GRADUATE EDUCATION at IOWA
First row, from left:
• The Graduate College launches a graduate career mentoring network.
• In fall 2016, the UI campus will celebrate flood recovery with the opening of the new Voxman Music Building, Visual Arts Building, and Hancher Auditorium.
• Graduate College alumni reside in all 99 Iowa counties, 50 states, and 127 countries worldwide.
• Kawther Ahmed, doctoral student in pharmacy, wins the 2016 Three Minute Thesis competition. She presented her research on Engineered Cancer Vaccines.

Second row, from left:
• Graduate students earn top honors with nationally competitive awards.
• Kayleen Schreiber explains Synesthesia using an animated video she produced for her brain blog: kayleeneschreiber.wix.com/brain-blog.
• UI Alumna named CEO of Shedd Aquarium.
• The Graduate College expands professional development services for graduate students.

Third row, from left:
• The Summer Research Opportunities Program celebrates 30 successful years.
• Nicholas Borcherding wins distinguished thesis award from the Midwest Association of Graduate Schools.
• Loreen Herwaldt honored by the UI Postdoctoral Association with outstanding mentor award.
• The Graduate College collaborates with the Office of the Vice President for Research & Economic Development and the Graduate Student Senate to host the second annual Three Minute Thesis competition.
This year marks the 30th anniversary of the Summer Research Opportunities Program (SROP). SROP was established to increase the number of underrepresented students who pursue graduate study and research careers. SROP helps prepare undergraduates for graduate study through intensive research experiences with faculty mentors and enrichment activities. Since the program's inception, Iowa has hosted nearly 800 students with the majority going on to enroll in graduate or professional school, ranking us among the best of our peer institutions who host SROP students.

As we celebrate the successes of this past year, we also look forward to the exciting events on the horizon. This fall, our campus will celebrate flood recovery with the opening of our stunning new music building, visual arts building, and Hancher Auditorium. I am especially excited to welcome David Skorton, former UI president and current secretary of the Smithsonian, back to campus as part of Hancher Auditorium’s opening season.

I invite you to stay connected as we kick off another exciting year this fall. In addition to events here on campus, we’ve launched a number of virtual opportunities to stay connected through our mentoring network, our online news page, videos, and social media.

I sincerely appreciate your commitment to graduate education. I look forward to continued partnership as we work to advance graduate education at Iowa. We welcome your involvement.

John Keller
Associate Provost and Dean
Opening doors to graduate careers
Graduate College expands professional development services

Graduate students become the next generation of educators, researchers, leaders of non-profit organizations, and creative thinkers—building the highly skilled workforce needed to solve the complex local, national, and global problems of the 21st century. The Graduate College is committed to preparing students for future success in a wide range of careers.

Professional development resources
The Graduate College Office of Graduate Development and Postdoctoral Affairs advises on career options, job search strategies, professional social media use, and academic and non-academic job application materials. Last year, the office provided career resources and workshops to over 1,500 students and postdocs.

Professional competencies
The Graduate College and campus partners recently identified eight key competency areas to help students navigate skill building and career preparation throughout graduate school: communication, research, diversity, fellowships, teaching, leadership, careers, and wellness.

Organizing opportunities thematically around intended outcomes and skills allows students to identify resources according to their own professional development needs. These eight competencies highlight the breadth of the professional development opportunities offered by the Graduate College and available across campus—regardless of discipline.

These competencies are available on a new website that gives graduate students a centralized location to learn about upcoming events, programs, campus resources, and skill-centric classes.

Students benefit from alumni connections
Graduate students learn about career opportunities through networking with alumni. Careers Outside the Academy, an annual conference now in its third year, features panelists from a wide range of disciplines—medical advising, publishing, industry and government research, student services, and other sectors. This event helps students explore career options and connect their current work to future professional goals.

The mentor network, a directory of alumni and Careers Outside the Academy panelists, offers students the chance to connect with professionals by e-mail, LinkedIn, phone, and/or in-person meetings.

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The Graduate College has also launched an online series, Open Doors, to complement in-person networking. The live question-and-answer sessions feature professionals working across career sectors. Discussions are recorded and archived for future student viewing.

“Open Doors is a really unique space. Students can tune in from home and chat with an industry professional, a grant writer at the Field Museum or a tech writer in Silicon Valley—all professionals with Ph.D’s,” says Jennifer Teitle, assistant dean for graduate development and postdoctoral affairs.

With these initiatives the Graduate College will continue to grow professional development services—helping prepare graduate students for a wide variety of career opportunities.

Calling all alumni!

Join the career mentor network
Graduate school is an ideal time for students to learn about careers and build a professional network. The Graduate College is working to provide connections for students at all stages of the career planning process.

We are seeking mentors willing to share their journey from graduate school to professional life through a graduate career mentoring network and Open Doors web interview series.

Interested in becoming a mentor?
Commitments range from answering email inquiries to conversation over coffee. Our students are appreciative of the time, energy, and expertise alumni provide. View the list of current mentors at: careersoutsideacademy.com/mentor-network

To learn more about getting involved with the graduate career network, email: joseph-cannella@uiowa.edu.
UI alumna named CEO of Shedd Aquarium

Coughlin brings people together around common goal

Bridget Coughlin has two passions in her professional career—science and people. Thanks to her graduate education at the University of Iowa, Coughlin has combined these passions in a dream job.

Coughlin was recently named the fourth president of Shedd Aquarium. Coughlin previously served as vice president of strategic partnerships and programs and adjunct curator at the Denver Museum of Nature and Science. She assumed her new role on April 11.

“The University of Iowa and the Carver College of Medicine afforded me the opportunity to think outside of the traditional academic path,” says Coughlin, who earned a Ph.D. in biochemistry in 1999. “I had the degree and the scaffolding to explore alternative careers. These were two ingredients in the recipe that got me to the Shedd Aquarium.”

**The art of science communication**
Working in Professor John Donelson’s lab at the UI, Coughlin learned that collaboration among scientists was key. She routinely shared ideas with her colleagues while conducting experiments and attending journal clubs.

“The University of Iowa has a long tradition of students presenting to fellow students and blurring the line between scientific disciplines. Communicating your passion and your research to others is really the nucleus of communicating science,” Coughlin says. “It’s a natural bridge to take that tradition of communicating with your lab and other departments to the public arena. In my career, I have had the privilege to partner and learn from a whole fleet of educators, other scientists, writers, and marketing and PR professionals.

“Not going at it alone is part of the culture that the University of Iowa instilled in me.”

**Shedd Aquarium’s new leader**
Coughlin, a native of Douglas County, Colo., comes to Shedd Aquarium skilled in bringing people together around a common goal.

At the Denver Museum of Nature and Science, Coughlin oversaw fundraising and membership activities as well as a collection of innovative and engaging education programs. In 2009, she led the creation of the museum’s health exhibit, a recipient of the Association of Science-Technology Center’s 2010 Leading Edge Award for Visitor Experience. She also established the National Institute of Health-funded Genetics of Taste Lab, a community-based laboratory that gives museum guests opportunities to participate in ongoing scientific research.

Ted Beattie, Coughlin’s predecessor at Shedd Aquarium, retired after 22 years on the job. Coughlin isn’t thinking two decades down the road. She’s looking to inspire her team to do great things in the near term.

“I may have gotten a Ph.D. in biochemistry, but I really have a doctorate in the art of leveraging human capital,” Coughlin says.

**The love of science**
Coughlin pursued a non-academic career as a way to share her passion for science. Seventeen years after earning a Ph.D. at the UI, science continues to fuel her soul.

“Science takes on many flavors. It might be science communication, science education, informal education, patent law, but not necessarily bench research,” Coughlin says. “Bench research is an essential avenue for you to become an expert and help contribute to field, but there are multiple avenues from there. All you’re doing (in a non-academic career) is exploring a different spoke in the wheel. Science is still in the center of the wheel.”

Coughlin still has her white lab coat hanging on her office door. She even wears it once in a while to present a curator lecture.

“Science is literally in my DNA. It’s one of my happy places,” Coughlin says.
Could you explain complex research in three minutes? The Graduate College hosted the University of Iowa’s second annual Three Minute Thesis (3MT) competition challenging UI graduate students to do just that.

Worldwide competition
Developed in 2008 by the University of Queensland, Australia, 3MT offers a forum for graduate students to share their dissertation research with a general audience in an oral presentation lasting three minutes at most.

The competition has since grown to include more than 125 universities worldwide, including 45 in the United States. The winner of the UI competition advanced to a regional competition hosted by the Midwestern Association of Graduate Schools.

Professional development
The 3MT competition at Iowa is part of the Graduate College’s career and professional development efforts. The ability to clearly and concisely articulate complex research to public audiences is a vital skill for scholars pursuing academic and non-academic careers.

Winners are determined by a panel of judges using the official 3MT competition rubrics. Judges are invited from the University of Iowa faculty and staff, Graduate Student Senate, and local community.

Kawther Ahmed, Pharmacy

Engineered Cancer Vaccine - 1st place and People’s Choice winner

Kawther Ahmed earned her Ph.D. in pharmacy in 2016. Her research focuses on drug delivery for cancer immunotherapy and cancer vaccines.

“I am planning to pursue a career in teaching, so being able to communicate hard concepts in simple language understood by a wide range of audiences is a good skill to have. The Three Minute Thesis competition helped me refine such a skill. Winning the competition added to my self-confidence. Additionally, I got so many emails from faculty and staff members in the College of Pharmacy, including the dean, congratulating me on the win. It made me believe that this achievement is not just personal but a recognition of the strong graduate program we have in the College of Pharmacy.”

Shiyi Wang, Molecular Physiology and Biophysics, Preventing Suicide by Understanding Brain Disorders - 2nd place

Shiyi Wang is a doctoral student in molecular physiology and biophysics. Her Ph.D. study focuses on the functions of Ca2+ channels in the brain.

“Participating in the 3MT competition reminds me why I love my field. It also enhances my second-language presenting skills and my confidence. I realized the importance of framing my research to a lay audience. The experience and skills I gained in the 3MT will serve me at any stage of my career.”

Katherine Peter, Civil and Environmental Engineering, Enabled Drinking Water Treatment Technologies - 3rd place

Katherine Peter is a third-year Ph.D. student in environmental engineering. Her research focuses on the development of nanomaterial-enabled technologies for drinking water treatment.

“The 3MT competition really challenged me to think about how to make my research accessible to the general public, and was a welcome chance to take a step back from the nitty-gritty of daily lab work and remember the bigger picture. I thought it was fantastic that the majority (if not all) of the finalists were in STEM fields because we often get a bad rap for our communication abilities. I really enjoyed the chance to learn about the work of other graduate researchers on campus in a less technical format.”

You be the judge

To view the full list of finalists and competition videos, visit: grad.uiowa.edu/three-minute-thesis-competition-at-the-university-of-iowa
Science communication in the digital age
UI students learn new ways to communicate science

In a world awash with data, scientists must carefully target their audiences to effectively convey the impact of their research.

Kayleen Schreiber, a Ph.D. candidate in neuroscience, studies speech perception—how the human brain makes sense of speech sounds we hear and what processes allow for that to happen.

Schreiber shares her research publicly through her blog. She created the blog in a new interdisciplinary graduate-level course titled Science Communication in the Digital Age, offered for the first time this spring at the University of Iowa.

“I want to show people that science is a very challenging, creative discovery process that helps us understand more about the world around us,” Schreiber says on her blog. “I want to show people that science plays a critical role in our society.”

Science Communication in the Digital Age
Funded by a grant from the National Institutes of Health, Science Communication in the Digital Age is administered by the Graduate College. With lecturers from the Departments of Rhetoric and Journalism and Mass Communication, this course aims to teach a diverse set of communication skills necessary for both academic and non-academic careers.

The new course helps students develop skills for communicating with lay and scientific audiences. Students receive training in audio-video production and basic website design. They learn how to develop a professional on-line presence that promotes deeper understanding of science and connects research with solutions to problems facing society.

“Graduate students often need to learn skills in conjunction with learning content,” says Jennifer Teitle, assistant dean for graduate development and postdoctoral affairs at the UI. “Just because you learn deep content does not mean you know how to communicate it to a variety of audiences. How do we teach that?”

Schreiber feels that the course is very relevant to her current work.

“The course gave me the opportunity to try new things, teach myself new skills, and gain experience in the areas I want,” Schreiber says. “I especially appreciate that the course is designed to help me meet my own specific goals. We each decided on our own projects that we would complete based on what we wanted to get out of the course.”

Maria Noterman, a second-year student in neuroscience, found the course material insightful and helpful. Noterman’s class project involved building the blog MNotes, where she discusses juggling graduate school, health, and horses (mnotesblog.wordpress.com).

“This course has also helped me to talk about my research with family and friends who are non-scientists without causing their eyes to glaze over,” says Noterman, whose research focuses on Cav1.2, the predominant calcium channel in the brain.

Science Communication, more than a course
The goal of communicating science is to provide all the information the listener needs to understand a story. For the general public, it is most important to answer the “why this matters” question.

Dan Eberl, professor of biology and faculty in genetics, is one of the principal investigators of this project. He wants students in the course to expand their professional opportunities outside traditional academic roles.

To make themselves more marketable as scientists, graduate students have to learn how to communicate their research to a general audience without diluting the essence of their research.

“There are expanding opportunities for our graduates outside the academy. Within the academy, there are new non-traditional tenure-track positions,” Eberl says. “We feel it is important to provide instruction and resources that will allow students to develop expertise and help them prepare for those kinds of careers.”

Schreiber credits the University of Iowa for providing this professional development opportunity to graduate students.

“Not many universities embrace the fact that most students don’t go into tenure-track jobs in academia,” Schreiber says. “I am pretty lucky that Iowa not only accepts this but offers us resources like this course to advance our specialized training.”
Four UI grad students win GRFP awards
National Science Foundation honors early career researchers

The National Science Foundation Graduate Research Fellowship Program (NSF-GRFP) recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based master’s and doctoral degrees at accredited United States institutions.

GRFP fellows also receive opportunities for international research collaborations through the Graduate Research Opportunities Worldwide (GROW) initiative, as well as career development opportunities with federal internships provided through the Graduate Research Internship Program (GRIP).

Four University of Iowa graduate students earned National Science Foundation (NSF) Graduate Research Fellowships in the 2016-17 academic year. Nine UI graduate students have received NSF Graduate Research Fellowships in the last two years, including a school record of five last year.

Addison Kimmel, Anthropology
Addison Kimmel’s research focuses on identity and economic and social networks among Indians, Euro-American settlers, and Métis people in the Midwest during the late 18th and early 19th century.

“In started my graduate studies at Northwestern nearly six years ago, and during my time there I was named an honorable mention for the NSF-GRFP twice. I’m very glad that I was able to receive the fellowship here at the University of Iowa. The Anthropology Department here has been incredibly supportive and is a great environment in which to undertake a graduate research project. I am especially indebted to my advisor Dr. Margaret Beck and Dr. John Doershuk, the Iowa State Archaeologist.”

Hunter Schroer, Civil and Environmental Engineering
Hunter Schroer studies interactions between biological systems and emerging contaminants. His current research focuses on the biodegradation of new insensitive explosives by plants, fungi, and bacteria.

“In regards to the fellowship, I am very grateful to my family, my advisor, and all the other people who have helped me along the way. I’m excited that I will be able to pursue research that interests me with the freedom that the fellowship provides.”

Kathryn Klarich, Civil and Environmental Engineering
Kathryn Klarich examines the fate and transformation of pesticides, specifically neonicotinoids, in natural and engineered systems. She is currently trying to understand how these compounds degrade and transform. Once the growing season gets underway, she also will be looking for these compounds and their transformation products in the environment and at a water treatment plant.

“The NSF funding provides more flexibility as to what aspects of the project we pursue and allows us to broaden the scope and/or dig more deeply into various components of the project as needed. It will also give me the opportunity to share the results of the project at conferences. For me personally, there are also a lot of professional development and networking opportunities provided by the fellowship.”

Marcie King, Psychology
Marcie King plans to examine the relationship between particular brain structures that, when damaged, are associated with positive changes in personality and behavior.

Previous work with patients after brain damage has largely focused on negative outcomes; however, it has been noted on occasion that there are patients who actually show improvements in their overall well-being following lesion onset.

“I am extremely excited to receive this honor. It will undoubtedly give me a great deal of flexibility and independence as a young researcher.”

UI Honorable Mention Recipients
• Michael Lash, Computer Science
• Jason Mixdorf, Chemistry
• Maurice Payne, Chemistry
• Kate Rasmussen, Neuroscience
• David Cooper, Genetics
• Bryan Stressler, Geoscience
• Elizabeth Handschy, Anthropology
The UI’s exceptional graduate students continue to earn nationally competitive fellowships bringing prestige, funding, networking opportunities, and flexibility to their graduate study.

**Brittany Williams, Neuroscience**

The National Research Service Awards (NRSA) are a family of grants provided by the National Institutes of Health (NIH) for training researchers in the behavioral and health sciences.

Brittany Williams, a Ph.D. candidate in neuroscience, proposes to provide a further understanding of how calcium channels are regulated, specifically how alternative splicing of Cav1.4 may contribute to visual signaling in the retina.

“There are several mutations in Cav1.4 that cause visual impairments. How Cav1.4 works compared to other family members is not really known. It’s like a big puzzle with a bunch of missing pieces.”

The NRSA proposal (NIH F31) is one of the more complex external funding applications for which graduate students can apply. Williams earned a perfect score on her application.

**Caroline Radesky, History**

Caroline Radesky was awarded a Council on Library and Information Resources (CLIR) Mellon Fellowship for Dissertation Research in Original Sources in the humanities and related social science.

Radesky, a doctoral student in history, studies same-sex individuals’ uses of history to construct transnational and transcultural sexual subjectivities. She is researching individual stories of people who lived in the late 19th and early 20th-century United States, England, and Germany.

“Receiving the Mellon Fellowship is a true honor. I will be examining the original papers of same-sex desiring individuals in order to better understand the formation of sexual identity.”

**Maggie Butler, Rehabilitation and Counselor Education**

Maggie Butler was awarded a grant by the Social Security Administration to conduct supervised independent research on improving the disability determination process for the Social Security Administration’s (SSA’s) two disability programs—Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI).

Butler is investigating SSI eligibility at the intersection of advanced age, homelessness, and vocational experience. Her research has the potential to inform policy and practice.

“The DDP (Disability Determination Process) Small Grant Program funding will provide me the resources to explore the SSI application process among aging adults experiencing homelessness.”

**Elizabeth Spear, Art History**

Elizabeth Spear was awarded a fellowship from the Frick Center for the History of Collecting, which supports the awareness and study of the formation of fine and decorative arts collections while asserting the relevance of this subject to art and cultural history. Spear’s dissertation research explores new perspectives in the history of collecting, display, and more mainstream art historical approaches. “The Frick Fellowship provides me access to the Frick Center’s archival resources as well as the expertise of established scholars of the history of collecting.”

**Graduate College Supports Applicants**

To support students through the rigorous process of applying for external funding, the Office of Graduate Careers and Fellowships offers workshops, individual consultations, and the Fellowship Incentive Program. The ultimate goal is to increase the number of University of Iowa students applying for and winning external fellowships.

The Graduate College is working to foster a culture of application, where students are working with faculty on external funding applications throughout their graduate careers. The application process alone contributes significantly to graduate students’ professional and academic development. Whether or not they win, the work they do on the application will help them clarify their research ideas, practice talking to a diverse audience, and articulate their personal and professional goals.

To learn more about the Fellowship Incentive Program visit: [grad.uiowa.edu/fellowship-incentive-program](http://grad.uiowa.edu/fellowship-incentive-program)
Discovering new possibilities in academia
Students in public digital humanities advance scholarship in their fields

As a digital humanist, Ella von Holtum studies what’s possible rather than what’s already been done in academia.

She didn’t write a research paper for her capstone project in the Public Digital Humanities Certificate Program. Instead, she built a virtual 3D model of Megiddo, an ancient city featured in University of Iowa Professor Robert Cargill’s book, The Cities that Built the Bible.

Von Holtum constructed Megiddo’s six-chambered gate, wall, and well, allowing readers to experience the ancient world digitally.

“These models are really robust and interesting, and they add a whole new context to archeological scholarship through a freely available on-line map,” says von Holtum, a master’s student in the School of Library and Information Science (SLIS).

Von Holtum joined three other SLIS students—Patrick Curtis, Emily Jones, and Gemmicka Piper—as the first cohort to earn a certificate in the Public Digital Humanities. The certificate was created to establish a skill set—the digital humanities—that is not yet widely present within academia.

“The way scholarship is being done and the way learning is happening is changing radically,” von Holtum says. “The way it’s changing right now has a lot to do with the digital world, which we in the humanities haven’t been able to fully embrace. The only way to learn is to try something.”

Exploring unexplored areas
For his capstone project, Patrick Curtis worked with SLIS Professor Lindsay Mattock on Mattock’s Mapping the Independent Media Community project. Using a data set based on the Carnegie Museum of Art publication Film and Video Makers Travel Sheet (which aimed to draw attention to artists and their films and connect them with museums, universities, libraries, and other cultural heritage organizations) Curtis geocoded location information and created maps of artist and organization locations for future analysis, while exploring privacy implications of location mapping.

“Within the world of digital humanities, scholars are engaging in their respective areas of scholarship in new ways, with new tools, and librarians can position themselves to assist scholars in these endeavors,” Curtis says.

Emily Jones worked with staff in the UI Libraries’ Digital Scholarship and Publishing Studio and in Information Technology Services to add publication titles and create a new web interface for the Little Magazine database, which enables users to search by poet, work, and magazine.

Gemmicka Piper created a project about African-American fandom. She pulled materials out of UI Special Collections, posted them on Tumblr, and facilitated an online discussion.

“Most scholarship is pushing toward open access, so if you’re a grad student or a faculty member this is an issue in which you should be deeply invested,” Piper says. “Through the digital humanities, you become more in touch with the community and learn what it means to be in the real world.”

Digital humanities expand academic reach
Professor Jim Elmborg, certificate director, says questions exist about how academics engage with the world around them.

While the foundation of academia remains strong, he says, digital humanities raise important questions about tenure, promotion, and rank.

“A lot of people are weary of the apparatus of academia—the writing of things that don’t really get read,” Elmborg says. “You’re producing papers and research, but does it have an impact on the world? All of our students worked on projects that are very public. The publications are going to be in public forums and they invite readership outside of academia.”

Traditionally in academe, professors publish peer-reviewed research papers to earn tenure. Digital humanists, on the other hand, push forward theories that are assumed to be true until someone disproves them or produces another theory.

“In the digital humanities, you’ll have a lot of failure, but you learn a ton from it,” von Holtum says. “We bring a really exciting attitude of forward motion. The digital humanities gives us an opportunity to reach deeper into the academic world and reach further out into the world around us. We’re going to open doors that we haven’t opened before.”

Ella von Holtum shares more about her experience in the digital humanities: youtube.com/watch?v=w427r6feklW
Investments in teaching
Outstanding teaching sparks learning and creativity

Whenever Daniel Rodman teaches a class, he puts himself in his students’ seats.

“You have to put yourselves in their shoes and understand they’re seeing these pretty complex ideas for the first time,” says Rodman, a doctoral student in the Department of Mathematics. “As teachers, it’s easy for us to teach students from our own point of view, assuming that they know as much as we do. We forget what it’s like to learn it for the first time.”

Rodman is one of 1,400 graduate teaching assistants each semester who play essential roles in the teaching mission of the university. This spring, he was part of a very elite group of TAs—27 total—who received Outstanding Teaching Assistant Awards from the UI’s Council on Teaching.

These award winners come from the Colleges of Liberal Arts and Sciences, Engineering, Education, and Public Health. Over half of the recipients (14 out of 27) also are receiving funding from the Graduate College for excellence in their research areas.

TAs translate complex ideas for their students

Graduate teaching assistants take their own specialized content knowledge and translate it for students across disciplines. They employ cutting-edge technology to help students discover new and vital ways of solving complex interdisciplinary problems.

Jon Scholte, a Ph.D. candidate in chemical and biochemical engineering, gives his students a clear understanding why he’s their teacher.

“I am there to help them understand. I am getting my Ph.D., so I can very easily communicate to them these ideas,” says Scholte, who received a Ballard and Seashore Dissertation Fellowship and a Summer Fellowship from the Graduate College. “I’m not just someone who has been assigned to the class and doesn’t want to be there.”

Scholte instructs his students to connect to the “hidden” curriculum of the course to solve engineering problems.

“In engineering, you will learn certain skills, but a lot of other people will have those same skills,” Scholte says. “What’s going to differentiate you is being able to break through the so-called paper ceiling. You need to explain the terms and the jargon in a commonly approachable way that allows you to facilitate understanding.”

Madhur Satish Joshi, a doctoral candidate in chemistry, calls on her own experience in helping to break down complex ideas for her students.

“I faced difficulties as a student and found many concepts hard to grasp,” says Joshi, who earned a Post-Comprehensive Research Award and a Summer Fellowship from the Graduate College. “The ways I adapted to make those concepts easier to understand definitely make me a better teacher.”

These vital skills of problem solving and communicating with others will benefit graduate students in their chosen career path, whether it’s a traditional faculty job or positions in government, non-profit, or industry.

The full list of 2016 Outstanding Teaching Assistants is available at: now.uiowa.edu/2016/05/outstanding-teaching-assistants.

University of Iowa joins network to better prepare future STEM faculty

The University of Iowa recently joined the Center for the Integration of Research, Teaching and Learning (CIRTL). Established in 2003 with support from the National Science Foundation, CIRTL seeks to improve teaching skills and increase the diversity of future university faculty in science, technology, engineering, and mathematics (STEM) fields.

The UI is among 25 new members joining CIRTL during a recent expansion that more than doubles the network’s membership. All of CIRTL’s members commit to developing local learning communities that promote proven teaching and mentoring techniques for STEM graduate students.

The University of Iowa Graduate College and the Center for Teaching will collaborate to develop a local CIRTL community for STEM graduate students. Local and cross-network CIRTL programming will provide rich opportunities for graduate students to develop their teaching skills.

CIRTL stresses the use of successful, evidence-based strategies proven to promote active learning and to help STEM students from all backgrounds succeed and complete their degrees. Teaching strategies include connecting classroom topics to real-world situations, promoting inclusive learning, encouraging teamwork through shared projects and study groups, continually assessing student progress, and using research skills to advance effective teaching practices.

As a new CIRTL member, the UI will develop its own programs built on the CIRTL core ideas: teaching-as-research, learning communities, and learning-through-diversity. This new local learning community will offer its own robust schedule of courses, programs, events, internships, and resources. In addition, the UI will collaborate on cross-network projects with CIRTL partners and participate in national offerings.
Dean James Jakobsen displayed a long-standing commitment to graduate student education at the University of Iowa. In 1998, Jakobsen retired as Associate Dean of the Graduate College after 30 years of service. He was known for his humility, personal attention to students, and commitment to excellence.

This year, the Graduate Student Senate renamed its conference the Jakobsen Memorial Graduate Conference to honor Dean Jakobsen, who died on Feb. 13 following a short illness.

“In light of Dr. Jakobsen’s recent passing, we decided to rename the Jakobsen Graduate Conference to the Jakobsen Memorial Graduate Conference. It is a small change, but one that we hope will honor his dedication to graduate research,” says Tawny Tibbits, vice president of the Graduate Student Senate and co-chair of the Jakobsen Conference Committee.

The 18th annual Jakobsen Memorial Graduate Conference was held March 26. With the theme “Building Bridges, Breaking Barriers,” this year’s conference provided an opportunity for graduate students to hone public speaking skills, preparing them for future academic presentations.

Award Winners, Spring 2016

**Biological and Health Sciences**

First prize—Namita Sawant, Pharmacy, *Evaluation of the Performance of Nasal Sprays in Pediatric Patients*

Second prize (tie)—Anh-Vu Do, Pharmacy, *Controlled and Sequential Delivery of Fluorophores from 3D Printed Alginate-PLGA devices*

Second prize (tie)—Claire Doskey, Human Toxicology, *Tumor Cells Have a Decreased Ability to Remove Hydrogen Peroxide: Implications for Sensitivity of Tumor Cells to Pharmacological Absorbate*

Third prize—Mgbeki Erondu, Medicine (MD), *Spinal: The Culture of Obstetric Anesthesiology at Ghagada General Hospital (Lagos, Nigeria)*

**Creative Works**

First prize—Bogi Takacs, Speech and Hearing Science, *A Systematic Review of Connectionist Modeling Approaches in Autism Spectrum Conditions*

**Humanities**

First prize—Kelly Budruweit, English-Literary Studies, *Transnational Feminist Representations of Wartime Rape: De-Gendering Vulnerability in Isabel Coixet’s The Secret Life of Words*

Second prize—Subin Paul, Mass Communication, *A New Public Sphere? English-language Stand-up Comedy in India*

Third prize—Hyungrae Noh, Philosophy, *Shannon, Dretske and Millikan on Information and Communication: Can we communicate without correlation?*

**Math, Physical Sciences, and Engineering**

First prize—Katherine Peter, Civil & Environmental Engineering, *Functionalized Polymer-Iron Oxide Hybrid Nanofibers: Electrospun Filtration Devices for Metal Oxyanion Removal*

Second prize—Patrick Bigsby, Law (JD), *“Give Them the Same Laws”: Inconsistency in the Free Expression Rights Of Indians and the Need to Protect Indian Expression*
Nicholas Borcherding has been selected as a Midwestern Association of Graduate Schools (MAGS) Distinguished Thesis Award winner for 2016.

Borcherding, who has now entered the University of Iowa’s Medical Scientist Training Program upon completion of his M.S. degree in pathology, won the biological and life sciences category for his thesis, entitled “Non-Canonical WNT Signaling in Breast Cancer Initiation and Progression.”

Non-canonical WNT signaling regulates a number of cellular processes that may be vital to inhibit tumor initiation and metastasis. Borcherding’s project revealed a number of previously unknown functions for the WNT5A pathway in breast cancer, identifying possible new targets for therapy.

Borcherding’s research resulted in nine published first author or co-authored peer-reviewed manuscripts.

“This level of productivity would be considered extraordinary for a Ph.D. student in cancer research, let alone an M.S. student who completed his program in two years,” says Weizhou Zhang, assistant professor of pathology in the Carver College of Medicine and Borcherding’s thesis advisor.

Zhang also was impressed with Borcherding’s role in conducting research experiments.

“Nick exhibited a very high technical aptitude and became the ‘go-to’ person for navigating gene and transcript focused bioinformatics software.”

Borcherding, a native of Davenport, was nominated for the MAGS Award after receiving the L.B. Sims Outstanding Master’s Thesis Award from the UI Graduate College.

Iowa now has four MAGS Distinguished Thesis Award winners. Kaylia Duncan (Pathology) and Anna Lynch (Religious Studies) both won the award in 2014. Brigitte Hecker Salami (Art History) received the honor in 1999.

“It’s an unexpected honor to receive the MAGS award,” says Borcherding. “I want to thank Weizhou Zhang, my mentor, and Tom Waldschmidt, my program director, for their excellent guidance. The award is as much a reflection of their excellent mentorship as my work.”

The Midwestern Association of Graduate Schools is a regional affiliate of the Council of Graduate Schools. MAGS member states include: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin.
Outstanding faculty mentor awards
Faculty recognized for excellence in mentoring

The University of Iowa Graduate College awarded Dorothy Johnson and Daniel Weeks top recognition for excellence in mentoring graduate students.

Dorothy Johnson, Roy J. Carver Professor of Art History in the College of Liberal Arts and Sciences (CLAS), is winner of the 2015-16 Graduate College Outstanding Faculty Mentor Award in Humanities and Fine Arts. Daniel Weeks, professor of biochemistry in the Carver College of Medicine, receives the 2015-16 Graduate College Outstanding Faculty Mentor Award in Biological and Life Sciences.

The professors were nominated for the award by their students and colleagues.

Dorothy Johnson, Art History

Dorothy Johnson believes it is extremely important to nurture students to pursue their interests, to build on their strength, and to guide them to strengthen areas in which they are less strong.

“It is my responsibility to hone their research skills, sharpen their critical thinking, strengthen their writing skills especially in terms of building persuasive arguments based on research and thinking, and expand their knowledge of past and current developments in the discipline,” says Johnson, who studies 18th and 19th century French Arts and is the leading authority on Jacques-Louis David and on the subject of classical mythology in the painting and sculpture of that epoch.

Since 1995, Johnson, the current DGS in art history, has attracted over 25 graduate students to the School of Art and Art History, 17 of whom have completed their Ph.D.’s and 8 of whom are currently in the program studying with her.

Daniel Weeks, Biochemistry

As a mentor, Daniel Weeks serves as a GPS for his graduate students.

“The student and their mentor establish destinations, but it’s the graduate student who needs to make the trip,” Weeks says. “The precise route may vary, but the mentor needs to be able to suggest an attainable path, all the while monitoring progress and even helping the student by entering ‘recalculating’ mode when an unplanned or unanticipated turn is made.”

For the past 28 years, Weeks, an internationally known nucleic acid biochemist and developmental biologist, has trained 12 Ph.D. students, 2 Master’s students, 7 postdoctoral/medical fellows, and 35 undergraduates on research projects focused on heart development.

This year, Weeks also received the President and Provost’s Award for Teaching Excellence.

Loreen Herwaldt named inaugural postdoc mentor award winner

The University of Iowa Postdoctoral Association (UIPDA) presented Loreen Herwaldt with the inaugural Outstanding Postdoctoral Mentor Award.

Loreen Herwaldt is a professor of internal medicine in the Carver College of Medicine and professor of epidemiology in the College of Public Health. She is a well-respected researcher and clinician in infectious disease. Despite her busy schedule, she always makes time to listen to her trainees and provide insight and assistance.

“Herwaldt is skilled at providing oversight while allowing significant autonomy that was crucial for allowing me to think critically about my research,” says Samuel Bailin, a resident in internal medicine at Vanderbilt University Medical Center who studied under Herwaldt while at the UI. “She is a role model not only because she is a great clinical researcher but also because she teaches how to be a great clinical researcher.”
The 30th cohort of scholars in the University of Iowa’s Summer Research Opportunities Program (SROP) was recently welcomed to campus for a summer of challenging research experiences.

This summer’s students come from 22 different universities across the United States, Puerto Rico, and the Virgin Islands. The program is led by Diana Sproles, who has welcomed every cohort to campus since the program began in 1986.

SROP is a gateway to graduate education at member universities in the Big Ten Academic Alliance. SROP is designed to provide promising underrepresented undergraduate students with first-hand exposure to the graduate school experience and to faculty life.

“SROP students get exposure in their research area and make contact with faculty, graduate students, and other students they meet. This all makes for a very positive experience,” Sproles says. “While the students are here, you hear them saying, ‘I can see myself here for graduate school.’”

Each student is paired with a faculty mentor whose research is closely related to their academic interests and career goals. Students also benefit from a structured set of scholarly activities designed to enhance their academic success, including a series of seminars, workshops, and informal gatherings to better inform them about graduate school opportunities.

The program provides information and encourages dialogue between the students, their faculty mentors and graduate student mentors, and SROP staff. These discussions facilitate an understanding of what it means to be a graduate student and to explore expanded career options, including academic positions and careers outside the academy. To date, Iowa has hosted 755 students, with 66 percent going on to enroll in graduate or professional school, including 18 percent at the UI.

“My parents didn’t go to college, so participating in the program opened my eyes to options after college graduation other than just getting a job,” says Sharon, who works as an environmental scientist for the South Florida Water Management District.

Ten years after Sharon completed her Ph.D., Marquis returned to Iowa City to conduct biochemistry research as a SROP student.

“I am most interested in getting hands-on experience in the lab and working closely with faculty mentors and graduate students,” Marquis says. “I lived in Iowa 10 years ago, so coming back after so long also interested me. I’m hoping to gain experience and more in-depth knowledge and tips not only about graduate school, but also about post-college life.”
Save the Date

David J. Skorton, M.D.
Thursday, March 30, 2017, Hancher Auditorium
Presented by the Graduate College

Currently the 13th Secretary of the Smithsonian, Doctor David J. Skorton served as the 19th president of the University of Iowa from 2003–2006 and was a member of the UI faculty for 26 years before becoming the 12th president of Cornell University. A renaissance thinker, Skorton will share his thoughts as a university president, Smithsonian secretary, musician, physician, researcher, academician, and reformer.

For more about graduate education at Iowa:
www.grad.uiowa.edu/annual-report/2016