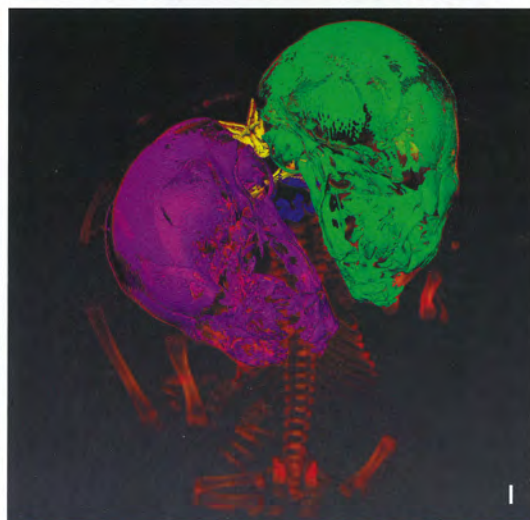
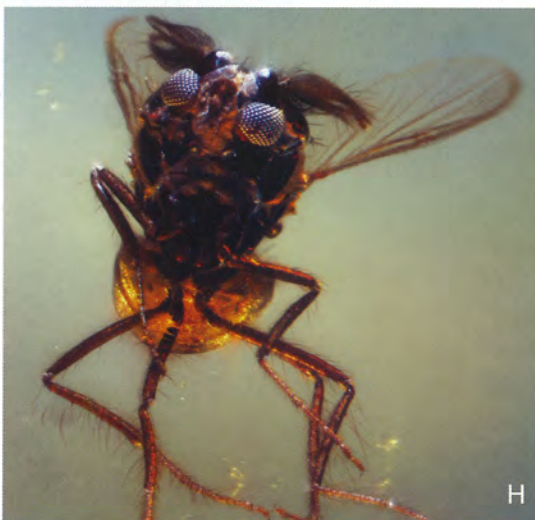
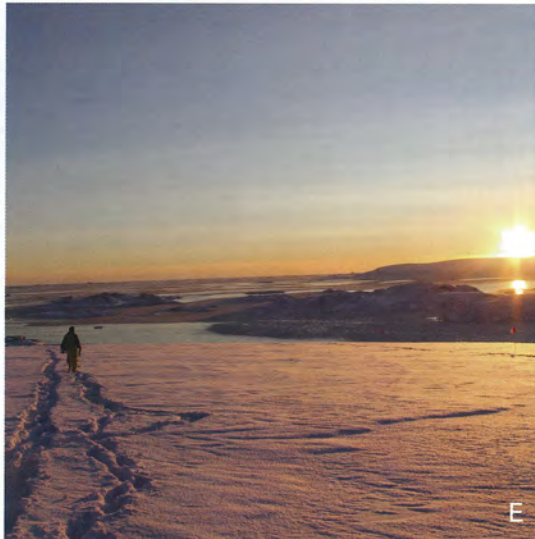


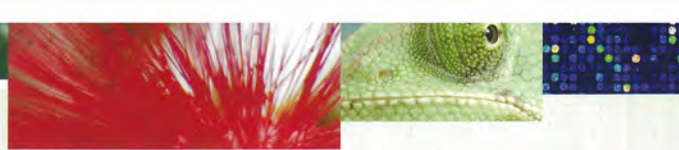
2016



SCHOOL OF
**INTEGRATIVE
BIOLOGY**

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





FROM THE DIRECTOR



Welcome to the 2016 SIB newsletter. Over the last year, we have continued to make great strides in teaching and research. In this issue, I am pleased to introduce to you three new faculty that joined us this academic year. They add strength in areas of biomechanics, evolution, and systems biology. With the addition of new faculty and the changing landscape of biology-related careers,

we continue to revise our curriculum, both in terms of the classes we offer and the way in which we deliver them. Our newly established research program in the Science of Teaching and Learning, described in this issue, is helping us to understand the student gains associated with the changes we are making to our curriculum. Our alumni-mentoring network is another program being launched to help our students understand the diversity of career possibilities. Finally, we anxiously await the Spring 2017 semester when we will move our classes back into the renovated Natural History Building which will have state-of-the-art classroom space designed to facilitate active and collaborative learning.

There is never enough room to highlight all the achievements of our faculty and students. In this issue, you will see that faculty and students continue to be recognized by the University, professional societies, and foundations. The research being conducted in SIB, by teams including faculty, post-doctoral fellows, graduate students, undergraduate students and technicians, is transforming our understanding of the integrative biological processes that occur from the cellular to the ecosystem level. I hope you enjoy reading about several of our new discoveries.

We have always been so thankful for the support received from our donors and this year is no exception. At the Spring 2015 awards ceremony, we were pleased to announce several new undergraduate awards, sponsored by the Bob and Tammy Camp Family, Alice Hayes, Allan Malmed, and Jerry Kavouras, in memory of his father, Spyros Kavouras. These new awards, and several other generously sponsored awards, provide life-changing experiences for students. With over 400 undergraduate IB majors, there are dozens of outstanding applications for a limited number of scholarships and awards. We are so thankful that friends of SIB continue to add to our portfolio of undergraduate awards, allowing us each year to recognize the outstanding achievements of more of our students.

When you are next in Champaign-Urbana, please come and visit us in 286 Morrill Hall.

With my best wishes,

Carla E. Cáceres

Carla Cáceres

Director, School of Integrative Biology

ON THE COVER

SIB Photo Competition Winners

April 29, 2015

CATEGORY 1 - NATURE

(A) **1st place - Erin Welsh**

"Hang Twelve", Male Three Toed Sloth, Panama

(B) **2nd place - Katharina Denise Kendall**

"The Pale Walking Fish"

(C) **3rd place - Dominique Cowart**

"Brilliant Green Water of the Verdon River, bordered by Limestone Rock and Vegetation, Les Gorges du Verdon"

CATEGORY 2 - BIOLOGISTS AT WORK

(D) **1st place - Alexandra Harmon-Threatt**

"Biologist-Insect Interaction"

(E) **2nd place - Mateusz Grobelny**

"Antarctic Sunset"

(F) **3rd place - Tanya Josek**

"Fashion is not Part of the Job"

CATEGORY 3 - BIOLOGICAL IMAGING

(G) **1st place - Tanya Josek**

"A Tick's Haller's Organ"

(H) **2nd place - Michael Jared Thomas**

"Ceratopogonidae in Dominican Amber"

(I) **3rd place - Daniel Urban**

"2-Headed Bat CT"

"Spanish Dancer Nudibranch"
- Photo by Bailey Morrison



SCHOOL OF INTEGRATIVE BIOLOGY

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sib@life.illinois.edu • sib.illinois.edu



"School of Integrative Biology at the University of Illinois"



"Integrative Biology at Illinois"

College of
**Liberal
Arts &
Sciences**

FROM THE DEPARTMENT HEADS



Andrew Suarez, Head Department of Animal Biology 2015 has been another exciting year for our department! Our faculty and students received considerable recognition for their research this past year. For example, **Chris Cheng** and her work in Antarctica were featured in AAAS' Member Spotlight. **Jonathan Marcot's** research using the fossil record to examine diversification of beetles was featured widely in the media including in the Economist and the Washington Post. From **Alison Bell's** lab, graduate student **Laura Stein** was awarded 'Honorable Mention' at the Allee Competition at the Animal Behavior Society meetings in Anchorage, AK. The Bell lab was also recently awarded an NIH R01 grant to investigate the epigenetic mechanisms by which paternal care influences offspring. **Becky Fuller** started a new company "BassInSight" and her graduate students **Mouchu Zhou** and **Ashley Johnson** won the Best Student Paper award from the American Society of Ichthyologists and Herpetologists. **Julian Catchen** was invited to workshops on Bioinformatics at the University of Oregon and the Czech Republic. We welcomed **Shane Campbell-Staton** and **Dominique Cowart** who joined the Department through the LAS Stem Diversity Postdoc Program, as well as our most recent Assistant Professor, **Phil Anderson** from Duke University in January 2016. From **Ken Paige's** lab, graduate student **Dan Scholes** started a tenure track position at the University of Indianapolis.

We also welcomed a new member to the Animal Biology family, **Taysom Suhr Suarez** born May 14th, and lost a long-time friend and faculty member when **Tom Frazzetta** passed away on Dec 31st. Tom was a member of the Department for 50 years and his influence on teaching and research will be sorely missed.



May Berenbaum, Head Department of Entomology The 2014-15 academic year was business as usual, in a good way. Our first department head, **Stephen A. Forbes**, won many accolades, including National Academy of Sciences membership; Entomology faculty still earn recognition, with **Gene Robinson** receiving an honorary doctorate from

Hebrew University, **Brian Allan** named Ecological Society of America Early Career Fellow, and **May Berenbaum** receiving a National Medal of Science. As for teaching, "Entomology" has been a program of study for 115 years; this year, we've added online instruction, with Insect Pathology offered online by **Lee Solter** and **M Alleyne**. We've had a century of successful alumni; **Edna Mosher** (PhD 1915) was elected Fellow of the Entomological Society of America only six years after graduating. Current students include an EPA STAR fellow (**Allison Gardner**), a Fulbright Fellow (**Rafael Achury Morales**), and a Colciencias Fellow (**Nathalie Baena**). **Todd Johnson** won a USDA AFRI travel award, three students won poster or paper prizes at the 2015 annual meeting and an Individual Plan of Entomology undergraduate, **Chris Petranek**, coauthored a poster with **Sydney Cameron** at the ESA national meeting. As for alumni, **Andrew Deans** (PhD 2005) won the 2015 ESA Thomas Say Systematics award; his Illinois advisor, **Jim Whitfield**, won the same award in 2010.

In 1912, Department Head Forbes became President of ESA; in 2015, Department Head **May Berenbaum** began her term as ESA President. She'll represent ESA at the 25th International Congress of Entomology in Orlando. UI faculty, students, and alumni are all involved. Student **Dan Swanson** serves on the Common Names Committee, faculty member **M Alleyne** is one of six ESA Science Policy Fellows, affiliate **Mike Gray** is on the ICE Advisory Committee and campus entomologists **M Alleyne**, **Juma Muturi**, and **Gail Kampmeier** are on the ICE Scientific Committee. It's anticipated to be the biggest gathering in the history of the discipline and U of I Entomology will play a prominent role.

This year marks 50 years that Entomology has been housed in Morrill Hall, Entomology's home; happily, plans are in place to renovate the few remaining spaces in the building unchanged since construction, which includes our insectary and laboratories on the second floor.



James Dalling, Head Department of Plant Biology

The integrative biology approach recognizes that the most complex biological problems, and those with the greatest societal importance,

require collaboration across multiple disciplines. A clear example of this approach is the *Plants in silico* initiative led by plant physiologist **Stephen Long**, and two new faculty members, systems biologist **Amy Marshall-Colon**, and theoretical biologist **James O'Dwyer**. Developed in collaboration with the National Center for Supercomputing Applications, National Data Service and faculty from Chemical Engineering, *Plants in silico* will integrate cellular and ecosystem-level plant growth models that will help researchers identify key limitations to improving crop yields under future inhospitable climates.

Another challenge to integrating cellular and organismal-level responses to the environment is to understand how assimilated carbon is allocated in plants. This is being addressed by our newest faculty member, **Li-Qing Chen**. Chen discovered a novel class of sugar transporters (appropriately called SWEETS), that play a central role in many physiological processes, including transport of sugars into the phloem, nectar secretion, and even plant susceptibility to pathogens.

Once novel genotypes of crop plants have been identified, the next challenge is to monitor the performance of their phenotypes under field conditions. Methods to automate this process are being developed by faculty members **Carl Bernacchi**, **Andrew Leakey** and **Stephen Long** with funding from the Department of Energy's Advanced Research Projects Agency. This work is developing robotic all-terrain rovers that will travel between rows of crop plants to measure both plant growth and physiological indicators of plant performance in ways that can be incorporated into biophysical growth models.

Finally, collaboration across disciplines requires new approaches to training across the undergraduate and graduate curricula. Theoretical ecologist **James O'Dwyer** has played a major role in the development of *biocalculus*, a new biology-focused alternative to the traditional IB calculus requirement, which emphasizes how mathematical principles can be applied to biological modeling. Similarly, **Amy Marshall-Colon** will offer a new course in the Spring, *biological network modeling*, that will train students to organize and analyze their own 'big data' in genomics, transcriptomics and metabolomics.



DEPARTMENTS AND PROGRAMS

DEPARTMENTS

Department of Animal Biology
 Department of Entomology
 Department of Plant Biology

UNDERGRADUATE PROGRAMS

Integrative Biology
 Integrative Biology Honors
 IPS - Entomology

GRADUATE PROGRAMS

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

SIB BY THE NUMBERS

FACULTY (2015)

| | |
|----------------------|----|
| Professors | 27 |
| Associate Professors | 8 |
| Assistant Professors | 12 |

STUDENTS (2015)

Undergraduate Students - 412 total

- Out-of-state - 3%
- International - 4%

Graduate Students

- PhD or combined MS/PhD - 176
- 20 in Department of Animal Biology
- 50 in Department of Entomology
- 38 in Department of Plant Biology
- 38 PEEC
- 30 OMST

DEGREES AWARDED

| | |
|------------|-----|
| Bachelor's | 194 |
| Master's | 31 |
| Doctorate | 10 |

FUNDED RESEARCH:

Total research support (as of 8/31/15) - \$24,647,699

| | |
|--------------|--------------|
| DOE | \$2,679,374 |
| NIH | \$158,600 |
| NSF | \$15,321,741 |
| USAID | \$2,379,374 |
| USDA | \$2,654,456 |
| Misc Federal | \$85,000 |
| Private | \$1,368,942 |

SIB HONORS PROGRAM AWAITS EXCITING FUTURE IN NATURAL HISTORY BUILDING

The Biology Honors Program is currently directed by **Dr. Chris Cheng** and has been a part of the life sciences at Illinois since 1964, and Integrative Biology (IB) Honors students will have a new home when renovation of the Natural History Building is complete in 2017.

The major is a complete curriculum - designed to offer outstanding, highly motivated students the chance to experience all that biology has to offer at Illinois. Enrollment is limited to 25-30 students per year, and all classes and labs are taught by five dedicated professors ensuring daily interactions with faculty that are critical to developing scientific techniques, critical thinking, and communication skills. Each year, participation in open-ended laboratory and field courses fosters cohesiveness among all the students in the program, creating a mutual support system unique among biology majors. Courses introduce the integration of biology at multiple levels of organization, from cells and molecules, to organisms, to ecosystems. Supplemented with a strong background in chemistry, the physical sciences, mathematics and statistics, and Independent Study research experiences, IB Honors students are among the best prepared students at the University, whether their career goals be professional schools (Medical, Veterinary, Dental, etc.), research, conservation, or industry.

Since its inception, the program has been housed in various buildings on campus including Harker Hall and the Natural History Building (prior to being closed for renovation in 2014). Students are now in temporary space in Morrill Hall but are looking forward to the new IB Honors Suite in the Natural History Building. The suite will consist of a community room, wet lab for molecular/cellular biology and physiology courses, a dry lab for ecology and evolution courses, and equipment and preparatory rooms. Students will have state-of-the-art equipment and continual access to work on independent projects.

The university is offering a unique opportunity for alumni, friends and companies to invest in the Natural History Building renovation and name the IB Honors Suite and many other spaces. Visit las.illinois.edu and click on the link under "Building Our Future" to learn more about the renovation and opportunities for support. ●

Biology Honors Alumni

We would enjoy hearing from you and want to be sure you receive future news about the program. Please let us know if you have an updated mailing or email address as well as your current professional endeavors. Email information to SIB@life.illinois.edu. ●

ALUMNI NEWS

[SIB Alumni—We want to hear from you!]

Colonel Daniel Bruzzini, MD

BS 1990, Honors Biology

Missouri



Neonatologist and newly retired Colonel **Daniel B. Bruzzini MD, MBA**, has served honorably and with distinction throughout his 25 years of service in the U.S. Air Force. He started his career as a flight surgeon in support of combat operations in Saudi Arabia, Bahrain, Oman, and Afghanistan. He has air transported critically ill babies and children of fellow service members

stationed in Germany and Japan back to the U.S. for life-saving care. Dr. Bruzzini also served as the military's director of pediatric intensive care and emergency medicine at SSM Cardinal Glennon Children's Hospital in St. Louis, MO, where he developed the first and only pediatric trauma/critical care training program to prepare military healthcare personnel for the intense needs of children affected by natural disasters, humanitarian crises, and war. He has served in support of humanitarian missions to help impoverished children in Haiti, handicapped children in Oman, and train Indonesian midwives in newborn resuscitation. In his last assignment, Dr. Bruzzini was the Master Clinician of Pediatrics at Wright-Patterson Air Force Base, Dayton, Ohio, where he developed the "**How to**" **Resuscitate a Newborn** educational program. This program trains delivery room personnel to save the life of a newly born baby in extremis. Today, Dr. Bruzzini is putting his MBA and clinical acumen to good use as Medical Director for Onsite Neonatal Partners, a multi-state neonatology company. His wife of 21 years, Kristen B. Bruzzini, PhD, and their two teenage children, Kaitlin and Thomas, are enjoying his being home and so is he. ●



Dr. Bruzzini demonstrating newborn resuscitation, Kupang Indonesia

James Magner, MD

BS 1973, Honors Biology

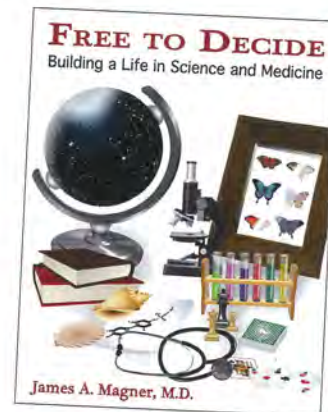
Connecticut



Dr. James (Jim) Magner, an enthusiastic Biology Honors student between 1969 and 1973, gives much credit to Prof. Judy Willis, program director, for her mentorship and guidance that resulted in his admission to medical school. He had a natural inclination for science growing up in Quincy, IL, and feels that the Biology Honors program provided a sound foundation for a

scientific and medical career. Dr. Magner specialized in internal medicine and endocrinology during a 14 year academic career in patient care, teaching, and managing a small research laboratory that studied the biochemistry of thyroid-stimulating hormone (TSH) in mice and humans. He then joined the pharmaceutical industry and worked at Bayer and then as vice president of clinical research at Genzyme Corporation, a Sanofi Company. In 2015, he published an autobiographical book that is intended to be entertaining and instructive for bright college and medical students thinking about careers in science and medicine. "Free To Decide: Building a Life in Science and Medicine," contains humorous anecdotes and serious stories which include raising two daughters, one affected by severe congenital heart disease. The book also offers thoughts and reading recommendations that might be very helpful as scientifically-knowledgeable people reflect on some of life's "big questions". As described in his book, Dr. Magner enjoys many hobbies including chess, Texas Hold'em Poker, astronomy, and reflecting on evolution. He recently placed 27th in the 2015 World Series of Poker. ●

Dr. Magner's new book "Free To Decide: Building a Life in Science and Medicine"





SIB Alumni: Sources of Insight and Inspiration for Students

Navigating the waters of today's interdisciplinary biology careers has never been more daunting for both undergraduate and graduate students. Greater than ever is the student's need for a clear view of the scientific landscapes beyond academia where many jobs are waiting. What better guides than our alumni who have explored a few of the myriad shorelines and may now be ready to return, bringing their maps and sound sailing advice?

In Spring 2016, the School of Integrative Biology is launching a new initiative that will provide the platform to foster these connections between our alumni, students and faculty through a variety of mentoring and educational venues. Supported by an SIB crew seasoned in partnerships, instructional design and student advising, the School hopes to reach alumni from across the years and the spectrum of careers, to collaborate within an emerging SIB "hub" focused on fresh educational connections and professional relationships for our students, faculty and alumni.

"We continually identify opportunities to expose our students to the breadth of career pathways available and recognize that our alumni are an invaluable asset in this endeavor," said SIB

Director Carla Cáceres.

"Partnering with our alumni will further enrich the academic experience for students and allow us to provide them with a competitive edge."

SIB Development Officer **Sean Williams** added, "I have been fortunate to meet many of our alumni across the nation and saw that many were eager to get reconnected with Illinois and SIB and engage students.

We strongly believe that our alumni are an integral part of the future success of our school and students."

If you're an alumnus who'd like to learn more about current plans for this program, please contact Joan Huber, Program Coordinator, at (217) 333-5498 or jlhuber1@illinois.edu. ●



Pictured (L-R): Tyler Seal, Miles Bensky and Alison Bell. (Photo by Fred Delcomyn)

Delcomyn International Study in Biology Award Fund



Professor Emeritus Fred Delcomyn joined the Department of Entomology in 1972 and spent his entire academic career at Illinois until retiring in 2008. His dedication and passion for the university and its students resulted in him being named the first director of the School of Integrative Biology (SIB) in 2000. During his tenure, Dr. Delcomyn witnessed how

transformational it could be for students to participate in study abroad opportunities and how the experience helped shape students' scientific passions. In addition, students would inquire about school support to study and engage in research abroad. As a result, he and wife Nancy established and generously seeded the "Delcomyn International Study in Biology Award Fund" to build an endowment that will provide funding support for undergraduates in SIB who wish to participate in educational activities abroad in the biological sciences. Activities may include but are not limited to research projects, intersession courses, or courses offered by the Organization of Tropical Studies,

hosted outside the United States.

"The fund still needs to raise an additional \$15,000 to reach full endowment and then will produce income in perpetuity to grant annual awards," said SIB Director

Carla Cáceres. "We can think of no better way to honor Dr. Delcomyn's service to Illinois than to reach our fundraising goal so we may begin offering this award to our undergraduates."

Donations to the "Delcomyn International Study in Biology Award Fund" (#772895) can be made online at sib.illinois.edu/alumni/donations or via check payable to the "University of Illinois Foundation." Please ensure the fund name is included on the memo line of a check and mail to the Foundation at 1305 West Green Street, Urbana, IL 61801. ●



In retirement, Dr. Delcomyn has been dedicated to photography which has been a passion throughout the years. We thank him for allowing the school to use his photo of a green iguana taken during a trip to Costa Rica.

Training Biologists for the 21st Century

SIB Establishes a Research Program in the Science of Teaching and Learning

SIB recently established a research program in the Science of Teaching and Learning (SoTL) in collaboration with a STEM-wide NSF-funded WIDER initiative (Widening Implementation & Demonstration of Evidence Based Reforms), and with the I-STEM Education Initiative (a campus coalition led by the Office of the Provost).

SIB is in a position to become a significant campus-wide innovator and driver in college-level educational reform. **Dr. Carol Augspurger**, **Natasha Capell**, and **Dr. Ben Clegg** were named National Academies Education Fellows in summer 2015 after attending a series of workshops on the implementation of SoTL research into SIB core courses. The 2009 SIB delegation of National Academies Education Fellows included SIB Director **Dr. Carla Cáceres**, **Dr. Jonathan Marcot** and **Tracey Hickox**.

This involvement has led to the transformation of our large flagship introductory course for majors, IB 150 “Organismal and Evolutionary Biology”, and increasingly several core courses from a traditional lecture format to a partially flipped model. In this new model, course content is presented in interactive online lessons that students engage with prior to coming to class. In lecture, students engage in peer-to-peer problem solving in alternating small-group settings and whole-class discussions. The traditional lecture component has been largely replaced by mini-lectures interspersed between these peer-driven activities. Data from SoTL research demonstrates that such active, peer-focused teaching approaches are the most effective way to narrow the performance gap between students from high-achieving vs. at-risk backgrounds (e.g. from rural and inner city high schools and first generation students). Another direct benefit of this student-focused approach is a higher retention rate of students in STEM fields.

Perhaps the biggest impact this approach has had on teaching students at the 100-level is a shift from merely “transmitting factual knowledge *about* biology” to a focus on “training students to *think like* biologists” right from the beginning of their college careers.

SIB’s expansion into SoTL is an exciting opportunity to deepen our long-standing record of and commitment to excellence in offering an exceptional education to our undergraduates in SIB. We are continuing the School-wide dialogue on curricular evidence-based reform that started with our monthly Transforming the Curriculum (TTC) luncheons. This year, we plan to build momentum among our school’s faculty to increasingly use a SoTL approach across our school’s curriculum by holding a workshop on “Training Biologists for the 21st Century” in mid-May of this year. The focus will be to develop a coherent vision for SIB’s core course curriculum with a focus on identifying what our SIB undergraduates should look like and bring to the 21st century job market when they graduate with their Bachelor of Science degree. ●





2015 AWARD WINNERS

UNDERGRADUATE STUDENT AWARDS

Robert H. Davis Research Prize

Clayton Dilks

Camp Family Research Awards

Amy Kmak
Chelsea Vargas

Spyros Kavouras Memorial Summer Research Award

Shuyang Jin

iBio Summer Internships

Andrew Drackley
Dustin Park
Natcha Suriyavirun

Mildred Parizek Zukor Outstanding Achievement Award

Mateusz Grobelny

Harriet Long Award

Yihui Zhu

Helen E. Hess Award

Nicholas Sutton

IB Distinction Award

Kelsey Low

Dr. A Malmed Award

Maryam Muhammad

Kimberly Clark Award

Lauren Emerson
Melissa Foster
Xorla Seyram Ocloo
Feng Zhu

Oliver J. Bell Merit Scholarship in IB

Alexander Duman

Alice B. Hayes Research Support

Shoham Band

Robert J. Graesser Research in Plant Biology

Clayton Dilks
Alec Weingart

Entomology Research

Sean O'Fallon
Chris Petranek

GRADUATE STUDENT AWARDS

Robert Emerson Memorial Award

Laura Stein (Advisor: Alison Bell)

Lebus Graduate Scholar Award

Cole Wolf (Advisor: Zachary Cheviron)

Harley J. Van Cleave Research Awards

Joshua Miles Mesa (Advisor: Ken Paige)
Daniel Raudabaugh (Advisor: Andrew Miller)
Selina A. Ruzi (Advisor: Andrew Suarez)
Nicholas Sly (Advisor: Zachary Cheviron)

Francis M. and Harlie M. Clark Summer Fellowships

Chip Austin (Advisor: Christopher Dietrich)
Henry Pollock (Advisor: Jeffrey Brawn)

Francis M. and Harlie M. Clark Research Support Grants

Nicholas Anderson (Advisor: Alexandra Harmon-Threatt)
Fred Benham (Advisor: Zachary Cheviron)
Scott Cinel (Advisor: Steve Taylor)
Kim Drager (Advisor: Andrew Suarez)
Katherine Heineman (Advisor: James Dalling)
Jennifer Jones (Advisor: James Dalling)
Alexander Krichels (Advisor: Wendy Yang)
Rachel Moran (Advisor: Becky Fuller)
Tyler Refsland (Advisor: Jennifer Fraterrigo)
Maria Stager (Advisor: Zachary Cheviron)
Erin Allmann Updyke (Advisor: Brian Allan)
Erin Welsh (Advisor: Brian Allan)

Animal Biology Alumni Award

Joshua Miles Mesa (Advisor: Ken Paige)

Animal Biology Summer Stipend Awards

Kim Drager (Advisor: Andrew Suarez)
Michael Grispo (Advisor: Chris Cheng)
Maria Stager (Advisor: Zachary Cheviron)
Cole Wolf (Advisor: Zachary Cheviron)

Edwin M. Banks Memorial Awards, Department of Animal Biology

Christopher Holmes (Advisor: Carla Cáceres)
Maria Stager (Advisor: Zachary Cheviron)

Odum-Kendeigh Research Grants, Department of Animal Biology

Fred Benham (Advisor: Zachary Cheviron)
Christopher Holmes (Advisor: Carla Cáceres)
Nicholas Sly (Advisor: Zachary Cheviron)

Philip W. Smith Memorial Fund Award

Tyler Refsland (Advisor: Jennifer Fraterrigo)

Herbert Holdsworth Ross Memorial Fund Awards

Chip Austin (Advisor: Christopher Dietrich)
Brendan Morris (Advisor: Christopher Dietrich)
Kyle Parks (Advisor: James Whitfield)
Dan Swanson (Advisors: Steven Taylor and Sam Heads)

William H. Luckmann Award

Mark Demkovich (Advisor: May Berenbaum)

Fred H. Schmidt Summer Scholars

Kari Jackson (Advisor: Gene Robinson)
Do Hyup Kim (Advisor: Allison Hansen)

Entomology Summer Stipend Awards

Daniel Bush (Advisor: May Berenbaum)
Michelle Duennes (Advisor: Sydney Cameron)
Allison Parker (Advisors: Brian Allan and Juma Maturi)

Harold C. and Sonja L. Labinsky AwardRachel Paul (*Advisor: Andrew Leakey*)**John R. Laughnan Awards**Chris Black (*Advisor: Evan DeLucia*)Maías Fernandez (*Advisor: Feng Sheng Hu*)Ben Gordon (*Advisor: Katy Heath*)**Govindjee and Rajni Govindjee Award for Excellence in Biological Research**Darshi Banan (*Advisor: Andrew Leakey*)**Program in Ecology, Evolution, and Conservation Biology Summer Research Grants**Miles Bensky (*Advisor: Alison Bell*)Katherine Heineman (*Advisor: James Dalling*)Jennifer Jones (*Advisors: Katy Heath and James Dalling*)Rachel Moran (*Advisor: Becky Fuller*)Henry Pollock (*Advisors: Jeffrey Brawn and Zachary Cheviron*)Tyler Refsland (*Advisor: Jennifer Fraterrigo*)Tara Stewart (*Advisor: Carla Cáceres*)Erin Welsh (*Advisor: Brian Allan*)**TEACHING AWARDS****Award for Outstanding Teaching in Animal Biology**

Lauren Fields

Award for Outstanding Teaching in Plant Biology

Julia Ossler

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

Sarah Hughson

John G. & Evelyn Hartman Heiligenstein Outstanding Teaching Assistants

Denise Devotta

Allison Parker

Laura Steele

TEACHERS RANKED EXCELLENT*(by Their Students for Integrative Biology Courses Taught in Fall, 2014, Spring and Summer 2015)*

Brian Allan

Nick Anderson

Alison Bell

May Berenbaum

Abigail Berkey

Brittany Buckles

Setu Chakrabarty

Chris Cheng

Zac Cheviron

Melissa Chipman

John Crawford

Catherine Dana

Charles Dean

Denise Devotta

Michelle Duennes

Lauren Fields

Jason Fischer

Bettina Francis

Becky Fuller

Linus Gog

Michael Grispo

Katy Heath

Tyler Hedlund

Sarah Hughson

Aron Katz

Denise Kendall

Do Hyup Kim

John Madigan

Joanne Manaster

Andrew Miller

Katherine Murphy

Julie Nguyen

Julia Ossler

Allison Parker

Christopher Phillips

Barry Pittendrigh

Samantha Primer

Daniel Raudabaugh

Hugh Robertson

Karen Sears

Maria Stager

Laura Steele

Andrew Suarez

Erin Welsh

Cassandra Wesseln

Kelsey Witt

Cole Wolf

Michael Wong

Samuel Yoo

Steve Zelski



Robert H. Davis Research Prize awarded to Clayton Dilks. Pictured (L-R): Emily and Sue Davis, Clayton Dilks and Kent Davis.



Camp Family Undergraduate Research Award - given to Amy Kmak and Chelsea Vargas. Pictured (L-R): Tammy Camp, Amy Kmak, Chelsea Vargas, Bob Camp and Sara Camp.



*"Sunflower"
- Photo by
Chris Montes*



FACULTY NEWS FEATURED IN *INSIDE ILLINOIS*

Mowing dry detention basins makes mosquito problems worse, team finds



The team, including postdoctoral researcher **Andrew Mackay**, Department of Entomology Assistant Professor **Brian Allan** and Department of Entomology affiliate **Ephantus Muturi** found that mowing wetland plants in dry-detention

basins can increase West Nile virus risk. Complete article: <http://go.illinois.edu/AllanMackayMuturi>

Documentary featuring entomologist May Berenbaum debuts on BTN



Computer artist Donna Cox, left, entomologist **May Berenbaum**, center, and athlete Jean Driscoll were featured in the Big

Ten Network documentary "Making Their Mark." Complete article: <http://go.illinois.edu/BerenbaumMark>

Female fish that avoid mating with related species also shun some of their own



Animal Biology professor **Rebecca Fuller** and her colleagues found that killifish females that learn to avoid mating with other species also discriminate among members of their own species. Complete article:

<http://go.illinois.edu/FullerFemaleFish>

Long-term nitrogen fertilizer use disrupts plant-microbe mutualisms



Plant Biology professor **Katy Heath** and her colleagues found that long-term nitrogen fertilizer use disrupts the mutually beneficial relationship between legumes and soil microbes. Complete article:

<http://go.illinois.edu/HeathNitroFert>

Alaskan boreal forest fires release more carbon than the trees can absorb



Plant Biology professor **Feng Sheng Hu** and former graduate student Dr. **Ryan Kelly** led a study of carbon cycling and forest fires in the boreal forests of the Yukon Flats in Alaska. Complete article: <http://go.illinois.edu/HuAlaskanStudy>

IGB Renamed for Carl R. Woese



"We are now the Carl R. Woese Institute for Genomic Biology," said Swanlund Chair of Entomology and Institute director **Gene Robinson**. "By changing our name, we honor an individual who has made legendary contributions to

science, who served as an Illinois microbiology faculty member for nearly 50 years and who, as a founding member of the IGB, paved the way for us to emerge as a leader in advancing life sciences." Complete article: <http://go.illinois.edu/IGBWoes>

It's time to stop thinking in terms of food versus fuel



Whether you have taken a side or a backseat in the discussion, the "food versus fuel" debate affects us all. Plant biology professor **Stephen Long** predicts farmers can sustainably, and affordably, meet humanity's growing

demand for food and fuel. Complete article: <http://go.illinois.edu/LongFoodvFuel>. Dr. Long is one of seven U of I researchers on the Thomson Reuters Highly Cited Researchers list for 2015. Complete article: <http://go.illinois.edu/LongResList>

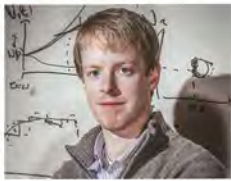
Cultivated papaya owes a lot to the ancient Maya, Research suggests



Plant biology professor **Ray Ming** and his colleagues discovered that papaya cultivation 4,000 years ago likely led to the evolution of

hermaphrodite plants, which are favored by growers today. Complete article: <http://go.illinois.edu/MingPapaya>

Evolutionary trees reveal patterns of microbial diversification



While teaching a class on coarse-graining methods in physics, **James O'Dwyer** realized that the technique could be used to understand how microbes evolve over time. The results, published in *PNAS*, reveal microbial family trees with distinct

evolutionary patterns that may one day help us understand how harmful microbes evolve. Complete article: <http://go.illinois.edu/ODwyerEvolTree> ●

A plan to increase crop productivity by making crop plants more efficient, and better neighbors



Robert Emerson Professor of Plant Biology **Donald Ort** led a diverse group of researchers who propose a roadmap to achieve global food production goals by redesigning photosynthesis. Complete article: <http://go.illinois.edu/OrtCropProd>. Dr. Ort is one of seven U of I researchers on the Thomson Reuters Highly Cited Researchers list for 2015. Complete article: <http://go.illinois.edu/OrtResList> ●

Complete article: <http://go.illinois.edu/OrtResList> ●

New mobile app expands the outreach of SAWBO videos



Whether the need is to educate people in West Africa about preventing Ebola or to train farmers in Latin America on preventing postharvest loss, Scientific Animations without

Borders has an app – and an animated video – for that. Director and co-founder, Professor **Barry Pittendrigh** says “Individuals around the world can download our videos.” Complete article: <http://go.illinois.edu/SAWBONewApp> ●

Genomics to surpass the biggest data producers, experts warn



Carl R. Woese Institute for Genomic Biology faculty members Saurabh Sinha, a professor of computer science, left; and **Gene Robinson**, a professor of entomology and IGB director; and

an international consortium of 52 scientists used comparative genomics to discover that the evolution of bee society is associated with increases in the complexity of gene regulation. Complete article: <http://go.illinois.edu/RobinsonSinhaGenomics> ●

Before nature selects, gene networks steer a course for evolution



Department of Animal Biology associate professor **Karen Sears**, along with collaborators at Illinois including undergraduates **Rachel Poe** and **Kari Kosog**, and four other institutions, explored the gene network that guide

limb development in mammals. Complete article: <http://go.illinois.edu/SearsBeforeNature> ●

Friend, foe or queen? Study highlights the complexities of ant perception



University of Illinois postdoctoral researcher **Adrian Smith**, right, and Animal Biology and Entomology professor **Andrew Suarez** found that ants are highly attuned to the chemical context of the hive. Complete article:

<http://go.illinois.edu/SuarezFriend> ●

(All Inside Illinois news photos by L. Brian Stauffer.)



"Light Show in the Prairie" – Photo by Brittany Buckles



NEW FACULTY/PROMOTIONS



PHIL ANDERSON

Hello, my name is Phil Anderson, and I am excited to be joining the Animal Biology faculty and the School of Integrative Biology this spring. While a chronic love of dinosaurs caused me to pursue my undergraduate degree in geology, it was the desire to study a range of subjects that led me to get that degree from an eclectic

liberal arts college: Carleton College in Minnesota. While there, I also received a concentration in Russian language and had the opportunity to study in both Moscow, Russia and the California Academy of Sciences, San Francisco. However, it wasn't until I moved to the University of Chicago to pursue my PhD that I discovered the field of biomechanics: using principles from physics and engineering to understand how organisms move and feed. I combined biomechanics with my life-long love of paleontology to study feeding mechanics in a group of 350 million year old fishes, placoderms. I used both theoretical modeling and experimental fracture mechanics to identify a linkage system in the jaws of these fishes as well as key dental features that allowed for efficient break down of food. This work gained the attention of researchers at the University of Bristol in the UK, where I spent five years as a Royal Society Fellow, Marie-Curie Fellow, and lecturer. During this time I expanded my research toolkit by working on a variety of fossil organisms from Paleozoic fish to early tetrapods to Mesozoic mammals using techniques such as finite element modeling and morphological disparity analyses. After five years, I returned to the States and delved into unfamiliar territory: modern invertebrates. I have spent the last three years as a postdoc studying the high-speed striking system of the mantis shrimp, focusing on the specific mechanics of high-speed puncture. I also treated mantis shrimp as a case study to examine how multi-part biomechanical systems evolve using phylogenetic comparative methods. My research program is both interdisciplinary: incorporating techniques from paleontology, engineering and evolutionary analyses, and comparative: focusing on multiple groups in order to identify common biomechanical patterns across phylogeny. My lab will be question-based, focusing on identifying physical principles that influence evolutionary processes at multiple scales in both extant and fossil organisms allowing students to explore biomechanics in a range of animals. This same guiding principle will inform my teaching, where I hope to create a new course on comparative biomechanics and functional morphology. I am thrilled to be joining such an integrative group of faculty and students in SIB and am enthusiastic about all the potential collaborations available in such an environment. ●



LI-QING CHEN

My name is Li-Qing Chen. I am so excited to be joining the Plant Biology Department as a faculty member at Illinois. Although I had the chance to learn and touch plants when I was very young, I hadn't decided to commit myself to plant research until I had my master's degree from Nanjing Forestry University in China. I received my

PhD in Plant Science at China Agriculture University in Beijing. During my PhD study, I identified two regulatory players for the potassium channel AKT1. Together with other colleagues, we discovered a key low-potassium responsive pathway, CBL-CIPK-AKT1 pathway, when plants are growing under low potassium stress. Before joining the faculty at Illinois, I spent three years as a post-doctoral fellow, and almost five years as a research associate at the Carnegie Institution for Science. During this time, I worked on functional characterization of a novel sugar transporter family, SWEET, which plays important roles in multiple physiological processes, such as phloem loading, nectar secretion, pathogen nutrition and seed filling.

My past and ongoing work have provided me with knowledge and various relevant techniques and skills, which will benefit my long-term goals that I will pursue at Illinois. My major goal is to improve crop yield by engineering and optimizing photoassimilate allocation. To achieve this goal, my lab will focus the fundamental research on unraveling the regulatory networks that control sugar translocation from photosynthetic tissues to heterotrophic tissues and within the seed by a combination of *in vivo* biochemistry, cell biology, molecular genetics, systems and synthetic biology. I am looking forward to working with the excellent and friendly faculty and students at Illinois. ●



"Anthopluerea Sola" – Photo by Bailey Morrison



JON MARCOT

My name is Jon Marcot, and I am excited to be joining the Department of Animal Biology as an Assistant Professor. I have always been fascinated by extinct animals and what they can teach us about animals living today. To pursue my interests, I attended the University of Chicago where I earned a PhD from the Committee

on Evolutionary Biology. During my time in Chicago, I was based at the Field Museum of Natural History where I studied topics from dinosaur paleontology to mammalian systematics. After graduating from the University of Chicago, I held two postdoctoral research positions. The first was at Duke University where I investigated the evolution of biological complexity, and the second was at the University of Minnesota where I developed software to analyze phylogenetic relationships among fossil organisms. I look forward to continuing my research in paleontology and evolutionary biology here at the University of Illinois. In my lab, I am taking diverse approaches to use the fossil record as a key to understanding living animals, and to help predict how life will respond to the ongoing global challenges it is currently experiencing. Through my research, I hope to advance our understanding of how the Earth's changing climate and environments have driven the evolution of mammals, and how they might continue to do so into the future. I am also looking forward to teaching students at Illinois. Last fall, I taught Vertebrate Natural History, a survey course covering fish, herps, birds and mammals. We took two field trips with the course, on which I used Illinois' natural resources as an educational tool. I will also draw on my background in paleontology to develop a course on the evolution and extinction dinosaurs for Spring of 2017. ●

PROMOTION



DR. KAREN SEARS

Dr. Karen Sears joined the Department of Animal Biology as an Assistant Professor in 2007. In 2015 she was promoted to Associate Professor and was awarded the Helen Corley Petit Scholar Award. Her primary research goals are to determine how developmental variation within a species produces congenital malformations in humans, and among species generates new evolutionary forms in mammals.

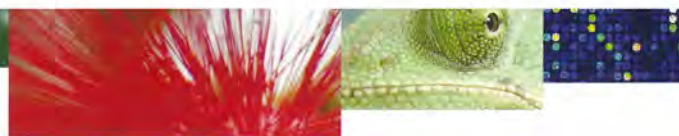
Dr. Sears also received the LAS Lynn M. Martin Award for Distinguished Women Teachers for 2015-2016. ●



*"PR Tody"
– Photo by
Anna Dowling*



*"Hiking Frozen Vistas"
– Photo by Mateusz Grobelny*



FACULTY AWARDS/HONORS

Ecological Society of America announces 2015 Fellows



The Ecological Society of America (ESA) is pleased to announce its 2015 fellows. The Society's fellows program recognizes the many ways in which members contribute to ecological research and discovery, communication, education and pedagogy, and to management and

policy. **Evan DeLucia**, (pictured above top), G. Arends Professor of Integrative Biology, Department of Plant Biology, Baum Family Director, Institute for Sustainability, Energy and Environment, has been elected as a Fellow in 2015.

Brian Allan, (pictured above bottom), Assistant Professor in the Entomology Department has been elected as an Early Career Fellow in 2015. Complete article: <http://go.illinois.edu/ESAFellows> ●

Urbana campus faculty members named University Scholars



Seven Urbana campus faculty members have been named University Scholars. The program recognizes excellence in teaching, scholarship and

service. **Carla Cáceres**, Director of the School of Integrative Biology was among those honored. Complete article: <http://go.illinois.edu/CaceresScholar> ●

John P. McGovern Science and Societs Award



Described in a 1997 article in *The New York Times* as "the most relentless creative insect advocate in the world," **May Berenbaum** is the 2015 Sigma Xi

John P. McGovern Science and Society Award recipient. Complete article: <http://go.illinois.edu/BerenbaumSciAward> ●

Simons Investigators Awardees announced



The Simons Foundation congratulates the awardees who have been selected as Simons Investigators in 2015 in mathematics,

physics, theoretical computer science, mathematical modeling of living systems, and Math+X. Among those Awardees is **James O'Dwyer**, Assistant Professor in the Plant Biology Department. Complete article: <http://go.illinois.edu/ODwyerSimonsAward> ●

James O'Dwyer received grant from the James S. McDonnell Foundation

James O'Dwyer has received a scholar award grant for "The origins of emergent phenomena: Renormalization, coarse-graining, and the fingerprints of ecological and evolutionary processes" from the James S. McDonnell Foundation. Complete article: <http://go.illinois.edu/ODwyerScholarAward> ●

Joseph B. Hawkes Research Award announced

Thanks to a generous gift, The Joseph B. Hawkes award is supporting the research of four School of Integrative Biology faculty.

Julian Catchen and Becky Fuller

Title of award: "Assembling darter genomes: Resources for tackling the problem of species delimitation among allopatric taxa." There have been two IB undergraduate seniors involved in the project - Makayla Wycoff and Asif Ali.

Amy Marshall-Colon

Title of award: "Multi-scale modeling of the nitrogen network in plants." Graduate student Stuti Shrivastava was supported by this grant.

Wendy Yang

Title of award: "Assessing Controls on Soil Carbon Storage as an Ecosystem Service Provided by Woody Polyculture Systems." IB seniors, Melanie Bachhuber and Puja Patel were supported by this grant. ●



"Urbana Winter Night"
– Photo by Chris Montes

IN MEMORIAM

TOM FRAZZETTA

Thomas “Tom” Henry Frazzetta, 81, of Urbana passed away on Dec. 31, 2015, at 3:20 p.m. at Carle Foundation Hospital, Urbana.

He was born May 13, 1934, in Rochester, N.Y. to Joseph H. and Louise V. Cross Frazzetta.

He graduated from Cornell University with a Bachelor of Science degree in biology in 1957 and then completed his doctorate at the University of Washington in 1964. He was an NIH Postdoctoral Fellow at Harvard University before joining the UIUC faculty in 1965. He had been a professor of animal biology at the U of I for 50 years (first in the Department of Zoology, then Ecology, Ethology and Evolution and finally Animal Biology) retiring in May of 2015. Tom’s areas of research were in shark, fish, and reptile jaw mechanisms and spent time doing shark research in the Florida Keys. He authored the book *Complex Adaptations in Evolving Populations* and

taught population classes in comparative vertebrate anatomy and the evolution of adaptive systems. He was a talented science illustrator for many years and prepared beautiful powerpoint presentations for his students. He was gifted with a good sense of humor and loved life.



His hobbies included watercolor painting, creative writing, art welding, collecting animal-related objects, and hosting fabulous dinner parties. Tom was, above all else, an animal lover, colleague, loyal friend, and beloved teacher to many. He will be greatly missed.

Memorials may be directed to three of his favorite charities - Wildlife Conservation Society, Xerces Society or the Ocean Conservancy. ●

FACULTY AWARDS/HONORS *CONTINUED*

Scientific Animations without Borders (SAWBO) awarded the Entrepreneurial Excellence: Social Venture Award



Pictured (L-R): Susan Balfe, Victor Font Bas, Dr. Weilin Sun, Laura Steele and Anna Perez

The Champaign County Economic Development Corporation and Innovation Celebration committee awarded Scientific Animations Without Borders (SAWBO) the Entrepreneurial Excellence:

Social Venture Award. This award recognizes individuals and organizations that have made significant contributions to their local community to ensure economic success, economic development and community engagement. The SAWBO program is based in the Barry Pittendrigh laboratory and was co-founded by **Drs. Barry Pittendrigh** (SIB) and Julia Bellow-Bravo (Center for African Studies) in 2011. Complete article: <http://go.illinois.edu/SAWBOSVAward> ●

IGB Director receives Degree in Honor of Hebrew University 90th Celebration



Director of the Carl R. Woese Institute for Genomic Biology **Gene E. Robinson** received an honorary doctoral degree from the Hebrew University

of Jerusalem for his scientific leadership and groundbreaking contribution to the molecular basis of social behavior. Complete article: <http://go.illinois.edu/RobinsonHebrewUnv> ●

*“Bee Tongue”
– Photo by Brittany Buckles*





STUDENT NEWS

UNDERGRADUATE NEWS



Clayton Dilks wins the 2015 ASPB Summer Undergraduate Research Fellowship

Clayton Dilks has won the American Society of Plant Biologists (ASPB) Summer Undergraduate Research Fellowships (SURF). This award funds promising undergraduate students so they can conduct research in plant biology during the early part of their college careers. SURF recipients present their research at ASPB's annual Plant Biology meeting in the year following the fellowship award.

Clayton will receive a summer stipend, a one year membership in ASPB, and money for materials and supplies. He will also be provided travel support to Plant Biology 2016, the ASPB annual meeting, to be held July 9-13, 2016, in Austin, TX.

More information regarding the SURF program may be found here: <https://surf.aspb.org/>

IB undergrad Sally Feng has her research published and spotlighted in the journal Animal Behavior

Sally Feng worked in Alison Bell's lab as an undergraduate research assistant and completed her own independent senior research project, eventually graduating with High Distinction in IB. Sally studied how maternal stress influences the ability of offspring to learn and to use social cues, in threespined sticklebacks, a small fish. Sally recently published her findings in the journal *Animal Behavior* and her article was selected by the Editor to highlight in the Sept 2015 issue. Complete article: <http://go.illinois.edu/FengPublication>



Student Competition for the President's Prize Sponsored by Monsanto



Shuyang Jin is an undergraduate student in SIB and won 2nd place in SysEB – Honey Bees and other Hymenoptera section of the undergraduate poster competition with Entomological Society of America. The title of her poster is Wing Interference Patterns (WIPs) of Neotropical parasitoid wasps (Braconidae: microgastrinae). Complete article: <http://go.illinois.edu/JinESA>



GRADUATE NEWS

Illinois Water Resources Center

When Tyler Hedlund began his work in Brian Allan's lab, he was a University of Illinois undergraduate who imagined a future in the lab identifying samples. Three years and one Master's degree later, he spends most of his days in the field working on projects for the Illinois Natural History Survey. And it's in the field that he hopes to stay—a shift in career goals he traces back to his time collecting mosquitoes for a project spearheaded by a Post Doc in Allan's lab. Complete article: <http://go.illinois.edu/HedlundIWRC>



Trap-jaw Ants Jump With Their Jaws to Escape the Antlion's Den

University of Illinois graduate student Fredrick Larabee discovered that the trap-jaw ant *Odontomachus brunneus* sometimes uses its high-powered mandibles to jump to escape from a predator. Complete article: <http://go.illinois.edu/LarabeeAnts>. Video: <https://www.youtube.com/watch?v=M9VXGiYPLYM>



Snake Fungal Disease Parallels White-Nose Syndrome in Bats

Graduate student Daniel Raudabaugh and mycologist Andrew Miller, of the Illinois Natural History Survey, conducted the first in-depth study of the basic biology of *Ophidiomyces ophiodiicola*, the fungus that causes snake fungal disease. Complete article: <http://go.illinois.edu/RaudabaughParallels>



KSTF Teaching Fellowship



In April, Graduate student John Maddux was awarded a teaching fellowship with the Knowles Science Teaching Foundation (KSTF).

KSTF Teaching Fellowships are among the most comprehensive in the nation, combining extensive financial and professional support.

The foundation's signature program, the KSTF Teaching Fellows Program, awards Fellowships to early-career science and mathematics teachers.

CONGRATULATIONS to Rob Mitchell (Larry Hanks' lab) now assistant professor at the University of Wisconsin, Oshkosh.

"On the Lookout Red-eyed tree frog" – Photo by Erin Welsh

Institute for Sustainability, Energy, and Environment (ISEE)

The mission of the Institute for Sustainability, Energy and Environment is to foster actionable, interdisciplinary research to address fundamental challenges in sustainability, energy and environment; to provide national and international leadership in these areas through interdisciplinary education and outreach activities; and to develop and implement strategies for a sustainable environment on the University of Illinois' Urbana-Champaign campus and beyond. Professor of Plant Biology, Evan DeLucia, directs the Institute. Multiple SIB faculty are involved in ISEE themes.

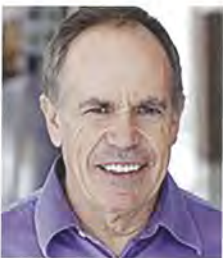
INTERDISCIPLINARY PROJECT ADDRESSES GREEN INFRASTRUCTURE, MOSQUITO CONTROL, PUBLIC HEALTH



Entomology Assistant Professor **Brian Allan's** project, titled "Engineering the Microbial and Stormwater Environment for Mosquito Control," will offer solutions, technology, and modeling for stormwater management in hopes of controlling mosquito populations and resulting diseases such as malaria, dengue,

filariasis, West Nile virus, chikungunya, yellow fever, and more. He will work with several faculty including SIB Animal Biology Professor **Carla Cáceres**, an expert in evolutionary ecology; Entomology Assistant Professor **Allison Hansen**, who specializes in insect-microbe interactions; and Illinois Natural History Survey Director of Medical Entomology affiliate **Juma Muturi**. Complete article: <http://go.illinois.edu/AllaniSEE> ●

CROP RESPONSE TO CLIMATE CHANGE



Crop Sciences and Plant Biology Professor **Stephen Long's** project, titled "Plants in silico: A Multiscale Modeling Platform to Predict Crop Response to Climate Change," falls within the climate solutions and sustainable agriculture themes. The

international team, including Plant Biology Assistant Professors **Amy Marshall-Colon** and **James O'Dwyer**, will research how to accurately predict and model plant response to climate change — from the molecular to the ecosystem level. Complete article: <http://go.illinois.edu/LongiSEE> ●

WOODY POLYCULTURE PROJECT

Plant Biology Professor **Wendy Yang** is among Sarah Taylor Lovell's team who have begun planting trees and shrubs on a 20-plus-acre plot near the University of Illinois Energy Farm. In the first full week of May 2015, more than 12,000 trees and shrubs were planted, with hazelnuts planted in late summer. Each acre plot features a different combination (or treatment) of trees and shrubs, in addition to forage and legumes. Complete article: <http://go.illinois.edu/YangiSEE> ●



Pictured (L-R): Ronald Revord, Kevin Wolz, Sarah Taylor Lovell, Nick Paulson, Wendy Yang and Jeremy Guest



"A view from the cliffs of Grand Canyon"

— Photo by Dominique Cowart



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 U of I. ●



"I love the sense of inclusiveness amongst peers, and professors truly cared about my success in every class. I received a balanced education about biology that I can apply toward a lot of future career options."

"The faculty and staff were great! Very close, tight knit community, which I really enjoyed."



"The professors are the best, so cool, so willing to help. Our professors wanted to see us truly succeed!!"



"I feel like I had an opportunity to learn from some leaders in the field. Having a degree in IB from the U of I separates me from others in similar fields."



"Good teachers who are passionate about their subjects."



"I loved the subject matter and how wonderful the professors are."

"IB is excellent due to how effectively it mirrors real life situations. The IB faculty is also the most available faculty I have witnessed. I was constantly impressed with how the professors made time for undergraduate students and how much they genuinely cared about facilitating our understanding of the subject. IB also has some of the best projects/assignments that I have ever experienced."



"IB presents biology in a very approachable manner and engages students in activities to get them involved."



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Featured Funds

School of Integrative Biology

Delcomyn International Study in Biology Award Fund (#772895)

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Natural History Building Renovation Fund (#337834)

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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