

## Calling All Citizen Scientists

Get involved in Citizen Science. There are projects for everyone, including some that are local, USA wide, and even Worldwide. Below are just a few examples of projects you can help with.



### **Maryland Department of Natural Resources**

[http://dnr.maryland.gov/wildlife/Pages/statewide\\_eyes.aspx](http://dnr.maryland.gov/wildlife/Pages/statewide_eyes.aspx)

Maryland has over 1200 rare, threatened or endangered native species, of the more than 15,000 species recorded in the state. Unfortunately, habitat loss and invasive species threaten our native species, even the common ones. One of the best ways to protect Maryland's native species is to remove invasive plants and restore invaded sites. To tackle the problem quickly and efficiently, we need more information about how much of which invasive plants grow where.

### **Bumblebee Watch**

[www.bumblebeewatch.org](http://www.bumblebeewatch.org)

A collaborative effort to track and conserve North America's bumble bees. Through this project, you can upload photos, start a virtual bumblebee collection, have your identifications verified by experts, and interact with other citizen scientists.

### **Great Backyard Bird Count**

<http://gbbc.birdcount.org/>

Count bird species at your school or park within a 4-day period. It's free, fun and easy and it helps the birds! Over 60,000 participants enter data each year! Taking part in the Great Backyard Bird Count is a great way to get outside with family and friends, have fun, and help birds!

### **Herpetological Education & Research Project: H.E.R.P.**

<http://www.naherp.com/>

The North American Herpetological Education and Research Project (HERP) database is a repository of sightings and information on North American herpetofauna contributed by amateur citizen scientists and professional herpetologists. These sightings are collected and moderated with the goal of disseminating observational herpetological data to appropriate scientific, academic, governmental and regulatory, research agencies and other approved projects. It is a great tool for helping to map distribution of North American reptiles and amphibians.

## CITIZEN SCIENCE cont.

### **Maryland Biodiversity Project**

<http://www.marylandbiodiversity.com/>

Take pictures of insects, lizards, plants or any living thing found outdoors. They are looking for biodiversity not only within Maryland but within each county.

### **Nest Watch**

<http://nestwatch.org/>

During the breeding season put up birdhouses or look for nests. Monitor the activity inside the nest and collect information on the species like location, type of habitat, and number of eggs/nestlings in the nest to help scientists discover what species are nesting in your region.

### **USGS iCoast – Did the Coast Change?**

<http://coastal.er.usgs.gov/icoast/about.php>

iCoast allows citizen scientists to identify changes to the coast by comparing aerial photographs taken before and after storms. The crowdsourced data produced from users like you in iCoast will enhance predictive modeling of coastal erosion to better inform emergency managers, coastal planners, and coastal residents of coastal vulnerabilities in their region. iCoast also serves the cause of open government and open data, by sharing USGS aerial imagery with the public. Lastly, iCoast educates the public and particularly coastal residents about the vulnerabilities to the coastline resulting from extreme erosion during storms. iCoast can also be used by marine science educators to further science, technology, engineering, and math (STEM) education.

## OPPORTUNITIES

### **Lunar and Planetary Institute: Summer Intern Program in Planetary Science**

Website: <http://www.lpi.usra.edu/>

The Lunar and Planetary Institute invites undergraduates with at least 50 semester hours of credit to experience cutting-edge research in the lunar and planetary sciences. Deadline January 6, 2017

### **Nikon Fellowship:**

Website: <http://www.mbl.edu/research/whitman-awards/research-award-funds/>

A summer fellowship at the Marine Biological Laboratory is available to a young investigator for research in an area of biology in which they can make extensive use of advanced microscopy or micro-manipulation systems provided by Nikon, Inc. for their laboratory, and also benefit from technical expertise offered by Nikon, Inc. to support these instruments. Deadline December 15, 2016.

### **Prince Cedar Creek Institute: Undergraduate Research Grants for the Environment (URGE)**

Website: <http://www.cedarcreekinstitute.org>

Undergraduate Research Grants for the Environment (URGE) supports student-mentor teams conducting full-time scientific research projects in the natural sciences including biology, geology, chemistry, and zoology. Deadline: December 31, 2016.

**OPPORTUNITIES cont.**

**Switzer (Robert and Patricia) Foundation:  
Fellowship Program - New England**

**Website:** <http://www.switzernetwork.org/become-fellow/how-apply>

The Switzer Fellowship Program offers one-year Fellowships to highly talented graduate students in New England whose studies and career goals are directed toward environmental improvement and who clearly demonstrate leadership in their field. Through the Switzer Fellowship Program, the Foundation supports environmental leaders for the 21st century who have the ability, determination and integrity to effect positive change. Deadline January 9, 2017.

**Baylor College of Medicine: Summer Medical  
and Research Training (SMART) Program**  
**Website:**

<https://www.bcm.edu/education/schools/graduate-school-of-biomedical-sciences/diversity/smart>

The Summer Medical and Research Training (SMART) Program was developed to provide frontier-level, biomedical summer research projects for undergraduates in a supportive environment with supplemental educational activities. The program offers: nine paid weeks of biomedically related research in a broad range of areas; daily seminars designed for undergraduates; free SMART GRE prep workshops; career development activities; and, housing at Rice University dorms. Deadline January 10, 2017.



**Hutchinson (Fred) Cancer Research Center:  
Summer Undergraduate Research Program (SURP)**

**Website:** <https://www.fredhutch.org/en/education-training/undergraduate-students.html>

The Summer Undergraduate Research Program (SURP) is an intensive, nine-week internship designed to provide research experience and mentorship for undergraduate students who are interested in biomedical research. Under the guidance of a faculty mentor, interns will complete an independent research project and present their findings at a competitive poster session. Deadline January 13, 2017.

**German Academic Exchange Service (DAAD):  
Research Internships in Science and Engineering (RISE)**

**Website:** <https://www.daad.de/rise/en/rise-germany/find-an-internship/>

The German Academic Exchange Service (DAAD) is pleased to invite undergraduate students from the US, Canada and the UK in the fields of biology, chemistry, physics, earth sciences and engineering to apply for a summer research internship in Germany. RISE summer placements take place with research groups at universities and top research institutions across Germany. The RISE interns are matched with a doctoral student whom they assist and who will also serve as their mentor. This program is funded by the Federal Foreign Office of Germany. Deadline January 15, 2017.



**OPPORTUNITIES cont.**

**University of Michigan: Summer Enrichment Program**

**Website:** <https://sph.umich.edu/sep/index.html>

The School of Public Health offers health management and policy internships and class work in a summer program that addresses these health disparities. The internships, which provide paid placements in hospitals, community health programs, public health departments, and other health services and public health agencies in Detroit, Ann Arbor and Flint, enable students to work in organizations that confront these disparities every day. Deadline January 20, 2016.

**Mount Desert Island Biological Laboratory**

**NSF Research Experience for Undergraduates at MDIBL**

**Website:** <https://mdibl.org/education/hs-undergrad/undergraduate-applications/>

REU Fellows are undergraduates who work in residential research programs at MDI Biological Laboratory and are supported by the National Science Foundation (NSF). Each student is associated with a specific research project, where s/he works closely with the faculty and other researchers. Deadline February 1, 2016.

**University of Pennsylvania**

**Summer Undergraduate Internship Program**

**Website:** [http://www.med.upenn.edu/bgs/applicants\\_suip.shtml](http://www.med.upenn.edu/bgs/applicants_suip.shtml)

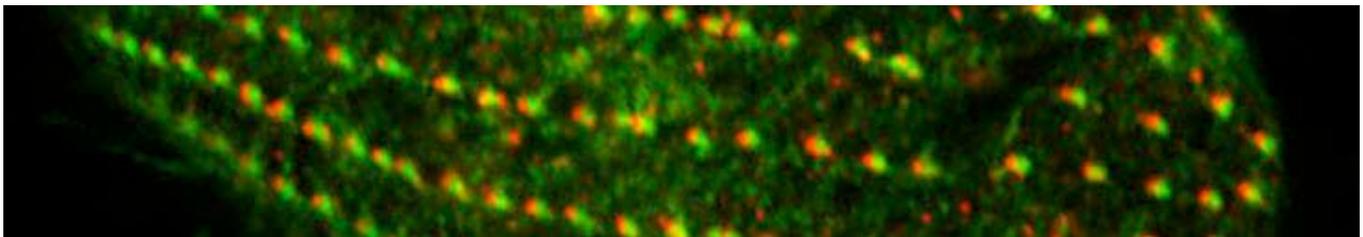
The Summer Undergraduate Internship Program (SUIP) provides an intense research experience to students interested in graduate study in the biomedical and biological sciences. Interns complete ten weeks of full-time laboratory research, attend state-of-the-art research seminars, and receive career counseling from program faculty and administrators. The program seeks to encourage and prepare talented students to pursue careers in scholarly research. Deadline February 1, 2016.

**University of Chicago**

**Research Experience for Undergraduates in Molecular Genetics and Cell Biology**

**Website:** <http://mgcb.bsd.uchicago.edu/reu/>

Current faculty in the Department of Molecular Genetics and Cell Biology work on fundamental problems in biology using a wide range of model systems including viruses, bacteria, protozoa, fungi, plants, nematode worms, fruit flies, fish and mice. The Department offers an exciting opportunity for talented undergraduates to acquire experience in research. This program is designed for students who are interested in attending graduate school and pursuing a career in science. Deadline February 7, 2017.



**OPPORTUNITIES cont.**

**University of Texas Southwestern Medical Center at Dallas  
Summer Undergraduate Research Fellowship (SURF) Program**

<http://www.utsouthwestern.edu/education/graduate-school/programs/non-degree-programs/surf.html#apply>

The Summer Undergraduate Research Fellowship (SURF) Program at UT Southwestern's Graduate School of Biomedical Sciences is an intensive summer research training experience designed for college students who are preparing for Ph.D. or M.D./Ph.D. careers in biomedical research. Fellows spend 10 weeks (beginning in early June and ending mid-August) pursuing individual research projects in the laboratories of Graduate School faculty members. Deadline February 9, 2017.

**Duke University**

**Summer Research Experience for Undergraduates in Estuarine & Coastal Marine Sciences**

<https://nicholas.duke.edu/marinelab/programs/undergraduate/reu>

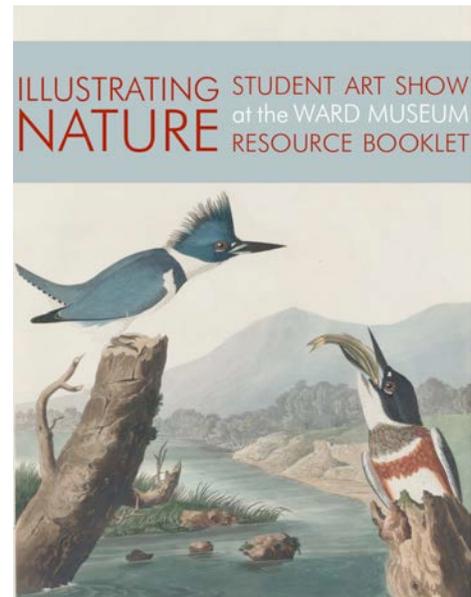
The National Science Foundation funded REU program will take place at the Duke Marine Lab located on Pivers Island in coastal Carteret County of North Carolina. Pivers Island is part of the Newport River estuary and is about 2 km from the ocean via the Beaufort Inlet. Coastal and estuarine invertebrate species and a variety of habitats (marshes, mudflats, sand flats, beaches, creeks, channels and coastal ocean) are readily available for research. Deadline Date: February 15, 2017.

**Ward Museum of Wildfowl Art, Salisbury University**

**February 17 - March 27, 2016**

**Opening reception: February 17, 5-7 p.m.**

Each spring the Ward Museum hosts an annual, non-competitive student art show in its Welcome Gallery. In preparation for this event, students in kindergarten through 12th grade all around the region are welcome to create and submit artwork relevant to a chosen theme. This spring the theme is "Illustrating Nature" in conjunction with the LaMay Gallery exhibit "Scientific Illustration: Artistry in the Age of Science."



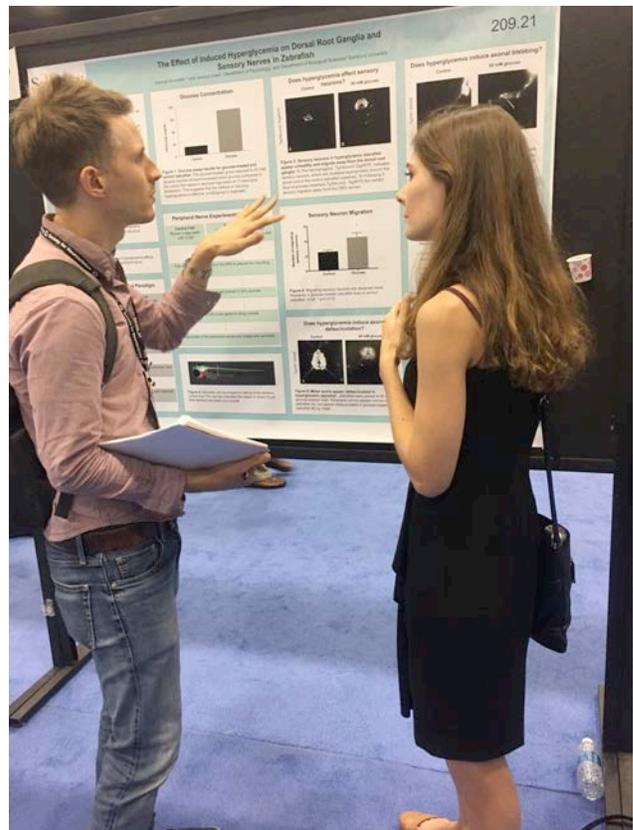
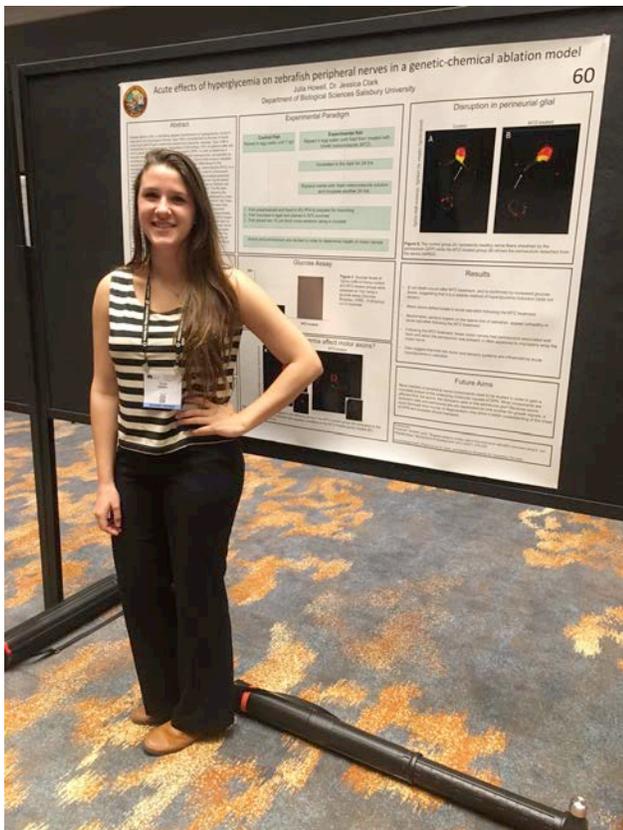
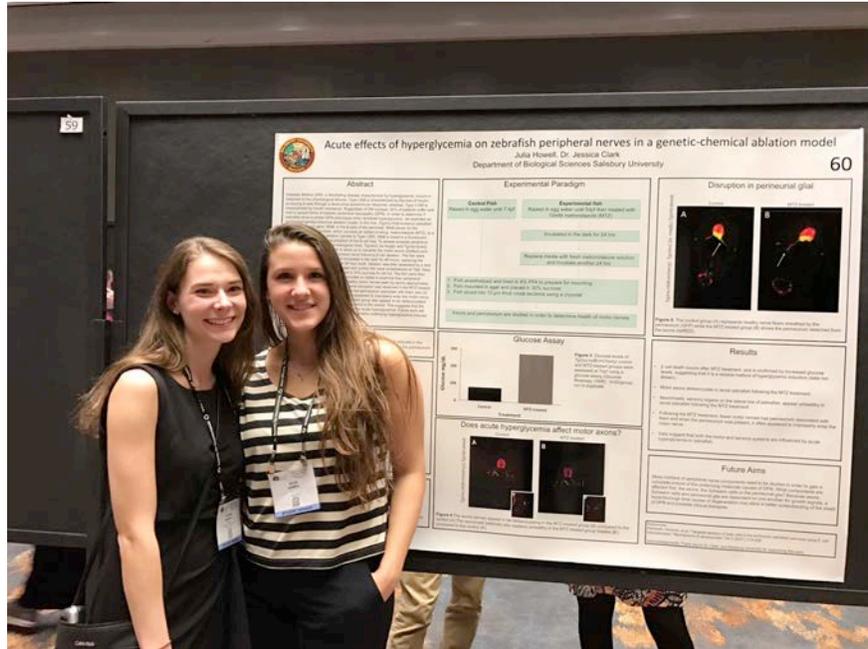
**A Free Resource Booklet for teaching Art and Science:**

**Website:** <https://www.wardmuseum.org/Education/Schools/StudentArtShow/tabid/791/Default.aspx>

In conjunction with the Ward Museum's annual Student Art Show, the Ward Museum's education department has produced a resource booklet with step-by-step drawing instructions and species information for local, native organisms. The easy instructions make drawing our local species readily approachable for children without a strong background in drawing and illustration. The resource booklet is specifically designed to be interdisciplinary—with interesting scientific facts and basic anatomy—to make it useable by both arts and sciences teachers and for both art and science lessons.

**TRAVEL, CONFERENCES, and PRESENTATIONS**

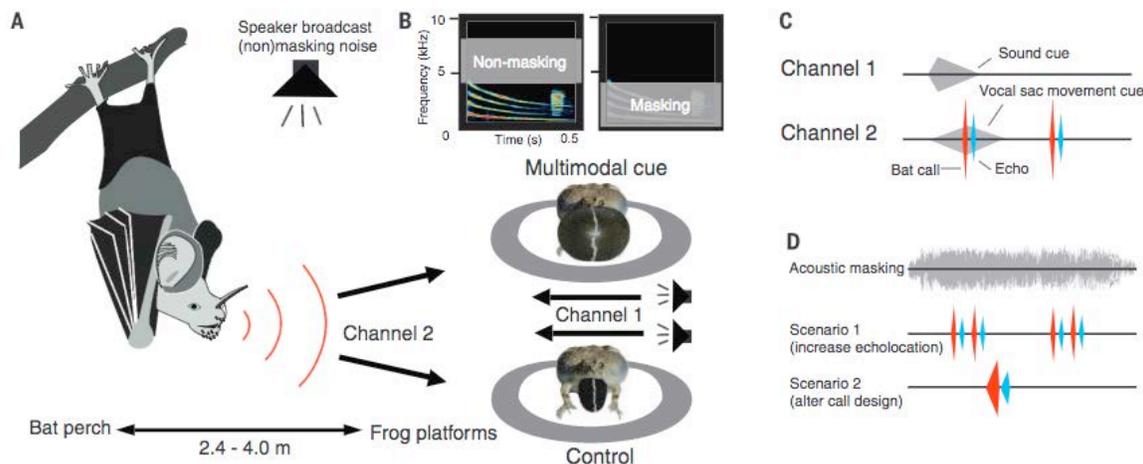
**Hannah Ennerfelt, Julia Howell, and Dr. Jessica Clark** presented their research at the Annual Conference for the Society for Neuroscience in San Diego, CA, November 2016.



**PUBLICATIONS**

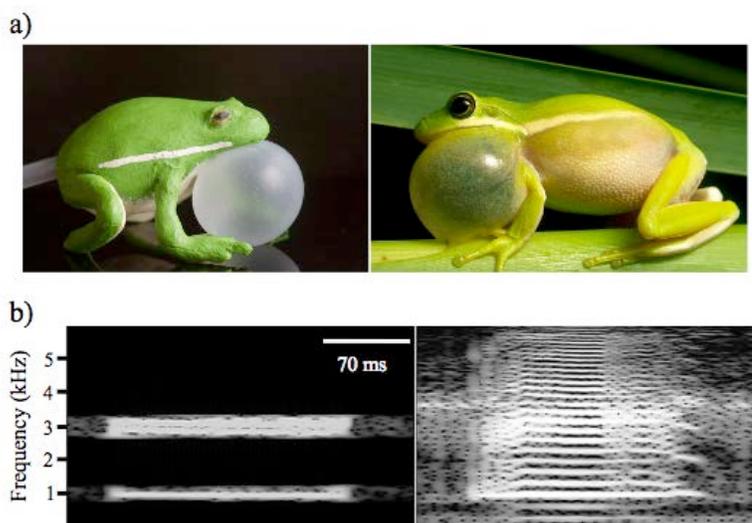
Gomes, D.G.E., Page, R.A., Geipel, I., **Taylor, R.C.**, Ryan, M.J., and Halfwerk, W. 2016. Bats perceptually weight prey cues across sensory systems when hunting in noise. *Science* 535(6305):1277-1280 [doi:10.1126/science.aaf7934]

**Fig. 1. Perceptual strategies to deal with prey signal masking.**



Laird, K.L., Clements, P., Hunter, K.L., and Taylor, R.C. 2016. Multimodal signaling improves mating success in the green tree frog (*Hyla cinerea*), but may not help small males. *Behavioral Ecology and Sociobiology* 70:1517-1525.

**Fig. 1 a** Robofrog *Hyla cinerea* (left) and calling *H. cinerea* male (right). **B.** Sonograms of synthesized (left) and natural (right) *H. cinerea* advertisement calls.



**Editor:** Dana Price

**Coeditor:** Dr. Judith Stribling

If you have announcements to add or general comments regarding the Newsletter, please email [dlprice@salisbury.edu](mailto:dlprice@salisbury.edu).