and understand a patient's problems, concerns and needs. Doctors also must have good bedside manner with an overwhelming passion to be a doctor. Doctors need to have a keen understanding of business skills, especially for those entering into private practice.

The discussion also touched on health-care issues this country is facing. All of the panelists stated that patients must be treated with respect, and doctors should be allowed to practice medicine without worrying about bureaucracy.

Engineering Challenges in the Development of the Nautilus

The historical discussion was commanded by *Admiral W. A. Owens USN (Ret.), Managing Director, AEA Investors LP and CEE Trustee*. The esteemed panel, all of whom worked under Admiral Rickover, consisted of:

- *Captain Jack W. Crawford, USN (Ret.) Midway Veteran, USS Yorktown (CV-5)*



The exciting "Future of Medicine and Medical Research" panel (from left to right): Dr. James Benecke, CEE Trustee and moderator, Dr. Jamie Wells, Dr. Aimee Crago, Dr. Jason Koh, and Dr. Frederick Chen

- *Vice Admiral George W. Emery, General Chair of the Annual Submarine Technology Symposium jointly sponsored with Johns Hopkins University Applied Physics Laboratory and the Naval Submarine League*
- *Dr. Neil Todreas, KEPCO Professor and Professor Emeritus of Nuclear Science and Engineering, and Mechanical Engineering at MIT*

The discussion paid homage to Admiral H.G. Rickover and his genius in building the first nuclear submarine. The panelists, including Admiral Owens, provided insight into the engineering of the Nautilus, especially the technical achievements to include no leakage of radioactive material.

The core philosophy that drove Admiral Rickover and his crew was "let's do it right." This philosophy was combined with getting the best people who were committed to adhering to core engineering principles.

The "Father of the Nuclear Navy" would have been especially pleased since the United States Navy has a continuing record of zero reactor accidents as a result of his engineering legacy. ♦

• • • **ALERT!** • • •

Applications are now available at www.cee.org for the Research Science Institute and the USA Biology Olympiad. The Center's nationally and internationally recognized programs remain cost-free to all students competitively selected to attend.

Stand Up For Science – Stand Up For Your Nation (from page 2)

Why are you urged to stand up for science, technology, engineering and math (STEM)?

Few scientists or technologists have defining input to legislation and the promulgation of regulations affecting STEM policy. I have often lamented that the writers of science legislation on Capitol Hill are usually those

with not a fig of science in their backgrounds. Each of you with ability in science must speak out about signature issues such as climate change, stem cell research, energy, cyber security, and defense. You can write letters, make telephone calls, run for elective office, serve your community, and help to educate our elementary, secondary, and university students. Admiral Rickover used to say, "You can't go to heaven if you die dumb." Heaven must be short on guests these days!

A common interest in science serves to unite nations, not divide them. Science can bind nations in a common core of universality.

Samuel P. Huntington in *The Clash of Civilizations and the Remaking of World Order* said that the responsibilities of leaders of all nations is not to attempt to reshape other civilizations in the peculiar image of each nation, but to preserve, protect and renew the unique qualities of each civilization. Science can help to do just that.

People in all civilizations have attempted to expand the values, institutions, and practices they have in common with people of other civilizations. CEE has striven to encourage future global leaders to cooperate in science and technology when possible.

The Research Science Institute stands for a joining, a confluence of young great minds, with potential to change the world. CEE was the first U.S. organization approved by the Ministry of Foreign Affairs in China to send its students. The nations of the Balkans and Baltics were first represented in our U.S. program after the fall of the Iron Curtain. Bulgaria has a special relationship with CEE.

In the early 80s, with the foresight and assistance of Mrs. Y.G. Parthasarathy, India approved its high school students to attend a U.S. summer programs, the same for Vietnam, Lebanon, Saudi Arabia and Rwanda. CEE's reputation for encouraging international cooperation among future leaders of the world in science and technology led to the inauguration of the RSI in China with Fudan University in 2006. RSI will be inaugurated in India in summer 2010.

In the six years since the USA Biology Olympiad was inaugurated, it has grown to nearly 10,000 students who annually compete from across the United States. The exciting competition for students of exceptional ability in biology studies has been masterfully executed by this nation's university professors. CEE looks forward to jointly sponsoring the USABO with Purdue University on its campus in 2010.

CEE has been in the forefront for sponsoring enrichment programs for top achieving students of the world. How better to break down barriers than by the mutual understanding of science and technology.

Nations should tie educational policy with economic development and national security. It is up to you to make sure that science, technology, engineering and math will increasingly be utilized to draw nations closer. Let's promote the use of science to promote the eternal flame of peace in the world. However, let us also assure this nation's competitive position is assured with its talented students.

CEE is your organization. It is up to you to assure its future.

Here's to the next 25 years! ♦

CEE's Program Alumni Recruited by Corporate Donors

The Center for Excellence in Education successfully hosted its third annual Recruitment Reception for alumni of the Research Science Institute and USA Biology Olympiad. The highly anticipated event was held in November in Cambridge, MA. Companies in attendance were **Akamai Technologies, Inc., Booz Allen Hamilton, International Game Technology, Life Technologies, Inc., Oracle Corporation, and United Technologies Corporation.**

CEE's corporate donors are invited to participate in the annual Recruitment Receptions and to post summer internship and full time employment opportunities to the Research Science Institute Alumni Association Web site.

For more information to recruit CEE's program alumni, please contact Gillian Goldmark at ggoldmark@cee.org. ♦

CEE in your Charitable Giving

The charitable bequest is one of the most flexible ways to make a major gift to the Center for Excellence in Education. Charitable bequests are easy to make. You enjoy full use of your property during life. And there is no disruption of your lifestyle, no immediate cost to you.

With a charitable bequest, you simply direct that part of your estate go to one or more of your favorite charities. However, without a will in place, no money or property can go to the charities you wish to help, despite your best intentions.

A charitable bequest can take many forms: you can designate a certain dollar amount, or a certain percentage

of the value of your estate; or that the residue (what is left of value in your estate after all administrative costs and other bequests have been made) goes to the Center for Excellence in Education. You also can designate exactly how you want your bequest to be used (to fund a particular endowment or program) or you can leave your gift unrestricted so we have the flexibility to meet our changing needs.

It is important to know that you remain in charge of the planning process. You can amend your will by codicil or prepare an entirely new will, giving you the flexibility to meet changing needs and remain a firm supporter of the Center for Excellence in Education. ♦

To Make A Gift From Your IRA:

1. Contact your IRA custodian immediately. Many plans require 2-3 weeks to make distributions.
2. Tell your IRA custodian to make a gift to the Center for Excellence in Education (CEE), tax identification number 52-1256563, before December 31, 2009.
3. Save taxes by taking an IRA "rollover" gift instead of declaring your withdrawal as income on your 2009 income tax return.

Matching Gifts double your contributions to the Center! Please visit www.cee.org to donate online. Ask your employer if your annual contribution is matched by your company. For more details, contact Jackie Ortiz at jortiz@cee.org

CEE is a member of the United Way (# 2474). Our CFC number is 11002. Please consider the Center when making your next contribution.

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The Center for Excellence in Education (CEE) nurtures careers of excellence and leadership in science, technology, engineering, and math for academically talented high school and college students and encourages collaborations between and among leaders in the global community. Founded in 1983 by the late Admiral H.G. Rickover and Joann DiGennaro, President of the Center for Excellence in Education, the Center's programs help keep the United States competitive in science and technology. CEE challenges young scholars and assists them on a long-term basis to become the creators, inventors, scientists and leaders of the 21st century.

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To date, CEE has received funds from the U.S. Department of State, the U.S. Agency for International Development, the National Science Foundation, the United States Information Agency, the National Endowment for the Humanities, the National Security Agency, the Bureau of Indian Affairs, the Department of Agriculture, the Department of Energy, and the Department of Defense. Private individuals and corporations, however, provide most of CEE's funding. ♦

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