Dietrich College of Humanities and Social Sciences
YEAR IN REVIEW 2016

Message From the Dean ................................................................. 1
Dietrich College of Humanities and Social Sciences Facts and Figures ...... 2
At the Top of Their Fields .............................................................. 3
First-of-its-Kind Behavioral Economics, Policy and Organizations Major ...... 4
Thrilling and Innovative Research .................................................. 6
Value of Research Instilled From the Start ....................................... 10
Student Projects ........................................................................... 12
Capital One Competition Pairs Students With Alumni Mentors .......... 14
Taking International Relations to the Next Level ................................ 15
Tartan Data Science Cup ................................................................. 16
Impact Beyond the Classroom ........................................................ 18
Language Lovers Find a Home in the Linguistics Program .................. 22
Forty Years of CMU Statistics and the National Academy of Sciences ...... 26
A Century of CMU Psychology ....................................................... 28
The Many Ways to Study Latin America in the Dietrich College ........... 31
Joe Trotter and the Effects of CAUSE ............................................. 32
The Simon Initiative and CMU’s Digital Education Revolution ............ 34
Dietrich College Entrepreneurs Speaker Series ................................... 36
Alumni Spotlights ......................................................................... 38
News and Notes ............................................................................ 46
Future Discoveries in Progress ........................................................ 49
Dietrich College in the News .......................................................... 50
Ten (more) Things To Love About the Dietrich College ....................... 51
“Our faculty, staff, students and alumni are relentlessly spectacular.”

— Dietrich College Dean Richard Scheines
Message From the Dean

At Carnegie Mellon, the Dietrich College of Humanities and Social Sciences is the home for research and education centered on humanity. From how the brain gives rise to the mind, to how humans actually make decisions, to how they should make decisions, to how a collection of individual agents can form a society, to how societies have evolved over time from small tribes to great nations, to how languages and cultures vary and how they shape the human experience, to the amazing edifices of literature and science produced by these cultures, our college is the home to some of the most exciting interdisciplinary research and teaching in the world. Our faculty do foundational and deep disciplinary research, collaborate across many disciplines, take on problems that are important to the world today, and share a passion for innovation in both research and teaching. Our students are trained in a wide array of disciplinary approaches, and they become involved in research early and often. They emerge from their experience at CMU able to communicate, think, learn, and understand the world in ways that will serve them for the rest of their lives.

This year in review is a sample of stories about the faculty, staff, students and alumni in the college that found their way to the CMU website, the local press or the national media. By any measure it is an impressive compilation. I am biased, I admit, but that it is a sample taken from a single year strikes me as nothing short of amazing. The awards, honors, accomplishments, imaginative projects and general energy that jump off the pages to follow makes it clear that the Dietrich College is healthy and thriving. I am grateful to Shilo Rea, our phenomenal director of public relations, for putting it together and am already bugging her about the 2017 edition.

Whether you are a member of our faculty or staff, a current or former student, or someone curious about what is happening at Carnegie Mellon's Dietrich College of Humanities and Social Sciences, I hope you find what follows as interesting as I do.

Richard Scheines
Dean, Dietrich College of Humanities and Social Sciences
Professor of Philosophy
Dietrich College of Humanities and Social Sciences Facts and Figures

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<thead>
<tr>
<th>NUMBER OF</th>
<th>MEMBERS OF…</th>
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<tr>
<td><strong>1,228</strong> Undergraduate Students</td>
<td>7 American Academy of Arts and Sciences</td>
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<tr>
<td><strong>294</strong> Graduate Students</td>
<td>3 National Academy of Sciences</td>
</tr>
<tr>
<td><strong>203</strong> Full-time Faculty</td>
<td>2 National Academy of Medicine</td>
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<tr>
<td><strong>4</strong> Part-time Faculty</td>
<td>2 National Academy of Education</td>
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**DEPARTMENTS AND PROGRAMS**

- English
- History
- Modern Languages
- Philosophy
- Psychology
- Social and Decision Sciences
- Statistics
- Center for the Neural Basis of Cognition
- Information Systems Program
- Institute for Politics and Strategy

**DIETRICH COLLEGE FACULTY THE IMPRINT***

- **50** Books edited and published
- **312** Peer-reviewed journal articles and papers
- **381** Conference presentations

*Numbers are from 2015.
At the Top of Their Fields

John R. Anderson

If the field of cognitive science is to truly understand how the mind works, researchers need to integrate the many theories about memory, language, problem-solving and other mental functions. John R. Anderson has spent decades doing this — developing a unified theory of cognition and using it to create successful cognitive-based tutors that have revolutionized education.

For these accomplishments, the National Academy of Sciences awarded Anderson, the R. K. Mellon University Professor of Psychology and Computer Science, with the 2016 Atkinson Prize in Psychological and Cognitive Sciences for his “foundational contributions to systematic theory and optimality analysis in cognitive and psychological science and for developing effective, theory-based cognitive tutors for education.”

Marlene Behrmann

Marlene Behrmann, the George A. and Helen Dunham Cowan University Professor of Cognitive Neuroscience, has been elected to the National Academy of Sciences (NAS). She is the first female scientist from CMU to be elected to the NAS.

Behrmann is widely considered to be one of the foremost experts in the cognitive neuroscience of visual perception. Her research combines behavioral investigations and brain imaging techniques with both normal and impaired individuals to identify the functional architecture of the human brain that enables our visual experiences.

She also uses brain imaging to uncover what is happening in the brains of individuals with developmental disorders, such as autism and dyslexia. Her recent work revealed that the brains of individuals with autism display unique neural synchronization patterns, a finding that may facilitate more effective diagnosis and treatment of the disorder.

John Lehoczky

IEEE, the world’s largest technical professional organization, awarded John Lehoczky with the 2016 Simon Ramo Medal. The award recognizes technical leadership and contributions to fundamental theory, practice and standardization for engineering real-time systems.

Lehoczky and his co-recipients, CMU’s Ragunathan “Raj” Rajkumar and the University of Illinois’ Lui Sha, were honored for revolutionizing how systems handle tasks with deadlines under serious weight, power and space constraints. Their work has been used on the original Mars Rover, NASA’s Space Station, submarines, military jets and GPS satellites.

In addition to his work studying stochastic processes and how they can be used to model real applications, Lehoczky, the Thomas Lord University Professor of Statistics and Mathematical Sciences, is well known for applying stochastic modeling to problems in finance.
**First-of-its-Kind Behavioral Economics, Policy and Organizations Major**

Recently, there has been an explosion of interest by government, non-profit and industry organizations to hire trained behavioral economists. Governments seek to use behavioral economics to inform public policy and improve the effectiveness of governmental organizations. In industry, it is used to position brands, inform product design, adjust hiring and performance evaluations, motivate employees and improve the quality of employee savings, retirement and health plan decisions.

To meet this demand, Carnegie Mellon University has created the first and only undergraduate major in behavioral economics. The Bachelor of Arts degree in behavioral economics, policy and organizations (BEPO) will train students to apply psychological insights to human behavior to explain and predict economic decision-making.

BEPO students will learn about behavioral economics at the institution responsible for pioneering the field; the late Herbert A. Simon, a Nobel Prize and Turing Award winner and CMU professor, coined the phrase “bounded rationality” to describe a more descriptive conception of the limits of human problem-solving ability. And current CMU Professor George Loewenstein is considered a co-founder of behavioral economics and is a renowned expert in a wide range of subjects.

Offered through the Dietrich College’s Department of Social and Decision Sciences, BEPO is now available to current and future CMU students. It complements SDS’ highly sought after Ph.D. program in behavioral decision research, which has alumni working at Facebook, Google, Fidelity Investments, Mckinsey & Company, the newly formed Consumer Financial Protection Bureau and a number of non-profits, startups and consulting firms.

“We have a large group of top-notch faculty in behavioral economics, and I am delighted that they will channel their expertise into this exciting, forward looking program,” said Richard Scheines, dean of the Dietrich College. “Along with excellent undergraduate programs in economics and joint majors in economics-statistics and in economics-math, this interdisciplinary major in behavioral economics gives Carnegie Mellon a very broad and deep set of undergraduate degrees in economics.”

In addition to behavioral economists, faculty members with expertise in psychology and decision research will also teach in the BEPO program.

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**Key Behavioral Economics Faculty**

**Linda Babcock**
- James M. Walton Professor of Economics
- Head of the Social and Decision Sciences Department
- Gender discrimination in the workplace; behavioral labor; economics and negotiation

**Saurabh Bhargava**
- Assistant Professor of Economics
- Barriers to enrolling in social service programs; social and economic factors that affect happiness, job searches and wage expectations of the unemployed

**Christina Fong**
- Senior Research Scientist
- Employment discrimination; role of fairness in redistributive attitudes and behavior

**Russell Golman**
- Assistant Professor of Social and Decision Sciences
- Behavioral game theory; how firms learn and innovate; how curiosity arises

**Kareem Haggag**
- Assistant Professor of Economics
- Attribution biases in decision making, learning and defaults

**Alex Imas**
- Assistant Professor of Economics
- Risk taking in financial markets; how social concerns and emotions influence decision making and preferences; self-imposed mental accounts and risk attitudes

**George Loewenstein**
- Herbert A. Simon University Professor of Economics and Psychology
- Decision making over time; bargaining and negotiations; law and economics; psychology of adaptation; role of emotion in decision making; psychology of curiosity

**John Miller**
- Professor of Economics and Social Science
- Bidding behaviors in auction markets; dynamics of political platforms in spatial elections; price formation in simple markets

**Silvia Saccardo**
- Assistant Professor of Economics
- Unethical behavior; discrimination; gender differences in competitiveness
The Forefront of Behavioral Economics Research

To Cut Calories, Place Online Food Orders Ahead of Time

Research by CMU Professors George Loewenstein and Julie Downs and alumnus Eric Van Epps showed that people choose higher-calorie meals when ordering immediately before eating and lower-calorie meals when orders are placed an hour or more in advance. More than 100 media outlets reported on the study, and the Aspen Institute listed it as one of July 21, 2016’s five best ideas.

Making Sense of It All

Loewenstein and Warwick Business School’s Nick Chater developed a theoretical model of the drive for sense-making and how it is traded off against other goals.

They discovered that the drive for sense-making can help to make sense of a wide range of disparate phenomena, including curiosity, boredom, confirmation bias and information avoidance, esthetics (in both art and science), caring about other’s beliefs, the importance of narrative and the role of “the good life” in decision-making.

“The mind is a sense-making machine; we are informavores as much as we are omnivores,” said Loewenstein.

Simplify and Standardize Health Insurance Plans

Choosing a health insurance plan – whether through an employer, the Affordable Care Act (ACA) or Medicare – is complicated and stressful and often leads to consumers making costly mistakes. In an NEJM Catalyst paper, Loewenstein and Saurabh Bhargava argue that the best way to address the problems caused by health plan complexity is to simplify and standardize the plans.
Thrilling and Innovative Research
Spotlight on Brain and Behavior

Watching the Brain Do Math
A neuroimaging study revealed the mental stages people go through as they are solving challenging math problems. Published in Psychological Science, researchers led by John Anderson combined two analytical strategies to use functional MRI (fMRI) to identify patterns of brain activity that aligned with four distinct stages of problem-solving.

Anderson, the R.K. Mellon University Professor of Psychology and Computer Science, told the New York Times’ Ben Carey, “We didn’t know exactly what students were doing when they solved problems. Having a clearer understanding of that will help us develop better instruction; I think that’s the first place this work will have some impact.”

Anderson has spent decades revolutionizing education and how students learn by developing a unified theory of cognition and using it to create successful cognitive-based tutors. He believes that insights from this new work may eventually be applied to the design of more effective classroom instruction – particularly in the form of improving cognitive tutors by creating models that match the brain activation and thinking patterns used to solve these problems.

How the Brain Processes Faces From Sight to Recognition
At a glance, you can recognize a friend’s face whether they are happy or sad or even if you haven’t seen them in a decade. How does the brain do this — recognize familiar faces with efficiency and ease despite extensive variation in how they appear?

CMU Psychology Professors Marlene Behrman and David Plaut and Postdoctoral Fellow Mark Vida are closer than ever before to understanding the neural basis of facial identification. In a study published in the Proceedings of the National Academy of Sciences, they used highly sophisticated brain imaging tools and computational methods to measure the real-time brain processes that convert the appearance of a face into the recognition of an individual.

The research team is hopeful that the findings might be used in the near future to locate the exact point at which the visual perception system breaks down in different disorders and injuries, ranging from developmental dyslexia to prosopagnosia, or face blindness.

To take research discoveries from the lab and put them into practice, BrainHub held the first Neurons to Neighborhoods event in the fall. The day-long session, supported by the Heinz Endowments, brought together neuroscientists and representatives of nearly 50 community organizations that work with child care, teaching, the child welfare system and policymaking.
Neurobiological Changes Explain How Mindfulness Meditation Improves Health

Work led by David Creswell, associate professor of psychology, provided a window into the brain changes that link mindfulness meditation training with health in stressed adults. The study illustrated how mindfulness meditation training, compared to relaxation training, reduces Interleukin-6, an inflammatory health biomarker, in high-stress, unemployed adults.

The biological health-related benefits occur because mindfulness meditation training fundamentally alters brain network functional connectivity patterns and the brain changes statistically explain the improvements in inflammation.

The Today’s Show’s Jenna Bush Hager spent a day with Creswell and his team, going through an abbreviated version of the experiment to show that even brief meditation changed her brain.

Researchers Develop Way To “Fingerprint” the Brain

Using a new imaging technique, researchers developed a way to “fingerprint” the human brain. The structural connections in the brain are unique to each individual person.

The team used diffusion MRI to map the brain’s structural connections and found that each person’s connections are so unique that they could identify a person based on this brain “fingerprint” with nearly perfect accuracy. They also discovered that the brain’s distinctiveness changes over time.

“This means that many of your life experiences are somehow reflected in the connectivity of your brain. Thus we can start to look at how shared experiences, for example poverty or people who have the same pathological disease, are reflected in your brain connections, opening the door for potential new medical biomarkers for certain health concerns,” said Timothy J. Verstynen, assistant professor of psychology.

Brain “Reads” Sentences the Same in English and Portuguese

A CMU-led international research team found that when the brain “reads” or decodes a sentence in English or Portuguese, its neural activation patterns are the same.

The study is the first to show that different languages have similar neural signatures for describing events and scenes. By using a machine-learning algorithm, the research team was able to understand the relationship between sentence meaning and brain activation patterns in English and then recognize sentence meaning based on activation patterns in Portuguese. The findings can be used to improve machine translation, brain decoding across languages and, potentially, second language instruction.

“This tells us that, for the most part, the language we happen to learn to speak does not change the organization of the brain,” said Marcel Just, the D.O. Hebb University Professor of Psychology and pioneer in using brain imaging and machine-learning techniques to identify how the brain deciphers thoughts and concepts.
Flu Forecasting

Carnegie Mellon statisticians and computer scientists are using both statistical modeling and the wisdom of crowds to guide their efforts at forecasting 2016-17 flu activity. Past experience suggests it remains an open question as to which is better at predicting the disease’s spread week by week.

The Delphi research group, uniting faculty and students from the Machine Learning, Statistics, Computer Science and Computational Biology Departments, is part of a research initiative with the U.S. Centers for Disease Control and Prevention (CDC) to develop methods of accurately forecasting flu activity.

Last season’s predictions by the top-ranked CMU forecast system, for instance, were within 25 percent of the CDC’s best estimate of flu activity just 75 percent of the time, said Ryan Tibshirani, associate professor of statistics and machine learning.

Thanksgiving Dinner’s Carbon Footprint: A State-by-State Comparison

The environmental impact of your Thanksgiving dinner depends on where the meal is prepared.

Paul Fischbeck, professor of social and decision sciences and engineering and public policy, and Orchi Banerjee, a sophomore majoring in decision science, calculated the carbon footprint of a typical Thanksgiving feast – roasted turkey stuffed with sausage and apples, green bean casserole and pumpkin pie – for each state. The team based their calculations on the way the meal is cooked (gas versus electric range), the specific state’s predominant power source and how the food is produced in each area.

They found that dinners cooked in Maine and Vermont, states that rely mostly on renewable energy, emit the lowest amounts of carbon dioxide, a greenhouse gas that is tied to climate change. States that use coal power, such as Wyoming, West Virginia and Kentucky, have the highest carbon dioxide emissions.
Words for Snow Revisted

The claim that Eskimo languages have many words for different types of snow is well known among the public, but it has been greatly exaggerated and is therefore often dismissed by language scholars.

However, a new study published supports the general idea behind the original claim. Researchers found that languages that use the same word for snow and ice tend to be spoken in warmer climates, reflecting a lower communicative need to talk about snow and ice.

“We wanted to broaden the investigation past Eskimo languages and look at how different languages carve up the world into words and meanings,” said Charles Kemp, associate professor of psychology.

Hillary Clinton’s Contrasting Memoir Writing Styles Linked to Her Public Perception Problems

Many consider the political memoir genre to be obsolete since they rarely reveal anything new or noteworthy. However, an analysis of Hillary Clinton’s two political memoirs, “Living History” and “Hard Choices,” revealed links to the U.S democratic presidential candidate’s public perception problems. Published in the National Communication Association’s Quarterly Journal of Speech, the new study identified two contrasting writing styles with one underlying theme: Clinton’s guardedness.

“Our important finding was the interweaving of the styles across both memoirs and Clinton’s choice to employ an institutional style when a disclosive personal style was not only expected but hyped by her publishers,” said David Kaufer, the Paul Mellon Distinguished Professor of English.

Kaufer and the University of Maryland’s Shawn J. Parry-Giles also saw gender as playing a role in these style options and decisions.
Value of Research Instilled From the Start

Whether through research training courses, senior honors theses or showcases like the Dietrich Undergraduate Colloquium, undergraduate students in the Dietrich College of Humanities and Social Sciences have opportunities to engage in research at every turn.

And while they're learning the nuts and bolts of this work—like how to ask the right questions, find relevant sources and present their findings—these students contribute to knowledge on diverse topics alongside the best and brightest in their fields.

For her senior thesis, Hannah Tomio is working with Wendy Goldman, the Paul Mellon Distinguished Professor of History, on a historical analysis of the Soviet Union’s space program. Her work focuses on the Vostok 1, the first manned space flight with cosmonaut Yuri Gagarin; and the Lunokhod 1, the first robotic rover mission.

"I'm interested in both the historical and technical aspects of these missions," said Tomio, who is majoring in Russian Studies and electrical and computer engineering. "My goal is to examine the conflict between man and machine."

Tomio is sharpening her Russian language skills by using primary sources from the sixties and seventies like magazines, state publications and propaganda posters. This is just one benefit of exploring a subject that isn't covered by her coursework.

“It's given me a much better understanding of the research process, the expectations and requirements for graduate level work and the current trends in academia,” Tomio added.

In collaboration with Assistant Professor of Philosophy Adam Bjorndahl, Ariel Rao is creating mathematical models that reflect how people make decisions in uncertain situations. This is a deeper exploration of the multi-armed bandit problem, which takes its name from the dilemma a gambler experiences when choosing from a set of slot machines that will deliver unknown rewards.

Rao, a senior majoring in logic and computation, has also taken courses in the School of Computer Science’s Language Technologies and Human-Computer Interaction Institutes. According to Bjorndahl, she brings a unique perspective to the project – the first major research undertaking he has pursued with a student in his three years at CMU.

“Ariel’s background in computer science allowed us to engage in some real interdisciplinary work, applying computer simulation to models of rational decision making,” said Bjorndahl. “For undergraduates in general, I think the experience of working one-on-one with a faculty member on a research-level project is invaluable.”

“Hands-on research involvement is at the core of the CMU educational experience, and our undergraduate psychology program,” said Michael J. Tarr, head of the Department of Psychology.

“Hands-on research involvement is at the core of the CMU educational experience.”

—Michael J. Tarr, head of the Psychology Department
Undergrads Win Psychology Research Awards

Alyssa Aburachis (DC’18) and Cristina Molina (DC’17) received the 2016 Ireland Undergraduate Research Awards. Funded by an endowment from the George and Elisabeth Ireland family, the awards were established in 2015 to support high-quality undergraduate psychology research projects. Aburachis and Molina will each receive $1,500. Aburachis is working in Erik Thiessen’s Infant Language and Learning Lab to investigate the effect being raised in a bilingual environment has on children’s attention spans.

Molina is conducting one of the first empirical research studies into the popular belief that biracial individuals are considered to be more attractive than those of a single race. Working with Associate Professor of Psychology David Rakison, Molina is attempting to discover whether this notion is true, and if it is, why it happens.

DUC Helps Students Talk About Their Work

The ability to effectively explain complicated information is often the key to landing a job, securing a promotion or winning research funding. Dietrich College students are lucky because, for the past four years, the Dietrich Undergraduate Colloquium (DUC) has given them an outlet to practice presenting and sharing their work. This year, students gave formal presentations and participated in poster sessions on research and creative topics ranging from women’s roles in terrorist organizations to the acoustics of Mandarin pitch and Pittsburgh’s DIY music scene.

Dietrich Honors Fellowship Program Funds Summer Research

Eleven Dietrich College Honors Fellows began their senior year with a head start on piloting psychological studies, conducting field research and laying the groundwork for film and writing projects.

Over the summer, the fellows examined citizenship and belonging in South Korea, the impact of La Loi Toubon on French nationalism and coming of age as a Vietnamese American, among other topics.

“This summer’s group was particularly impressive,” said Joseph E. Devine, associate dean for undergraduate studies. “While their topics were interestingly diverse, they displayed shared qualities of high enthusiasm, confidence and preparedness that served them well this summer and will surely continue to do so over the coming academic year.”
Student Projects

Voting Questions? There’s a Website for That

In the U.S., voting guidelines are different for every county and district, so finding one place with all of the necessary information can be challenging.

Freshman in the “Philosophy: Voting Theory” class created an interactive website that contains links to relevant government sites that explain how to register to vote, how to vote early (when applicable) and how to use an absentee ballot.

“The class project opens the door for the students to important questions about the theory and practice of voting in the U.S.,” said Teddy Seidenfeld, the Herbert A. Simon University Professor of Philosophy and Statistics.

The sixteen students in the class also spent the semester learning about voting theory, including issues of constitutional design, voting paradoxes and spatial models of candidates’ and voters’ strategic behaviors. Additionally, they examined the impact social media is having on the presidential election.

“What surprised me the most was the concept of strategic voting, how sometimes voting for something other than your top preference actually creates more favorable odds in certain voting situations,” said Jeremy Xue.

Unexpected revelations about the entire voting process was a common reaction from students. Simrin Guglani, who coded the website, couldn’t believe how divergent the voting rules are by state.

“I wondered, why is that? This is the United States, why are we so divided? It made me appreciate this project more, and it validated the work we put in,” said Guglani.

Lost Love Leads to Study of Emotion

Fifteen Carnegie Mellon University students spent the fall studying heartbreak.

As part of a joint project between the English Department and Entertainment Technology Center (ETC), English undergraduates asked Pittsburgh residents to share objects that represented broken relationships and ETC master’s students designed an exhibition to tell the stories of lost love.

The result, the Museum of Broken Relationships-Pittsburgh, ran at the Mine Factory during December. The local items will join items from the international collection, which began in Zagreb, Croatia.

The Croatian project has inspired 40 other exhibitions around the world. The idea to create a Pittsburgh edition struck English Professor Jane Bernstein when she visited the original collection.

“I absolutely fell in love with the museum in Zagreb, and when I came back to Pittsburgh I was determined to get something going,” Bernstein said.

With a seed grant from CMU’s ProSEED/Crosswalk program and support from English Department Head Andreea Ritivoi, Bernstein partnered with ETC co-teachers Shirley Saldamarco and Chris Klug to create the class “The Museum of Broken Relationships.”

In addition to the exhibit, the English students created a book, “Confessions from Pittsburgh,” which contains photographs of all 65 objects collected — including those not among the estimated 40 in the show — and essays by the students, which detail the process of creating the museum.
Cities and states across the U.S. are changing laws on marijuana, and Pittsburgh has joined the movement. Drawing inspiration from Philadelphia’s attempts to decriminalize possession of small amounts of the drug, City Councilman and Carnegie Mellon University alumnus Dan Gilman (DC’04), commissioned a study on the feasibility of doing the same in Pittsburgh. Gilman turned to Dietrich College students to examine the issue, and five seniors majoring in Ethics, History and Public Policy (EHPP) rose to the challenge.

“I always like soliciting research from the students at Carnegie Mellon whenever possible,” said Gilman, who also majored in EHPP and worked with EHPP seniors last year on a project involving government surveillance. “They are the best and the brightest, and their work product is consistently fantastic.”

The students—Jack Devine, Daniel Kusbit, Stephen Nimalasuriya, Lisa Tu and Gabriel Vegh-Gaynor—did the work as their senior capstone project. Based on analyses of other cities, states and countries that have decriminalized marijuana possession, they determined that the health and social risks posed by decriminalization are small enough to be insignificant, particularly when compared to the potential benefits of decriminalization.

Based on their findings, they made several recommendations that would enhance decriminalization policy. Chief among them are public health awareness campaigns addressing the risks of marijuana use, monitoring for adverse effects and ensuring police support and accountability.

The group is quick to stress that decriminalization would be a positive step forward, but not a silver bullet solution.

“Something more needs to be done to address the larger issues,” said Vegh-Gaynor.

Risks & Benefits of Marijuana Decriminalization

“They are the best and the brightest, and their work product is consistently fantastic.”

—Dan Gilman, CMU alumnus and Pittsburgh City Councilman
What if a mobile device could tell how you’re feeling?

Juniors Natalya Buchwald and Rebecca Kern posed this question to develop a winning mobile app for an Information Systems Program (IS) class competition. Sponsored by Capital One, students in the Mobile Application Design and Development course teamed up with eight IS alumni who work for the Capital One Technology Group. Twenty-one teams competed for $1200 worth of prizes.

First place went to Emote, a storytelling app with the ability to interact with the reader’s emotions. Buchwald and Kern designed the app with children on the autism spectrum in mind as a way for them to develop skills in conveying and understanding emotions. As children follow a story, the app responds when they make a facial expression.

“You see a mobile app user doing two basic actions, reading and swiping, but they are also thinking, feeling and responding to what they see. There’s so much more going on. We wanted to tap into that,” said Kern.

Buchwald gained experience in emotion recognition technology from a summer internship with Orange County-based startup Monet Networks. The pair worked together to program the app and create a story and graphics for a children’s book. They integrated Affectiva’s software development kit for reading facial expressions. But it took more than a broad skill set to clinch first place.

“Emote’s architecture is extendable and sustainable. Some apps are fragile or unreliable and won’t last more than six months. You could envision ways to continue developing Emote, easily adding new stories and features,” said Larry Heimann, teaching professor of information systems.

Duncan McIsaac (DC’16), a software engineer at Capital One, agreed and said, “They came up with a new way to come into the app. It was very fresh, not something you see very often.”

IS Team Wins Boeing Competition

As a leader in aerospace manufacturing, Boeing relies on cutting-edge technology. The company created its annual UpLift IT Case Competition as a way to access the technical knowledge of U.S. college students.

IS students Meghana Valluri, Annette Chen and Emily Su won first place in the competition’s data visualization category with SecurityPulse, a web-based dashboard system that monitors security threats in airplanes. The application differs from existing security management tools in that it displays a holistic overview of current threats, rather than snapshots of individual issues. The women, who were among 14 registered teams, are currently scaling the dashboard to work on mobile devices and adapting it to other fields, including finance and education.
Taking International Relations to the Next Level

In 2015, the Dietrich College launched the Institute for Politics and Strategy (IPS). Directed by Kiron Skinner, IPS serves as a center for research, undergraduate and graduate education, and university-wide initiatives in the fields of political science, international relations, national security policy and grand strategy. IPS has made great strides in its first year—with good reason.

The 21st century’s ambiguous and changing global political structure is creating a demand for skilled experts who can examine and understand domestic and foreign government institutions and processes. To train the next generation of political scientists, IPS created a new International Relations and Politics Accelerated Master Program.

Open to CMU undergraduates, the program prepares students for competitive doctoral programs and careers in international relations, government service, American politics and related fields. Students accepted into the program complete four courses during their senior year, a summer internship following their senior year, plus an additional year of eight classes focused on international relations, international security, political institutions and politics.

“War has been a constant in our current students’ lives, and that unfortunately does not look like it will change soon. But what is changing is the political landscape of war — from wars between nations to non-state actors like ISIS and al-Qaeda becoming aggressors. Coupled with an increasingly globalized world, international relations and politics is extremely important, and students need to be prepared and trained to analyze and deal with uncertainty and transformation in many different cultures and areas of the world,” said Skinner.

IPS also took another step to distinguish itself when Baruch Fischhoff, the Howard Heinz University Professor, joined its faculty. Adding Fischhoff to IPS made it the first international relations program at a top research university with decision science as a core part of the discipline.

“As one of the intellectual founders of the decision science field, Baruch has written seminal papers on decision making in domains ranging from health to the environment to national security. I am looking forward to watching as he focuses on adapting his decision making expertise into politics and international relations,” said Richard Scheines, dean of the Dietrich College.

An elected member of the National Academy of Medicine, Fischhoff has been on the CMU faculty since 1987. His plans for IPS include creating a core course on decision making in international relations.
Computer programmers have hackathons. The machine learning world has Kaggle competitions. And now, Carnegie Mellon University’s budding statisticians have a competition to call their own.

In early 2016, the Dietrich College’s Department of Statistics hosted its first Tartan Data Science Cup (TDSC).

Professors Sam Ventura and Rebecca Nugent organized the event series as a way to showcase the department’s strengths in data science. Students were tasked with creating elegant data visualizations, selecting appropriate statistical methods to apply to a problem, collaborating with peers across disciplines and communicating their results to a broad audience.

“We wanted to host a series of events that would allow our students to not only showcase their impressive data analysis skills, but their creativity in collaborating to solve real-world problems,” said Ventura, visiting assistant professor of statistics. “We find that our students gain the most valuable experiences when solving real-world problems by analyzing large, complex datasets.”

For the debut “episode,” over 100 students representing each of CMU’s undergraduate colleges used data on the New York City bike share system, Citi Bike NYC, to determine where two new bicycle stations should be added.
CMU Sports Analytics Team Hacks for NBA

Four CMU undergraduates joined more than 200 students from the U.S. and Canada to compete in the NBA's first Basketball Analytics Hackathon in New York City.

Suvrath Penmetcha, a Dietrich College senior majoring in statistics, said that using R software, creating data visualizations and participating in CMU’s Spring 2016 Tartan Data Science Cup prepared him to compete in the hackathon. Penmetcha worked with Brad Wolff from the University of Texas at Austin and Saurabh Rane, a student at Northwestern University, to create a metric to assess defensive performance in the NBA. They placed fifth among 60 teams.

A Whole New Ballgame for Statistics Students

On a picture-perfect fall day, undergraduate statistics majors and members of the Tartan Sports Analytics Club (TSAC) explored how statistics and sports go hand in hand at a Pittsburgh Pirates game.

Before the game, students were treated to a private meeting with the Pirates’ analytics team. The students met with Josh Smith, data architect; Mike Fitzgerald, quantitative analyst; and Dan Fox, director of baseball informatics. They fielded questions on everything from how trends in analytics have affected their roles to how they evaluate the stress on a pitcher.

Fox said, “We've done similar events with other groups in the past, but I was impressed by the quality of questions. It's not surprising that we've hired interns from this group before!”
Impact Beyond the Classroom

Shakespeare, Austen and the Cult of Celebrity

In today’s selfie, social media and celebrity-obsessed world, it is hard to imagine that we do not actually know what two of the most famous literary figures—William Shakespeare and Jane Austen—actually looked like.

Yet, 400 and 200 years after their respective deaths, their faces adorn everything from bobbleheads and cookie cutters to prints and figurines.

Folger Shakespeare Library’s “Will & Jane: Shakespeare, Austen and the Cult of Celebrity” examined their literary afterlives and how milestone events and artifacts (like the shirt Colin Firth wore in the 1995 BBC mini-series “Pride and Prejudice” that helped turn the actor into a heartthrob) have affected their legacies and popularity.

Curated by Carnegie Mellon University’s Kristina Straub and the University of Texas’ Janine Barchas, “Will & Jane” revealed that, despite a two-century age difference, they both experienced similar posthumous arcs. They also both share a celebrity status beyond their literary expertise that was created through repetition and reproduction. The exhibition provided a glimpse of this by displaying more than 150 pieces, from the obscure pile of sticks from a chair Shakespeare may have once sat in to a copy of a ring once owned by Austen that the Jane Austen House Museum won’t let leave England.

“As Janine and I worked on the exhibition, it became clear to us that serious scholarship and fun are not mutually exclusive,” said Straub, professor of English. “We hope that ‘Will & Jane’ helped people think more critically about how we as a culture create meaning in our lives through everyday trivial objects like cookie cutters or rolling pins. But we also hope that people embraced the playfulness of plastic action figures and bobbleheads that express and perpetuate celebrity.”
Smithsonian Pop-up Reimagined History Through Dance

It’s probably safe to say that Nico Slate, associate professor of history, never imagined his historical research would inspire dance performances.

But that is exactly what happened at the Smithsonian’s, “CrossLines: A Culture Lab on Intersectionality.” Renowned bharatanatyam dancer and choreographer Anjal Chande reimagined Slate’s work on the anti-racist solidarities between South Asians and African Americans.

“It was deeply moving to see the history I study brought to life in the form of such a powerful and intricately expressive work of art and especially meaningful to see audiences full of young people inspired to learn more about the long struggle against racism throughout the world,” said Slate.

This was the first time the Smithsonian’s Asian Pacific American Center hosted CrossLines, which brought together more than 40 artists and scholars. It was designed to engage the public in an experience that illustrates the rich diversity of Asian Pacific American stories while celebrating Asian Pacific American Heritage Month.

The event also marked the first time since 2004 that the Smithsonian’s Arts and Industries Building was open to the public.

Making PROGRESS

Despite efforts to help close the gender wage gap, women still continue to be paid less than their male colleagues. A new Carnegie Mellon program wants to help change that through the art of negotiation.

The Program for Research and Outreach on Gender Equity in Society (PROGRESS) aims to improve society by helping women and girls improve their skills in diplomacy and bargaining. Its latest program is a toolkit for university students to create clubs to hone their skills.

PROGRESS is based on Linda Babcock’s research, who co-authored the book “Women Don’t Ask: Negotiation and the Gender Divide.” It describes her research on initiating negotiations and explores the societal factors that inhibit women from asking for what they want.

“Negotiation is an important part of ensuring that women are paid fairly in the workplace. If women can learn these skills early in life and put them into action at work, this can help them to be paid what they are worth and can help in the fight to close the gender wage gap,” said Babcock, the James M. Walton Professor of Economics and head of the Social and Decision Sciences Department.
Impact Beyond the Classroom, continued

CMU, City Officials Write the Book on Deliberative Democracy

Through deliberative democracy, ordinary citizens are empowered to play an active role in policy decisions. With help from CMU’s Program for Deliberative Democracy (PDD), the City of Pittsburgh is becoming a national model for this community-driven approach to addressing important issues. “We’ve redesigned the town hall meeting, moving away from seven angry citizens and a microphone to a forum that is civil and thoughtful,” said Robert Cavalier, director of the PDD and teaching professor of philosophy.

In 2013, Mayor William Peduto supported a recommendation from the Civic Health Index that Pittsburgh become a center for deliberative democracy. Within a year, the city began organizing deliberative community forums to select a new Chief of Police and set goals for its capital budget. And this November, at the National League of Cities (NLC) conference—which drew close to 3,000 elected officials from across the U.S. to Pittsburgh—the city rolled out “A Handbook for Deliberative Democracy Forums.”

CMU’s Metro21 initiative provided funding to support the creation of the handbook, which includes case studies and tips on developing briefing materials and recruiting participants. The Art of Democracy, a new spinoff consultancy out of the Philosophy Department, facilitated the city’s deliberative community forums and composed the handbook in consultation with PDD and the city’s Office of Community Affairs.

“Deliberative community forums offer well-structured opportunities for informed and inclusive public engagement. They facilitate civil dialogue among citizens from diverse backgrounds and between citizens and policy makers. As a result, these forums provide a means for gathering rich input about particular issues in ways that strengthen civic relationships and improve our community’s overall civic health.”
— Pittsburgh Mayor Bill Peduto
Writing Award Winners Tackle Diverse Topics

What does it mean to be Asian-American? Or Nigerian-American? Or simply American?

Winners in Carnegie Mellon University’s 2017 Martin Luther King, Jr. Writing Awards tackled topics from self-identity and racism to terrorism and the U.S. presidential election. The awards program—established in 1999 to give high school and college students a safe, creative space to explore racial and cultural differences—received a record-breaking 220 entries from 16 high schools and five colleges.

“Every year the submissions bring surprises, but the range and quality of stories this year was particularly impressive. While the recent election showed up in a number of pieces, it was more of a catalyst for students to tell their individual stories than to go off on a political rant. The maturity of these young people in discussing sensitive topics is truly inspiring,” said Jim Daniels, the Thomas Stockham Baker University Professor of English who founded and directs the awards program.

The student winners read their poems and essays at an awards ceremony on MLK Day. They received cash prizes and had their pieces published in a booklet distributed at the event.

Against the Grain

For Edda L. Fields-Black, every grain of rice tells a story. From her first monograph, “Deep Roots: Rice Farmers in West Africa and the African Diaspora,” to the multimedia project, “Requiem for Rice,” the tiny seed is the centerpiece of her work.

Curator Paul Gardullo relied on Fields-Black’s expertise as an adviser at the new Smithsonian National Museum of African American History and Culture, which opened to the public in September. Fields-Black helped him develop “The Rice Fields of the Lowcountry” for the Power of Place exhibit, one of 12 galleries in the only national institution dedicated to documenting African American life and history.

Fields-Black said that working with its curators exposed her to new storytelling methods.

“This peek ‘behind the curtain’ was revelatory for me,” said Fields-Black, associate professor of history. “I learned to speak to more people through historical sources and a variety of media.”

The experience informed her ongoing work on “Requiem for Rice,” a tribute to slaves on southern rice plantations performed by a full symphony orchestra and choir.
Language Lovers Find a Home in the Linguistics Program

Languages are complex, with patterns and rules that can seem unpredictable. Linguistics provides us with tools to help crack the code that underlies many languages, enhancing our understanding of communication.

Students who learn linguistics at Carnegie Mellon University are not constrained to studying language from a single point of view. Instead, they are able to draw on perspectives from the Dietrich College’s Departments of Philosophy, English, Modern Languages and Psychology, as well as the School of Computer Science’s Language Technologies Institute (LTI).

“Language is such a ubiquitous, integral part of human life that many different disciplines find themselves bumping up against it,” said Mandy Simons, professor of philosophy. Simons spearheaded the major in 2007 to create an “academic home” for a growing number of students who completed the linguistics minor and wanted more opportunities to study the subject.

The Linguistics Program provides students with a vocabulary for describing language precisely. Classes focus on everything from phonology, phonetics and syntax to the creative topics that drive courses like B.R. George’s “Invented Languages” (see side bar) and Tom Werner’s freshman seminar, “Interstellar Communication.”

Senior Tess Harty, a linguistics major who is minoring in computer science, enjoys making connections between her major and everyday life.

“It’s really exciting to notice things from class in the real world on a regular basis,” said Harty. “Linguistics courses explain how and why my peers from different backgrounds communicate in certain ways, like having different words for the same thing, pronouncing consonants a certain way or forming different constructions altogether.”

Daniel Davis was a science and humanities scholar who earned bachelor’s degrees in linguistics and chemistry in 2014. Davis said he benefited from Werner’s expertise in fieldwork when he traveled to Israel and the Palestinian Territories as part of his thesis for the Dietrich College Senior Honors Program.

Today, he is providing translation services in Latin America.

“The linguistics degree gave me many of the skills that I need as a translator, not to mention the skills needed to improve my Spanish so rapidly. A major in a language can be helpful in this sense, but a linguistics degree offers an infinitely more flexible, technical and practical approach,” Davis said.

Inventing Languages, One Philosophy Course at a Time

Why do languages work the way that they do? Why do they follow certain rules? “Invented Languages” was designed to get students thinking about language in a whole new way, and in doing so, inventing their own languages from scratch.

“Usually, when studying linguistics, we look at a language as the reality we’re trying to understand,” said B. R. George, assistant professor of philosophy. “In this course, we are coming at it from the other side: you have ideas about what language consists of and then build something to fit that. Practicing this way of thinking can be valuable in many kinds of theoretical work, not just with inventing languages.”
Student-Athletes Embrace Full CMU Experience

Dietrich College senior Lisa Murphy is the most accomplished basketball player in Carnegie Mellon University’s history with more than 1,800 career points. And she has said she is not defined by her success on the court.

“CMU has helped me embrace everything that makes me special, and that makes me ‘me’,” she said. “I’m Lisa Murphy, and I am a basketball player, I’m not Lisa Murphy, the basketball player.”

Murphy and Tristan Lockwood, a senior in social decisions sciences and a member of the men’s soccer team, were the two student speakers at the third annual Student-Athlete Academic Achievement Celebration in December. The event celebrates junior and senior athletes who have excelled in their field of study while balancing the challenges of being a student-athlete.

Lockwood shared why playing soccer had been an important part of his life for many years at the celebration. He said student-athletes often say that sports have taught them leadership, teamwork, accountability, time management and how to handle adversity. But, he and his teammates have learned much more.

“For me there is something more important that we have all gained as athletes that has made it all worth it,” he said. “And that is the idea that in order to truly better yourself — in order to truly succeed — you need to do the right thing every day.”

CMU’s First Digital Humanities Specialist

Scott Weingart supports digital humanities research at CMU, fostering collaboration across campus. He teaches a weeklong summer workshop that all humanities Ph.D. students and interested faculty take to become fundamentally literate in digital humanities. He also serves as an embedded digital humanities expert, collaborating with faculty using computational techniques in their research, teaching a weekly seminar for the A.W. Mellon Fellows and providing feedback and support for A.W. Mellon Seed Grant projects. Since joining CMU, Weingart has collaborated on dozens of faculty and student projects, manages a full-time developer to support internal A.W. Mellon award recipients and co-organized local workshops and national digital humanities events held in Pittsburgh.
Show and Tell: Andrew W. Mellon Foundation Grant at Work

While Earl Lewis was on campus to deliver the keynote speech at Carnegie Mellon University’s Commencement ceremony, he also had the opportunity to interact with students, researchers and faculty members.

In one meeting, Lewis, president of the Andrew W. Mellon Foundation, got to learn about the work that the foundation is supporting. He met with Dietrich College Dean Richard Scheines, Scott Weingart, CMU’s digital humanities specialist, and the five A. W. Mellon Fellows in the Humanities. They shared their projects and progress with Lewis, a renowned social historian, author and advocate for the humanities and technology-enhanced learning (TEL) in higher education.

Weingart was impressed by Lewis’ enthusiasm for the presentations.

“He was very engaged, writing careful notes and providing relevant feedback,” he said. “The A.W. Mellon Foundation funding has given our graduate fellows the time, resources and training they need to create truly innovative dissertation projects, and is already allowing them to act as guides to other members of their cohort interested in doing the same.”

Fellow María Pía Gómez Laich, a Ph.D. candidate in second language acquisition, focuses on how task complexity affects writing performance. Complex tasks can help second language learners, due to their increased communicative demands. But current research only centers on how it aids the accuracy, fluency and complexity of speech production.

“I was delighted by the enthusiasm that Dr. Lewis showed for each of our projects,” said Gómez Laich. “In the case of my project, Dr. Lewis was interested in its potential to transform second language writing pedagogy.”

In addition to Weingart and the graduate fellowships, the A. W. Mellon Foundation grant supports other digital humanities and TEL projects at CMU.

A.W. Mellon Fellows in the Humanities

María Pía Gómez Laich
Second Language Acquisition, Modern Languages Department

Effects of Task Complexity on ESL Students’ Academic Writing

Complex tasks can help second language learners, due to their increased communicative demands. Current research focuses on how task complexity aids the accuracy, fluency and complexity of second language learners’ speech production. Gómez Laich seeks to fill a gap by concentrating on how task complexity affects writing performance.

Using the text analysis software DocuScope — a CMU-created dictionary-based program that identifies, classifies and stores word strings — she is looking for trends that indicate academic writing development among second-language learners, including increased use of linguistic and rhetorical features often found in academic writing.
**Susan Grunewald**  
History, History Department  
*German Prisoners of War in the Soviet Gulag*

Grunewald’s project examines German prisoners of war in the U.S.S.R. from 1941 to 1956. Drawing from memoirs and archival sources, Grunewald is investigating international relations, the motives of the Soviet government in delaying repatriation and narratives that prisoners in East and West Germany constructed after their return.

Her research uncovered that the Soviets were motivated by economic necessity to employ POWs through their prison system because they were in dire need for laborers after the destruction of World War II. She is using the geographical information system mapping tool ArcGIS to plot maps tracking POW populations, their labor contributions and the locations of the camps in urban and rural settings.

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**Jessica Harrell**  
Rhetoric, English Department  
*Transforming Assignment Practices in the Humanities*

Harrell’s TEL project explores how online and digital formats could transform traditional assessment models. She is interested in enhancing how students demonstrate what they have learned in humanities courses by focusing on how technology could offer alternative ways to assess and achieve learning objectives.

For example, if the learning objective is to explain a concept, traditional assessment methods might include writing a research paper or response. Harrell is interested in whether things like audio recording technologies, online writing platforms and multimedia tools can be used to design assignments that prioritize digital literacies rather than disciplinary genres. Adopting such assignment designs could give students opportunities to practice communicating with technology they may encounter again.

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**Susan Tanner**  
Rhetoric, English Department  
*Understanding the Privacy Paradox: A Corpus Analysis of U.S. Privacy Law Cases*

Tanner, combining her legal and rhetoric backgrounds, is creating a digital humanities tool to examine how ordinary citizens’ views of justice contrast with the law’s definition of justice in privacy rights cases.

She examined cases for particularized language usage that is correlated with distinct stance-taking and is using that to develop, test and refine a digital dictionary that will help her evaluate intertextual links in Supreme Court opinions. This dictionary will allow Tanner and subsequent researchers who better understand the link between legal citation practices and legal outcomes. Tanner is also creating a database of every state and federal appellate court privacy law case, which will be made available to researchers and the general public.

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**Pierce Williams**  
Literary and Cultural Studies, English Department  
*Buying Into Science*

It is commonly thought that scientific elites were responsible for shaping views on science in Newtonian England. But Williams believes that science’s reading public played an important role in shaping the cultural impact of science in the eighteenth century by funding and having their names published as subscribers in scientific texts.

Williams is digitizing sociological data from subscription lists, including printers and publishers, to understand the demographics of the audience for scientific publications of the time. To create a clear network, he is building statistical models that will show — at the macro level — how science moved across the U.K.
Forty Years of CMU Statistics and the National Academy of Sciences

According to Eddy, the NAS repeatedly relies on CMU statisticians because of their keen analysis skills.

“We’re all problem solvers at CMU,” he said.

Besides the opportunity to find solutions that affect the daily lives of Americans, Eddy’s participation with the NAS has another distinct advantage: It allows him to “hang around with some of the smartest people in the world.”

The late Stephen Fienberg also appreciated connecting with other accomplished researchers through the NAS.

“I’ve met friends and new collaborators and see different dimensions of what’s happening with science in Washington,” said Fienberg, University Professor of Statistics, Machine Learning and Cylab, Emeritus.

Fienberg, an elected member of NAS, was deeply involved with the academy for over 40 years and until his death in December. He served on 35 committees and panels addressing everything from bilingual education and census taking to research methodology and the accuracy of polygraph tests. And for the past 12 years, he was part of the report review process, in which a team of up to 25 reviewers ensures that the results of a study are effectively and accurately communicated. Fienberg was responsible for reviewing 200 reports each year.

He also served on the Standing Committee of the American Opportunity Study (AOS). Other committee members include Jared Murray, a visiting professor of statistics, and Mauricio Sadinle (DC’11,’15), who received his master’s degree and Ph.D. at CMU under Fienberg’s guidance.

The AOS aims to combine existing data from the U.S. census, surveys and programs like Social Security to study individuals and families over time. By linking existing records from a variety of sources, researchers can capture important demographic information without the prohibitive cost of traditional longitudinal studies.

“Estimating a ‘good’ set of linked records, understanding the uncertainty and error in the linking process and properly accounting for this uncertainty and error in the final analysis are all major research topics of mine” said Murray. “These are current and traditional areas of strength in the CMU Statistics Department.”

Miron Straf (S’64,’65) worked closely with Fienberg as research director of CNSTAT at the NAS. In 1985, the pair published a groundbreaking report on sharing research data.
“We did that before it was popular,” said Fienberg.

Straf, who spent most of his career at the NAS, believes CMU’s pioneering spirit is part of what sets it apart from other institutions.

“CMU, and the Department of Statistics in particular, is world class in the caliber and rigor of theoretical and methodological research,” said Straf. “CMU faculty not only willingly collaborate, they invite and seek the collaboration of others.”

Daniel Cork (DC’96, HNZ’00) received a joint Ph.D. from CMU in statistics and public policy and is a senior program officer for CNSTAT. He echoes Straf’s sentiments.

“CMU’s great strength is interdisciplinary work at the extreme, dispensing with disciplinary walls whenever possible,” said Cork.

Moving across disciplinary boundaries is an essential skill for participating on NAS panels, which Statistics Professor Joel Greenhouse describes as an “intensive short course in any subject matter.”

Greenhouse is currently chairing a panel legislated by Congress to evaluate the scientific merits of a Department of Transportation system for assessing the risk of accidents among long-distance truck and bus carriers. Previously, he helped analyze the relative effectiveness of interventions for family violence.

He says that the Statistics Department’s emphasis on the real-world application of statistics is key to the longevity and depth of its relationship with the NAS. For more than 40 years, CMU statisticians have contributed countless volunteer hours of work to the mission of the NAS, building a reputation of excellence.

The long and impressive list of participants includes Larry Wasserman, a professor of statistics and machine learning, who will become an elected member in 2017. In addition, Robert Kass, the Maurice Falk Professor of Statistics & Computational Neuroscience, has been a member of CATS since 2012. Brian Junker, professor of statistics and the associate dean for academic affairs in the Dietrich College, has served on four educational-related committees since 1999. And Joseph Kadane, the Leonard J. Savage University Professor of Statistics, Emeritus, has served on various NAS committees and panels since 1974.

Stephen E. Fienberg, 1942 – 2016

Stephen E. Fienberg, University Professor of Statistics and Social Science, died Wednesday, Dec. 14 in Pittsburgh. He was 74.

An internationally acclaimed statistician, Fienberg was best known for developing and using statistical applications to influence science and public policy in many areas, including aspects of human rights, privacy and confidentiality, forensics, survey and census taking. He was elected as a member of NAS in 1999 and made theoretical and methodological advances in algebraic and multivariate statistics, followed his wide-ranging curiosity into other disciplines and helped to pioneer machine learning as a field and at CMU. He shared his passion for statistics and his work with his students and junior faculty members, training and mentoring the next generation of statisticians and data scientists.

“For 36 years, Steve was one of Carnegie Mellon’s most valued citizens,” said Provost Farnam Jahanian.

Fienberg joined CMU’s Statistics Department in 1980 and, over the years, added additional appointments in the Machine Learning Department, CyLab and Heinz College. He served as head of the Department of Statistics from 1981-1984 and was instrumental in moving it from a freestanding department into the College of Humanities and Social Sciences (now the Dietrich College) and retaining and recruiting world-class faculty. From 1987-1991, Fienberg served as dean of the college, creating the Modern Languages Department and expanding the college’s overall stature and impact.

“For 36 years, Steve was a clear role model for how statisticians can make a difference. He had an abiding passion for statistics and its role as a force for good in the world. He was intensely dedicated to his work and focused on doing things the right way. Steve was also incredibly invested in guiding and supporting students, from those in his freshman seminars to the doctoral students he advised. CMU Statistics would not be what it is today without him,” said Christopher R. Genovese, head of the Statistics Department.
In the City of Champions, where sports teams are lauded for repeat victories and daring displays of athleticism, there is one team that is often overlooked. Carnegie Mellon University’s Department of Psychology has spent the past 100 years redefining academic and research success. Just as there would not have been an immaculate reception without Pittsburgh Steelers Franco Harris, the field of cognitive psychology and big data’s intersection with education, language and brain sciences would not exist as they are today without CMU Psychology.

Over the past year, the department celebrated its past, present and future by inviting alumni back to campus for several events. There was, of course, cake. A banner hung proudly from Baker Hall’s windows. And, current and past faculty members, students, staff and friends of the department had a chance to reconnect and reflect.

“The most gratifying part about being a teacher is watching your former students succeed. In the Psychology Department, we are spoiled. Our graduates are at the top of many different industries and fields, and that is our real legacy,” said Marcel Just, the D.O. Hebb University Professor of Psychology who organized a two-day symposium for graduates of the Ph.D. program.

Just isn’t kidding. Stuart Card (DC’78), a consulting computer science professor at Stanford University, is one of the co-founders of the human-computer interaction field. Kevin Gluck (DC’99) is a principal cognitive scientist at the Air Force Research Laboratory. Jessica Cicchino (DC’09) is the vice president of research at the Insurance Institute for Highway Safety. She recently completed a study that found forward collision warning and autonomous emergency breaking systems in cars reduce rear-end crashes by about 40 percent.

And, while the list goes on, many attribute their success to the training they received at CMU.

“The graduate education I received in cognitive psychology was so future-oriented that I always felt like I had the skills to tackle problems in human factors, task analysis, learning, human performance assessment, modeling and many others,” said Douglas Eddy (DC’73), a senior research scientist at NTI, Inc.
The Present

Fast-forward to 2016, and Department Head Michael J. Tarr likes what he sees in the department’s award-winning faculty and current students.

“We are thriving,” Tarr said. “We are not just ‘heads in the clouds’ scientists. Unique to Carnegie Mellon, we worry about real-world implications and applications. We are risk-takers. We develop ideas and methods that lead and change the field and expect our faculty and students to continue this tradition of innovation.”

Today, the department’s focuses include applying research to improve educational practices, school environments, the diagnosis and treatment of brain disease and public welfare through better health.

Psychology faculty are at the center of two university-wide initiatives: BrainHub, which focuses on how the structure and activity of the brain give rise to complex behaviors; and the Simon Initiative, which aims to measurably improve student learning outcomes by harnessing a learning engineering ecosystem that has developed over several decades at CMU.

CMU undergraduates studying psychology receive more research training than most of their peers and achieve impressive results. Recent graduate Maya Schumer worked with Associate Professor David Creswell on how mindfulness meditation training can be used as a mental health intervention.

“It’s made me into a researcher that I didn’t know I could be,” she shared. “Now, I can really see myself as an active member of the scientific community.”

Senior Adam Dickter, a science and humanities scholar, was bitten by the research bug as a freshman when he took a course with Marlene Behrmann, the Cowan University Professor of Cognitive Neuroscience, and then approached her about research opportunities.

Now, Dickter is working on a new project that involves an EEG methodology called Steady State Visual Evoked Potential (SSVEP). Researchers are able to collect data more quickly with SSVEP than with traditional EEG methods because in SSVEP, participants see stimuli several times per second.

“The hands-on research experience that our students receive is truly invaluable, and it is also very exciting for us as teachers and mentors to work with enthusiastic, eager and young minds,” Behrmann said.
The Simon Era

This is all built on a solid foundation that began back in 1915-1916. While the exact date is somewhat of a mystery, the roots have clear and direct ties to the department today through its interdisciplinary nature.

The real coup for CMU Psychology started in 1962 when Herbert A. Simon, a professor of computer science who would go on to win the Turing Award and the 1978 Nobel Prize in Economics, decided that he needed to move his office to the Psychology Department. Simon and CMU’s Allen Newell were convinced that the future of psychology was in artificial intelligence and cognition.

To kickstart his new effort, Simon secured substantial National Institute of Mental Health funding and created the annual Carnegie Symposium to help attract superstar new faculty to the department.

“Herb Simon played an influential role in the department's subsequent hiring strategy, in which the department energetically recruited the emerging stars in the field of computational models of cognition, including such world-class scientists as John Anderson, Marcel Just and Jay McClelland,” said David Klahr, the Walter Bingham Professor of Cognitive Development and Education Sciences and de-facto department historian for the centennial celebration events.

The results were impressive. According to Leigh Nystrom (DC’95), the director of Princeton University’s Scully Center for the Neuroscience of Mind and Behavior, “CMU Psychology in the 1980s was the indisputable epicenter of computational modeling of human cognition.”

At the same time, the department began establishing itself as a social and health psychology powerhouse by bringing Sheldon Cohen, now the Robert E. Doherty University Professor of Psychology and member of the National Academy of Medicine, to join Professor Michael Scheier.

The Next 100 Years

Tarr believes that the future is especially bright for CMU Psychology in four areas: creating large-scale computational theories of human behavior, thinking and its neural underpinnings; driving the development of cutting-edge technologies; leading in multidisciplinary research and training and diversifying career opportunities.

He is especially grateful to several alumni who are helping to ensure that these things happen.

An anonymous alumnus recently donated more than $1 million to fund a wide variety of training and research efforts across the department as well as remain competitive in faculty recruitment and retention.

Barbara Bessey (DC’77) has endowed the Kevin Gilmartin and Barbara Bessey undergraduate scholarship to honor her late husband, also a CMU psychology alumnus.

Four alumni—Josefina and Stuart Card, Edward Deci (’70) and Patrick Cavanagh (DC’72)—launched a new Centennial Fund as the lead donors. With a goal of an ultimate endowment of more than $100,000, the fund will provide permanent graduate student support that will enable CMU Psychology to be even more competitive in recruiting and supporting its students.

“I benefitted immensely from my time at CMU and hope to be able to help others have the same opportunity,” said Cavanagh, who called his recent visit to campus for the graduate student alumni symposium “wonderful” and said it was nice to “revisit the site of so much discovery and adventure and see how it has kept strong into the present.”
Though Carnegie Mellon University does not have a formal program devoted to studying Latin America’s history, culture and politics, there is no shortage of research and educational opportunities.

“You might say the Dietrich College of Humanities and Social Sciences has a Latin American Studies Program in all but name,” said Paul Eiss, associate professor of anthropology and history.

Faculty members from several departments conduct research in Mexico, Cuba, Honduras, Nicaragua, Chile, Uruguay and Argentina and provide an array of course offerings in Latin American and Latin Studies.

“Many undergraduate majors in Hispanic Studies and Global Studies focus on Latin America and have undertaken study abroad programs throughout the region,” Eiss said, adding, “Graduate students in History and in Second Language Acquisition have explored topics ranging from the U.S.-Mexico borderlands to native Maya leaders in Yucatan, to language policy in Peru.”

Rajeshwari Dutt (DC’12) worked closely with Eiss as a CMU graduate student in social and cultural history, sparking her interest in Latin American history and culture.

“The scholars working on Latin America across disciplines form a close-knit and vibrant group with students and faculty doing research on topics ranging from environmental history to linguistics and cultural studies,” said Dutt, now assistant professor of history at Indian Institute of Technology, Mandi, where her research areas include Latin American history and indigenous and agrarian studies.

David Marshall Struthers (DC’04,’10) completed his dissertation on transnational organizing in Los Angeles in the early 20th century.

“The strength of Latin American Studies at CMU comes from the nuanced and patient interrogation of local communities without losing sight of broader interrelations throughout the Americas and the world,” said Struthers, a lecturer in the Department of English, Germanic and Romance Studies at the University of Copenhagen.
When Joe William Trotter, Jr. joined the Department of History in 1985, he saw an opportunity to solve real social problems through his specialties in 20th century U.S. and African American urban and labor history.

“It was an exciting moment to join the department because of Carnegie Mellon’s commitment to research on human societies from the perspective of the most dispossessed of the world’s people,” said Trotter, the Giant Eagle Professor of History and Social Justice. “An institution that valued and enthusiastically supported ‘history from the bottom up’ greatly appealed to me as a scholar of African Americans.”

Part of Trotter’s work creates links between the past and present — particularly in examining social problems like unemployment, underemployment, incarceration, homelessness, addiction and other issues that disproportionately affect black people. The old adage, “Those who don’t learn from history are doomed to repeat it” is particularly salient in a time when racial tensions are high in America.

“The first step toward resolution of current inequalities requires a profound understanding of the many ways that past forms of inequality continue to influence the present,” Trotter said. “History is a tool to get the job done.”

When working to help the disenfranchised, policymakers, activists, philanthropists and others often rely on stereotypes of the very people they’re trying to help, viewing them as helpless consumers — takers, rather than givers. Trotter said this results in a missed opportunity to see the resources the dispossessed share with each other and to learn from the networks and systems they create.

For instance, the Black Lives Matter movement, which has gained momentum through social media, is informed by a rich history of appropriating contemporary modes of communication to fight inequality.

“Such appropriations of new technology recognize and often follow a period of very damaging and inflammatory use of the same technology to denigrate the culture, character and integrity of black people,” Trotter said.
Germaine Williams shares Trotter’s passion for dismantling racist systems. From 1999 to 2001, Williams was a presidential fellow in the Master of Arts Management program at Heinz College. During this time, he also worked with Trotter as an intern for CAUSE (Center for Africanamerican Urban Studies & the Economy), combining his interests in African American urban life and U.S. cultural policy development. He draws from this interdisciplinary background regularly in his work as a senior program officer in arts and education with The Pittsburgh Foundation.

As he works to disrupt the effects of racism and increase access to the arts, Williams regards Trotter as a professional role model.

“Our of all the voices in my head, his is one of the most challenging; his is a powerful voice of encouragement and possibility,” Williams said. “The work ethic, rigor, collegiality, ability to laugh, critical listening, deep commitments to fairness and process — these are all qualities that I hope I am able to bring to my work.”

Over the past 30 years, Trotter has established himself as the university’s leading expert on African American history, through his work and through CAUSE, which he founded in 1995.

As the only unit at Carnegie Mellon devoted to interdisciplinary research and education on the African American experience, CAUSE provides an ongoing forum for people to reflect on racial and class disparities in a non-threatening space.

Under Trotter’s leadership, CAUSE has brought more than 150 prominent scholars to CMU and the Pittsburgh region. The speakers’ series and conferences have resulted in the publication of three edited volumes on African American urban history, including “Black Power Beyond Borders: The Global Dimensions of Black Power,” by CMU Associate Professor of History Nico Slate.

Another major undertaking of the center is the Remembering Africanamerican Pittsburgh (RAP) oral history project. From 2007 to 2009, graduate students collected 185 oral histories of African American life in Pittsburgh since World War II, gathering information on community networks, migratory patterns, family connections and work and leisure activities to paint a picture of black life and culture in Pittsburgh in an era of economic decline.

In addition to the RAP project, CAUSE demonstrates its dedication to research through its postdoctoral fellowship program, which has supported the work of 17 fellows.

“The first step toward resolution of current inequalities requires a profound understanding of the many ways that past forms of inequality continue to influence the present,” Trotter said. “History is a tool to get the job done.”

Stephanie Boddie, the 2015-2016 CAUSE postdoctoral fellow, is researching the relationship between black church life and entrepreneurship in the United States. On April 29, Boddie will present a lecture entitled “Unfinished Business: Black Religion and Social Entrepreneurship.”

“Through CAUSE, Dr. Trotter has created an environment for emerging scholars to reach their full potential,” Boddie said. “He is not only studying history — he is making history and creating the space for others to consider how they can do the same.”

Trotter makes a point to ensure that CAUSE events are free and open to the public. Upcoming events include a lecture on the history of black women in health professions and a conference that will help shape the future of the center. By making conferences, lectures and film screenings accessible to diverse groups of people, CAUSE provides networking opportunities to individuals who may otherwise not cross paths.

To Trotter, it is important that these networks build bridges between academia and the greater Pittsburgh community.

“Knowledge shouldn’t be locked away behind the walls of the academy,” he remarked. “We want to empower people through access.”
The Simon Initiative and CMU’s Digital Education Revolution

Dietrich College is at the center of the university’s Simon Initiative, which aims to transform higher education instruction through CMU-led advances in learning science and its applications.

The initiative is currently focused on three overarching goals:

• Build a learning engineering ecosystem at Carnegie Mellon to support faculty to improve student learning outcomes. This approach is currently being applied in three areas of fundamental importance: writing and communication; statistical reasoning; and computing.

• Create an open source software “backbone” to link the state-of-the-art tools developed at CMU (such as Open Learning Initiative, or OLI, courses) to each other and to tools developed elsewhere so that learning engineers anywhere in the world can have a toolbox that has been demonstrated to improve learning outcomes.

• Adapt the world-leading methods and tools developed at CMU and make them widely and freely available so that any instructor, anywhere in the world, can create his or her own modules and courses customized for any group of students.

“[OLI] allows me to take more responsibility for my learning ... it really de-stresses the whole situation because you have this other opportunity to learn that’s then incorporated into the classroom.”

— Lilah Buchanan, senior psychology major
One way the Simon Initiative is already making an impact on CMU’s campus is through blended courses. During the fall semester, “CS 15–110 Introduction to Computer Science” combined in-class meetings with CMU’s own educational technology that is designed to improve and accelerate student learning.

Outside of class, students watch videos and work through practice problems using software that lets them know when they are making the right-and wrong-choices. The immediate feedback is a hallmark of CMU’s OLI, which has dozens of high-quality online courses in topics from computer science to English. OLI also tracks how students respond to each lesson and problem and then uses that data to continuously improve the course.

Student responses are sent to the DataLab server, where they are recorded on the 15–110 course dashboard. The collection of servers processes data from online tutors every second, creating and growing existing datasets based on student actions. DataLab is the world’s largest open and free repository of learning data, which is available for learning scientists all over the world to use in their research. The data has been collected by CMU since 2005, reflecting more than 200 million observations of learning activities from nearly a quarter of a million students.

“It’s all about the data,” says Ken Koedinger, professor of human-computer interaction and psychology. As one of the world’s leading learning scientists, Koedinger has shown that well-designed technology can dramatically improve student learning outcomes.

And the approach works: studies have shown that in Carnegie Mellon’s OLI courses, students can master twice as much course material in half the class time, and there is evidence that they retain more material.

The Simon Initiative offers support for faculty members, too, through the Eberly Center for Teaching Excellence and Educational Innovation. Marsha Lovett directs the Eberly Center and helps CMU faculty and grad students to be better teachers and use evidence-based methods and technologies in the classroom. Over the past academic year, the Eberly Center reached nearly one-third of all CMU instructors through its programs and one-on-one services, including 435 consultations on teaching and learning across all seven schools and colleges.

LearnLab Experts Present Accomplishments at NSF Meeting

The National Science Foundation held a conference to celebrate the achievements of its six Science of Learning Centers. Key members from each center, including CMU’s LearnLab, presented their educational research accomplishments to underscore the importance of establishing a sustainable science of learning community to produce breakthroughs that impact education.

LearnLab was represented by Dietrich College’s David Klahr, the Walter van Dyke Bingham Professor of Cognitive Development and Education Sciences, who presented “Timing is Everything... Sometimes,” and Ken Koedinger, director of LearnLab. Koedinger outlined how the center has facilitated more than 360 live, cross-domain classroom experiments. By demonstrating successful instructional interventions and using fine-grain process data, the experiments revealed insights into the causal mechanisms of implicit and explicit learning processes and the social and motivational conditions that enable them.

“LearnLab researchers have led the way in developing data-driven learner models that allow us to go beyond reliance on intuitions as students and teachers, on how to optimize learning experiences, said Soo-Siang Lim, program director for the NSF Science of Learning Program. “LearnLab’s foundational work to develop a conceptual framework to systematically investigate the instructional design, combined with Big Data from LearnLab’s DataShop, are important elements of these achievements. DataShop is the world’s largest open repository of educational technology, and LearnLab researchers are pioneering the new and increasing important field of education data mining.”
Dietrich College Entrepreneurs Speaker Series

A new lectures series, co-sponsored by the Swartz Center for Entrepreneurship, brings distinguished alumni back to campus to share their personal journeys and meet with students.

I Never Learned To Spell “Successful”

**Javier Soltero (DC’98)** attended CMU at the dawn of the Internet era. Since then, Soltero – an information systems major with a concentration in computational finance – has climbed to the top of the technology industry. However, Soltero’s path to becoming the corporate vice president of Outlook Program Management at Microsoft was not without hurdles.

“Most of my experience comes from failure,” Soltero said. He discussed how those failures all played a key role in helping him build a career as an entrepreneur in the technology field.

At Microsoft, Soltero leads the team responsible for the vision and strategy for the Outlook client and cloud service across all platforms. Prior to this role, he was the general manager of Outlook Mobile, the most downloaded iOS and Android Microsoft mobile app. Soltero joined Microsoft in 2014 when Acompli, the startup he co-founded, was acquired. In 18 months, he led Acompli to great success, building a world-class team of developers and launching the product to rave reviews.
Alumnus Shares His Secrets To Success

The road to building three billion-dollar companies wasn't always easy for Lane Bess (DC’83). Bess, who majored in managerial economics at Carnegie Mellon University, recently returned to campus and shared how he overcame obstacles and found success.

The entrepreneur turned investor told a packed roomful of students that one thing he is extremely thankful for is his CMU education. “It forced me to be better, and it ultimately helped me,” Bess said.

Bess was founder and CEO of Palo Alto Networks — the fastest growing technology security traded on the New York Stock Exchange. He was instrumental in building and leading Zscaler, an innovator and leader in cloud-based Internet security services, and led Trend Micro Internet Security to market on a global scale.

During his talk, “Road to Building Great Companies: Tapping Into Your Entrepreneurial Spirit,” Bess covered five areas that anyone starting a business should consider:

- Knowing who you are – whether it’s an entrepreneur, founder or CEO
- Creating a vision and defining your company
- Executing – a go-to-market productivity model
- Raising capital – finding the right investing partner
- Establishing the right culture

Lessons Learned From the Software Industry

Over the past 20 years, Adam Gross (DC’94) has weathered the dot-com crash, founded two companies, worked in marketing, product management and leadership roles and invested in startups. Every step of the way he has learned valuable lessons.

To prepare for his talk, “After CMU: Building a Career in Technology,” Gross thought of the advice he wished he’d received as a college senior planning a career in the software industry.

That advice included focusing on companies that reflect one’s values rather than zeroing in on a specific title or status, and seeking opportunities at the intersections of seemingly dissimilar fields. “Opportunity and the trajectory of a company are what counts,” said Gross.

Pointing to Steve Jobs as an example of someone who successfully blended liberal arts and technology, he noted that CMU’s Dietrich College of Humanities and Social Sciences sets students up for success across disciplines. In fact, he said that’s part of why he designed a major in New Media Systems and Policy through the college’s Student-Defined Major Program. “It’s better to be pretty good at two things than great at one,” he remarked.
Alumni Spotlights

Using Foreign Languages To Shape Career Paths

Kyle Troutner has been fascinated with Japanese culture since childhood.

“I thought the samurai and ninja were cool and wanted to learn more about Japan,” Troutner said.

He started studying Japanese with a private teacher in sixth grade, and continued taking courses throughout high school. By the time Troutner arrived at CMU, he already knew that he wanted to double major in computer science and Japanese Studies.

Today, Troutner, who graduated in 2014, is a software engineer at Japanese e-commerce company Rakuten.

“It wasn’t until after I studied abroad that I decided I wanted to come here to work,” he said. “The addition of a Japanese major allowed me to have a broader academic experience during my time at CMU, instead of only taking technical courses.”

Yasufumi Iwasaki, associate teaching professor of Japanese, advised Troutner and taught many of his language courses.

“Kyle was not only highly motivated, but also equipped with unremitting diligence and a strong work ethic,” said Iwasaki. “In class, he worked well with his classmates with diverse cultural and linguistic backgrounds. And during his study abroad at Nanzan University, he was able to prepare himself for working in Japan after graduation.”

Troutner is not alone in combining language expertise with another discipline. In our increasingly globalized world, foreign language education is becoming more critical. Thankfully, CMU students have the Dietrich College’s Department of Modern Languages.

Catherine Rodríguez (DC’12, A’12) credits CMU with helping her synthesize her passions.

As a freshman, she discovered the field of dramaturgy, which combined her interests in writing, editing and theater.

The following year, Rodríguez’s personal life took center stage when her grandfather passed away. To reconnect with her Nicaraguan roots and honor her “abuelito,” she declared a major in Hispanic Studies.

“Language was a big part of recovering,” said Rodríguez. She gained a deeper understanding of her heritage by studying the intersections of African-American history, colonial studies and Hispanic Studies, which spanned a range of Spanish-speaking countries.

“Latin America is huge — not a monolith. Yet there was a spirit that I felt connected to,” said Rodríguez.

Kenya Dworkin y Méndez, associate professor of Hispanic Studies, taught Rodríguez in her Spanish-language U.S. Latinos class.

“She was eager to enter into historical and ethical discussions regarding the history and position of Latinos in the U.S.,” Dworkin y Méndez said.

Throughout her career, Rodríguez has blended Hispanic Studies and dramaturgy as a producer, translator, dramaturg and advocate for the Latin theater community. Today, she is a rising second-year MFA candidate in Dramaturgy and Dramatic Criticism at Yale.

“More than a job description or title, I want to be part of the national conversation, I want to help frame that conversation, I want to occupy space and make space for others. I don't know what that job is — it may be something I've never heard of — but I see myself as a leader,” said Rodríguez.

In 2014, 45 percent of CMU undergraduates took a Modern Languages course—a striking contrast to the roughly 8 percent national average.
Creative Writing Alumni Take On Hollywood

There is a good chance that your favorite TV show or movie has a connection to CMU's English Department. From "Toy Story" to the hottest sci-fi television hits, creative writing alumni are writing, producing and directing.

As the co-executive producer of the CW Television Network series "The 100," Javier Grillo-Marxuach (DC'91) works closely with showrunner Jason Rothenberg to bring the program's dark vision to life. The show is set in an apocalyptic world and 100 juvenile delinquents are sent from a spaceship housing humanity's only survivors in hopes of re-populating the planet. Grillo-Marxuach said he admires how Rothenberg has stayed true to his personal vision of the show.

"I am blown away by this universe that Jason has created," said Grillo-Marxuach, a double creative writing and cultural studies major. "He has a very distinctive point of view about the universe and what the universe does to people. It's always a thrill when you work with someone with so much ambition."

Before joining "The 100" team, Grillo-Marxuach was an Emmy award-winning writer and producer for "Lost." He credits Carnegie Mellon's writing workshops with Sharon Dilworth and the late Hilary Masters for preparing him to work in the TV industry.

Kai Wu (DC'04), a creative writing and professional writing double major who writes for the CW's show, "The Flash," believes the workshop system is very beneficial. "In 'Screenwriting Workshop,' Professor Jane Bernstein taught us the importance of characters," said Wu, a former writer for NBC's "Hannibal." "I started writing character biographies for all the major characters in my scripts and that's something I still do. I love that process because I discover things about my characters that I never even knew."

In another class, 'Survey of Forms: Fiction' with Sharon Dilworth, Wu recalls learning how to distinguish between a story and a situation in a body of work. Writers use this technique to look for the meaning or "story" behind a situation or event.

"It was invaluable and through that, I was able to analyze movies and scripts critically," she said.

Laura Harkcom (DC'93), another creative writing major, said the workshops taught her the discipline of writing daily. Harkcom gets her daily dose of writing in as a consultant for Universal Pictures where she's currently consulting on scripts for eight movies and a TV show. "Parallels," the pilot she co-created last year for Fox Television Studios, is currently streaming on Netflix. Before that, she co-created, co-wrote and co-executive produced the TV show "The Lost Room" for the Syfy channel with fellow creative writing alum Christopher Leone (DC'93).

Along with the disciplined atmosphere of the creative writing program, encouragement from her CMU professors, who are practicing poets and prose writers, helped Harkcom.

Greg Marcks (DC'98), a creative writing major who now directs films, was first drawn to the major because he wanted to tell stories. After the screenplay for his debut film "11:14" was passed around in Hollywood, Oscar-winning actress Hilary Swank signed on to produce and star in the movie, along with the late Patrick Swayze. The darkly-comic thriller follows five different characters and five different storylines that all converge to tell the story of murder and deceit.

He said the screenplay for "11:14" was influenced by Masters' course 'The Novita,' which examined short stories that were connected by a single theme.

"The class had a major influence on me since that was the direction I went with my first film—five short stories that were connected—a little more plot-wise than thematically. I think that idea was something that I wouldn't have attempted if I hadn't taken that class," said Marcks.

Marcks also chose to study creative writing at Carnegie Mellon because it was one of the few universities in the U.S. offering a bachelor of arts in creative writing degree.
Behind the Scenes at The HistoryMakers

With stories from President Barack Obama, Gen. Colin Powell, B.B. King Langston Hughes’ assistant and more than 2,700 others, The HistoryMakers is the largest African-American oral video archive in the world.

Thanks to a longtime partnership with Carnegie Mellon University, the online database is searchable and available for students and scholars at subscribing institutions including CMU, Harvard, Yale and Princeton, among many others.

But that’s not where the CMU connection ends — Dietrich College alumnus Dionti Davis has been working for the project since he graduated in 2014. Davis, who majored in history, is currently the special assistant to the executive director for the Chicago-based non-profit.

“I think that right now, the country lacks a sense of mutual understanding between people of different racial and ethnic backgrounds,” Davis said. “Too often, people are simply categorized as the ‘other,’ making it much easier to write off their issues as unimportant or irrelevant to our own lives. I think that work like The HistoryMakers allows people to connect and empathize across the social divisions we place on ourselves, by letting them not only hear, but also see, the emotions and expressions of each interviewee.”

Alumna Receives Rare NSF Fellowship in the Social Sciences

Courtney Wittekind (BXA’13) received one of 2,000 fellowships through the National Science Foundation (NSF) Graduate Research Fellowship Program. The $138,000 award will support Wittekind’s doctoral studies in social anthropology at Harvard University, which she began this fall.

Wittekind, who was awarded a Rhodes Scholarship in 2013 to study social anthropology at Oxford University, was selected from a pool of close to 17,000 applicants representing diverse scientific disciplines. However, as Judith Schachter notes, the fellowship is rarely awarded in the social sciences.

“Throughout her undergraduate and master’s level work, Courtney has been committed to stretching the principles and the methods of cultural anthropology,” said Schachter, professor of anthropology and history. She advised Wittekind on undergraduate research about refugees at the border of Myanmar and Thailand.

Wittekind is currently exploring how political claims made in the context of Myanmar’s transition emerge in the border regions’ physical environment, as conflicting claims to land result in overgrown fields and locally-valued forests are overtaken by new construction sites.

“What’s exciting about this kind of work is the way that it looks at abstract demands for representation and questions of belonging through what is tangible and often mundane, but nevertheless powerful,” said Wittekind.
Luke Brindle-Khym is passionate about truth and justice. He has taken that passion and turned it into a career and viable business. In 2010, Brindle-Khym launched Quest Research & Investigations LLC (QRI), a firm that collects evidence for civil and criminal litigators and investigates corporate misconduct.

Brindle-Khym (DC ’01) spends his days at QRI performing compliance work and transactional due diligence to minimize legal and financial risks for his clients. He said that his Carnegie Mellon University education gave him the foundation to do this by teaching him how to critically analyze texts – from great works of literature to financial statements and SEC filings.

“A Dietrich College education empowers you to ask difficult, fundamental questions and to refine and sharpen those questions as you quest closer to the truth. Students can use those skills to do great things,” said Brindle-Khym, who earned his bachelor of arts degree in social history and also majored in English.

Since QRI’s inception, Brindle-Khym has focused on building a team of world-class investigators with strong detective skills and high ethical standards. Soon, QR investigators will begin using the artificial intelligence technology and machine learning techniques they have built in-house to identify patterns in vast quantities of data.

Joseph E. Devine, associate dean for undergraduate studies in the Dietrich College, often mentions Brindle-Khym to other students because of his career’s twists and turns.

“His life story has been fascinating because he pays attention to opportunities and follows them. He has a willingness to embrace uncertainty and serendipity,” Devine said.
Dietrich College Senior Receives Fulbright Award

The U.S. Department of State’s Bureau of Educational and Cultural Affairs sponsors the Fulbright U.S. Student Program to “increase mutual understanding between the people of the United States and the people of other countries.”

Laura Berry, who graduated in 2016 with majors in creative writing and Japanese Studies, will travel from her hometown of Ridgewood, N.J., to Japan on a Fulbright Study/Research Grant. She plans to explore literature written by women during the economic slump of the 1990s, known in Japan as the “Lost Decade.” She will continue her language studies and audit courses at Hokkaido University in Sapporo.

Additionally, Dietrich College alumna Lauren Mobertz received a Young Professional Journalist Award to report on the work experience of Millennials in Germany and the current state of labor in the country. Mobertz, a 2012 graduate with a major in professional writing, plans to cover mental health taboos in the German workforce, internships and job placement for recent high school and college graduates, and work options for young refugees.

Senior Receives Luce Scholarship

Kaytie Nielsen has won a nationally competitive fellowship from the Henry Luce Foundation. A Bachelor of Humanities and Arts (BHA) student with concentrations in creative writing and directing, Nielsen is one of 18 students and young professionals selected to participate in the prestigious Luce Scholars Program. The award provides stipends, language training and individualized professional placement in Asia for individuals from various fields and backgrounds who have limited exposure to Asian culture.

Junior Receives Public Policy & International Affairs Fellowship

Melanie Diaz, an English and global studies major, has been awarded a Public Policy & International Affairs (PPIA) fellowship for 2016. The fellowship program is designed to help students from diverse backgrounds attend graduate school, typically in the areas of public policy, public administration, international affairs and related fields.

Sophomore Receives State Department Scholarship to Study in India

Ian Asenjo received a Critical Language Scholarship (CLS) from the U.S. Department of State. Asenjo, a global studies major with an additional major in ethics, history and public policy, traveled to Chandigarh, India this summer, to gain proficiency in Punjabi and explore his passion for Bhangra — a folk dance with roots in the region.
Graduate Student Wins $90K Soros Fellowship

Ania Jaroszewicz received one of 30 Paul and Daisy Soros Fellowships for New Americans. Chosen out of 1,443 applicants, Jaroszewicz was selected for her potential to make significant contributions to U.S. society, culture and academics. She is pursuing a doctoral degree in behavioral decision research.

Senior Wins Gretchen Lankford Prize

Siriana Abboud's (DC'16) educational philosophy is simple: “Tout moun se moun.” Derived from a Haitian proverb meaning “All people are people,” the phrase encapsulates respect, dignity and compassion — values that drive Abboud’s teaching and volunteer work. “As a teacher, I cannot assume that I can completely change the lives of the students I will teach,” said Abboud, a psychology major with an additional major in French and Francophone Studies. “Rather, they will influence me as I influence them.” To recognize her commitment to quality education, Abboud has been selected as the Dietrich College of Humanities and Social Sciences’ 2016 recipient of the Gretchen Lankford Prize.

Eight Seniors Named Andrew Carnegie Society Scholars

ACS Scholars are CMU undergraduate students who combine high academic standards with extracurricular activities, including volunteering in the community, playing sports, taking on leadership roles and participating in student organizations and the arts.

Emmett Eldred
Creative Writing; Professional Writing; Ethics, History and Public Policy

Emily Helfer
Statistics and Machine Learning

Emily Joyce
International Relations and Politics; Hispanic Studies

Dhruva Krishna
Ethics, History and Public Policy; Professional Writing

Lisa Murphy
Psychology

Alexandra Pasch
International Relations and Politics; Ethics, History and Public Policy

Guji Singh
Economics

Rob Stephens
Global Studies; International Relations and Politics

Honor Societies

Phi Beta Kappa

Only one percent of college students nationwide receive an invitation to join the prestigious honor society, and in 2016, 34 Dietrich College students were inducted.

Phi Alpha Theta

Eight history students joined the American honor society, which has more than 400,000 members.

Phi Sigma Iota

Twenty-four students from the Modern Languages Department were inducted into the international honor society that recognizes the achievements of outstanding students in academic fields related to foreign languages, literatures and cultures.

Psi Chi

Forty students were inducted into the international honor society dedicated to encouraging, stimulating and maintaining excellence in psychology and the science of psychology.

Sigma Tau Delta

Sigma Tau Delta honors the academic excellence of students studying English language and literature during their undergraduate, graduate and professional studies. Eight students were inducted.
Faculty Book Highlights

Revisiting “Tristana”

Spanish novelist Benito Pérez Galdós wrote “Tristana” in 1892, but its central theme—the limitations placed on women in nineteenth-century Spain—still resonates today. In the novel, a man named Don Lope takes a young orphan, Tristana, as his property after paying off her family’s debts. Seeking freedom, Tristana begins a life-changing relationship with a painter named Horatio.

Susan Polansky, head of the Department of Modern Languages and teaching professor of Hispanic Studies, recently published an unabridged version of the famous novel. Her goal was to help students develop their reading and critical thinking skills in Spanish, and to give them better access to Galdós’ masterful character descriptions.

Who Owns the Dead?

After the September 11th terrorist attacks, New York City’s chief medical examiner guaranteed that he and his staff would spare no expense in trying to identify every victim and human body part larger than a thumbnail and return them to their families. Fifteen years later, only 1,640 of the 2,753 victims killed in Manhattan have been identified.

In the book, “Who Owns the Dead? The Science and Politics of Death at Ground Zero,” Jay D. Aronson, associate professor of science, technology and society in the History Department, details the cultural and political reasons behind why the promise was made—a combination of the need to recover remains, pay tribute to the 9/11 victims and redevelop the World Trade Center site—and why living up to the task has been so challenging.

Linking Political Buzz With Honeybees’ Search for New Hive

When it’s time to move their hives, honeybees are able to quickly identify a high-quality nesting site without approval from the king or queen bee. Department of Social and Decision Sciences’ economist and complexity theorist John H. Miller argues that there are lessons to be learned by understanding how bees in a hive, and a variety of other systems, interact.

Miller details the link between honeybees and the U.S. primary system, and provides many more examples, in a recently authored popular science book, titled “A Crude Look at the Whole: The Science of Complex Systems in Business, Life and Society.”
Barack Obama’s Literary Legacy

Academics, journalists and pundits have long mined President Barack Obama’s 1995 memoir, “Dreams from My Father,” for information that would point to his political beliefs, but few analyses have approached the book as a literary work — until now.

In “Barack Obama’s Literary Legacy: Readings of ‘Dreams from My Father,’” Richard Purcell, associate professor of English, collected a group of essays that highlight Obama’s literary influences and merits as a writer.

Though Purcell and his co-editor admit that it is an impossible task to separate the book from Obama’s later political career, they and seven other scholars argue that the work is a valuable piece of literature in its own right.

Remaking the Past

In, “Discursive Processes of Intergenerational Transmission of Recent History: (Re)making Our Past,” Mariana Achugar, associate professor of Hispanic Studies and second language acquisition, investigated how Uruguayan youth make sense of the Uruguayan Dictatorship of the 1970s and ‘80s, and how the younger set uses semiotic materials available through interactions with older generations to construct identities as historical beings. She turned to family conversations, history textbooks, popular culture and other transmission tools to learn how information is being presented, received and used to understand the past while also giving shape to the present and future.

Achugar received funding from the John Simon Guggenheim Memorial Foundation to conduct research for this book.

The Game Theorist’s Guide To Parenting

For generations, parents have turned to experts for child-rearing advice. Now, they can add game theorists to the list of parenting gurus.


“Game theory is exciting because it applies to almost all of our social lives,” said Zollman, associate professor of philosophy. “It has been used to understand how animals search for food, how stores price their products and how people find their life partners. It’s only natural that game theory should work for one of the toughest aspects of our lives — dealing with our children.”
U.S. Secretary of Health and Human Services Sylvia Mathews Burwell appointed bioethicist Alex John London to the Advisory Committee on Blood and Tissue Safety and Availability. As part of the committee, London, professor of philosophy and director of the Center for Ethics and Policy, will advise, consult and make policy recommendations related to the safety of blood, blood products, organs and tissues. Earlier this year, London was appointed to the Committee on Clinical Trials during the 2014-15 Ebola Outbreak by the National Academies of Sciences, Engineering and Medicine. He also received the 2016 Elliott Dunlap Smith Award for Distinguished Teaching and Educational Service, the Dietrich College’s top teaching award.

The American Psychosomatic Society selected J. David Creswell as the recipient of its 2017 Herbert Weiner Early Career Award, one of the top health psychology honors for young researchers. Creswell, associate professor of psychology, focuses on how the mind and brain influence stress resilience and physical health.

Kiron Skinner, founding director of the Institute for Politics and Strategy, was selected to serve on President-Elect Donald J. Trump’s executive committee for his transition team. Skinner also joined Trump’s transition team for the National Security Council. During the presidential election, Skinner was a frequent guest on several networks including MSNBC and Fox News.

Marlene Behrmann, the Cowan Professor of Cognitive Neuroscience, received the elite distinction of University Professor, the highest academic accolade a faculty member can achieve at Carnegie Mellon.

The National Science Foundation has awarded Ryan Tibshirani and Jing Lei Faculty Early Career Development (CAREER) awards. Lei and Tibshirani, both assistant professors in the Department of Statistics, each received five-year, $400,000 grants for their projects “Modernizing Classical Nonparametric and Multivariate Theory for Large-scale, High-dimensional Data Analysis” and “Locally Adaptive Nonparametric Estimation for the Modern Age — New Insights, Extensions, and Inference Tools,” respectively.

Four faculty members received chaired professorships: David Danks was named the Louis Leon (L.L.) Thurstone Professor of Philosophy and Psychology. Danks, head of the Department of Philosophy, uses computational cognitive science to develop computational models to describe, predict and, most importantly, explain human behavior. Wendy Goldman became the Paul Mellon Distinguished Professor of History for many contributions as a social and political historian of Soviet and Russian history. Robert E. Kass received the Maurice Falk Professorship in Statistics and Computational Neuroscience in recognition of his outstanding contributions to statistical theory and applying statistics in neuroscience. David Kaufer was named the Paul Mellon Distinguished Professor of Rhetoric and English for his research that focuses on digital approaches to text analysis and collaboration.
Three Dietrich College faculty members, Mara Harrell, Christopher Jones and Jennifer Keating-Miller, were honored at the annual Celebration of Education event. The awards recognize distinguished faculty members and educators for their outstanding contributions to the university, their commitment to students’ development and well-being and their impact through teaching.

Under growing pressure to report accurate findings as they interpret increasingly larger amounts of data, researchers are finding it more important than ever to follow sound statistical practices. For that reason, a team of statisticians including CMU’s Robert E. Kass wrote “Ten Simple Rules for Effective Statistical Practice,” part of the popular PLOS “Ten Simple Rules” series.

This fall, over 110 Chinese language teachers came to CMU to exchange ideas at the fifth biannual CLTA-WPA Foreign Language Teaching Symposium. The daylong event included workshops and panel discussions on topics like Chinese culture instruction and technology-enhanced learning (TEL). Department of Modern Languages’ Sue-mei Wu, Gang Liu and Yueming Yu organized the event.

CMU’s Charlee Brodsky, a professor of photography in the College of Fine Arts, and Jim Daniels, the Thomas Stockham Baker University Professor of English, have teamed up again, this time using photography and poetry to explore the American flag. Their latest project brings into focus everyday appearances of the flag in working class neighborhoods and sparks a dialogue about belonging, patriotism and individual expression.

History Department Professors Paul Eiss, Karen Faulk and John Soluri and Modern Languages Department Professors Mariana Achugar, Felipe Gómez and Therese Tardio all presented at LASA at 50 Congress in New York City, which united scholars from 65 countries and more than 150 disciplines.

Award-winning filmmaker Spike Lee attended the screening of his latest film, “Chi-Raq,” at CMU. The event was part of the International Film Festival “Faces of Conflict,” which brought 16 award-winning films from 15 countries to Pittsburgh.

The Center for Human Rights Science hired two new staff members to help advance the state of human rights documentation and build collaborations between scientists and human rights advocates. Robin Mejia joined CHRS as manager of the Statistics and Human Rights Program, which develops and applies statistical techniques to analyze human rights violations and conflict dynamics. Enrique Piracés manages the Media and Human Rights Rights Program.

There are several movie stars roaming around Baker Hall — Psychology Professors Marcel Just, Michael J. Tarr and Timothy Verstynen each appeared in movies recently. Just was one of several CMU scientists interviewed in Werner Herzog’s new documentary, “Lo and Behold: Reveries of the Connected World.” Tarr and Verstynen were featured in “Fastball,” the baseball documentary that celebrates the sport’s signature pitch and aims to answer the question of who threw the fastest fastball of all-time.

Six Degrees of Francis Bacon—the interactive online tool that allows anyone to trace the personal relationships among figures like Bacon, William Shakespeare, Isaac Newton and many others—has received a coveted National Endowment for the Humanities grant. The team consists of CMU Associate Professor of English Christopher Warren and Jessica Otis and Georgetown’s Daniel Shore.
News and Notes

During the 2016 U.S. Open at Oakmont Country Club, History Professor Steve Schlossman, a member of the United States Golf Association Museum Committee, was there documenting the activities and lending his expertise in the Media Tent as a member of the research team to assist on-site journalists. Students in Schlossman’s golf history class also got to visit the infamous course before the event and walked the 15th, 16th, 17th and 18th holes with club pro Devin Gee.

Surveys that ask students what they liked and did not like—or even what they learned—are not the best way to measure learning outcomes. Marsha Lovett, director of CMU’s Eberly Center for Teaching Excellence and Educational Innovation, teaching professor of psychology and co-coordinator of the Simon Initiative, explains why this is the case in “Relying on “Smile Scores” To Measure Student Learning Is Not a Good Idea,” a blog post for the Huffington Post.

Recent advances in hearing therapies and prosthetics are paving the way for new technologies in speech communication and the hearing sciences. And Casey Roark is helping create a roadmap that will guide the next 14 years of development. Roark, a graduate student in the Department of Psychology and Center for the Neural Basis of Cognition, studies ways to simplify learning challenges—like grasping the sounds of a new language—for listeners. Her strong research background is one reason she was selected as one of only eight early career researchers among 40 attendees at the Listening Into 2030 workshop in Berkeley, California.

It may seem that students in the Dietrich College’s Quantitative Social Science Scholars (QSSS) Program and Humanities Scholars Program (HSP) are studying different subjects and learning to approach their various disciplines in contrasting ways. But as first-year students in each program recently learned, there is definitely some common ground. CMU’s Scott Weingart and Jessica Otis, both digital humanities specialists, presented “Computers and the Humanities,” which explored current practices in applying new, technology-enhanced methods and tools for research, documenting information and educating others.

English Professor Peggy Knapp and Folger Shakespeare Library Director Michael Witmore recently discussed their techniques and experiences teaching Shakespeare and how their shared passion will leave a lasting imprint at CMU.

Nearly 40 alumni returned to campus for Under Construction: Building Your Future. The daylong event is designed to show Dietrich College undergraduates the various career paths available to them and provide a networking opportunity with people who have carved out successful paths. Senior Sarah Gutekunst, who attended the event for the first time, said, “CMU students are so lucky to have access to so many experienced faculty, alumni and staff, all working day in and out to help students like me succeed. Dietrich College students are especially lucky to have the opportunity to build their future at Under Construction.”
Future Discoveries in Progress

Tomorrow’s research breakthroughs cannot happen without funding. Here are a few of the notable grants in progress.

**New Center for Causal Modeling and Discovery Supported By National Institutes of Health**

$11M

If used correctly, “big data” and data science have enormous potential to revolutionize many fields. To maximize its benefits for biomedical research, the Department of Philosophy is partnering with the University of Pittsburgh to form a new Center for Causal Modeling and Discovery in the Biomedical Sciences.

Funded by a four-year, $11 million grant from the National Institutes of Health (NIH), this Big Data to Knowledge Center of Excellence will help scientists capitalize more fully on enormous and growing collections of data, and to make computerized searches for causal relations a more prominent component of biomedical research. **Clark Glymour**, the Alumni University Professor of Philosophy is the co-principal investigator on the project.

**National Institutes of Health Grant to Study Healthy Aging**

$3M

The NIH awarded a five-year, $3 million grant to **David Creswell**, associate professor of psychology, to study how stress management training can boost healthy aging among lonely older adults.

Creswell blends health psychology and neuroscience to investigate the mechanisms and pathways for stress resilience, and in the process has helped to define the new field of health neuroscience. His work utilizes stress management approaches, such as mindfulness meditation and self-affirmation, to study the neurobiology of stress resilience circuits in the brain.

**Department of Education Renews PIER**

$3.6M

Eleven years ago, Carnegie Mellon University received a multimillion-dollar grant from the U.S. Department of Education to train the next generation of education research leaders. The award established the Program in Interdisciplinary Education Research (PIER), which implements a scientifically based and rigorous Ph.D. curriculum across several departments, including Psychology, Computer Science, Human-Computer Interaction, Philosophy and Statistics.

Based on PIER’s impressive track record, with respect to training students both in their core disciplines as well as in education research, the DOE’s Institute of Education Sciences has funded CMU’s program for the third time. PIER is led by Psychology Professors **David Klahr** and **Sharon Carver**.

**Center for Human Rights Science Secures Funding for Video, Image Analysis**

$1M

**Jay Aronson**, associate professor of science, technology and society, secured funding for the Center for Human Rights Science to develop tools to collect, analyze and disseminate information gathered from human rights media. Ordinary citizens, victims of human rights abuses and participants in protests, armed conflicts and disaster situations can instantly share photos and videos with a global audience on social media. But what happens to that information once it is distributed?

The Center for Human Rights Science has secured funding to develop tools to collect, analyze and disseminate information gathered from human rights media. The support from the John D. and Catherine T. MacArthur Foundation, Oak Foundation and Humanity United will allow the center to develop new ways of collecting, processing, archiving and analyzing large volumes of user-generated photographic and video evidence. The hope is to give these organizations access to the kinds of technologies and methods currently only available to military, corporate and intelligence personnel.
Dietrich College in the News

The Dietrich College of Humanities and Social Sciences makes news in media outlets far and wide, from local stories on how the college’s research impacts Pittsburgh to faculty experts who weigh in on important national and international issues. Here is a small sample from 2016.

**NPR**
Database Tracks History Of U.S. Meddling In Foreign Elections

**The Incline**
What can Pittsburgh do with vacant lots? These CMU students have ideas.

**Pittsburgh Tribune-Review**
Art exhibit documents heartbreak of broken relationships

**Huffington Post**
Scientists Have Figured Out How To ‘Fingerprint’ Your Brain

**New York Times**
Is High-Deductible Health Insurance Worth the Risk?

**Washington Post**
‘Will & Jane’: Making literary celebrity work for the humanities

**New Scientist**
Who Owns the Dead? The atrocity of 9/11 casts a long shadow

**Newsweek Europe**
How Election 2016 Would Be Different With Ranked-Choice Voting

**The Incline**
The science of why drivers slow down for Pittsburgh tunnels

**CBC News**
Homework: ‘A sin against childhood’ or a useful way to learn?

**Washington Post**
After 15 years, the political power of the 9/11 victims endures

**CityWatch**
Hugs Keep Us Healthy!

**Education Week**
Researchers Target Brain-Scanning Technology to Improve Ed. Software

**Scientific American**
How Your Brain Learns Physics

**Wall Street Journal**
Who Made Money in the Brexit Chaos? Machines, Not Humans

**NPR**
Click For Fewer Calories: Health Labels May Change Online Ordering Habits

**Forbes**
The ‘I Just Can’t Say No’ Club Women Need To Advance In Their Careers

**WESA-FM**
Local Author Documents Nancy and Ronald Reagan’s Life In Letters

**HealthDay**
Mom Was Right: A Good Night’s Sleep Helps Keep You Healthy

**MSNBC**
Criticism looms over Trump’s foreign policy

**Vox**
The improbable rise of the banana, America’s most popular fruit

**WESA-FM**
Looking At The Future Of Our Relationship With Cuba

**Pittsburgh Post-Gazette**
Four experts explain why forensic analysis of crime scenes is not as reliable as you might think

**New York Times**
Nudges Aren’t Enough for Problems Like Retirement Savings

**World Economic Forum**
How our ancient brains learn new things

**CNN**
Why we play the Powerball
Ten (more) Things To Love About the Dietrich College

In the Dietrich College of Humanities and Social Sciences, real world problems are analyzed, challenged and solved, contributions are made in traditional ways and global differences are made. As you can see, Dietrich College students, faculty and alumni do a lot. Here are 10 more of the many things to love.

1. The Sky Is the Limit

Dean Richard Scheines believes that Dietrich College has risen to become an elite college because it has successfully combined two things that often conflict: high standards of academic rigor and the intellectual freedom to work outside of traditional disciplinary boundaries.

“We have faculty in the English Department reconstructing social networks of 17th century playwrights and documenting their influence on the emergence of international law, and faculty in the History Department working with computer scientists on using phone videos to recreate scenarios relevant to human rights issues in the 21st century. No college of humanities and social sciences does this kind of interdisciplinary work better than Dietrich,” said Scheines.

One of Scheines’ most memorable experiences since becoming dean happened in the fall of 2014, when former Supreme Court Justice David Souter visited CMU to speak about the importance of the humanities and social sciences in the world today – a much-discussed topic. While on campus, Justice Soulter met with Dietrich College students and faculty to discuss their work.

“A week later I received a hand-written letter from Justice Souter in which he wrote, ‘There was electricity in the room, and some of the abundant energy ended up in me. Carnegie Mellon didn’t need me to beat the drum for the humanities, and I went home filled with admiration,’” shared Scheines.
Connecting Political Rhetoric To Reality

John Oddo, assistant professor of English, believes rhetoric matters because everyone uses and encounters it and that political rhetoric is particularly important, especially around election season. Oddo’s research focuses on political arguments for war. Through his work, he has found that many arguments do not stand up to rhetorical scrutiny because many political leaders will use rhetorical strategies that appeal to the emotions of their audiences. By using this tactic, politicians are often able to get away with not supplying relevant evidence for their cases. “If we understand rhetoric, we can examine political arguments and better determine whether those arguments deserve public support,” said Oddo. “We can more easily see when evidence for some policy initiative is insufficient, and we can demand more proof.”

No Education School? No Problem.

CMU does not have a School of Education, but state-of-the-art education research is still happening here.

The Department of Psychology has a long history of education work. Psychology faculty have created some of the world’s first cognitive tutors and applied theoretical understanding of mathematical thinking to improve children’s learning. And hundreds of undergraduate and graduate students have been trained on the relationship between basic cognitive processes and their implications in math and science education.

One resource for CMU’s next generation of education researchers is the Program for Interdisciplinary Education Research (PIER), a Ph.D. certificate program for students in a variety of different programs, including psychology, computer science, human-computer interaction, philosophy and statistics, as well as within the Heinz College and Tepper School.

Students Who Do it All

Sarah Duncan exemplifies excelling in and out of the classroom. A logic and computation major with a minor in software engineering, Duncan is also vice president and co-captain of the club lacrosse team and a resident assistant to 34 freshmen. She already has one successful internship under her belt as a data analyst at Locus Analytics, an economic think thank startup.

“I was essentially a software engineer for the summer and did data mining and retrieval, taking raw data and making it into something useful for the company,” Duncan said. “Not only was my internship an excellent networking opportunity, but it also confirmed that what I’m studying is what I should be studying. My major, coupled with my software engineering minor, is a perfect fit for me.”
A Big Deal Statistics Department

According to numbers released by the American Statistical Association (ASA), statistics is the most rapidly increasing Science, Technology, Engineering and Math (STEM) discipline for undergraduate students, even outpacing computer and information technology-related fields.

And, the Dietrich College’s Department of Statistics — a global leader in applying statistics to many areas of science, technology, policy and education — is among the fastest-growing statistics departments.

“The Statistics Department — and indeed Carnegie Mellon as a whole — exhibits an ethos that values and benefits from true interdisciplinary work,” said Christopher R. Genovese, head of the Statistics Department. “Our undergraduate curriculum builds on this by offering authentic engagement with interdisciplinary problems and extensive experience with the analysis of real data.

Faculty: The Best of the Best

Dietrich College is home to a world-class faculty, and junior faculty members are already making their mark. Case in point: Alex Imas, an up and coming star in the behavioral economics field and the Department of Social and Decision Sciences.

An assistant professor, Imas recently won two prestigious awards, the Distinguished CESifo Affiliate Award and the Hillel Einhorn New Investigator Award, for his paper, “The Realization Effect: Risk-Taking After Realized Versus Paper Losses.” He was also named to Pacific Standard’s 2015 “The 30 Top Thinkers Under 30” list.

Roots of Rock & Roll in Baker Hall

When a professor plays his banjo in class, students tend to pay extra attention.

And that’s exactly what happens in “Roots of Rock & Roll,” a popular course offered by the Dietrich College’s Department of History that examines open source, collaborative innovation and the impact of social and technological change on American music.

It would be easy to pass this course off as a typical music history class, but students have found that is not the case. Associate Professor of History Scott Sandage brings unique teaching techniques to the course, making it an interactive experience for students. Students have the opportunity to learn about the history of rock and roll by making wax cylinder recordings and listening to actual records from the turn of the century.

Shattering Foreign Language Trends

CMU is known for innovation and going above and beyond expectations, and the Dietrich College’s Department of Modern Languages is no exception.

Despite no university-wide language requirement, in 2014, 45 percent of CMU students from across the university took a modern languages course. This is a striking contrast to the roughly eight percent of undergraduates nationally who take a foreign language class.

The department offers courses in nine language and culture areas: Arabic, Chinese, French, German, Italian, Japanese, Russian and Spanish, including courses in English on Korean culture. Majors and minors are available in Chinese Studies, French and Francophone Studies, German Studies, Hispanic Studies, Japanese Studies and Russian Studies.
Superstar Techpreneurs

The Dietrich College’s Information Systems Program (IS) is an internationally recognized undergraduate major for students who want to design and implement effective solutions to meet organizational and management needs. Current students and alumni are charging full force into the world outside CMU’s campus to become “techpreneurs.”

Ian Go (DC’16) is a co-founder of flagtag, a mobile platform that turns a map interface into an interactive advertising space. Go says his CMU education has helped pave the path into becoming a budding techpreneur.

“The most important thing I’ve learned at CMU is that the users of an application or system are as important as the technology itself. As an entrepreneur, this idea taught me to always continue testing my ideas, as even the most advanced pieces of technology are useless if no one uses them,” he shared.

It doesn’t stop with Go. Here are a few more techpreneurs from the IS program:

Donald Taylor (DC’98) is responsible for two startups. bioStratica is a global consulting firm dedicated to academic commercial translation of technologies intersecting biotechnology, healthcare information technology and medicine. healthStratica is a population healthcare information technology company addressing high-risk behavioral health conditions.

Brian Groudan (DC’12) founded PayTango, a startup that enables people to pay for things with their fingerprints.

Varun Arora (DC’12) is the founder and CEO of OpenCurriculum, which builds software to tackle problems with the quality of education from kindergarten through twelfth grade on a global scale.

Alvin Chang (DC’15) and Alan Wang (DC’15) created an open source project called Materialize as their senior IS capstone project. Materialize helps users design websites with greater ease. The duo clocks in millions of page views a month on the site, and they also help to solve issues for a large user base.

Mapping the Future of Political Policy

In July 2015, innovation in the fields of political science, international relations, national security policy and grand strategy came to the Dietrich College. Ever since, the newly created Institute for Politics and Strategy (IPS) has been making great strides and solidifying its place in the infrastructure of CMU and the college.

Kiron K. Skinner, who has been a faculty member at CMU since 1999, leads the institute and brings decades of experience to this new role. Skinner is a leading expert in international relations, U.S. foreign policy and political strategy. She currently serves on the board of the American Australian Council, is a member of the Council on Foreign Relations and is a research fellow at the Hoover Institution at Stanford.

She is also well connected in Washington, D.C. political circles and frequently brings high-profile guests—such as NSA Director Mike Rogers, Former FBI Director Robert Mueller and Ambassador R. Nicholas Burns—to campus for lectures and to interact with students.

Though young, IPS is cementing its place as yet another unique interdisciplinary facet of Dietrich College and CMU.

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