Lifting the Burden of Brain Disorders

Byron Spice

Understanding how the brain works is one of the toughest puzzles left to solve. And it can’t happen soon enough. Consider these facts:

If you’re lucky enough to reach age 85, you have a 50 percent chance of developing Alzheimer’s disease. Sixteen million Americans per year are known to suffer major depression. One in 68 U.S. children annually are diagnosed with an autism spectrum disorder.

That’s just some of the human cost of not understanding how the brain works. The economic costs are also staggering. Addiction, alcoholism, mental illnesses, Alzheimer’s and Parkinson’s cost the U.S. $1.1 trillion annually. The global price tag? Five trillion dollars.

To help stem the epidemic, Carnegie Mellon has launched BrainHub, a global research initiative that will bring together CMU’s strengths in computer science, neuroscience, psychology and engineering.

The initiative aims to help develop a better understanding of the brain’s structure and function — why we do the things we do — and to create new tools to accelerate discovery and reduce the burden of brain disorders.

“This is the right time, and this is the right place,” Tom Insel, director of the National Institute of Mental Health, said during his keynote address at the program launch. “I think we’ve found that sweet spot — it doesn’t happen all that often — between the world of academics and the world of public policy, and hopefully the world of financing.”

CMU’s BrainHub partners include Sun Yat-sen University in Guangzhou, China; the Indian Institute of Science in Bangalore; Oxford University and the University of Warwick in the U.K.; and the University of Pittsburgh.

As part of the launch event, CMU faculty members Alison Barth, Marlene Behrmann and Tom Mitchell participated in a panel discussion.

Mitchell, the E. Fredkin University Professor and head of the Machine Learning Department who has conducted research on how the brain processes language, said brain science is data-starved.

Class of 2018: Women Set New Benchmark in Computer Science

Byron Spice

While the number of women majoring in computer science at Carnegie Mellon has long exceeded national averages, this year’s incoming class has set a new benchmark for the university’s School of Computer Science (SCS).

About 41 percent, 56 of the 138 incoming SCS undergraduates, are women, surpassing the previous high-water mark of nearly 40 percent 14 years ago.

Incoming first-year student Rachel Gu brings with her a fascination with artificial intelligence that grew from watching Japanese anime series and reading manga, which are Japanese comics.

“I chose CMU after taking the pre-college program last summer because I loved not only the computer science program but also the faculty and current students,” Gu said. “The CMU students quickly offered to help me whenever I struggled, and the staff and teacher’s assistants were eager to answer questions and help solve technical issues.”

“Making” Connections

Hunt Library Takes Leap Toward Modern Learning Commons

Kelly Saavedra

Hunt Library has been a collaborative learning hub since it was built in 1961. This year, new design studios and lab spaces are taking that collaborative experience to the next level, as Hunt becomes host to the university’s Integrative Design, Arts and Technology program (iDeATe).

The library has reconfigured its main floor and lower level to support students and faculty working together across disciplines in iDeATe’s “maker” experiences that combine arts and technology through 30 new studio-based courses.

The program builds on decades of CMU’s success in the arts and technology to facilitate collaborative learning experiences for students from any background.

PHOTO BY KEN ANDREYO

PHOTO BY NEIL RICHMOND

PHOTO BY ERIK KIM

PHOTO BY STEPHANIE BIRD
Effort in Efficiency

Workday To Streamline HR, Benefits and Payroll Processes

The days of completing green paper time sheets, manually keeping track of your PTO and remembering yet another password to view your pay stub are gladly coming to an end.

Workday, a web-based, human resources (HR), benefits and payroll management system that provides employees and managers with the information they need, is in the final stages of its campus-wide rollout. Workday deployment is set for late December 2014, with the first payroll to be run in Workday in January 2015.

Workday will bring payroll in-house and consolidate several manual spreadsheets and information and processing systems — some of which were created and developed at Carnegie Mellon more than 20 years ago. The systems are the HR Information System (HRIS), the HR Employee Module (HREM), HR Connection, the Talent Management System (TMS), the Payroll Roster System (PRS) and ADP for Payroll. Green time sheets and Excel spreadsheets for PTO requests and tracking of faculty appointment, promotion and tenure also will be replaced by Workday.

“Software generally does not age gracefully. What may have begun as an elegant design when the system was first conceived 25 years ago, today limits what you can realistically accomplish,” says CMU Chief Information Officer Steve Huth on the Workday website. “When it became clear that the current systems could not keep up with the changing needs of the university, we explored new options. Workday will provide us a HR/Payroll system agile enough to support the needs of a 21st century university.”

Workday, which has been adopted by many state governments, businesses and universities, including Brown, Cornell, Chicago, Georgetown, Miami, Rochester, USC and Yale, will provide faculty, staff and student workers with a more efficient way to navigate the HR benefits and payroll aspects of their life at CMU.

Employees will be able to record their work hours, view their pay slips, review and update their payroll information, make changes to their health benefits and request PTO.

Supervisors will receive notification of the time entry approval and PTO request via email from Workday and will be able to approve or deny the request from their desktop, laptop or mobile device. Managers will have access to the data for the people they supervise, such as general employee data, contact information, work history, position history and PTO data.

Workday also will enable managers and administrators to more accurately track faculty appointments, promotions and tenure dates, something Sharon McCarl is anxiously anticipating.

“Currently we spend a great deal of time entering appointments year after year. This will be greatly reduced in Workday and that will allow people to focus on other things,” said McCarl, associate dean for Financial Affairs in the Mellon College of Science and a member of the Workday Campus Team, Steering Committee and Executive Sponsors Group.

“Carnegie Mellon has entered the global community and our employees don’t all work in Pittsburgh. We need a system that allows us to serve all of our employees. The new functionality for faculty appointments will allow us to use one system to track faculty.”

Like Huth, Cheryl Wehrer, associate director of Finance and Administration in the Robotics Institute who has been a member of the CMUWorks Campus Team and Steering Committee, says Workday will bring Carnegie Mellon’s HR systems into the 21st century.

“Moving from our current HRIS to Workday is analogous to going from a 1970s rotary phone to the latest smartphone in one fell swoop.” — CHeryl weiter

Using Workday, employees will be able to record their work hours, view their pay slips, make changes to their health benefits and request PTO.

Center will be a one-stop shop where CMU employees can get answers to their inquiries related to HR benefits and payroll transactions. The CMUWorks Service Center, which consists of about 20 employees, will debut in late December.

McCarl, who has learned how to use the Workday system, thinks people will get the hang of it.

“Parts of Workday are very intuitive but others are a bit tricky. Some people will say that it is complicated. [But] we do ‘complicated’ every day and just as we had to learn to use Oracle, we will learn to use this system,” McCarl said.

Wehrer also has tested the system and has conducted Workday demonstrations for users.

“Workday is very easy and intuitive. If you can read Gmail or use a Web browser such as Amazon, the experience is similar. Employees will easily figure out many parts of Workday on their own,” Wehrer said.

More Information

Visit the Workday website at www.cmu.edu/hr/cmu-works/.

You can subscribe to the Workday monthly newsletter by emailing cmu-works@andrew.cmu.edu and using “subscribe” in the subject line.

To view the latest newsletter, visit www.cmu.edu/hr/cmu-works/communications/newsletters.html.
Global Stage

CMU’s Big Data Experts in Spotlight at World Economic Forum

Michael Yeomans

In a world deluged with data and increasingly sophisticated methods for collecting and analyzing it, scientists are focused on how they can use all of this information to improve our lives.

Four Carnegie Mellon faculty members will provide their perspectives on this topic during a session titled “Data Science in Action” at the World Economic Forum’s Annual Meeting of the New Champions 2014 — also known as Summer Davos — Sept. 10-12 in Tianjin, China.

Manuela Veloso, the Herbert A. Simon University Professor of Computer Science, will discuss the future of autonomous robots. She will show how these robots not only use their own sensors to collect data from their environment but also can collaborate with other robots to share and process massive amounts of data in real-time, allowing them to make decisions and take action. Veloso also will be featured in a panel titled “Discover! Robot Revolution,” moderated by NPR’s science correspondent Joe Palca.

Marlene Behrmann, director of Carnegie Mellon’s Cognitive Neurosciences Lab, will discuss how analyzing brain signal pathways in individuals with autism can help identify markers that accurately predict the onset of the condition and allow for early behavioral intervention.

Marsha Lovett, director of Carnegie Mellon’s Eberly Center for Teaching Excellence, will explain how collecting data from students using online learning software can help scientists customize each learner’s experience, which results in more effective and efficient learning.

James H. Garrett Jr., dean of the College of Engineering, will examine how sensors can be used to collect data from infrastructure, such as water and sewer pipes, buildings and bridges, in order to locate trouble spots before they break down, which could save trillions of dollars in repair costs.

President Subra Suresh will introduce the session.

Forum Leadership

Suresh, who is one of nine “programme mentors” for Summer Davos and the only university president serving in that capacity, will be featured in a session titled “Optimizing Education through Technology.”

Last November, Carnegie Mellon launched the Simon Initiative, harnessing the university’s leadership in learning science to improve learning outcomes for both CMU students and learners around the world.

Adding further to Carnegie Mellon’s leadership in this area is Justine Cassell, Simon Initiative co-coordinator and as-sociate vice provost of technology strategy and impact. Cassell serves as head of the forum’s Global Agenda Council on Robotics and Smart Devices at Summer Davos. She will moderate a session titled “How Are Emerging Technologies Augmenting the Human Experience.”

40 Under 40

Each year, the forum selects 40 scientists under the age of 40 to participate as Young Scientists alongside the business and political leaders.

These scientists are selected from all regions of the world and from a range of disciplines to provide perspectives on the most up-to-date trends in scientific research.

Three of the scientists chosen this year are Carnegie Mellon faculty who were selected following nominations by the university’s Marketing and Media Relations (MMR) team, in collaboration with the deans. The CMU scientists are:

- Inês Azevedo, associate professor, Engineering and Public Policy; co-director, Center for Climate and Energy Decision Making;
- Jessica Hammer, assistant professor, Human-Computer Interaction Institute and Entertainment Technology Center; and
- Chris Harrison, assistant professor of Human-Computer Interaction.

Hammer will be a panelist during a session called “Future Learning: Better, Faster, Smarter.” The session will explore how as machines get smarter, education and learning can become smarter, too.

Harrison will present in a session titled “Tomorrow’s Consumer Tech.”

CMU and the Forum

The World Economic Forum’s membership includes the top 1,000 companies from around the world that drive the global economy and collaborate on shaping global, regional and industry agendas.

Carnegie Mellon’s relationship with the forum began in 2010, when MMR initiated a datayong visit between faculty from across the university and a forum representative. Shortly after, Carnegie Mellon was invited to join the forum’s Global University Leaders Forum, a group of 25 elite global universities, only 11 of which are in the U.S. Since then, 15 faculty members from six schools and colleges — plus the Entertainment Technology Center — have presented at forum meetings.

CMU Forges International Partnerships

This past summer Carnegie Mellon established research and education partnerships with two international universities, the University of Warwick in the United Kingdom and the Indian Institute of Science in Bangalore. Both institutions recently joined CMU’s BrainHub initiative (see Lifting the Burden of Brain Disorders on page one).

CMU-Warwick

This $10 million collaboration brings together CMU’s expertise in robotics, cybersecurity, design, machine learning and computational health applications and sensors with Warwick’s strengths in manufacturing, digital health care, energy storage and materials and surfaces. President Suresh signed the partnership agreement in July when he was at Warwick to receive an honorary doctor of science degree.

CMU-Indian Institute of Science

Global technology leader and Infosys co-founder Senapathy “Kris” Gopalakrishnan donated $1.8 million to establish this partnership between CMU and the Centre for Brain Research (CBR) at the Indian Institute of Science.

The partnership will foster interactions between CBR and CMU researchers in the areas of brain research and education and in closely related areas such as data sciences and engineering, human behavior and computation.

The gift will support post-doctoral fellowships and seed funding for research.

Kris Gopalakrishnan (top right), co-founder of Infosys, and Theodosios N. Arvanitis, professor and head of research at the Institute of Digital Healthcare, WMG, at the University of Warwick, participated in the launch of BrainHub.
Meet Miss Pennsylvania

Amanda Smith has stage presence. That and her jaw-dropping singing voice — qualities she’s learned and nurtured at Carnegie Mellon’s School of Drama the past two years — helped the junior musical theatre major win the Miss Pennsylvania crown for 2014.

Smith, who sang an amazing rendition of the Phantom of the Opera’s “Music of the Night” in the state pageant, will be competing for the title of Miss America on Sunday, Sept. 14 in Atlantic City. The competition will be broadcast live at 9 p.m. EDT on ABC.

Amid her busy schedule, the Piper recently caught up with Smith to talk about her role as Miss Pennsylvania and her fitness and nutrition platform.

Q: What’s it like to wear the crown?
A: It truly has been an amazing experience. It’s a lot of personal appearances, community service work, paperwork and training. It keeps me busy, but I love every second.

Q: Has your CMU education helped you compete?
A: Oh, absolutely. As a musical theatre major, I take acting, voice lessons and dance — ballet, jazz and tap — every semester. I also have taken classes in speech, movement, Alexander technique and foundations of drama. The talent portion of the pageant is 35 percent of your score, and CMU’s School of Drama definitely contributes not only to my confidence and technique onstage, but how I carry myself in social situations as well.

Q: How do you deal with the time crunch?
A: I will be taking a year of absence from CMU; however, the faculty and staff have been incredibly supportive as I embark on this journey dedicated to scholarship, community service and personal growth. And I can’t thank them enough for that.

Q: When people think of pageants, the movie “Miss Congeniality” comes to mind. Can you separate fact from fiction?
A: (laughs) … Taking the truth and stretching it always makes for a good comedy. I’m sure there are pageants out there that are about beauty and “world peace,” but I feel proud to be part of an organization that really prides itself on intelligent, talented, beautiful, caring, authentic and forward-moving women.

Q: What platform are you promoting?
A: Fitness and Nutrition: The Key to Healthy Living. I took on this platform to make people aware of how fitness and nutrition are directly related to cancer and other diseases. Recently, I’ve started an initiative to educate families and individuals about affordable ways to maintain a healthy lifestyle, since cost is a key issue for Americans today.

Q: How are you preparing to compete for the Miss America title?
A: I’ve been keeping updated on current events, working with my personal trainer for that swimsuit body, working on interview skills and expanding my personal platform.

Q: What has been the most rewarding part of this experience?
A: The most rewarding part for me is meeting the people who are so grateful for Miss Pennsylvania coming to support an event or cause.

Q: What are your plans post-graduation?
A: I love serving, and I love promoting the benefits of fitness and nutrition to help others. And with the connections I’m making, I can certainly continue to do that without a crown on my head. I also hope to pursue a career onstage in New York City or in film and television in Los Angeles.

“Newsies” Star Returns for Family Visit

Corey Cott (A’12), who right after graduation landed the lead in “Newsies,” one of Broadway’s biggest hits, returned to campus in late August to visit family — his brother, Casey, and the CMU faculty.

Casey, who is beginning his junior year in the School of Drama, said he was happy to have his big brother there to see his performance in “Parade” at the New Hazlett Theater in Pittsburgh.

“We’ve always been two brothers, and now we’re just two actors comparing notes,” Casey said. “He’s pretty direct with me when it comes to criticism and advice, and I appreciate that.”

Corey said family is the most important thing to him and no role would ever change that.

“This could all go away, and you still have your family. That’s what matters,” Corey said.

CMU also has been family to Corey, who took the time to talk to students in Professor Don Wadsworth’s “Business of Acting” class.

“Carnegie Mellon is the heart and soul of my training. The faculty became like family to me and my classmates. Every single one of them brings something different to the table and they find a way to make it all work together for the students’ benefit,” Cott said.

“Throughout his four years in the CMU conservatory, Corey’s only desire was to grow as an artist and to serve the industry he loved so much,” Wadsworth said. “It was never hard to believe that he would do well early in his career.”
Renowned Conductors Raise the Baton in This Season’s Repertoire

Dana Casto

Cue the music.

Carnegie Mellon’s Philharmonic will take their seats at 7:30 p.m., Sunday, Sept. 14, at Carnegie Music Hall in Oakland to kick off the School of Music’s 2014-2015 orchestra season.

Concert-goers will be treated to formidable favorites as well as hallmarks of American composers when Maestro Andrés Cárdenes, director of orchestral studies at CMU, raises his baton for the first of these special evenings that run now through April.

The season features internationally recognized guest conductors Manfred Honeck, David Effron and Barry Douglas. Highlights include:

- **7:30 p.m., Sunday, Sept. 14.** This concert features last year’s concerto competition winner Joshua Barca on Sibelius’ “Violin Concerto in D Minor, Op. 47.”
- **7:30 p.m., Sunday, Oct. 12.** Internationally renowned conductor and pianist Barry Douglas performs Beethoven’s “Piano Concerto No. 2 in B-Flat Major, Op. 19.”
- **Annual Holiday Concert, 8 p.m., Thursday, Dec. 4.** Carnegie Mellon’s Philharmonic and Choirs perform a wide variety of festive hits.
- **8 p.m., Thursday, Feb. 19.** Manfred Honeck of the Pittsburgh Symphony Orchestra conducts the Philharmonic and Choirs on Mozart’s “Requiem Mass, K. 626” and Dvořák’s “Symphony No. 9 in E Minor, ‘From the New World.’”
- **Student Composers’ Concert, 8 p.m., Wednesday, March 4.** This concert features original works composed for orchestra by Carnegie Mellon School of Music students. Directed by Daniel Nesta Curtis and guest conductor Gay Victor Bordo.
- **8 p.m., Wednesday, April 22.** Maestro Cárdenes conducts the season’s final concert, which features Barber’s “Symphony in One Movement” and Beethoven’s Symphony No. 3 in E-Flat Major, “Eroica.”

This year’s main stage productions directed by students, faculty member and opera singer Jennifer Ayliner singing “Quel guardo, il cavaliere” from Donizetti’s “Don Pasquale,” “L’amor, saro costante’ from Mozart’s “Il re pastore” and “Vorrei spiegavari il giubilo’ from Rossini’s “La cambiale di matrimonio.”

View the complete season schedule at http://music.cmu.edu.

Showtime

Drama Season Includes August Wilson’s “Seven Guitars” and “The Wiz”

Piper Staff

The School of Drama has a tough act to follow as its centennial year comes to a close, but Peter Cooke is betting on this year’s cast members and faculty directors to deliver.

“After a wildly successful centennial year, the School of Drama’s 2014-15 season promises to be just as exciting and varied in subject matter, scope, style and presentational ingenuity,” said Cooke, head of the Drama School.

This year’s main stage productions in the Philip Chosky Theater are “Seven Guitars” by Pittsburgh native August Wilson; “Trojan Women: A Love Story” by Charles L. Mee; “The Wiz” by William Brown; and “Three Sisters” by Anton Chekhov.

Assistant Professor of Acting Cameron Knight will direct “Seven Guitars,” a story about the African-American male’s fight for identity and self-worth in Pittsburgh’s Hill District.

Jed Allen Harris, associate teaching professor in the John Wells Directing Program, will direct “Trojan Women,” unveiling the tragic beauty of provincial life through love, laughter and loss.

In addition to the four featured presentations, the school also is presenting “Bliss,” a Soviet satire by Mikhail Bulgakov, and “Wolves,” a deconstruction of Little Red Riding Hood by Steve Yockey.

This year’s Director Series, productions directed by students, includes Sam Shepard’s “Foot for Love,” “Steubenville,” which centers around the 2012 rape case in the Ohio town, “MilkMilkLemonade” and “The Maids.”

Purchase tickets by calling the box office at 412-268-2407 or visiting www.drama.cmu.edu.
They’ve gone above and beyond the call, outshined the others. And their efforts haven’t gone unnoticed.

Twenty-four Carnegie Mellon staff members and six teams have been nominated this year by their co-workers for a well-deserved Andy Award, a special honor that recognizes superior performance and commitment to the university community.

Awards are given in six categories: Commitment to Students, Community Contributions, Culture, Dedication, Innovation and University Citizenship.

The Andy Awards ceremony takes place at noon, Sept. 30 in McConomy Auditorium. A light reception in Rangos Hall will follow the ceremony. The campus community is invited to attend.

And the nominees are:

**Commitment to Students**
- Alexa C. Hansen, Tepper School Advancement
- Erika Ninos, Institute for Complex Engineered Systems
- Ruben Jaffry, O’Connor (HNZ’05), Tepper School of Business
- Carol Young, Dietrich College Information Systems
- The Information Networking Institute Enrollment Services Office Team (From left to right): Jamie Lehneke (HNZ’09) and Jessica Becker

**Culture**
- Lori Smith (S’85, DC’92), Enrollment Services
- Diane Stigle, Machine Learning
- Sally Cunningham, Software Engineering Institute
- Michael S. Danko, Naval Science
- Joe Rudman (DC’74,’83), Physics
- Guy Winn, Enrollment Services

**University Citizenship**
- Chris Hayes Nolan (S’85), Computing Services
- G. Ronald Ripper, Civil and Environmental Engineering
- The Leonard Gelfand Center for Service Learning & Outreach Drivers Team (From left to right): Leon “Pete” Smith and William Taylor
- Tresha Wade (HNZ’14), Tepper School of Business

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*ANDY AWARDS*

“My heart is in the work.”
Women Set New Benchmark in Computer Science

Continued from page one

A project for incoming student Maitreyee Joshi’s local science fair in high school piqued her interest in the field. Joshi’s idea involved analyzing DNA mutations in cancer patients and she amazed herself — as well as the judges — with the computer program she created using just a laptop and the potential of that program to impact people’s lives.

“Computer science has the potential to create amazingly diverse applications that can impact every area of our lives,” Joshi said. “I would really like to use my computer science education from CMU to build assistive technologies that improve how the disabled live and interact with the world.”

According to the most recent Taulbee Survey compiled by the Computer Research Association, just 14 percent of bachelor’s degrees in computer science in 2012-13 nationwide were conferred on women. That compares to 22 percent that academic year at Carnegie Mellon, consistent with the percentage of women — 21 percent — who entered the program in 2008.

The last time that a class of first-year computer science majors came close to including 40 percent women was in 2000 during the first dot-com boom, after CMU had expanded its admissions criteria and launched an outreach program to high schools to encourage more female applicants. But that increase was short-lived, in part because the dot-com bust caused all applications to computer science programs to drop nationwide.

Lenore Blum, professor of computer science who joined the faculty in 1999, launched the Women@SCS program, instilling a new SCS philosophy based on providing women with the same opportunities for professional advancement as men, rather than catering to supposed differences in the interests of men and women.

“We need the same things that men exhibit similar spectra of interests, working to the advantage of everybody,” Blum added. “We see that women and men exhibit similar spectra of interests, ranging from coding to designing computer systems to developing applications of computer science.”

SCS has developed this inclusive culture while maintaining rigorous admission standards for all students.

One reason for the increase in women enrollees may relate to the increased popularity of computer science — a discipline in high demand by employers and that is now inextricable with most fields including science, economics, engineering and the arts.

“I think the message for undergraduates coming in is clear, that SCS and CMU value diversity,” said Tom Cortina, assistant dean for undergraduate education.

“Students and teachers now understand that if I’m interested in any subject today, say I want to be a biologist, I need to understand something about computing,” he added.

CMU received nearly 6,200 applicants for its undergraduate computer science program — a record number.

The School of Computer Science, now celebrating its 25th year, once again has received the highest possible score in U.S. News & World Report’s ranking of Ph.D. programs in computer science.
Edna Jackson Moves to Qatar as Director of Dean's Office

Happy Returns

After 26 years of working in the Carnegie Mellon Provost's Office, Edna Jackson has decided to pack it up and see the world. Her first stop... Doha.

Jackson, who has been a mainstay on the sixth floor of Warner Hall for more than two decades, and her husband, Bob, have moved to Carnegie Mellon Qatar, where she has assumed the new position of director of the Office of the Dean for Ilker Baybars. Bob will be doing "a little bit of everything," she said.

For Jackson, this trip — a three-year stint — is her fifth time to CMU-Q. She and Bob were there for four months as part of the initial set-up team 10 years ago. They both returned for the inaugural year celebration and the 10-year anniversary gala this past spring. Jackson also has been back for the CMU-Q building opening ceremony and the first graduation there.

From their first visit, Jackson said Qatar has always been a "special place."

"It really changed our view of the world. It made me realize that parents there are the same as parents here. They ask the same questions. They want the best for their kids and they want us to look after them. We found a close group of friends there and we found a church to be involved in.

"People had this distorted view of this part of the world after 9-11 that we found to be unfounded," Jackson said.

Jackson's son, Andy, said his parents' affinity for Qatar is evident.

"Every time they came back, there was a sparkle in their eye and a jump in their step. They were living a dream over there," he said.

Jackson feels pride, a sense of family and hope when she talks about CMU-Q.

"CMU came up out of the sand there. It really is Carnegie Mellon there. The kids work just as hard. What we are here is what Doha is as well. I've told Mark [Kamlet] that the thing he should be most proud of is the Qatar campus," she said.

"I believe education changes the world, and I think that's our only hope for peace in the Middle East. Qatar is like the Switzerland of the region. The universities are there to encourage and advance the mindset of peacefulness and collaboration. Maybe we can share that thoughtfulness, peacefulness and diplomacy with others," she said.

Carnegie Mellon has been family to the Jacksons. Their two sons, Ryan (DC’01) and Andy (DC’03), are CMU graduates. Ryan is director of Financial Systems for the Financial Systems team, and Andy is a major gift officer in University Advancement. Daughter Libby, a teacher in California, worked at the Cyert Center for Early Childhood Education during her summer breaks in college and before she earned her full-time teaching certification.

"As little boys Ryan and Andy came to the first football game at Gesling Stadium. We’ve been a CMU family. CMU has been good to us. It’s our home," Jackson said.

Jackson’s role in the Provost’s Office, under Angel Jordan (1983-1990), Paul Christiano (1991-2000) and Mark Kamlet (2000-2014), has included many aspects, from learning how to type a bit in Spanish for Provost Jordan to serving on search committees and tenure review committees with influential faculty members. She’s also helped plan many special events.

"She has deep admiration for her Provost's Office story," Baybars said.

"Angel [Jordan] was a great person to work for, he was very protective of me, and Paul [Christiano] and I had a very special relationship," she recalled.

“They were both engineers, and Mark [Kamlet] was my first chance at a social scientist. We quickly became fast and furious friends. I’ve loved them all for different reasons.

“Mark is an amazing man and very thoughtful. His door was always open. He always had time to give you the backstory,” Jackson said.

At a celebration in early August, Jordan and Kamlet thanked Jackson for her outstanding contributions.

Jordan noted her ability to work with many different people and personalities and her ability to keep calm during controversial times. He praised her for her patience, confidence, loyalty and stability.

Kamlet said Jackson was “extraordinarily important” to him from the day he walked into the office in July 2000.

“She has immense common sense, a very good sense of humor, is wise and experienced, and has seen and handled pretty much every situation one can imagine,” said Kamlet, who stepped down as provost this past summer after 14 years.

“She treats everyone with respect and dignity and has the patience of a saint. She has a keen understanding and appreciation of the culture of Carnegie Mellon and has contributed profoundly to that culture. But, perhaps more than anything else is how much she cares for the individuals she works for and all those that she works with,” Kamlet said.

Over the years Jackson has worked with four presidents; 19 vice presidents; 37 deans; 53 vice provosts, associate provosts and associate vice presidents; 127 department heads; and has served on 1,820 reappointment, promotion and tenure review committees. “Edna was invaluable in every one of those activities,” Kamlet said.

Jackson said her new assignment should be an easy transition. "I’ve known Iker for a very long time. Every provost I’ve worked for has had a great relationship with Iker, so in my mind this is a perfect fit," she said.

Dean Baybars agrees.

“Edna is the most experienced high-ranking administrative assistant/office manager at CMU. She is knowledgeable, skilled, competent and hard working with a very pleasant demeanor. She is a veteran, who is intimately familiar with the academic components of CMU, and she would serve any dean in Pittsburgh extremely well. I am lucky that she was ready for a change and she decided to join us,” Baybars said.

And what about traveling and seeing the world?

"You can’t be in that part of the world and not take advantage of the opportunity,” Jackson said.

Lifting the Burden of Brain Disorders

He said new algorithms are needed that can combine results from diverse brain studies to create databases large enough to begin to answer fundamental questions about something as complex as the brain.

Behrmann, the George A. and Helen Dunham Cowan Professor of Cognitive Neuroscience and co-director of the Center for the Neural Basis of Cognition, said new high-resolution imaging technology is needed to allow scientists to study the brain of an infant and continue as it gradually develops. She also called for non-invasive mobile imaging technology to allow subjects to be studied in normal, everyday circumstances.

Barth, professor of biological sciences, predicted that in the future biology would help scientists to identify and map every cell, every synapse and every connection in the brain, giving researchers more fundamental information to build upon.

Insel said the brain is — without question — the topic of the decade. He noted that the future of the National Institutes of Health's BRAIN initiative (Brain Research through Advancing Innovative Neurotechnologies) relies on bringing together the physical sciences, engineering, psychology, computer science and mathematical sciences with neuroscience.

Moving forward, CMU BrainHub will focus on several key areas of research: designing new tools to measure and connect brain function and behavior; creating tools to build brain-related data sets as well as tools to integrate and analyze those large-scale data sets; and developing new methods for treating neurological disorders and training the brain to improve its performance.

Over the next five years, the research will be supported by private, public and internal commitments totaling about $75 million.
Campus Engagement Day
Connecting Top Employers With CMU Community

Abby Simmons

Carnegie Mellon is a destination for top talent. We know it. Employers know it. But fielding a constant stream of requests by recruiters for one-on-one meetings with faculty and student groups can be challenging.

The Career and Professional Development Center (CPDC) sets aside one day at the start of each academic year to bring all the key players — faculty, academic advisors, student organizations and CPDC staff — together with employers who want to meet them.

Now in its third year, Campus Engagement Day has earned the CPDC the National Association of Colleges and Employers’ Chevron Award for innovation.

This year’s Campus Engagement Day is set for Monday, Sept. 15, which coincides with many of the university’s fall career fairs.

“Our goal is to bring employers to campus and have them come away knowing what makes CMU unique,” said Wesley Thorne, the CPDC’s associate director for employer relations.

Thorne and his team also designed the event to help employers learn how to navigate the university’s decentralized structure and increase their brand presence on campus through hackathons, project courses and research.

“Last year’s program brought together more than 100 individuals from 43 organizations with more than 70 CMU faculty and staff representing 41 departments. In addition, 54 leaders from 27 student organizations participated,” Thorne said.

Campus Engagement Day begins with short introductions to each college and school, followed by in-depth roundtable discussions with academic departments. This year’s afternoon “knowl-edge sessions” will cover best practices for hiring international students, building an employer brand on campus, new graduate programs and peer-to-peer tips for campus recruitment. The day concludes with a student organization fair that connects recruiters with student leaders to discuss mentoring, sponsorships and employment opportunities.

Karen Stump, teaching professor and director of undergraduate studies and laboratories in the Department of Chemistry, said Campus Engagement Day gives her a chance to learn about recruiters’ hiring priorities. She also participates to raise awareness of the skills Mellon College of Science students possess among employers who otherwise might not consider them as potential hires.

“MCS students pursue careers in a wide variety of industries upon graduation. This is largely because of their broad-based and well-developed skill sets in foundational areas such as problem-solving; written, oral and visual communication; computational and quantitative reasoning; and the ability to function with a high degree of independence as well as in teams,” Stump said.

Michael Trick, senior associate dean for faculty and research at the Tepper School of Business, highlighted the strengths of his school’s graduates at last year’s event and explored partnerships for project courses.

“I gave Tepper faculty and staff a chance to talk informally with a number of employers to find out what they are looking for, allowing us to improve the curriculum and programs we offer,” Trick said.

Thorne accepted the Chevron Award on behalf of the CPDC and gave a presentation on Campus Engagement Day at the NACE National Conference in San Antonio, Texas, in June. The program will be featured in the September edition of the NACE Journal.

“To my knowledge, there is nothing like this,” Thorne said. “I’ve seen other career centers offer smaller best practices sessions for on-campus recruiting, but our program is about how to fully engage our campus and take advantage of all of our resources here.

“One of the reasons why I love working at Carnegie Mellon is that we are asked to think outside of the box about our work — we’re encouraged to take risks, to innovate and to think of ourselves as entrepreneurs. It is my belief that this mindset and the unique collaborative environment at CMU is what makes a program like Campus Engagement Day possible.”

Increasing Demand, Expanding Capacity

Over the past three years:

• Job postings on TartanTRAK increased 53 percent
• CPDC’s outreach and engagement with employers increased 155 percent

In August, the CPDC moved its career consulting and campus employment operations to the second floor of West Wing — now known as the CPDC Advising Center. This will allow the CPDC to expand its capacity for on-campus recruiting in its existing location on the ground floor of the Cohon University Center, which has been renamed the CPDC Interview Center. Students will be able to reserve the University Center spaces for organizational meetings or group study in the evenings through the 25Live reservation system.

Making Connections

discipline. These types of working experiences will help prepare the students to meet the growing demand for professionals in the creative industries, such as social media, game design and responsive environments.

“The placement of the IDEAtE facility in Hunt Library is part of an overall plan for the evolution of the library into a 21st century, mediated learning commons,” said Thanasis Rikakis, CMU’s provost for design, arts and technology.

“A key aspect of integrative design is bringing together diverse teams to solve complex problems, and no university is better positioned than Carnegie Mellon to address the demand for professionals in this area.”

Visitors to the library will notice two large design studios have been constructed on the main floor that now serve as IDEAtE’s primary classrooms. Glass partitions provide a glimpse into the goings-on without distracting those nearby who are seeking quieter study. When not in use for classes, the studios are open to the public.

Downstairs on the lower level are the less publicly accessible — and soundproofed — fabrication, multimedia and physical computing labs.

The digital and standard fabrication labs are equipped for 3-D printing in plastic; laser-cutting in wood, plastic, motherboard and cardboard; and computer numerical controlled (CNC) routing in wood, plastic and foam.

In the media lab, students can experiment with multimedia and performance. In the physical computing lab, they can explore interactive digital media, programmable electronics and robotics.

“The idea is not just to teach a student how to, for example, use a 3-D printer, but to teach students who have different backgrounds and skill sets how to talk to each other,” said IDEAtE Project Manager Ben Peoples (A’02).

Keith Webster, dean of university libraries, wants to assure the community that those involved are not engaged in dismantling the function of the library in its traditional sense, but rather adding to it.

“We’re responding to the needs of a new generation of students who are using libraries in different ways in high school and want to continue to do that when they arrive at the university,” Webster said.

Webster noted that libraries across the country are creating maker spaces like this to reflect the way in which libraries are available to support digital media in all its forms.

“It’s a tremendous opportunity for Hunt Library to serve as a connector between faculty, students, technology and knowledge,” Webster said.
As a competitive figure skater from the age of 6, Rebecca Gilbert was used to pushing herself through pain. But the body has its limits, and Gilbert’s right knee let her know that loud and clear in college during her senior year.

On what should have been a typical day for her — classes sandwiched between time on the ice — her knee totally gave out from chronic pain that had been plaguing her for months. It didn’t matter that Disney awaited her arrival in Florida where she was to join the “Beauty and the Beast” European Tour; this was Gilbert’s final bow, and the show hadn’t even started.

“They tried to get me into shape before the show hadn’t even started. Tour; this was Gilbert’s final bow, and the “Beauty and the Beast” European arrival in Florida where she was to join the “Beauty and the Beast” European tour, this was Gilbert’s final bow, and the show hadn’t even started.

The experimental group reported an 80 percent reduction in their osteoarthritic knee pain,” she said.

What did she have to lose by eating plants for a few weeks?

“I was desperate. These people had knee pain, and then they didn’t. And that was all I needed to know,” Gilbert said.

Starting with beans and rice as a staple, she figured out the rest as she went along. Her pain subsided in the first couple of weeks, and within five weeks of the start of her vegan diet, the pain was completely gone.

“Stepping out onto the ice for the first time in six years felt amazing,” said Gilbert, who still tears up when she remembers the moment.

“It’s not just about the loss. We all have something in our lives that gives us so much joy. When we’re doing it, time stops. We smile. We’re fulfilled. For me, skating was that. No one can skate for six hours a day who doesn’t love it. And I felt so sad. I just missed it. And I was just so, so grateful to be able to do it again.”

Gilbert works for Carnegie Mellon as a fundraiser. In her free time, she promotes the benefits of a vegan diet and shows people how easy it is to switch to plant-based eating. She speaks regularly at vegetarian festivals and has given talks in New York and Paris.

Gilbert has a substantial following on Facebook (https://www.facebook.com/yummyplants) and Twitter (https://twitter.com/yummyplants), and her newly published beginner’s guide to becoming vegan, “It’s Easy to Start Eating Vegan! Yummy Plants 101,” offers practical tips, including:

• Easy egg and dairy substitutions;
• Ideas for stocking your vegan pantry;
• Plant-based protein sources;
• Sample meal plans and tasty, easy-to-make basic recipes; and
• Tips for navigating social situations.

“Living a life of service is important to me,” Gilbert said. “Whether it’s through the work I do to raise financial support for CMU’s amazing students, faculty and programs, or through my personal work to teach people about the health benefits of a vegan diet, I want to use my talents to make this world a better place.”

**S’mores Pudding**

Prep time = 5 minutes, Cook time = 2 minutes, Servings = 2

A quick dessert that’s elegant for company.

Note: If you can’t find vegan marshmallows in your area, you can buy Sweet and Sara through her website (http://sweetandsara.com/) or Dandies vegan marshmallows online through Amazon.

2 medium frozen bananas
3 tablespoons cocoa powder
4 tablespoons unsweetened non-dairy milk
⅓ cup mini vegan marshmallows
3 graham crackers
Sliced almonds for topping

1. Add frozen bananas to blender. Pulse and slowly add milk. Minimal processing is best.
2. Add cocoa powder, graham crackers and 1/2 cup of marshmallows. Continue to pulse until mixture has the desired consistency, chunky or smooth.
3. Transfer mixture into serving dish and top with sliced almonds and mini-marshmallows. Chill for 1 hour before serving.

**No Chicken Salad**

Prep time = 5 minutes, Cook time = 3 minutes, Servings = 4

No Chicken Salad makes an excellent portable meal. It’s a delicious filling for pita pockets and lunch box sandwiches. It also works well as a salad topping.

1-½ cups diced celery
1-½ cups chopped apple
1 cup vegan mayonnaise
Pinch of salt
⅛ teaspoon pepper
2 tablespoons lemon juice
3 cups cooked vegan chicken, chopped (Beyond Meat, lightly seasoned)

Chopped parsley for garnish

1. In a large bowl, toss chicken with diced celery, apples and mayonnaise. Mix well.
2. Add lemon juice, salt and pepper to taste. Garnish with parsley.
3. Make pita sandwiches or plate individually on a bed of mixed greens with tomatoes.
Among Carnegie Mellon’s greatest assets are its alumni, students, faculty and staff who vigorously pursue excellence. Their dedication has helped to bring Carnegie Mellon farther faster than any other university in its first 100 years.

Carnegie Mellon’s Alumni Association will honor 18 of these outstanding individuals during Cèilidh Weekend at a special ceremony beginning at 5:30 p.m., Oct. 10. The Alumni Awards recognize achievements in the arts, humanities, science, technology and business as well as service and commitment to the university.

Cèilidh Weekend kicks off at 11 a.m., Oct. 9 with a groundbreaking celebration for the Jared L. Cohn University Center addition and an all-campus barbecue at 11:30 a.m.

For the full weekend schedule and to register, visit cmu.edu/ceilidh.

**2014 Alumni Award Honorees**

**Alumni Distinguished Achievement**

John M. Cohn (E’91), a pioneer in the area of design automation for high-speed custom analog and digital circuits, holds more than 60 patents, shares his passion for science on social media and the reality show, “The Colony,” and is currently focusing on IBM’s “smarter planet” agenda.

**Alumni Distinguished Service**

F. Robert Dax (E’72, ’77) and Kathy Sabec Dax (A’75), two of CMU’s most involved volunteers, coordinate class reunions, remain actively involved with their Greek organizations, Sigma Alpha Epsilon and Delta Gamma, and volunteer and participate in campus events each year.

Joseph F. Di Mario (E’54, TPR’60) has been a dedicated CMU volunteer for over 20 years through class reunion planning, as a member of eight committees of the Alumni Association Board and as a member of the Civil and Environmental Engineering Advisory Council.

Gregory P. Polansky (S’74, TPR’76), former president of the Andrew Carnegie Society, is a long-time, enthusiastic CMU volunteer whose service has included class reunion planning and who has been a member of the Annual Giving Committee, Alumni Association Board, Tepper Pittsburgh alumni network and Board of Trustees.

**Alumni Achievement**

Renee L. Stout (A’80), one of CMU’s most prominent alumni artists, has been recognized through prestigious awards, grants and residencies, and is showcased in permanent collections of the nation’s major art museums, private collections and the Afrika Museum, Berg en Dal, Netherlands.

W. James Tetlow (A’77), an internationally renowned lighting designer, has received two Monitor Awards and an Emmy for his work on “Sesame Street,” and has worked on corporate videos, live theatrical productions and exhibit lighting designs.

Jeff C. Kunins (DC’95), who spent the last 20 years in software with a focus on mobile, social media and communications, has enjoyed career milestones at Microsoft, Tellme Networks, Skype and is currently vice president of Kindle Cross Platform with Amazon.

**Alumni Service**

Rachel E. Keeler (TPR’94) serves as the Pittsburgh Alumni Network’s chief volunteer recruiter, chair of the Sponsorship Committee and as a member of the Events Committee, coordinating the network’s signature event each year — the Highland Games.

Jon R. Kinol (TPR’92), a member of the Tepper School Board of Advisors and the Master in Computational Finance Advisory Board, is a star volunteer who has hosted Tepper events and established relationships with his employers for graduate and intern recruitment in the financial services industry.

Jongwoo Kwak (TPR’87), president of the Korean Alumni Network, is a dedicated alumnus who continues to attend events in support of the network and the CMU community in Korea.

Samuel A. Swift (CMU’04, TPR’09, ’12), co-founder of the CMU Buggy Alumni Association, helped implement a timing system for the races and assisted students in finding sponsorships for Sweepstakes, broadcasting equipment and race day guides.

Suzanne Rothfield Steven (TPR’93), founder of the alumni network in Denver, has served the university as a member of the Carnegie Mellon Admissions Council and as a member of class reunion planning committees and the Alumni Association Board.

**Recent Alumni**

Bowei Gai (E’06, ’07) is a young alumnus who co-created the app Snapture, which improved the early iPhone camera and photo storage, and co-founded CardMunch, a startup purchased by LinkedIn that converts and stores business card information in your phone.

Linda M. Kaplan (E’07), a bridge designer for Gannett Fleming and recipient of the Civil and Environmental Engineering (CEE) Recent Alumni Award in 2012, has served as an adviser to the CMU student chapter of the American Society of Civil Engineers (ASCE) and as a member of the CEE Alumni Advisory Council.

Dawn R. Weleski (A’10), co-director of Conflict Kitchen, is widely known for her “street performances,” which have been featured on NPR, and for her professional work in galleries and museums around the world.

**Faculty Service**

Allan H. Meltzer, an expert on economic affairs who has taught at the Tepper School since 1957, has supported alumni and their programs as a faculty speaker for VIP dinners, reunion weekends and alumni events around the world.

**Student Service**

Michelle Lin (DC’14) is a Loyal Scot and Highland Ambassador who has participated in the Student Cèilidh Weekend Committee, the American Marketing Association, the Certified Horsemanship Association, Bhangra in the Burgh and the Undergraduate Marketing Organization in the Tepper School of Business.

Christine M. Sidoti (E’14) has served as an Orientation volunteer, a Greek Peer Mentor, and as a member of the Panhelenic Conference Executive Board, the Society of Women Engineers, Student Cèilidh Weekend Committee, Kappa Kappa Gamma and Rho Lambda.