For the Birds

Many of us who live in Delaware know that the state offers ample opportunities for birding — from the mid-Atlantic songbirds that visit our backyards to the migratory shorebirds found along the Delaware Bay.

While the blues and violets found in the plumage of many birds is often caused by light diffracting off microscopic structures in the feather, reds, oranges, and yellows are generally created by chemical means. Many birds produce a class of compounds called carotenoids that absorb particular wavelengths of light, causing them to appear certain colors. These compounds are generally acquired by the birds through their diet. However, parrots are unique in that they biosynthesize their own pigment molecules called psittacofulvins (linear polyenes with a terminal aldehyde group). You can read more about this unique chemistry of parrots here.

![Lycopene, a carotenoid](image)

This month we are pleased to have Dr. Erica Miller, DVM, from Tri-State Bird and Rescue as our featured speaker. Dr. Miller will speak about evaluating surfactants for their ability to clean the feathers of birds affected by oil spills. Should time permit, Dr. Miller also plans on speaking on lead and pesticide toxicity in bald eagles. Following her talk, there will be a brief tour of the indoor facilities at Tri-State Bird and Rescue. I hope I will see many of you there.

Erratum

In the September issue of the DelChem we recognized the corporate sponsors for the 2019 Carothers Award, which was given out last spring. Regretfully, the name of one of our sponsors, Ashland Specialty Ingredients, was misspelled as “Ashley Specialty Ingredients”. I would like to apologize for the error and thank Ashland for their continued support of this event.
Celebrate National Chemistry Week (NCW) 2019!
FREE EVENT FOR CHILDREN

DATE . . . . . . . . . . . . . Saturday, November 2, 2019
TIME . . . . . . . . . . . . . 12:00-3:00PM; Show 3:00-4:00PM
LOCATION . . . . . . The Independence School,
1300 Paper Mill Road
Newark, DE 19711

CONTACT . . . . . . . . . . Lois Weyer (lweyer2@verizon.net)
for scout-related questions,
Maggie Schoeller (schoolermj@gmail.com)
for general information

CELEBRATING CHEMISTRY:
• Cleaning pennies
• Magnetism
• Polishing silver
• Spectroscopy
Plus slime, alka-seltzer rockets, robot demos and more . . .

MORE DETAILS:
Activity tables are open from noon to 3; to be followed by an exciting Chemistry Show from 3-4. Activities are geared towards grades K-6, but all ages are welcome. Boy and Girl Scouts can earn a free event patch (visit rocket table to receive patch).

No food will be available. No reservations are required.

Sponsored by the Delaware Section of the American Chemical Society and local schools, companies, and institutions

ACS | Calendar of Events

DE ACS Section Meeting, Thursday, October 17
Tri-State Bird Rescue and Research
170 Possum Hollow Rd, Newark, DE 19711
Reception 6:30-7:00, Talk 7:00-8:00, Tour 8:00-8:30
$10 for members/non-members
Free for unemployed members and students

RSVP online: www.delawareacs.org

Evaluating the Efficacy of Surfactants for Removing Petrochemicals from Feathers
Erica Miller, October Guest Speaker

Periodic assessment of new and reformulated detergents is necessary to ensure that the most effective products are used for decontaminating oiled wildlife. Sixteen surfactants previously determined by Ambrose & Tegtmeyer (2015) to be subjectively effective at removing oil from feathers (based on appearance and water-repellency of the feather) were selected for the objective evaluation in this presentation. This study used the methods developed and described in previous studies (Brynda et al. 1991 and Miller et al. 2003) to uniformly oil the feathers with a mixture containing components found in many petroleum spills, then subjected to a 'washing' and rinse process with 1%, 2%, and 3% dilutions of each of the products, and subsequent extraction and analysis of any remaining residue. Products were then evaluated subjectively in a blinded, simulated wash trial. Examination of the process and results led us to believe that experimental error may have occurred in one or more steps; therefore, we welcome feedback from the ACS members on improving our future evaluations of cleaning products.
BIO

Erica Miller
New Jersey Division of Fish & Wildlife

Erica Miller holds a BS in Zoology and a DVM, both from Oklahoma State University. She was a full-time wildlife veterinarian & rehabilitator for 25 years and has been on staff at 3 veterinary schools. She now splits her time as wildlife veterinarian for the New Jersey Division of Fish & Wildlife, wildlife veterinarian (interim) for the Pennsylvania Game Commission, associate professor in wildlife medicine (adjunct) at the University of Pennsylvania School of Veterinary Medicine, and volunteer at Mercer County Wildlife Center and Tri-State Bird Rescue & Research. She has served on the board of directors for the National Wildlife Rehabilitators Association, as well as the board of the Mid-Atlantic States Avian Veterinary Association, and the Delaware Humane Association, and the advisory boards for the IWRA (Illinois) and the DWRA (Delaware), and the resource board for the FWRA (Florida). She currently serves on the Endangered and Non-game Species Advisory Committee to the New Jersey Division of Fish & Wildlife, the NJ Wildlife Rehabilitators Advisory Committee, the Scientific Advisory Committee for the Oiled Wildlife Care Network, and the OSAC Wildlife Forensics subcommittee. AND, both of her parents were members of the ACS for many years!

"It is impossible to imagine what the world around us would look like without chemistry. Whether producing high-performance athletic apparel or commercializing paint with less environmental impact, chemistry is central to everything! For me, having spent much of my career at DuPont, I continue to be personally and professionally committed to DuPont’s onetime vision of making “Better Things, for Better Living, through Chemistry.” Now, leading the American Chemical Society whose mission is “Improving people’s lives through the transforming power of chemistry,” I’m inspired to see the power of innovative chemistry harnessed worldwide. I challenge those in the chemistry enterprise to follow the lead of this cartoon and clearly communicate the wonders and benefits of this central science to everyone around them."

— Thomas M. Connelly, Ph.D., ACS Executive Director and Chief Executive Officer
MORE PAIN AT U.D. — In the September DCB, I mentioned the passing of Prof. Emeritus Burnaby Munson back in June. His memorial service is scheduled for October 4 in Mitchell Hall on campus at 4pm.

Then on August 15, Professor Emeritus Roberta Colman passed away. She served on the faculty from 1973 to 2009. This very impressive Biochemist was the first woman at U.D. to receive the Francis Alison Award in 1985. Then in 2014 she received an honorary Doctor of Science Degree at the University of Delaware. She was noted for her efforts to support women in chemistry.

THE NOBEL PASSOVER PARTY — The Delaware Academy of Chemical Sciences will again host this popular event on Wednesday, October 9th. That morning the winner (or winners) will be announced to the world. We shall celebrate this event, beginning with dinner starting at 6PM at Skipjack Dining in the Shoppes at Louviers (across from Bank of America on Paper Mill Road, just north of Newark). At 7PM there will be a discussion of the chemistry and people involved by a faculty member of the Department of Chemistry and Biochemistry at U.D. Champagne from the Land of Lavoisier will be sold by the glass.

To make a reservation at Skipjacks, call the restaurant at: (302) 456-1800. We hope that you will join us for dinner.

I earned my B.S. degree in 1956 so have been passed over for more than 60 years! Why get depressed when you can celebrate at a party? We hope that you will come and enjoy the fun.

We have invited ACS CEO Tom Connelly, a Dupont lifer, to attend this celebration. Another invitation has been sent to Senator Chris Coons who earned a B.S. in chemistry from Amherst College. He then proceeded to Yale University Law School. He is the only member of the Senate with a degree in chemistry!