



THE

PROMOTER

DEPARTMENT OF BIOLOGICAL SCIENCES

2018

**Carnegie
Mellon
University**

2018

THE PROMOTER

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Department of Biological Sciences

Editors

Ena Miceli, Matthew Salyers

Contributing Writers

Jocelyn Duffy, Ben Panko,
Matthew Salyers, Dan Wilson

Design & Layout

Matthew Salyers

Photography

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Obtain general information about Carnegie Mellon University by calling 412-268-2000.

LETTER

FROM THE DEPARTMENT HEAD



Welcome to the Department of Biological Sciences! It is a privilege to serve as Department Head because of the passion of my colleagues for our educational and research missions. Let me share my enthusiasm by summarizing some recent advances and accomplishments from the department.

In undergraduate education, we have continued to reduce class sizes for the introductory Modern Biology course by having more faculty offer sections. The sections are tailored to the lecturers' interests, such as personal genomics or cancer, to allow the lecturers to convey the significance of biological knowledge and research. Our goal is to provide an educational experience of the highest quality. We have also developed a new laboratory course for first-year students: Frontiers, Analysis, and Discovery in Biological Sciences. This year we have the students conducting CRISPR-based genome engineering project. This course captures some of what is distinctive about a Carnegie Mellon education: a focus that comes straight from research papers, and a small lab class with personal attention from the faculty.

We also just welcomed the largest cohort of first-year Ph.D. students we have had in a few years. Their interests align with the full range of faculty research programs, from Cell Biology to Infectious Disease to Development to Computational Biology to Neuroscience. Our ability to attract such a broad range of students reflects in part the increased flexibility in our Ph.D. training program, which enables students to tailor their coursework to their interests. We also continue to expand the breadth and depth of courses for students in our master's program in computational biology, which we run jointly with the Computational Biology Department.

A new tenure-track Assistant Professor, Huaiying Zhang, will join us in January 2019. She studies the biogenesis and function of RNA-based organelles, and has a unique background in Chemical Engineering that will help to bridge interests across colleges. The two new faculty who joined us last year, Eric Yttri and Leon Zhao, have already had outstanding success in competing for funding from the NIH and foundations. In addition, we have promoted a new teaching-track Assistant Professor, Natalie McGuier, who is strengthening our undergraduate laboratory courses. It is quite exciting to see our new colleagues reach such very high trajectories!

In other faculty news, a big congratulations to Aryn Gittis, who has been promoted to Associate Professor with tenure, and to Luisa Hiller, Joel McManus, and Sandra Kuhlman, all of whom have been promoted to Associate Professor. We also extend our congratulations and thanks to Chien Ho, David Hackney, and Alan Waggoner, who have entered Emeritus Professor status. We are grateful for their many years of service, and for the fact that they still join us for departmental events to share their wisdom and insight.

I hope that you enjoy this issue of the Promoter. Please feel free to contact me and let us know what's new with you!

Sincerely yours,

A handwritten signature in black ink, appearing to read 'A. Mitchell', written over a white background.

Aaron P. Mitchell, Ph.D.

Dr. Frederick A. Schwartz Distinguished Professor of Life Sciences
Professor & Head, Department of Biological Sciences

OUTSTANDING WITH HONORS

Alumna Meredith Schmehl Named Nu Rho Psi Outstanding Member of the Year



by Matthew Salyers

Recent undergraduate alumna Meredith Schmehl (BS '18) has been chosen as the 2018-2019 Nu Rho Psi Outstanding Member of the Year. Nu Rho Psi, the National Honor Society in Neuroscience, annually recognizes only one member across all of its 83 chapters nationwide, with the award honoring exceptional leadership, service, and advocacy in furthering the world's understanding of neuroscience.

Schmehl, who received her B.S. in neurobiology and cognitive psychology at CMU, is currently a neurobiology Ph.D.



Founding members of CMU's Nu Rho Psi Chapter in the fall of 2016 (front row, from the left) Theo Teichman, Mariel Bedell, Renée Sajedian, Amanda Willard, Jessica Lee, Meredith Schmehl, Erin Sipple, (back row) Sophia Wilhelmi, Julia Schlossman, Nicole Rafidi, Kavita Ramnat, and DJ Brasier (Faculty Advisor).

student at Duke University. As founding president of the Carnegie Mellon chapter of Nu Rho Psi, Schmehl helped organize and plan outreach programs across the Pittsburgh community. The recognition of Schmehl as Outstanding Member of the Year further highlights the accomplishments of CMU's chapter, which now consists of over 30 members, to the national neuroscience community.

After the creation and official recognition of CMU's chapter of Nu Rho Psi in October 2016, Schmehl led the group in designing its first outreach program, a 3-hour class for elementary school student titled "Use Your Noggin: Learn the Brain".

"Meredith was the primary designer of the lesson plan and learning objectives for the workshop, and worked closely with a representative from Carnegie Mellon's outreach center to plan engaging and age-appropriate activities to help children learn about neuroscience," said DJ Brasier, assistant teaching professor in biological sciences and chapter faculty advisor.

"For three consecutive semesters, she oversaw the collection of supplies, recruited volunteers for the workshop, held planning meetings to prepare each volunteer to teach and lead a station, and maintained overall organization and led large-group instruction on the day of the event itself," said Brasier. "Participants from the workshop have given positive

feedback about the material they learned, and some have even expressed interest in learning more about neuroscience because of what they learned in the workshop."

Schmehl's dedication to community service was also recognized earlier this year in April, as the recipient of both the "Pawsitive" Influence Award (given by CMU SLICE to recognize leadership in service activities and in educating people about social issues), and the Gelfand Student Award for Educational Outreach & Service Learning (given by the Leonard Gelfand Center for Service Learning and Outreach).

In addition to her involvement in Nu Rho Psi, Schmehl is an accomplished cellist, serving as section co-principal of CMU's All University Orchestra from 2014-2018. She was also an associate editor for CMU's IMPULSE Journal Club and Review Panel during that time.

"Her work has helped our chapter build the national goals of education, outreach, and professional development," said Amanda Willard (Ph.D. '18), Chapter Vice President from 2016-2018. "Without her work, the chapter would not be as grounded and successful as it is today."

Nu Rho Psi was founded in 2006 by the Faculty for Undergraduate Neuroscience and is now an independent honor society. It currently consists of 83 chapters with over 5000 members nationwide.

TAKING CHARGE

MSCB Student Brendan Wee Discusses Being Part of the Graduate Student Assembly

by Matthew Salyers



Student government gives an opportunity for students to take charge of their academic experience and make their voices heard in matters that are important to them.

Graduate students in the Department of Biological Sciences have been taking full advantage of this chance, becoming active members in the CMU community and as part of the Graduate Student Assembly (GSA).

The GSA represents all graduate students at CMU as advocates on important student issues, organizes social events throughout the year, and provides funding for graduate organizations and professional development.

Brendan Wee is a representative for our M.S. in Computational Biology (MSCB) program, which is joint program with the Computational Biology Department.

Wee, a second-year MSCB student, joined GSA to become more involved in the campus community and connect with

classmates as a bridge between them and the administration.

“Being a representative in GSA has not only strengthened relationships within my department, but has also opened up a much larger social network,” Wee said. “Thanks to GSA, I feel more connected with the students and faculty in every department.”

Wee also uses GSA as an exercise in project management, a valuable skillset in any career path.

“In GSA, some of my time is spent planning events for my classmates,” said Wee.

“This can be tough communicating with the department as a whole, from trying to understand everyone’s interest in each event, to communicating with local businesses and managing our budget.” Wee continued. “It is always worth it in the end though, when everything comes together and we get to spend more time together as a department.”

GLOWING OUTREACH



Students and Faculty Give High Schoolers a Real Lab Experience

by Ben Panko



Twice a year, Carnegie Mellon University faculty and students volunteer their time to give high school students from across Western Pennsylvania the opportunity to do hands-on science experiments.

For Carrie Doonan, a teaching professor and director of undergraduate laboratories in the Department of Biological Sciences, organizing this massive outreach event for more than a hundred students every semester is a labor of love and necessity. She has worked in the Mellon College of Science for 24 years and has been involved with outreach efforts in one way or another for 23 of those.

Through these years, Doonan has met many local high school teachers eager to expose their students to the wonders of science but with few resources to do so. She recalls how one teacher at a school in rural Washington County, PA had a total budget of \$60 to fund equipment and experiments for five Advanced Placement Biology classes.

“I want to show them something that’s very relevant to their world.”

“Too often high schools don’t have any science equipment so students are taught science straight from a book, and it’s a disservice to them,” Doonan said. “It’s not until they put their hands on it and see science in action that they get stimulated and excited.”

That excitement was on display when 120 students converged on the Mellon Institute over two hectic mornings last November.



Students learned to use biotechnology to make bacteria glow in the dark by extracting a gene from the DNA of a fish that glows and inserting it into the bacteria.

“The experiment shows the power of bioengineering,” Doonan said.

Designing experiments complex enough to give students a taste of college-level science but simple enough to be done by novice experimenters in just three and a half hours is a challenge, Doonan said.

“I want to show them something that’s very relevant to their world,” Doonan explained. “That’s the key.”



In the program she organized for this spring, students will be working under a scenario that imagines the possibility that a person may have been exposed to the deadly virus smallpox. A vaccine exists for this eradicated disease, but it's in short supply and expensive to make. The students are tasked with testing to see whether a smallpox infection has actually occurred. This testing is done with an enzyme-linked immunosorbent assay, a procedure that looks for antibodies in bodily fluids to see whether the body is responding to an infection.

To make this program a reality, Doonan relies on scores of Carnegie Mellon faculty and students, ranging from Ph.D. candidates to first-year students to volunteer their time leading the labs and working closely with the high school students as teaching assistants.

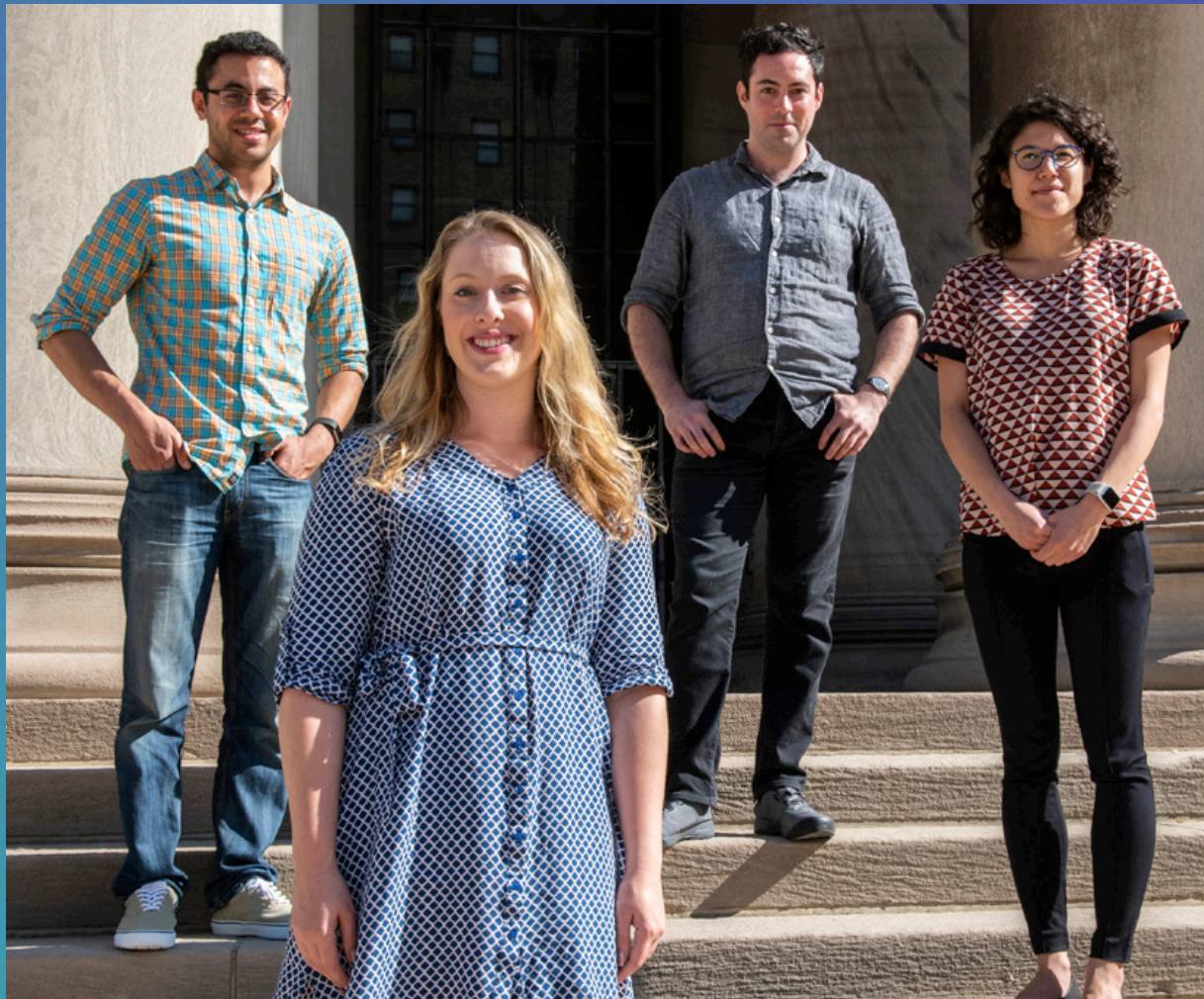


The outreach program has expanded to tie in with the MCS core curriculum, Doonan said. First-year students can use the experience to help fulfill their community service requirement. Students also get their names listed on the Department of Biological Sciences' website in recognition of their volunteerism.

"It's amazing to see their level of skill and development when they can explain something to students," Doonan said. "By teaching someone, you have to develop a deeper level of understanding."

Despite the time it requires, including orientation sessions before the lab days, Doonan said she always has more than enough help from the MCS student body, with 50 students total volunteering for last November's sessions.

"It just shows how special everybody is here at CMU."



GRASSROOT

GRADUATES

by Dan Wilson

Graduate Student Grassroots Brings
Career Development into Focus



Many Ph.D. students will go through their degree unaware of career options outside of academia or the often vaguely described world of “industry”. I was one of those students. A year ago, I started the third year of my Ph.D. studies. My training as a scientist was fully underway, my project was running into roadblocks, and friends had started to graduate. I began to wonder what I would do after graduation and whether or not I wanted my final career goal to involve staying in academia or being at the bench at all.

When another graduate student, Amber Lucas, formed the Biology Graduate Student Action Committee (BioGSAC), I could feel the energy and determination from my peers to answer similar questions for themselves. I quickly took the opportunity to join in the grassroots efforts to establish career development resources for our department.

BioGSAC had its first meeting in October of 2017. This meeting gave graduate students a chance to raise their voices on issues they were concerned about and a long list of actionable items quickly developed. Career development stood out as a high priority and BioGSAC formed a sub-committee to specifically tackle this issue.

Four biological sciences Ph.D. candidates – Dan Wilson, Amber Lucas, Ardon Shorr, and Emily Simon (pictured left) – have taken up the charge to bring career development training to the forefront at the Mellon College of Science as members of the Biology Graduate Student Action Committee (bioGSAC).



Thus, the Career Development Committee, made up of myself, Amber Lucas, Ardon Shorr, and Emily Simon, set out to bring career resources to students by doing three things: bringing in biology Ph.D. guest speakers who work a variety of jobs; holding workshops on how to do things like conduct a job search, identify skills, and network; organizing CMU alumni visits to encourage networking with our current department.

In one short year, we met all of those goals.

Our invited speakers offered perspectives on biotech, patent law, science policy, and many more jobs. The workshops we held offered information that was mostly gathered from various conferences attended by students and aimed to

From listening to the speakers' experience, advice, and perspectives, I found that I was not interested in a lot of careers that initially caught my interest. However, I did find that the idea of exploring science advocacy and policy seemed like something I could really get passionate about. This all came together when I attended the American Society for Biochemistry and Molecular Biology (ASBMB) 2018 conference.

In order to prepare workshops that could offer career-building advice to our fellow graduate students, members of the BioGSAC who went to conferences made it a point to attend relevant workshops being held at those conferences so that we could inform how to better execute our own workshops. This was one focus I had while attending ASBMB.

“I quickly took the opportunity to join in the grassroots efforts to establish career development resources for our department.”

empower students with basic knowledge on how to do things like networking. Finally, an alumni day, organized with the help of Dean Rebecca Doerge's office, we helped students practice skills taught in workshops. We did all of this with the hope that students would find a benefit in these events to enrich their time here at CMU.

Thanks to Aaron Mitchell, our department head, we were gifted funds to invite a total of five speakers during the spring 2018 semester to talk about a wide variety of careers, many of which I thought I was interested in pursuing.

Being part of the BioGSAC also made me take a focused approach everywhere at the conference that had an enormous impact on my graduate student career. Using the discussions, workshops, and advice from speakers, I made an effort to seek out scientists who work in science advocacy and policy.

Participating in BioGSAC lead me on a trail of events that allowed me to meet Daniel Pham of the public affairs team at ASBMB. Through meeting him, I learned about the ASBMB's Advocacy Training Program (ATP), a new externship designed to train scientists



Emily Simon delivering a welcome address at a networking happy hour, organized by BioGSAC and Mellon College of Science, in Summer 2018 at Mellon Institute.

at all levels (undergraduate, graduate, faculty, etc.) in cultivating their own local grassroots science advocacy. I applied and was accepted as one of ten scientists across the United States. Since then, I have learned so much about how to be a good science advocate and how to communicate with lawmakers, something that is undoubtedly very important for more scientists to do. I have had the opportunity to meet with both state and federal lawmakers and have been given a deep and enriching experience in the world of science advocacy.

Using everything I continue to learn being part of BioGSAC, I finally feel as though I am taking the steps I need to take in order to find a career path that makes me happy. Less than a year ago, I felt like finding a career was going to be a scary and defeating process. Just picking a potential

career path seemed like too much to think about. Now with the resources and motivation that the BioGSAC has brought to the department and me personally, I can say that I am confident and comfortable in my career goals.

As a Ph.D. student who does not necessarily want academia to be my end goal, this has been an incredibly liberating and encouraging experience to know that I have options and can find my own path as a scientist. Looking back, I truly believe I would not have made this much progress if the BioGSAC had never made its grassroots efforts. Looking forward, we have plans to institutionalize the format we have set and will hope to invite plenty of CMU alumni to speak and share their experience with the graduate students of the Department of Biological Sciences.

DEPARTMENTAL HIGHLIGHTS

Surya Aggarwal *(Ph.D. Candidate)*

was elected as CMU Graduate Student Assembly President for the 2018–2019 academic year.

Alison Barth *(Faculty)*

received a grant from the National Institutes of Health to study synapses in the early stages of Alzheimer's disease.

Stephanie Biedka *(Ph.D. Candidate)*

was named the 2017-2018 Richard King Mellon Foundation Presidential Fellowship in the Life Sciences.

Marcel Bruchez *(Faculty)*

was a recipient of a grant from the DSF Charitable Foundation to develop biosensor tattoos that will take continuous measurements of biomarkers, measuring physiological states in real time.

Rolando Cuevas *(Ph.D. Candidate)*

was awarded a Graduate Student Assembly travel fellowship and presented a poster at the Southeastern Regional Pneumococcal Symposium at St. Jude Children's Research Hospital in Memphis, TN. He was also awarded the 2017 Departmental Graduate Student Teaching Award.

Dannie Durand *(Faculty)*

was the recipient of a National Science Foundation's (NSF) "Understanding the Rules of Life" grant, which aim to enable discoveries that will allow us to better understand the "rules" for how life functions.

Aryn Gittis *(Faculty)*

named a recipient of the Janett Rosenberg Trubatch Career Development Award from the Society for Neuroscience. She was also named a finalist for the Science & PINS Prize for Neuromodulation for her discovery of new therapeutic targets for Parkinson's disease.

Luisa Hiller *(Faculty)*

presented a plenary talk at the 11th International Symposium on Pneumococci and Pneumococcal Diseases (ISPPD) in Melbourne, Australia. She also co-hosted the inaugural Pittsburgh Microbial Community (PMC) Symposium.

Katherine Lagree *(Ph.D. Candidate)*

was awarded the 2017-2018 Mellon College of Science Presidential Fellowship in Biological Sciences.

Amber LaPeruta *(Ph.D. Candidate)*

was awarded the 2017 Departmental Graduate Student Teaching Award for her service to the department with regards to teaching.

Ardon Shorr *(Ph.D. Candidate)*

won third in Carnegie Mellon University's 2018 Three Minute Thesis competition.

Teresa Spix *(Ph.D. Candidate)*

was awarded the 2017-2018 Richard King Mellon Foundation Presidential Fellowship in the Life Sciences.

Alan Waggoner *(Faculty)*

was named the winner of the 2018 Mack Fulwyler Award for Innovative Excellence from the International Society for the Advancement of Cytometry (ISAC).

Amanda Willard *(Ph.D. Candidate)*

was awarded the 2017 Departmental Graduate Student Service Award for her service within and outside the department.

James Winsor *(Ph.D. Candidate)*

was named the 2017-2018 Glen de Vries Presidential Fellowship for Biological Sciences.

John Woolford *(Faculty)*

celebrated the 35th year of his lab's grant from the National Institutes of Health, and the grant was renewed for years 36-39.

Eric Yttri *(Faculty)*

was a recipient of a grant from the DSF Charitable Foundation to construct an electrode array that pushes physical and biological boundaries to improve our understanding of complex, distributed neural circuits.

Leon Zhao *(Faculty)*

received a National Institutes of Health (NIH) Director's New Innovator Award, part of the National Institutes of Health's High-Risk, High-Reward Research program.

Students, faculty, and staff of the Department of Biological Sciences at the Elizabeth Jones Annual Retreat in fall 2018.



A TIME FOR CELEBRATION

by Jocelyn Duffy



Alan Waggoner, Chien Ho, and David Hackney pose for a celebratory photo during the retirement ceremony held in their honor.



Earlier this year, the Department of Biological Sciences celebrated the careers of three of its distinguished faculty members, David Hackney, Chien Ho and Alan Waggoner, who retired. Over the course of two days, colleagues, students, alumni, friends and families gathered for an evening of “last lectures” and reception.

DAVID HACKNEY

Hackney’s contributions to science began early in his academic career. As a postdoc in Paul Boyer’s University of California, Los Angeles lab, Hackney completed experiments that were critical to Boyer’s work establishing the binding change mechanism for ATP synthesis – a discovery that would earn Boyer the Nobel Prize in Chemistry in 1997.

Hackney came to Carnegie Mellon in 1978 from UCLA, and has spent most of his career seeking to understand how enzymes work and the relationships between enzyme structure and mechanism.

“In between teaching and faculty meetings, David is pretty much always in his lab doing experiments. He takes simple pleasure there, tinkering with enzyme molecules until he can figure out what makes them tick,” said Associate Professor Tina Lee.

Hackney’s tinkering has led to great notoriety among his colleagues in the field of motor proteins, especially for the simplicity and elegance of his experimental approaches. His most important discovery involved elucidating the structure and functions of kinesin molecular motors, proteins that move important cargo around the cell.

“How has David been able to make so many significant contributions? If I’m allowed to guess, it was probably the convergence of his curiosity, creativity and ingenuity



Hackney, Ho, and Waggoner look on as faculty members share their thoughts and memories during the event.

with his classical training, his deep, deep, knowledge of biochemistry and biophysical chemistry,” said Lee.

CHIEN HO

In the late 1970s, Carnegie Mellon President Richard Cyert felt that in order for the university to become one of the best universities in the world, it needed a first-rate biology program. To fulfill this vision, Cyert recruited Ho to Carnegie Mellon from the University of Pittsburgh in 1979. Over the next seven years as head of the Department of Biological Sciences, Ho helped Cyert to achieve this goal by recruiting faculty – many of whom are still here today – and developing programs in molecular biology and biological imaging. The imaging program, which focused on magnetic resonance imaging (MRI) and fluorescence imaging grew into one of the leading programs in the United States.

“Chien took the department in the direction of molecular cellular biology when he was head. He hired superb faculty who were collaborative and successful in their field,” said Professor Gordon Rule. “He was a very supportive individual who was always trying to ensure the success of others.”

Ho stepped down as department head in 1986, and devoted his time to the joint Carnegie Mellon and University of Pittsburgh NMR Center for Biomedical Research, a center he founded in 1985.

In his lab, Ho completed pioneering research on cell tracking using MRI that has laid the groundwork for much of the research being done in the field today. Ho was the first to use endocytosis as a way to label cells, and the first to show that MRI had a high enough sensitivity to track individual cells in a live animal. Ho’s research led to a number of biological and clinical advances including using MRI cell tracking to detect early stages of organ transplant rejection and monitor newly-developed cell-based therapies.

Ho’s most recent work, which he plans to continue after his retirement, focuses on using an FDA-approved nutritional source to improve the delivery and safety of chemotherapy nanodrugs.

ALAN WAGGONER

In his “Last Lecture,” Waggoner told the assembled crowd, “if you have no sense of excitement in your soul and work...do



David Hackney mingles with colleagues and departmental alumni during the retirement celebration.

Marcel Bruchez shares his insights on working alongside Alan Waggoner.



something else!” Waggoner’s excitement for fluorescent probe research and entrepreneurship has lasted throughout his career and promises to follow him into his retirement.

“Alan truly exemplifies the pioneering perspective and bootstrapping approach that CMU nurtures. His approach to the development of fluorescence labeling methods throughout his career has been both cutting-edge and transformative for the field of biophysics and cell biology. Between his work, his entrepreneurship, and his scholarly service, he has been a distinguished leader, and has advanced science far beyond the impact of his scientific record alone. I can think of no other person who played as significant and enabling a role in the definition of dynamic biological imaging, multiparameter cellular analysis and single molecule detection,” said Professor Marcel Bruchez. “I can also say with certainty that I’ve never heard any other person described by James Rothman, who won the Nobel Prize in 2013, as ‘a genius.’”

Waggoner is known worldwide for his fundamental contributions to the development of fluorescent-based detection systems for biology and biotechnology. He invented cyanine-based

dyes called CyDyes, which are used to detect macromolecules like proteins and nucleic acids in cells and tissues. These dyes have greatly advanced our understanding of how gene and cellular functions are regulated and have accelerated biomedical research.

Waggoner joined the Department of Biological Sciences in 1982 after previously being the chairman of the Department of Chemistry at Amherst College. He left Carnegie Mellon 10 years later to become the vice chairman of spin-off company Biological Detection Systems, Inc. (BDS). BDS was bought by Amersham PLC and Waggoner became the company’s principal scientist and head of fluorescence. Waggoner returned to Carnegie Mellon in 1999 to become the director of the Molecular Biosensor and Imaging Center (MBIC), which under his leadership became world renowned for its expertise in biochemistry, genetics, dye chemistry and imaging.

In his retirement, Waggoner’s excitement comes from Sharp Edge Labs, a spin-off company he started with Bruchez and Chemistry alumnus Scott Sneddon. The company uses biosensors developed at MBIC to identify new drugs to treat diseases caused by defects in protein trafficking.

LET'S DO LUNCH

Alumnus Willie Mays Chats with Ph.D. Students

by Matthew Salyers

On Thursday, February 8th, Ph.D. students in the Department of Biological Sciences had the chance to take part in a lunch and career chat with Robert (Willie) Mays, CMU alumnus and co-founder of Athersys, Inc.

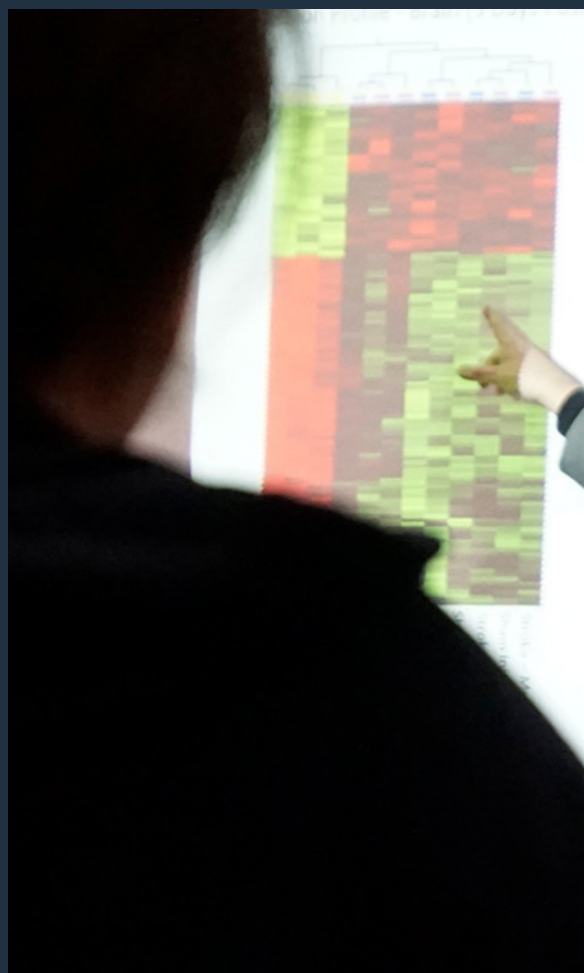
Mays, Vice President of Regenerative Medicine and Head of Neuroscience Programs at Athersys, Inc., spoke to the group about his career path and current work being done in the company. His main focus is the company's novel adult stem cell product, MultiStem[®], and its applications in regenerative medicine and drug discovery, with a specific focus on injuries and diseases affecting the central nervous system.

"Dr. Mays gave us a clear and honest picture of his career, and we were able to chat with him in a casual atmosphere that made it very easy to ask questions and have a discussion," said Dan Ackerman, a fourth-year Ph.D. candidate in the Jarvik lab.

Graduating from CMU in 1987 with a B.S. in Cell and Developmental Biology, Mays then received his Ph.D. in Molecular and Cellular Physiology at Stanford University. After several post-doctoral positions that took him around the world, he co-founded Athersys, Inc.

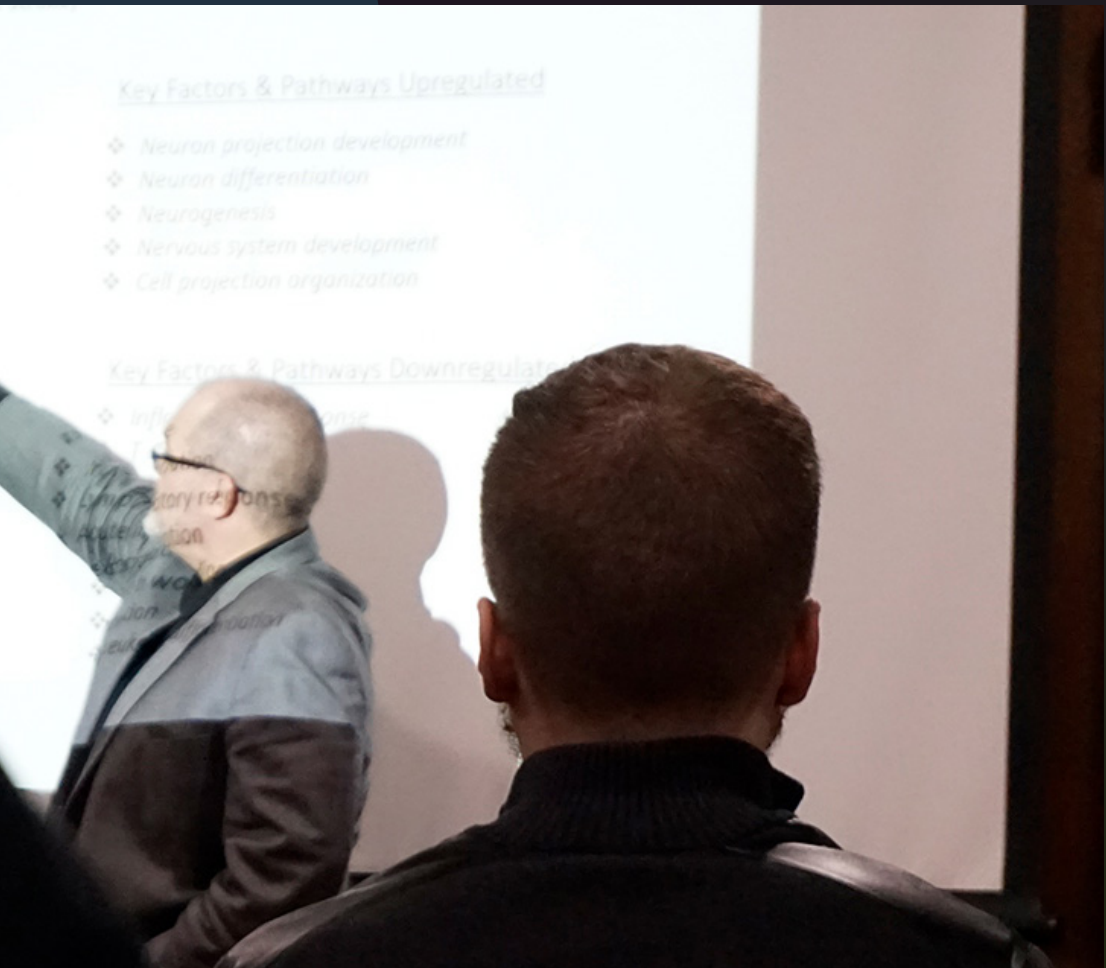
Visits such as these by our alumni demonstrate the strong core of the CMU community, as current students can learn about not only the successes of our alumni, but discuss the dedication and fortitude necessary to strive in a particular career.

"I learned a lot about the commitment and creativity you need to succeed as an entrepreneur," Ackerman said, "and some of the ways in which our Ph.D. training is preparing us for these kinds of career paths."





Willie Mays presenting his work for graduate students in Mellon Institute.



THE FUTURE OF SCIENCE AT CMU IS NOW

by Jocelyn Duffy

In the Mellon Institute, where generations of scientists have climbed the iconic marble steps, Rebecca Doerge was installed on April 24 as the inaugural Glen de Vries Dean's Chair of the Mellon College of Science, an event that moved the future of science at Carnegie Mellon University one giant step forward.

Members of the CMU community, including deans, faculty, students and special guests, gathered to celebrate de Vries' generosity, as well as Doerge as a scholar and leader. The dean's chair endowment will create opportunities for investments in fundamental science, interdisciplinary initiatives, and faculty and students for years to come.

Alumnus Glen de Vries, the president and co-founder of Medidata Solutions, the leading global provider of cloud-based technology for clinical research, donated \$10 million to endow the chair of the dean at the Mellon College of Science in December 2017. Previously, the scientist and entrepreneur endowed a Presidential Fellowship in the biological sciences at CMU.



Speaking at the installation, CMU President Farnam Jahanian expressed how de Vries' gift will allow the Mellon College of Science to continue to push the boundaries at the forefront of innovation in science by building on CMU's strengths in interdisciplinary education and research and data/computation.

"The long-term success of science at CMU requires sustained resources. This generous gift comes at an important moment for science at CMU and it is a strong endorsement of where we are headed as a university," Jahanian said.

De Vries, who received his undergraduate degree in molecular biology and genetics



CMU President Farnam Jahanian, Mellon College of Science Dean Rebecca Doerge, Glen de Vries, and Interim Provost Laurie Weingart

from Carnegie Mellon in 1994, spoke with deep affection about his time at CMU as a student and its influence on his career path, as well as his close relationship with Doerge.

“Carnegie Mellon made me ... me. The work here has an incredibly outsized effect on the world,” de Vries said during the event. “I am really excited about what we can do around science at CMU.”

Doerge, an interdisciplinary researcher whose research spans biological sciences, statistics and data science, was named MCS dean in 2016. The endowment provided by de Vries’ contribution gives her and her successors the flexibility to pursue high

risk/high payoff research that is often the most difficult for which to find funding.

“This gift means that we have young alumni like Glen who recognize and appreciate the value of their education here, and are willing to invest in MCS’s future,” Doerge said. “This gift is about giving Mellon College of Science the freedom to be visionary. We will build on all of our collective strengths to elevate science at this university. We will do this by doing foundational research and developing technologies that will lead to tomorrow’s greatest discoveries. We will train leaders who look outside their disciplines to solve problems, and we will prepare those leaders to make a great impact, just like Glen continues to do.”

ALUMNI UPDATES

APEKSHA ATAL

(B.S. '18)

was awarded a Fulbright English Teaching Assistantship and began her year of service teaching English in the Thailand province of Nakhon Si Thammarat.

MOHANISH DESHMUKH

(Ph.D. '94)

reached new heights this year by summiting Mount Kilimanjaro, Africa's highest point at 19,341 feet, with his son Rishi.

MELISSA KRAJCOVIC

(Ph.D. '11)

is currently an adjunct biology instructor at Penn State University in State College, PA.

ROBERT LAST

(Ph.D. '86)

began a three year term as president-elect of the American Society of Plant Biologists (ASPB) in 2017, the world's oldest and largest international professional organization of plant scientists.

MARY MAGGIC

(B.S.A. '13)

was named a 2017 finalist for the Bio Art & Design Award, given by the NWO, ZonMW, MU Artspace, and BioArt Laboratories in The Netherlands.

ROBIA PAUTLER

(Ph.D. '99)

had a successful year of obtaining research funding for her lab at Baylor College of Medicine. Both of her young daughters also earned a place on the academic honor roll this year, and her eleven-year-old raised \$500 to send five kids with special needs to a bike riding camp.

AAYUSH RAMAN

(M.S. '08)

recently graduated with a Ph.D. in Quantitative and Computational Biosciences from Baylor College of Medicine. He will be starting a post-doc in Computational Epigenomics at Broad Institute of MIT and Harvard this winter.

KATHERINE SCHAEFER

(Ph.D. '96)

is now an associate professor in the Writing, Speaking, and Argument Program at the University of Rochester.

YI SHI

(M.S. '15)

is currently a software engineer at Microsoft developing software defined networking automation tooling for the Azure cloud infrastructure.

IRTISHA SINGH

(M.S. '09)

completed her Ph.D. in Computational Biomedicine from Memorial Sloan-Kettering Cancer Center and Cornell University in 2017. She is currently a post-doc at Baylor College of Medicine.

PRATEEK TANDON

(M.S. '14)

is now a bioinformatics engineer at Personalis and is residing in Mountain View, CA.

JING WEN

(Ph.D. '12)

is currently a Quantitative Analytics/Model Development specialist at PNC Bank.

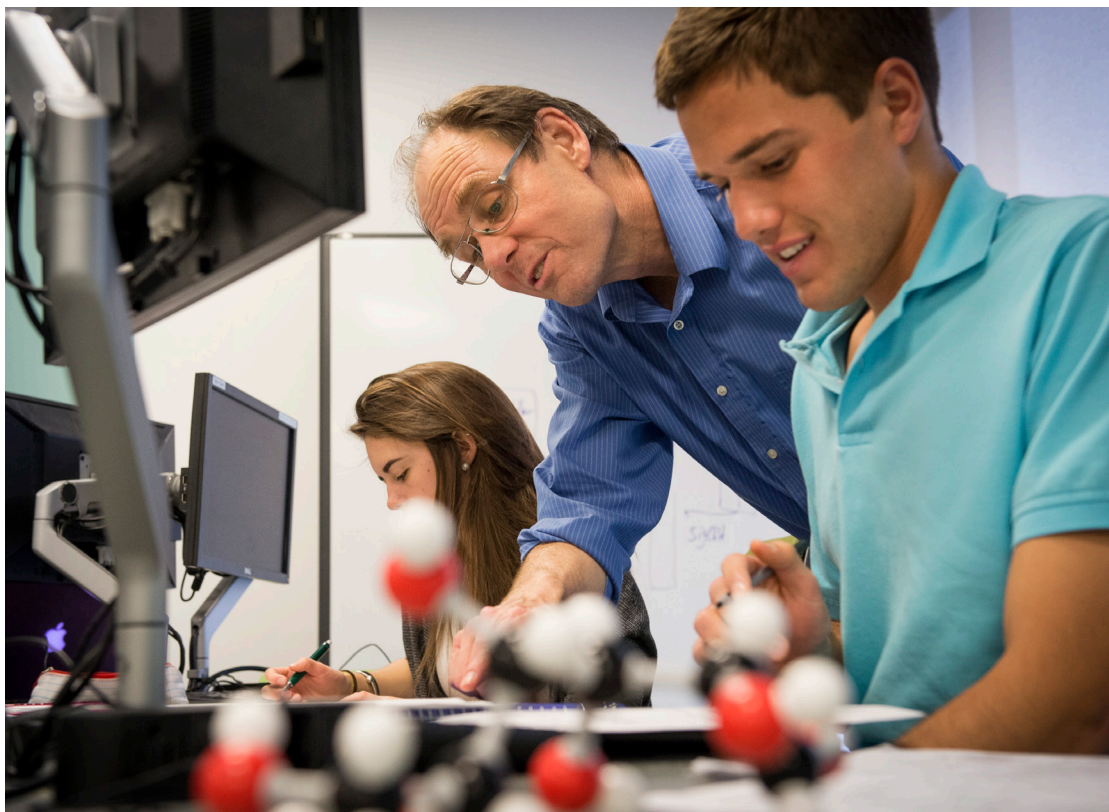
JINXUE ZHOU

(M.S. '12)

is now a software engineer at Amazon living in Seattle, Wa.

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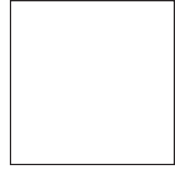
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Or contact:

Lisa Georgi
Director of Development
lgeorgi@andrew.cmu.edu
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Pittsburgh, PA 15213



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