**WORKSHOPS AND ROUNDTABLES**

Pre-conference workshops will be held July 31 and August 1 for attendees. Also on the schedule are workshops offered by the Ornithological Council and Wildlife Acoustics scheduled during the conference, and roundtables to round out the week. Summaries of workshops and roundtables are provided here; for details, visit <http://aossco2017.fw.msu.edu/workshops/>.

**Monday, 31 July**

**Professional development for current and prospective graduate students**Instructors: Scott Lanyon, University of Minnesota  
Location: Brody (room TBD), 1-5 pm

Target audience: Undergrads and first or second year grad students (however anyone is welcome, including any faculty who want to teach a similar workshop at their own institution).

Overall Aim and Objectives: To provide current and prospective graduate students with advice on how to get the most out of their graduate education. Topics include: Advisor/Advisee relationships; Grant proposal writing tips; NSF Graduate Research Fellowship proposal writing tips; Time Management; and Career Planning.

**Tuesday, 1 August**

**Coordinated landbird banding during migration in the Midwest**Instructors: Mark Shieldcastle, Amber Roth, Julie Shieldcastle, Midwest Migration Network  
Location: Brody 136, 8-5pm

Target audience: Landbird migration banding stations and researchers in the FWS Region 3. Prior experience is not required in operating a field station.

Overall Aim and Objectives: The Midwest Migration Network will provide training for all aspects of the program to establish systematic field data collection and to store data for researchers studying life cycle modeling of landbirds. Modules of the training program will include but not be limited to Network Participation; Bird Banding Permit Regulations; Sample Design; Mist Net Operation; Bird Safety; Aging Techniques; Fat Classing; Fieldwork Efficiency; Auxiliary Data Collection (ex. Feathers); Habitat Data; Point Counts; and Daily List Completion.

**Drone technology for ornithologists**Instructors: David M. Bird, McGill University and Andrew Wilson, Gettysburg College  
Location: Brody 134, 1 – 5pm

Target audience:  Anyone already using or considering using drones to study, manage and/or conserve birds.

Overall Aim and Objectives: The overall aim of this workshop is to introduce and familiarize anyone interested in using drones for their ornithological studies and/or bird conservation to the world of drone technology.  We expect to cover the following: Introduction to UAVs or drones; Who is currently using them in ornithology and other wildlife studies and why; Our own experiences in using drones to study and conserve birds and what we have learned so far; Current limitations to using drones, e.g. weather, terrain, regulations, international travel, etc.; Future uses of drones for ornithology, including teaching.

**Programming, data management, and graphing in R**Instructors: Auriel Fournier, Mississippi State University, and Matt Boone, Kauai Endangered Seabird Recovery Project  
Location: Brody 175, 8-5 pm

Target audience: Graduate students, postdocs and other scientists who are interested in learning more about the language of R and how to use it in their daily workflow.

Overall Aim and Objectives: Our goal is to help our learners go from the basic use of R, reading in data, etc. to being able to understand the language of R in such a way that they can use R to automate daily tasks, manage their data in a reproducible framework and make publication-ready graphs all with scripts to help support open and reproducible work flows. The day will be split into three sections: Programming; Data Management and Graphing.

**Wednesday, 2 August**

**A public policy primer for ornithologists**Instructors: Ellen Paul, Ornithological Council, Jeff Walters, Virginia Tech

Location: Brody 220 (private dining room; participants can use meal ticket and eat lunch at workshop), 12-1:30 pm

Overall Aim and Objectives: This one-hour presentation will help ornithologists to understand how they can engage effectively in the formulation of government policies of interest to them. Specific topics will include the legislative and regulatory processes and opportunities for ornithologists to voice their views both as individuals and as scientists, directly and through scientific societies and conservation organizations. Special attention will be given to the AOS Science Arbitration Committee (Jeff Walters).

**Thursday, 3 August**

**Permits – how to pass GO!**Location: Brody 220 (private dining room; participants can use meal ticket and eat lunch at workshop), 12 – 1:30pm  
Instructors: Ellen Paul, Ornithological Council

Overall Aim and Objectives: Virtually every ornithological research project requires one or more permit from the federal and state governments. Are you \*really really sure\* you know which permits you need? Do you know how to get those permits? Whether you need a refresher course or you are fairly new to permit requirements, this session will help you avoid the stress and hassle associated with permits. The session will cover permits needed under the Migratory Bird Treaty Act (including banding, scientific collecting, special purpose, and import/export), Endangered Species Act, Bald and Golden Eagle Protection Act, CITES, and Wild Bird Conservation Act, along with some murky areas such as the use of drones and the incidental take of MBTA or ESA species that are not covered under the permit. State permits will be covered in a more general way.

**Wildlife Acoustics Passive Acoustic Monitoring workshop**Instructor: Mona Doss, VP of Business Development, Wildlife Acoustics  
Location: Brody 136; 5 – 6pm  
Target Audience: Scientists/Researchers studying bird vocalizations

Overall Aim and Objectives: Acoustic recorders provide a non-invasive and cost-effective technique to assess species biodiversity within a region. This will be a hands-on workshop specifically focused on the Wildlife Acoustics Song Meter SM4 passive acoustic recorder. Participants will learn how to set up the SM4 recorder to record in the field as well as helpful deployment and recording tips and how to configure multiple units quickly by using the free SM4 configurator software. Limited to 20. RSVP required.

**Friday, 4 August**

**Q&A about using social media for science  
Leaders:**Auriel Fournier, Jordan Rutter and Nicole Wood

**Location:**Brody 136; 5 – 6:30pm

As a follow-up to the symposium earlier in the conference, the three organizers will discuss how to use social media as a scientist and answer questions from those interested in social media at all levels as we look forward towards what steps can be taken next by all conference participants so they benefit from their social media use.

**The Avian Microbiome  
Leader**: Sarah Hird

**Location:**Brody 134; 5 – 6:30pm

The microbiome (or all the microbes living in a particular place) is a dynamic and important aspect of avian biology. Recent research, facilitated by quickly advancing methodologies, is revealing the myriad ways the microbiome affects host health, wellness and fitness. Unfortunately, ~90% of published microbiome research has been conducted on mammals, which are fundamentally different from birds in many ways that directly affect the microbiome. The unique attributes of Aves make them particularly fascinating microbial hosts. To really understand the evolution and biology of birds, we must incorporate microbiome research into our studies. The purpose of this roundtable is to discuss ongoing or potential microbiome projects, methodological concerns and future plans for collecting and comparing microbiome data in wild birds.