

2019

I SCHOOL OF INTEGRATIVE BIOLOGY

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN • COLLEGE OF LIBERAL ARTS & SCIENCES



SHELBY LAWSON | FEATHERED GRUMP
NATURE 1ST PLACE



TANYA JOSEK | RABBIT TICK
BIOLOGICAL IMAGING 1ST PLACE

PHOTO CONTEST WINNERS

MORE INSIDE



DANIEL URBAN | TRILOBITES
ON THE MOUNTAINTOP
BIOLOGISTS AT WORK 1ST PLACE



FROM THE DIRECTOR



Dear Friends,

Welcome once again to the SIB newsletter! In this issue, we again celebrate only a small fraction of the amazing accomplishments of our faculty, students and staff. You can read more about other examples here: sib.illinois.edu/news. You can expect to hear more stories from us in the coming year thanks to our new Communications Coordinator, Rosemary Keane. Rose is an IB alumna who then went on to graduate school in Journalism. More information about Rose and how she will be communicating across multiple platforms can be found on page 7.

As you will see throughout the pages of this newsletter, many research and teaching activities are facilitated by gifts from our alumni and friends, and we are extremely grateful for that support. The 2018 recipients can be found on pages 12-14. This year, we celebrate the 10th anniversary of our longest-standing undergraduate award, the Robert H. Davis Undergraduate Research Prize. The students who have received these awards have gone on to amazing careers, and we are delighted to highlight them in this issue. In addition, our course "Translating Your IB Degree Into Career Success" is connecting our current students to alumni engaged in a variety of careers, and we are so thankful for the participation of alumni in our mentoring network. If you are interested in participating in the mentoring program, you can learn more by visiting sib.illinois.edu/alumni/mentor/ or contacting our coordinator of the Alumni Mentoring Program, Christina Swanson (sillima2@illinois.edu).

I hope that you will enjoy reading about the recent accomplishments of our students and faculty. We always enjoy hearing from our alumni and friends, so when you are next in Champaign-Urbana, please come and visit us in 286 Morrill Hall.

With my best wishes,

Carla E. Cáceres

Director, School of Integrative Biology

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FROM THE DEPARTMENT

The Department of Animal Biology

It has been a busy and productive year for the Department, as we welcomed new students, started new collaborative projects, and celebrated the success of our faculty, students, postdocs and affiliates.

Andrew Suarez

The Department has a global research footprint, and this year it included **Julian Catchen** joining **Chris Cheng** and **Art DeVries** in Antarctica to study the genomics of a radiation of Antarctic fish. Collectively, the Department's members and affiliates visited, or published papers based on research, from every continent in 2018-2019.

Our faculty received a number of awards and recognitions this past year, and I will use this space to highlight just a few. **Carla Cáceres** was named a Lynn M. Martin Professorial Scholar. **Alison Bell** was named both a University Scholar and the inaugural Getz Scholar in Animal Biology. We held an investiture for **Mark Hauber** as the Harley Jones Van Cleave Professor, and Mark also received the Peter R. Stettenheim Service Award from the American Ornithological Society. **Becky Fuller** was named the inaugural Teaching Scholar in the School of Integrative Biology. Finally, both **Alison Bell** and **Becky Fuller** were promoted to full professors, and each were recognized with a Campus Distinguished Promotion Award based on the high quality of their research, teaching and service.

We are also very excited, and perhaps a bit sad, to see some of our students defend their dissertations this Spring including **Chris Holmes** (Cáceres Lab), **Rachel Moran** (Fuller Lab), **Miles Mesa** (Paige Lab), **Selina Ruzi** and **Rafael Achury** (Suarez lab). Please join me in congratulating and wishing them success as they take the next steps of their careers!

Finally, due to an overwhelmingly positive response, our monthly Departmental Colloquium is now bi-monthly and primarily featured graduate student talks this past year. This venue is perfect not only for well-polished presentations, but also for showcasing new ideas and getting feedback early in the research process.

Interested in keeping up with Departmental accomplishments and events? Follow us on Twitter (@UIUCAnimalBio @AndrewVSuarez) ●

HEADS



James Dalling

Department of Plant Biology

I'm happy to report another exciting year for Plant Biology. Following two major awards to faculty in our department last year—the Department of Energy Center for Advanced Bioenergy and Bioproducts Innovation, and the Gates Foundation RIPE project to engineer increases in photosynthetic efficiency—our faculty, postdocs and students have been hard at work, identifying bottlenecks in biochemical processes, screening the performance of plants in the field, and assessing the landscape and regional consequences of changing land-use patterns for carbon fluxes and nitrogen pollution. These projects highlight the power of our integrative approach where collaborating labs tackle big questions from the cellular to the ecosystem level. One exciting result from this work, published in the journal *Science* in January 2019 by Professor **Don Ort** and collaborators, shows that by engineering photosynthesis to avoid energy losses from a pathway called photorespiration, plant productivity in the field can be enhanced by ~40%.

Faculty members and affiliates have also received recognition this year. Assistant Professor **Wendy Yang** has been named an Ecological Society of America Early Career Fellow, in recognition of her "outstanding contributions to research, teaching and outreach in the fields of biogeochemistry and global change biology." Dr. **Lisa Ainsworth**, a USDA Agriculture Research Service affiliate in our department, has received the 2019 National Academy of Sciences Prize in Food and Agriculture, awarded to a mid-career scientist for extraordinary contributions to agriculture in recognition of her work on how "climate change will affect crops." And showing that retirement is no obstacle, two of our emeritus faculty received awards. Professor **Govindjee** was elected as a Pravasi Fellow of the National Academy of Agricultural Sciences, India, and has been

honored in a special issue of the journal *Photosynthetica*, recognizing and celebrating his 85th birthday. Professor **David Seigler** has been elected a Fellow of the Royal Society of Chemistry in recognition of this work on the chemical ecology of plants.

This Spring has also seen the retirement of one of our longest serving faculty members, Professor **Carol Augspurger**. Many students will remember Carol's extraordinary dedication and innovative approaches to teaching ecology. We hope that Carol will continue her long sequence of research on the phenology of the plants of Trelease Woods over the coming years. Finally, it is with sadness we report the passing of Professor **Tom Phillips** in July 2018. A remembrance of Professor Phillips appears on page 5. ●



May Berenbaum

Department of Entomology

Professionally speaking, entomologists are accustomed to changes; after all, metamorphosis is one of the key innovations that enabled insects to populate much of terrestrial Earth. Our Department certainly underwent some dramatic changes in 2018. Most striking was the departure of two faculty members—**Hugh Robertson** and **Charlie Whitfield** retired after 30 years and 14 years, respectively. Fond farewells, though, were balanced by warm welcomes. Bee biologist **Adam Dolezal** joined the faculty as an assistant professor in Fall 2017 and taught the core physiology course for IB majors in Spring 2018; in Spring 2019, he'll teach *Genes and Behavior*, the course previously taught by **Charlie Whitfield**. In March, 2018, we welcomed **Esther Ngumbi**, who, through the Chancellor's Postdoctoral Studies Program, was appointed jointly to our department and the Department of African American Studies. Beyond her expertise in chemical ecology, she has a breathtaking record of achievements in science communication; within six months

of her arrival, she published science-based articles in *Newsweek*, *Scientific American*, NPR, and the *New York Times*, in addition to winning an international award—the 2018 President's Medal from the Society for Experimental Biology. Other changes in our graduate faculty came from within the campus entomological community; new affiliates to our program as of 2018 include conservation ecologist and invasive crayfish expert **Eric Larson** from NRES and eDNA guru **Mark Davis** from the Illinois Natural History Survey.

We're continuing our efforts to help pollinators by getting to know them better—collectively, five faculty (**May Berenbaum**, **Sydney Cameron**, **Adam Dolezal**, **Alex Harmon-Threatt**, and **Gene Robinson**) have brought in close to \$12 million in grant funding focused on pollinator health from five federal agencies. Beyond research, pollinator-centric outreach efforts, including the UI Pollinarium and the citizen-science Beespotter project, continue to thrive and there's now a new undergraduate beekeeping club on campus, advised by **Adam Dolezal**. In October, in fact, UIUC achieved the distinction of being the first Big Ten campus to be certified in the Bee-Campus USA program. Beyond pollinators, research of course proceeds apace on parasites (insect and acarine), parasitoids, leaf-, sap-, wood-, and root-feeding herbivores (spanning five orders), predators, detritivores, and ants (who are too ecologically diverse to pigeon-hole).

One thing that hasn't changed dramatically is that our students, faculty, and alumni continue to win awards. **Gene Robinson** pulled off a remarkable academic double-header, winning the Wolf Prize in Agriculture and election to the National Academy of Medicine in 2018 (becoming among the only entomologists ever to win election to two National Academies). Among our PhD and postdoctoral alumni, **Dan Strickman** of the Gates Foundation returned to campus to serve as SIB commencement speaker, **Christina Grozinger** and **Bruce McPherson** became Fellows of the Entomological Society

continued on page 16

DEPARTMENTS AND PROGRAMS

DEPARTMENTS

Department of Animal Biology
Department of Entomology
Department of Plant Biology

UNDERGRADUATE PROGRAMS

Integrative Biology
Integrative Biology Honors
IPS–Entomology
Teaching of Biology

GRADUATE PROGRAMS

Animal Biology
Entomology
Plant Biology
Program in Ecology, Evolution & Conservation Biology (PEEC)
Online Master of Science Teaching Biology Program

SIB BY THE NUMBERS

FACULTY (2018)

Professors	26
Associate Professors	7
Assistant Professors	9

STUDENTS (2018)

Undergraduate Students –346

Out-of-state	5%
International	6%

Graduates–149

Animal Biology	21
Entomology	29
Plant Biology	34
Program in Ecology, Evolution and Conservation Biology	36
Online Master of Science Teaching Biology	29

DEGREES AWARDED

Bachelor of Science	169
Master of Science	28
Doctor of Philosophy	14

FUNDED RESEARCH

The following numbers are as of 8/31/18

NSF	\$17,507,275
USDA	\$4,568,445
NIH	\$1,487,841
Dept of Energy	\$3,807,135
Dept of Education	\$1,187,232
DOD	\$1,637,800
Misc Federal	\$66,567
Private	\$1,890,799
Total	\$32,153,094

Freezer Challenge

As many scientists, facility managers and students know, the kinds of machinery used in laboratories can require a lot of energy. In 2018, the University of Illinois at Urbana-Champaign won the International Laboratory Freezer Challenge, which recognized the university's efforts to reduce energy required for laboratory cold storage. The program is jointly run by My Green Lab and the International Institute for Sustainable Laboratories (I2SL).

Julie Nguyen in Dr. Ray Ming's lab (Department of Plant Biology) won 1st place in the challenge for her innovative problem solving in reducing the energy needs in the lab, which entailed storing approximately 5000 samples from colder to warmer temperatures, storing reagents and kits from cold to room temperature, and removing unnecessary samples.

The campus won the challenge's Academia category after 45 labs in 17 buildings reduced total energy usage by an estimated 720 kWh/day from October 2017 through June 2018. The annual total of 262,800 kWh of electricity saved is the approximate equivalent of the yearly energy used by 25 typical U.S. homes.

Participating labs implemented best practices for cold storage management and received points for taking actions such as properly maintaining freezers and refrigerators, discarding old samples, and retiring unneeded units. The university's participation in the Freezer Challenge is a collaboration between the Office of the Vice Chancellor for Research, Division of Research Safety; the Institute for Sustainability, Energy, and Environment (iSEE); the Student Sustainability Committee (SSC); and Facilities & Services.

Facilities & Services (F&S) Utilities & Energy Services Specialist Paul Foote said, "The researchers did an outstanding job of implementing energy-efficient, safety-focused, and environmentally sustainable practices that simultaneously provided cost avoidance along with benefitting the environment. We hope the results will encourage more labs to join these efforts and show that individual contributions add up and make a significant impact." ●



IN MEMORIAM

Dr. Tom Phillips

Dr. Tom Phillips, Professor Emeritus in the Departments of Plant Biology and Geology, passed away on the 14th of July 2018. Dr. Phillips was one of the most prominent paleobotanists in the world. His career, spanning nearly 60 years, explored the evolution of land plants that existed 300-320 million years ago. His ability to reconstruct entire plant communities, and trace the evolution of their constituent species, transformed our understanding of paleo environments. Along the way, he built up a unique and irreplaceable collection of more than 40,000 coal balls, retrieved from coal seams around the world containing beautifully preserved plant specimens.

In addition to his visionary research on the evolution of land plants, Dr. Phillips was also a renowned teacher and mentor. His legendary course *An Evolutionary Survey of the Plant Kingdom* introduced generations of undergraduate students to paleobotany. One student, in his assessment of Dr. Phillips' teaching noted "Excellent lectures—allowed me to become interested in algae—which amazed me (not the algae, my interest)." Dr. Phillips also trained many of the very best paleobotanists in the country. Prof. Karl Niklas, who studied under Phillips, considered Dr. Phillips his academic father, who "allowed me and others the freedom to explore their own ideas," and who "enjoyed seeing us walk along our individual pathways as he was creating his own important contributions to science."

Another of Dr. Phillips' students, Dr. William De Michele, said in his eulogy "Many of my colleagues who've responded to

the notices of his passing have used words like "giant," "great," "pioneer," "visionary" - words I believe Dr.

Phillips would not have applied to himself. As you know, he was a member of the National Academy of Sciences—no higher honor could be bestowed in his field. But he rarely spoke of it. He was just doing what he had to do, doing the next right thing, the next necessary thing. In the words of Bob Hook: "Please remember that Tom was a lot more than a paleobotanist to his friends in the coal realm. He was a real guy who was more comfortable in coveralls with "common folk" than with the professors of academia. He was data centric, loved underground work, and was a true gentleman."

Six years ago, the Departments of Plant Biology and Geology established the Phillips Lecture Series, which invites a prominent paleobiologist to campus each year. As his health declined, Dr. Phillips made a special effort to attend this lecture—not because of the accolades and recognition it brought him, but because of his love of paleoscience and his desire to see a campus community of scientists come together and forge interdisciplinary collaborations, much as he had done at the beginning of his career. We look forward to the next Phillips Lecture in Fall 2019, and continuing Dr. Phillips' legacy of excellence in research and teaching. sib.illinois.edu/plantbio/giving. ●



Teaching Scholar in Integrative Biology

We are excited to announce the launch of the Teaching Scholar program in Integrative Biology. This three-year position was established in honor of Dr. **Carol Augspurger**, professor emerita in Plant Biology, in recognition of her dedication to the undergraduate mission of the School of Integrative Biology.

Dr. **Becky Fuller** was appointed the inaugural Teaching Scholar in Integrative Biology.

This position recognizes Dr. Fuller's dedication and accomplishments to teaching which includes: sustained excellence in teaching in multiple courses, mentoring over 100 undergraduates in research, embracing innovative approaches for teaching in and out of the classroom, and developing



Carol Augspurger



Becky Fuller

curricula and resources to promote teaching experiences for others on campus. She also received external funding from NIH with Dr. Barbara Hug in Education to improve the teaching of evolution. Dr. Fuller's training provides undergraduate students a diverse skill set ranging from programming, animal husbandry, genetic techniques, field skills, scientific writing, and public outreach. Subsequently, her efforts have translated directly into career opportunities for our students.

For more information about the Professorial Scholar in Integrative Biology Award (#774788), including information on how you can help, please contact Trent Reed at (217) 300-5198 or reed15@illinois.edu. ●



FACULTY PROMOTIONS



ALISON BELL

Dr. **Alison Bell** joined the Department of Animal Biology as an assistant professor in 2006. In 2013, Dr. Bell was promoted to associate professor and in 2018 to full professor. Research in the Bell Lab focuses on understanding why individual animals behave differently from each other. The lab

studies the proximate and ultimate causes of individual variation in threespined stickleback fish, mostly. Current research in the Bell lab investigates behavioral plasticity over different time scales—within versus across generations, for example—and increasingly relies on neurogenomic analyses to understand how genes and environment interact in the brain to produce behavioral diversity. Alison serves as an editor for *The American Naturalist*, is Program Officer of the Animal Behavior Society, was designated a University Scholar, and was the inaugural Getz Professorial Scholar last year. Work in the Bell lab is supported by the NSF and NIH. To learn more, visit: sib.illinois.edu/bell/



BECKY FULLER

Dr. **Becky Fuller** joined the Department of Animal Biology as an assistant professor in August, 2005. In August of 2012, Dr. Fuller was promoted to associate professor and in August of 2018 to full professor. Research in the Fuller Lab focuses broadly on evolution in fishes as a function of

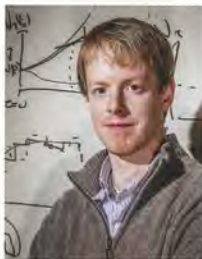
genetic differentiation among populations and closely related species. Current research in the Fuller lab investigates the causes of reinforcement within and between darter species and its effects on cascading speciation as well as on the effects of diverse lighting environments on the evolution of color pattern and color vision in killifish and largemouth bass. Becky serves as an associate editor for *Evolution*, *The American Naturalist*, and *Current Zoology*. She has served on many committees for both the Society for the Study of Evolution and the American Society of Naturalists. She is currently the Teaching Professorial Scholar in Integrative Biology, an award that was created in honor of Dr. Carol Augspurger. Dr. Fuller was also a recipient of the 2018 Campus Distinguished Promotion Award. To learn more, visit: beckyfullerlab.weebly.com/



ANDREW LEAKEY

Dr. **Andrew Leakey** received his B.Sc. in Plant Sciences in 1998 and his Ph.D. in Tropical Tree Physiology and Ecology in 2003, both from the University of Sheffield, UK. He moved to the University of Illinois at Urbana-Champaign as a Fulbright Scholar in 2002. Staying at

Illinois he was a post-doctoral scientist in the Department of Plant Biology and then Research Fellow at the Institute for Genomic Biology before joining the faculty as an assistant professor in 2007. He was promoted to associate professor in 2013 and professor in 2018. Dr. Leakey has received the Calvin-Benson Prize for excellence in early-career research on photosynthesis and been elected as a Fellow of the American Association for the Advancement of Science. The major focus presently for the Leakey lab is to understand the genetic and physiological controls of stomatal patterning, photosynthetic water use efficiency (WUE) and rooting through a combination of molecular genetics, quantitative genetics, and physiology. This will hopefully advance efforts to improve crop WUE and drought tolerance. Lab webpage: life.illinois.edu/leakey/



JAMES O'DWYER

Dr. **James O'Dwyer** joined the Department of Plant Biology as an assistant professor in August, 2013. This past August, 2018, Dr. O'Dwyer was promoted to associate professor. The O'Dwyer lab works in the broad area of mathematical modeling in ecology and evolution and in

relating these models to empirical data. Recent work has ranged from probing the strength of competitive interactions between angiosperm species in tropical forests, to the analysis of bursts of diversification in microbial evolutionary history, to developing theoretical models for the exchange of material resources and information. A general theme running through all of these projects is building models which are just complex enough—but not too much. Broader collaborative work with researchers at U of I and elsewhere focuses on experimental microbial community ecology, socioecological dynamics, and inference of species interactions. The lab also has an interest in assessing and improving the efficacy of mathematical teaching for life sciences majors. To learn more, visit: publish.illinois.edu/odwyerlab/

NEW FACES IN SIB



ALLISON O'DWYER

Allison O'Dwyer is a research scientist turned educator. Her research was based off the Oregon coast where she evaluated and monitored toxin levels in harmful algal blooms due to increased nutrient uptake. After completing her master's degrees in Ecology and Evolution and in Curriculum

and Teaching at the University of Oregon, Allison then taught in K-12 classrooms, facilitating students in finding pathways towards careers in science and helping to fund a college-prep public charter high school in Santa Fe, NM. Currently, she is serving as an Instructor for the School of Integrative Biology within the Online Master of Science Teaching Biology degree program and teaching a course on Global Change and Sustainability. Allison is also the new Coordinator for SIB's International Partner High School Program which increases opportunities for international and domestic students with the development of an integrated program of study for students that includes adapting introductory online classes. In her spare time, she is a native gardening enthusiast and enjoys digging in the dirt with their two daughters.



ROSE KEANE

Rose Keane is originally from Champaign-Urbana and is thrilled to be returning to the School of Integrative Biology. She earned her bachelor's degree in Integrative Biology from right here at Illinois back in 2010 and went on to earn a master's degree in Environmental Journalism from Michigan State University and Natural

Resources from North Carolina State University. Her career as a science communicator has led her across Big Ten universities, the private sector, and government agencies, and she's pleased to now be back where it all started. Her work is inspired by her desire to showcase our best research and all of our outstanding scientists. If you'd like to connect with SIB on social media, visit us at: [facebook.com/iBioIllinois/](https://www.facebook.com/iBioIllinois/) or twitter.com/iBioIllinois

SIB Launches Alumni Award Program

Although the School of Integrative Biology is only a few decades old, our tradition of excellence in research and teaching began 150 years ago - courses in Zoology, Botany, and Entomology at the University of Illinois were taught from the first year of instruction (1868). Our departments were founded in 1884 (Zoology/EEE, Genetics and Development, Animal Biology), 1901 (Botany/Plant Biology) and 1909 (Entomology). In the last century and a half, our faculty have had the pleasure of working with tens of thousands of undergraduate and graduate students who have gone on to change the world through their impactful and cross-cutting work.

To celebrate the accomplishments of our alumni, the School of Integrative Biology is pleased announce the first annual call for the SIB Alumni Awards Program, to recognize exceptional alumni who have made significant contributions through outstanding professional achievement or have provided exceptional service to the School or the departments.

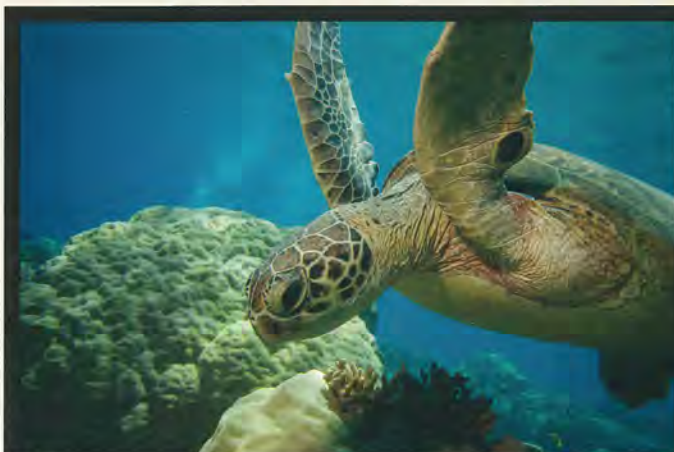
We seek nominations for the following two awards:

- **Achievement Award** for outstanding professional achievement that demonstrates the value of an education (BS, MS, or PhD) from the University of Illinois.
- **Outstanding Recent Alumni Award** for a recent graduate (within 10 years of final Illinois degree) for outstanding or noteworthy professional achievement.

Nominations may come from alumni, faculty, commercial enterprises, college or campus advancement personnel, friends of the University, or other academic institutions that employ Illinois graduates. Nominees must have earned a BS, MS, or PhD in Biology (with or without a concentration), Botany, Ecology, Evolution and Conservation Biology, Entomology, Genetics and Development, Integrative Biology, or Plant Biology.

To nominate an alumni for either the Achievement Award or the Outstanding Recent Alumni Award, please include the nominee's name, address, degree(s)/years at Illinois, employers, career path, C.V., statement of recipient's achievement or significant accomplishments, and at least two letters of support from individuals familiar with the nominee in a single PDF and submit to forms.illinois.edu/sec/2289230 by 1 October 2019.

Questions can be directed to: Rose Keane, rkeane3@illinois.edu



DABEK |
GREGARIOUS
GREEN
TURTLE



FACULTY AWARDS

Eleven Illinois Researchers Rank Among World's Most Influential

Eleven faculty members at UIUC have been named to the 2018 Clarivate Analytics Highly Cited Researchers list. Among the highly cited Illinois researchers this year are: **Lisa Ainsworth**, USDA, **Stephen Long**, and **Donald Ort**.



Dr. Ainsworth's research uses physiological, biochemical and genetic approaches to understand the mechanisms of plant responses to air pollution and climate change. A key goal of her work is to maximize crop production in the future.



Dr. Long uses computational and experimental approaches to improve photosynthetic efficiency, and works to address the effects of climate change on crop yield. He directs Realizing Increased Photosynthetic Efficiency (RIPE), a multinational project supported by the Bill & Melinda Gates Foundation, the Foundation for Food and Agricultural Research and the U.K. Department for International Development.



Dr. Ort's research focuses on improving photosynthesis and addresses crop responses to global change factors including increases in atmospheric carbon dioxide and temperature. He leads the Genomic Ecology of Global Change theme in the Carl R.

Woese Institute for Genomic Biology. For complete article: go.illinois.edu/ILRes18

Crop Science Society of American Presidential Award



Lisa Ainsworth, USDA, received the 2018 Presidential Medal from the Crop Science Society of America (CSSA). This award is given to individuals who have influenced the science or practice of crop production so greatly that the impact of their efforts will be enduring on future science. For

complete program: go.illinois.edu/CSSAAwd18 2/1

University Scholars Program

Faculty excellence is the cornerstone of any university of high quality. There is no more important task at the University of Illinois than attracting and retaining the very best teachers and scholars. The Faculty Scholar Program aims to recognize outstanding members of the faculty and to provide each with a funding allocation to enhance their scholarly activities. **Alison Bell**, professor in animal biology, is among the list of 2018 University Scholars. For complete article:

go.illinois.edu/2018UScholar

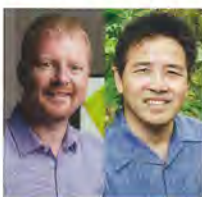
Faculty Members Receive Provost's Distinguished Promotion Award



Eleven faculty members were honored with the Provost's Campus Distinguished Promotion Award. Two of the eleven scholars receiving the award are **Alison Bell**

and **Becky Fuller**, both professors from the animal biology department. During its annual promotion review process, the Campus Committee on Promotion and Tenure identifies scholars whose contributions have been extraordinary in terms of quality of work and overall achievement. Each receives a discretionary fund to support scholarly activities. For complete article: go.illinois.edu/DistProAwd18

Four Illinois Faculty Members Elected AAAS Fellows



Andrew Leakey and **Ray Ming**, professors of plant biology, are among the four professors from Illinois who have been elected 2018 Fellows of the American Association for Advancement of Science.

Dr. Leakey is recognized "for distinguished contributions to plant science, particularly for advancing integrative understanding of crop carbon and water relations in the context of global environmental change." **Dr. Ming** is recognized "for distinguished contribution to the field of sex chromosome evolution, particularly using genomic technologies to study early stages of sex chromosomes relevant to crop improvement." For complete article: go.illinois.edu/AAAS18



LAWSON
| WHAT
THE PECK
ARE YOU
DOING?

Faculty Members Selected for Distinguished Chairs



Four University faculty members have been selected for endowed chairs deemed to be among the most distinguished honors on the campus. **Stephen Long**, professor of plant biology, was named Stanley O. Ikenberry Endowed Chair. **Dr. Long** uses computational and experimental approaches to improve photosynthetic efficiency and works to address the effects of climate change on crop yield. For complete article: go.illinois.edu/LongEndCh18

IGB Director Awarded 2018 Wolf Prize in Agriculture



Entomology professor and IGB director **Gene Robinson** has been awarded 2018 Wolf Prize in Agriculture for “leading the genomics revolution in the organismal and population biology of the honey bee.” Awarded each year since 1978 by the Wolf Foundation in the fields of agriculture, chemistry, mathematics, medicine, physics, and rotated among disciplines in the arts, recipients are considered outstanding members in their field. Laureates receive their awards from the President of the State of Israel, with a special ceremony held at the parliamentary building in Jerusalem. For complete article: go.illinois.edu/Wolf18

Honey Bee Researcher Gene Robinson Elected to National Academy of Medicine

Entomology professor and IGB director **Gene Robinson**, an international leader in honey bee research, has been elected to the National Academy of Medicine “for pioneering contributions to understanding the roles of genes in social behavior.” For complete article: go.illinois.edu/RobinsonNAM

2018-19 President’s Executive Leadership Program (PELP) Fellows



Dr. Andy Suarez, professor and head of the Department of Animal Biology, was elected to the 2018-2019 President’s Executive Leadership Program (PELP). This professional development opportunity takes part over an entire year where PELP Fellows travel to each of the University’s three campuses and to Washington D.C. to explore issues relating to public higher education in the 21st century. Some specific goals of this program include: develop an understanding of the expectations of a public land

grant university, increase awareness of challenges facing higher education, and enhance management and decision-making skills. For complete article: go.illinois.edu/PELP18-19

Ecological Society of America Honors Yang



The Ecological Society of America (ESA) has named **Wendy Yang**, assistant professor of plant biology, as an Early Career Fellow. The society’s fellowship program recognizes the many ways in which its members contribute to ecological research and discovery, communication, education, pedagogy, management and policy. **Dr. Yang** was elected for her outstanding contributions to research, teaching and outreach in the field of biogeochemistry and global change biology. For complete article: go.illinois.edu/YangESA

Professors Emeriti of the Plant Biology Department Receive International Awards



Prof. **Govindjee** has been elected as a Pravasi Fellow of the National Academy of Agricultural Sciences, India, and has been honored in a special issue of *Photosynthetica* recognizing and celebrating his 85th birthday. Congratulations Govindjee!

Prof. **Dave Seigler’s** work on the chemical ecology of plants (sib.illinois.edu/profile/daveseig), which has included development of antioxidant and mosquitocidal chemicals, was recently recognized by his selection as a Fellow for the Royal Society of Chemistry. Congratulations Dave!

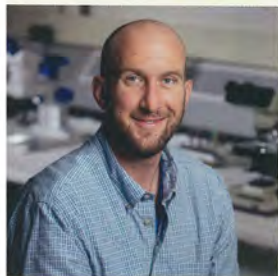
2018 President’s Medal from the Society for Experimental Biology



Esther Ngumbi, a postdoctoral researcher in **May Berenbaum’s** lab, was selected to receive the 2018 President’s Medal from the Society for Experimental Biology. Her research focuses on applied chemical ecology and the use of natural products for sustainable pest management and crop production. For complete article: go.illinois.edu/NgumbiAwd18 ●



FACULTY NEWS



Study Finds Potential Benefits of Wildlife Livestock Coexistence in East Africa

Entomology professor **Brian Allan** and his colleagues at Bard College conducted a study of 3,588 square kilometers of privately owned land in central Kenya. The study offers evidence that humans and

their livestock can, in the right circumstances, share territory with zebras, giraffes, elephants and other wild mammals—to the benefit of all. These findings suggest that certain management practices can enhance the viability of livestock operations while also maximizing wildlife abundance and health on the same lands. For complete article: go.illinois.edu/CoexistEA



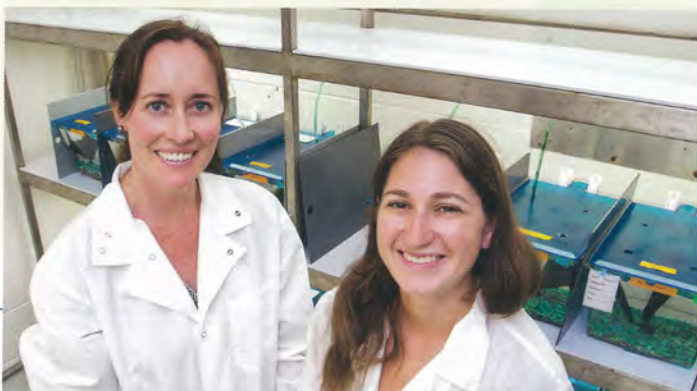
Scientists Study Puncture Performance of Cactus Spines

Animal biology professor **Phil Anderson** and postdoctoral researcher **Stephanie Crofts** found that barbed cactus spines behave a lot like porcupine quills: They readily penetrate fibrous materials and hold fast. Cactus spines may have a variety of functions, including defending the plant

from predators, providing shade and collecting water from fog. Cholla spines have a reproductive purpose: By latching on to any critter unlucky enough to brush past them, the spines help the plant distribute pieces of itself to new locations. For complete article: go.illinois.edu/CactSp18

In Responding to a Predation Risk, Secondhand Experience Can Be as Good as New

A new animal biology study of stickleback fish by animal biology professor **Alison Bell**, former doctoral student **Laura Stein** and doctoral student **Abbas Bukhari**, shows that individuals show the same molecular and developmental responses to their own versus their parent's exposure to predators. The study found that when either a stickleback father or his offspring experienced the threat of predation, the offspring responded with the same adaptive strategy—



developing to be smaller and more timid. Even if both generations experienced the threat, the developmental differences in size and behavior remained the same. For complete article: sib.illinois.edu/news/86

May Berenbaum Named PNAS Editor-in-Chief

Entomology professor and department head, **May Berenbaum**, a member of the National Academy of Sciences and longtime editorial contributor to the Proceedings of the National Academy of Sciences (PNAS) and other journals, has been appointed editor-in-chief of PNAS. PNAS is among the most influential scientific journals in the world. It publishes original research reports, commentaries, perspectives, colloquium papers and actions of the Academy. Coverage in PNAS spans the biological, physical and social sciences. For complete article: go.illinois.edu/PNAS2019



Caterpillar, Fungus in Cahoots to Threaten Fruit, Nut Crops

New research reveals that *Aspergillus flavus*, a fungus that produces

carcinogenic aflatoxins that can contaminate seeds and nuts, has a multilegged partner in crime: the navel orangeworm caterpillar, which targets some of the same nut and fruit orchards afflicted by the fungus. "It turns out that the caterpillar grows better with the fungus; the fungus grows better with the caterpillar," says entomology professor and department head **May Berenbaum**, who conducted the study with entomology graduate student **Daniel Bush** and U.S. Department of Agriculture research entomologist Joel Siegel. For complete article: go.illinois.edu/CaterFung

Diverse Tropical Forests Grow Fast Despite Widespread Phosphorus Limitation



Accepted ecological theory says that poor soils limit the productivity of tropical forests, but adding nutrients as fertilizer rarely increases tree growth, suggesting that productivity is not limited by nutrients after all. “This study highlights our limited understanding of how plants cope with phosphorus-poor soils, a significant challenge to farmers through much of the tropics,” said plant biology professor and department head **Jim Dalling**. “Comparing how plants adapted to high versus low phosphorus availability acquire and use this critical nutrient could suggest new approaches for increasing food production without relying on costly fertilizers.” For complete article: go.illinois.edu/TropFor318

In Darters, Male Competition Drives Evolution of Flashy Fins, Bodies

Scientists once thought that female mate choice alone accounted for the eye-catching color patterns seen in some male fish. But for orangethroat darters, male-to-male competition is the real force behind the flash, a new study finds. The research, conducted by graduate student **Rachel Moran** with animal biology professor **Becky Fuller**, suggests that separate populations of orangethroat darters are evolving differing color patterns as a result of the males’ ability to distinguish their own from other species. For complete article: go.illinois.edu/FIFins0818



Pointy Eggs More Likely to Stay Put in Birds’ Cliffside Nests

Natural selection—that merciless weeder-outer of biological designs that are out of step with the times—is also a wily shaper of traits. Exhibit A is the pointy murre egg, according to new research. Common murre and thick-billed murre tend to



nest in tightly packed colonies on craggy seaside cliffs. The ledges on which they lay their eggs can be quite narrow, sometimes “as shallow as the egg is long.” Animal biology professor **Mark Hauber** and his colleagues 3D-printed eggs in a variety of shapes to test which features contribute to egg-rolling on sloping surfaces. For complete article: go.illinois.edu/Eggs0818



Genomic Study Ties Insect Evolution to the Ability to Detect Airborne Odors

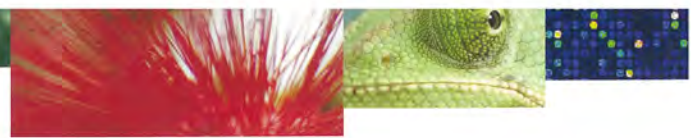
A new study from entomology professor **Hugh Robertson** reveals that all insects use specialized odorant receptors that enable them to detect and pursue mates, identify enemies, find food and—unfortunately for humans—spread disease. This puts to rest a recent hypothesis that only some insects evolved the ability to detect airborne odors as an adaptation to flight. For complete article: go.illinois.edu/Genome0818

Earth BioGenome Project Aims to Sequence Genomes of 1.5 Million Species

Entomology professor and director of the Carl R. Woese Institute for Genomic Biology **Gene Robinson** and his colleagues are proposing a massive project to sequence, catalog and analyze the genomes of all known eukaryotic species on the planet, an undertaking the researchers say will take 10 years, cost \$4.7 billion and require more than 200 petabytes of digital storage capacity. Eukaryotes include all organisms except bacteria and archaea. There are an estimated 10-15 million eukaryotic species on Earth. Of those, the team proposes sequencing 1.5 million. For complete article: go.illinois.edu/BioGenome



continued on page 16



TEACHING & MENTORING AWARDS

Sharon Gray Memorial Award

Claire Dust
Allison Parker

Thomas Frazzetta Award for Outstanding Teaching in Animal Biology

Cody Jones

Award for Outstanding Teaching in Plant Biology

Julie Nguyen

Ellis MacLeod/DuPont Award for Outstanding Teaching by a Graduate Student in the Department of Entomology

Allison Parker

John G. and Evelyn Hartman Heiligenstein Awards

Outstanding Teaching Assistants in SIB Core Courses

Nick Anderson
Miles Mesa
Michael Wong

Teachers Ranked Excellent

by Their Students for Integrative Biology Courses Taught in Spring and Fall 2018

Rafael Achury Morales	Charles Dean	Allison Parker
Brian Allan	Alida de Flamingh	Rachel Paul
Nick Anderson	Stephen Downie	Tolulope Perrin-Stowe
Phil Anderson	Becky Fuller	Daniel Raudabaugh
May Berenbaum	Sarah Giers	Bradley Scott
Gabriel Beuchat	Mark Hauber	Lynette Strickland
Charles Burroughs	Edward Hsieh	Andy Suarez
Daniel Bush	Sarah Huss	Nicholas Sutton
Carla Cáceres	Cody Jones	Christina Swanson
Sydney Cameron	Kavya Kannan	Daniel Swanson
Samantha Capel	Shelby Lawson	Jacob Torres
Julian Catchen	Kira Long	Erin Welsh
Yaping Chen	Kelsey Low	Michael Wong
Chris Cheng	Lauren McDaniel	Dessiree Zerpa
Ben Clegg	Joshua Mesa	Catanho
Catherine Dana	Andrew Miller	
	Mario Muscarella	

BOOKNOOK 2018

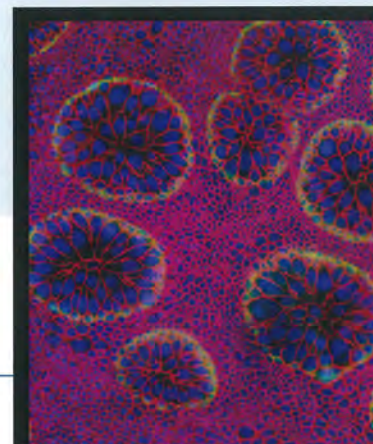
CHICKENS MISBEHAVING: THE CHICKEN: A NATURAL HISTORY

Animal biology professor **Mark Hauber** co-authored the book *The Chicken: A Natural History* and in his chapter on Chicken Behavior explains all aspects of fowl behavior from the productive (mating and parental care) to the vicious (fighting and pecking orders). Anyone who has closely observed the behaviors of wild and captive birds will know that order in nature has very little to do with peace, harmony, and equilibrium: neighboring birds frequently strike and call at each other and even peck and draw blood. Thus, when housed at high densities, chickens will exaggerate ancestral types of aggression and engage in unnatural extensions of such behaviors provoked by their current conditions. For complete book chapter: go.illinois.edu/ChckBhav. The *Chicken-A-Natural History* (Barber J et al.) was re-published by Princeton University Press in 2018



DISCOVERIES IN THE GARDEN

Every square inch of soil is rich with energy and life, and nowhere is this more evident than in the garden. At the tips of our trowels, a sun-driven world of microbes, insects, roots, and stems awaits—and it is a world no one knows better than **James Nardi**, a research scientist in the entomology department. *Discoveries in the Garden* is an enlightening romp through the natural history, science, beauty and wonder of these essential green places. The University of Chicago Press. **Discoveries in the garden**. For complete article: go.illinois.edu/NardiGarden



BEE | INSECT
EPIDERMAL CELLS
UNDERGOING
METAMORPHOSIS

Robert H. Davis Undergraduate Research Prize

In 2018, the Robert H. Davis Undergraduate Research Prize celebrated its 10th anniversary. Robert “Rob” H. Davis was a student of the School of Integrative Biology who passed away in early 2008 after a short illness. Having completed all of the requirements for his degree shortly before passing away, Rob was awarded a posthumous Bachelor of Science degree by University of Illinois in May 2018. Rob was known for his contagious smile, crushing hugs and booming laugh; he enjoyed baseball, listening to and playing music, reading and acting.

Established by Susanne and Kent Davis in loving memory of their son, the Robert H. Davis Undergraduate Research Prize was designed to recognize a student who exhibits significant academic curiosity, is hardworking, and motivated. The student must also demonstrate interests outside of academia such as the arts, sports, politics, or literature and who is generally inquisitive about life.

Over the last 10 years, the Robert H. Davis Undergraduate Research Prize has supported the educational journey of students who have gone on to careers in a variety of different fields.

Recipients of the Award have included:

- 2009 Carolyn Doroba (now Carolyn Harvey)—Curriculum and Professional Development Specialist at the Illinois Math and Science Academy in Aurora, IL.
- 2010 Cassandra Wesseln (now Cassandra Rey)—Mental Health Case Manager/Services Coordinator for the Mental Health Association of San Mateo County.



- 2011 Claire Johnson—pursuing an M.S. at the University of Illinois, studying Black-billed Cuckoo Ecology.
- 2012 Kendall Annetti (now Kendall Langsten)—Veterinary Anatomic Pathology Resident at the University of Minnesota, Twin Cities.
- 2013 Shannon Stanis—Watershed Coordinator with the Wabash River

Enhancement Corporation.

- 2014 Thorsten Hansen—pursuing a PhD at Purdue University, studying how host microbiomes evolve and are acquired from the environment.
- 2015 Clayton Dilks—pursuing a PhD at Northwestern University, studying parasitic nematode drug resistance using the *C. elegans* model system.
- 2016 Andrew Tran—pursuing a medical degree at Tulane University School of Medicine.
- 2017 Brendan Jamison—Biological Research Assistant at the University of Illinois, and will receive his B.S. from the Integrative Biology Honors Program in May 2019.
- 2018 Yuetian (Vivian) Li—undergraduate student in the Integrative Biology Honors Program, performing research on modulation of *Pseudomonas aeruginosa* quorum sensing by alveolar epithelium environment.

The School of Integrative Biology is incredibly grateful to the Davis family for their support, and we are honored to continue to remember Rob through this award. To learn more about the Robert H. Davis Undergraduate Research Prize (#772893), including information on how you can help, please contact Trent Reed at (217) 300-5198 or reed15@illinois.edu.

Lynn M. Martin Professorial Scholar

The Lynn M. Martin Professorial Scholar recognizes exceptional women teachers.

Dr. **Carla Cáceres** is a 2018 recipient of this award, which recognizes her impactful work both through teaching and research. Dr. Cáceres has had continuous funding from the National Science Foundation since 1999 from over ten different awards. In addition to standard research awards, she was the PI on a Presidential Early Career Award for Scientists and Engineers (PECASE), an EAGER award, and she was Co-PI on an IGERT training grant that is still supporting students at Illinois.



Dr. Cáceres has had a significant impact on the teaching of Integrative Biology at Illinois. Through her work, she has transitioned introductory courses into more experiential and hands on learning opportunities for students, which include ways for undergraduate students to become more involved in the research process. She has received numerous awards for her teaching practices and innovations, including the University of Illinois Provost’s Initiative on Teaching Advancement (PITA), the National Academies Education Fellow in the Life Sciences, the Campus award for Excellence in Undergraduate Teaching, the Lynn M. Martin Award for Distinguished Women Teachers, and the James A. Hagan Teaching Fellow in LAS. Her efforts have also been recognized by her students as she has made the

continued on page 15



GRADUATE STUDENT AWARDS

Robert Emerson Memorial Award

Beryl Jones (*Advisor: Gene Robinson*)

Lebus Scholar Awards

Hannah Darcy (*Advisor: Phil Anderson*)
Alexander Krichels (*Advisor: Wendy Yang*)
Shelby Lawson (*Advisor: Mark Hauber*)

Harley J. Van Cleave Research Awards

Nick Anderson (*Advisor: Alex Harmon-Threatt*)
Kira Long (*Advisor: Jeff Brawn*)
Rachel Moran (*Advisor: Becky Fuller*)
Angel Rivera-Colón (*Advisor: Julian Catchen*)
Georgia Seyfried (*Advisor: Wendy Yang*)

Francis M. and Harlie M. Clark Summer Fellowships

Miles Bensky (*Advisor: Alison Bell*)
Miles Mesa (*Advisor: Ken Paige*)

Francis M. and Harlie M. Clark Research Support Grants

Colby Behrens (*Advisor: Alison Bell*)
Amanda Curtis (*Advisor: Eric Larson*)
Alida de Flamingh (*Advisor: Alfred Roca*)
Sachin Heerah (*Advisor: Amy Marshall-Colon*)
Shelby Lawson (*Advisor: Mark Hauber*)
Jessica Lira Viana (*Advisor: Jim Dalling*)
Alec Luro (*Advisor: Mark Hauber*)
Tolulope Perrin-Stowe (*Advisor: Alfred Roca*)
Kristen Reiter (*Advisor: Marianne Alleyne*)
Selina Ruzi (*Advisor: Andy Suarez*)
Eric South (*Advisor: Ed DeWalt*)
Jonathan Tetlie (*Advisor: Alex Harmon-Threatt*)

GAANN Fellowships

Nick Anderson (*Advisor: Alex Harmon-Threatt*)
Nicholas Antonson (*Advisor: Mark Hauber*)
Colby Behrens (*Advisor: Alison Bell*)
Charlie Burroughs (*Advisor: Lisa Ainsworth*)
Scott Clem (*Advisor: Alex Harmon-Threatt*)
Hannah Darcy (*Advisor: Phil Anderson*)
Josh Gibson (*Advisor: Andy Suarez*)

Tanya Josek (*Advisor: Marianne Alleyne*)
Lauren McDaniel (*Advisor: Becky Fuller*)
Julie Nguyen (*Advisor: Ray Ming*)
Jennifer Quebedeaux (*Advisor: Andrew Leakey*)
Daniel Raudabaugh (*Advisor: Andy Miller*)
Jacob Torres (*Advisor: Adam Dolezal*)

Animal Biology Summer Stipend Awards

Hannah Darcy (*Advisor: Phil Anderson*)
Mike Grispo (*Advisor: Chris Cheng*)
Cody Jones (*Advisor: Ken Paige*)
Alec Luro (*Advisor: Mark Hauber*)

Edwin M. Banks Memorial Awards

Colby Behrens (*Advisor: Alison Bell*)
Alec Luro (*Advisor: Mark Hauber*)

Odum-Kendeigh Research Grants

Colby Behrens (*Advisor: Alison Bell*)
Samantha Capel (*Advisor: Ken Paige*)
Hannah Darcy (*Advisor: Phil Anderson*)
Cody Jones (*Advisor: Ken Paige*)
Bradley Scott (*Advisor: Phil Anderson*)

Herbert Holdsworth Ross Memorial Award

Catherine Dana (*Advisor: Sam Heads*)

Philip W. Smith Memorial Award

Anthony Porreca (*Advisors: Joe Parkos and David Wahl*)

William H. Luckmann Award

Allison Parker (*Advisor: Brian Allan*)

Fred H. Schmidt Summer Scholars

Josh Gibson (*Advisor: Andy Suarez*)
Eric South (*Advisor: Ed DeWalt*)

Entomology Summer Stipend Awards

Catherine Dana (*Advisor: Sam Heads*)
Teresa Njoroge (*Advisors: May Berenbaum and Mary Schuler*)

Alice B. Hayes Research Support PB

Cecilia Prada Cordero (*Advisor: Jim Dalling*)
Alex Riley (*Advisor: Katy Heath*)

Harold C. and Sonja L. Labinsky Award

Julie Nguyen (*Advisor: Ray Ming*)

John R. Laughnan Awards

Jennifer Quebedeaux (*Advisor: Andrew Leakey*)
Jessica Wedow (*Advisor: Andrew Leakey*)

Govindjee and Rajni Goivindjee Award for Excellence in Biological Research

Daniel Raudabaugh (*Advisor: Andy Miller*)

Program in Ecology, Evolution, and Conservation Biology Summer Research Grants

Miles Bensky (*Advisor: Alison Bell*)
Alida de Flamingh (*Advisor: Alfred Roca*)
Alexander Krichels (*Advisor: Wendy Yang*)
Rachel Moran (*Advisor: Becky Fuller*)
Tolulope Perrin-Stowe (*Advisor: Alfred Roca*)

Graduate Students in Ecology and Evolutionary Biology Symposium Awards Judged by Faculty

Best Overall

Tara Stewart Merrill (*Advisor: Carla Cáceres*)

Most Outstanding Talk by a Ph.D. Candidate

Rachel Moran (*Advisor: Becky Fuller*)

Most Outstanding Talk by a MS Candidate/Pre-Prelim Ph.D.

Rachel Skinner (*Advisor: Chris Dietrich*)

SCHOOL HONORS

Highest Distinction

Erika Carlson
Emily Plucinski
Cameron Schwing

Distinction

Mary Bass
Rachel Soukup
Gargi Sundaram

Delcomyn Scholar in Integrative Biology

The Delcomyn Scholar in Integrative Biology recognizes the founding director of the School of Integrative Biology, Dr. **Fred Delcomyn**, Professor Emeritus of Entomology. Dr. Delcomyn grew up in Detroit, Michigan and did his undergraduate work there at Wayne State University. He obtained his M.S. in Biology from Northwestern University and his PhD in Biology from the University of Oregon in 1969. After spending three years at the University of Glasgow, Scotland, he joined the Department of Entomology at Illinois as an assistant professor in 1972. In his research, Dr. Delcomyn has studied the mechanisms by which insects coordinate leg movements during walking. He has applied this work



to the development of robots based on biological principles of locomotor control.

As the inaugural recipient of this award, Dr. **Jim Dalling** reflects Dr. Delcomyn's excellence in teaching, science



Students routinely praise Dalling's deep commitment to helping them build their skills in ecological research.

and administration. Dr. Dalling conducts his research in tropical rainforests, some of the most complex communities on earth. The core of his research examines the factors that allow such complexity to be maintained, rather than a small number of species coming to dominate the landscape. This research has been conducted in collaboration with a number of graduate and undergraduate students and postdoctoral associates both from the University of Illinois and the Smithsonian Tropical Research Institute in Panama.

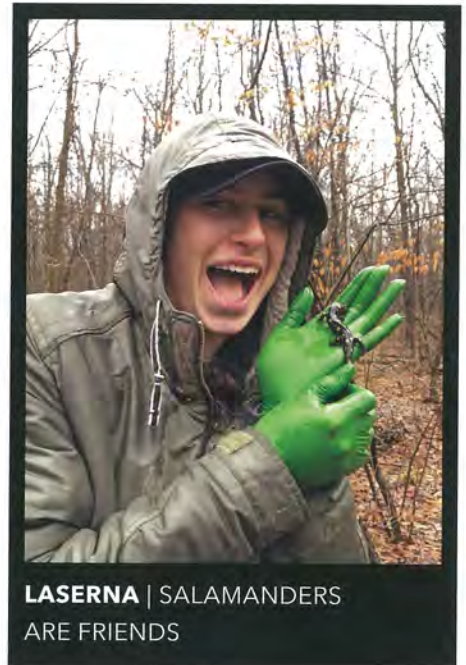
In the classroom, he is one of the core instructors in the Integrative Biology Honors program. Each fall, he challenges these highly motivated students with field and laboratory ecological research projects. His 400-level course in community ecology and graduate student seminars are an essential part of the curriculum for graduate students from multiple departments and for IB undergraduates seeking advanced training in ecology. Students routinely praise his deep commitment to helping them build their skills in ecological research. Dr. Dalling has also been a dedicated administrator. In addition to his role as Head of the Department of Plant Biology, he has also been director of our honors program, as well as acting director of the School of Integrative Biology. The funds from the award will support Dr. Dalling's teaching and research efforts within the School of Integrative Biology.

To learn more about the Delcomyn Scholar in Integrative Biology (#334432), including information on how you can help, please contact Trent Reed at (217) 300-5198 or reed15@illinois.edu.

MARTIN SCHOLAR AWARD, CONTINUED

"List of Teachers Ranked as Excellent by their Students" many times for a variety of courses.

Her service to campus has also been exemplary. She serves on a variety of committees for the Department, School, LAS, Grad College and Campus. In fact, she has served on too many committees to list on her c.v. but highlights include: the LAS Honors Council, LAS Faculty Input Team, LAS STAR Committee, Grad College Fellowship Committee, Grad College Review of Doctoral Programs, and the Biology Coordinating Committee. ●



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URBAN | PEEK-A-BOO BABY BAT



UNDERGRADUATE STUDENT AWARDS

Robert H. Davis Research Prize

Vivian Li

Camp Family Research Awards

Nicholas Mendes

Emina Sipic

Spyros Kavouras Memorial Summer Research Award

Courtney Randell

Joann Kavouras Memorial Scholarship

Jemima Elsherbini

iBio Summer Internships

Laura Goralka

Laura Janousek

Katherine Julkowski

Oliver J. Bell Merit Scholarship in IB

Alina Xiaoyu Yang

Judy Willis Scholarship

Jake Ritthamel

IBH Sophomore Achievement Scholarship

Hayley Ban

IBH Junior Achievement Scholarship

Aleeza Macek

Mildred Parizek Zukor Award

Cameron Schwing

Delcomyn International Study in Biology Awards

Alicia Gomez

Manuel Perez

SIB Merit Fellows

Jonathan Sanders

Tyler Seal

Elise Snyder

Richard Ware Family Scholarship

Anne Corso

Robert H. Davis Undergraduate Distinction Award

Emily Plucinski

IB Distinction Award

Erika Carlson

Robert J. Graesser Research in Plant Biology

Anna Dmitrieva

Belen Muniz

Entomology Research Award

Elizabeth Dabek

AB/AAP Summer Research Fellowships

Sophia Espinoza

Kelsey McGill

Kira Pilate-Jean

David Wilkerson-Lindsey

FROM THE DEPARTMENT HEADS, CONTINUED

of America, **Gene Kritsky** was named an Honorary Member of ESA, and **Tom Shanower** was appointed Acting Director of USDA's National Institute of Food and Agriculture. Of the many awards from regional and national scientific societies earned by graduate students in 2018, particularly noteworthy was the victory of the first UI team ever to participate in the annual ESA student debate competition (successfully arguing that high-throughput DNA sequencing was more revolutionary than spatial repellents for entomology). Also, while not an official competition, **Hugh Robertson** did manage to co-author a paper that, among 9,673 papers published in 2018 with "insect" as a topic, was the 8th most frequently cited (read it here: [nature.com/articles/41559-017-0459-1](https://www.nature.com/articles/41559-017-0459-1)).

2019 is the 110th anniversary of the founding of our department. While a lot has changed, a few things have remained constant—the excellence of our faculty and the success of our alumni. And another thing—insects still rule the planet! ●

FACULTY NEWS, CONTINUED

Dracula Ants Possess Fastest Known Animal Appendage: The Snap-Jaw

Move over, trap-jaw ants and mantis shrimp: There's a faster appendage in town. According to a new study by entomology and animal biology professor and department head **Andy Suarez** and his colleagues, the Dracula ant, *Myrmium camillae*, can snap its mandibles at speeds of up to 90 meters per second (more than 200 mph), making it the fastest animal movement on record. "These ants are fascinating as their mandibles are very unusual. Even among ants that power-amplify their jaws, the Dracula ants are unique: Instead of using three different parts for the spring, latch and lever arm, all three are combined in the mandible." For complete article: go.illinois.edu/DracAnts ●



Mouseketeer Reunion—a Celebration of the Career of Dr. Lowell Getz

On October 12, in the newly renovated natural History Building, over 75 friends, family, alumni, and “mouseketeers” gathered to celebrate the career of Dr. **Lowell Getz**. Dr. Getz joined the faculty of the University of Illinois as a Professor in 1969 and served as head of the Department of Ecology, Ethology and Evolution from 1975-1980 and again from 1988-1995. Throughout his tenure at Illinois, Dr. Getz supervised over 1000 undergraduate research assistants as part of his 25-year demographic study of free-living populations of the prairie vole, meadow vole, and short-tailed shrew. In addition to the unique, long-term ecological data he collected, he also discovered that the prairie vole displays behavioral monogamy, a finding that resulted in the prairie vole becoming a major experimental animal in the study of human affiliative behavior, including the potential for vasopressin and oxytocin in treatment of autism, schizophrenia and other behavioral problems.

The evening included a tour of the Natural History Building by Carla Cáceres and Stewart Berlocher where alums had an opportunity to dwell on the time they spent in classes and labs in the building and marvel at the newly renovated space. They also mourned the loss of the giant bison that once stood near the building’s north entrance.

The event included presentations by George Batzli, Gene Robinson, and Lowell Getz who returned to campus for the celebration. In addition, we recognized Dr. **Alison Bell** from the Department of Animal Biology as the inaugural Lowell Getz Teaching Professorial Scholar in Animal Biology. This award is to recognize an outstanding organismal biologist based on their contributions to both research and undergraduate engagement. Alison received the award due to her research on threespined sticklebacks that embrace many of the same behavioral / hormonal approaches taken by Dr. Getz, as well as her dedication to providing opportunities for undergraduate research in her lab.



Pictured left to right: Lowell Getz, Becky Fuller and George Batzli



Alison Bell

After the “formal” portion of the event, we retired to the School of Integrative Biology atrium for refreshments and shared stories of Dr. Getz, getting bitten by mice, and where our careers have taken us after graduating from Illinois. More photos of the Getz mouseketeer reunion can be found at: sib.illinois.edu/alumni/.

For more information about the Lowell Getz Professorial Scholar in Integrative Biology Award (Animal Biology Fund #334871), including information on how you can help, please contact Trent Reed at (217) 300-5198 or reed15@illinois.edu. ●



Mark Hauber Named the Harley Jones Van Cleave Professor

Mark Hauber, a professor of animal biology, has been named the Harley Jones Van Cleave Professor. The endowed position is named for the late Harley Jones Van Cleave, a prominent professor of zoology and Illinois alumnus, who served at the University of Illinois from 1913-1952.



Hauber's research focuses on the evolution of animal recognition systems. He uses behavioral, developmental, physiological, and molecular tools to study the social and genetic consequences of species recognition in avian brood parasites such as cuckoos, cowbirds, and wydahs and their hosts.

He has published more than 240 peer-reviewed articles and authored *The Book of Eggs* (2014). His lab is currently exploring the cognitive and neurophysiological bases of self-discrimination critical for the social functioning of individuals, including crowded nests, dense seabird colonies, and even large human settlements.

"Mark is exactly the type of scholar we like to have at Illinois. Individually he is an outstanding scholar, but he is also a great team player," said Feng Sheng Hu, the Harry E. Preble Dean of the College of LAS.

Kevin Pitts, vice provost for undergraduate education at Illinois, said Hauber brings a rich background of understanding to his research.

"Professor Hauber has made a mark on the world by advancing the realm of comparative evolutionary biomechanics," Pitts said. "We truly look forward to see what he will do next."

The endowed position was made possible by the late David R. and Margaret S. Lincicome. David Lincicome (BA '37; MA '37; zoology) is widely recognized as the founder of two seminal academic journals: *Experimental Parasitology* and *Virology*. In 2008, the College of LAS awarded him with the Dean's Quadrangle Award.

Margaret (Peg) Lincicome earned her bachelor's degree from Randolph-Macon Woman's College in 1931, a master's degree at Columbia University in 1935, and a PhD from the University of Virginia in 1938. She conducted ground breaking research in schistosomiasis and was a member of the editorial boards of numerous scientific journals.

Together they endowed the professorship in memory of Harley Jones Van Cleave, whose research was in invertebrate zoology, cytology, and parasitology and taxonomy of

"I knew I had to come to Illinois, because the technology that I was interested in was created here."

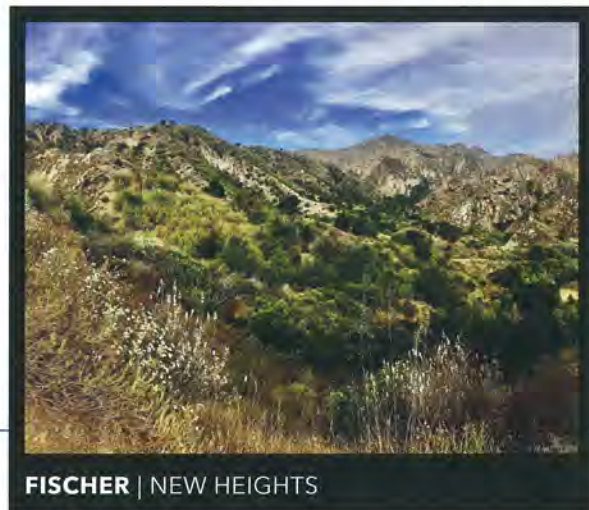
parasites. He was a specialist on the class of intestinal worms known as Acanthocephala. Known affectionately as Dr. Van, he was considered not only a renowned researcher but also an inspiring teacher.

At the ceremony, when Hauber asked everyone who has co-authored a publication with him to raise their hands, a wave of hands shot up across the room, and his peers laughed with surprise.

"This is really an honor," Hauber said. "When people asked me what I was doing at Illinois, I told them I was going home. I love birds and always wanted to be a scientist and study birds, and I knew I had to come to Illinois, because the technology that I was interested in was created here. MRIs for birds was not something I thought was feasible before coming here."

Hauber has served as the editor-in-chief of the *Auk: Ornithological Advances*, associate editor of *Behavioral Ecology and Sociology*, *Marine Biology*, and *Emu: Austral Ornithology*. He is a former editor of both *Ethology* and *Behavioral Ecology*. Hauber is a fellow of the American Ornithological society, and he served as elected program officer of the animal behavior society and chair of the 2014 conference of the international society of behavioral ecology. Colleagues gave tremendous praise to Hauber for his accomplishments and impactful research.

In his remarks to an audience of university administrators, colleagues, mentees, and friends, Professor Hauber noted that well respected vitality and intense focus on the ongoing research at the Department of Animal Biology at Illinois, make it a perfect new home for his laboratory team and location because there is plenty of field work to be conducted in Illinois, there are strong departmental legacies and current interests in studying animal social behaviors, and he is supported by a state-of-the-art infrastructure for neurogenetic analyses available on campus. ●



School of Integrative Biology Seniors Reflect on Their Major

Graduating seniors answered a survey about their experiences in Integrative Biology. Here, in their own words, they recall the most positive aspects of being an IB major at the University of Illinois.



“Great faculty that were very knowledgeable and always willing to help.”

“The most positive aspects was the overlap of courses and the feeling that I really had acquired many useful skills and basic knowledge of every area of Biological Science.”



“The passion of most of the professors and TAs involved in the program, and the open attitude they had toward sharing experiences with us.”



“Learning how to incorporate different areas of biology into problem solving; being exposed to many different aspects of biology and how they interact with each other.”

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Champaign, IL 61826-3429

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SIB General Scholarship Fund (#343638)

Department of Animal Biology

LAS Annual Fund for Animal Biology (#334871)

Department of Entomology

LAS Annual Fund for Entomology (#334870)

Department of Plant Biology

LAS Annual Fund for Plant Biology (#334872)

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