digitization
ACADEMY

Digital Imaging for Biodiversity Collections

Overview

This free, online course is focused on empowering participants with the knowledge and skills to produce fit-for-purpose digital media from biodiversity collections and collecting events. The course is targeted at those already associated with a biodiversity collection, such as student technicians, collections management professionals, or curators. The course will be relevant to a diversity of collection types. Participants do not need prior knowledge of digital cameras or specialized software, though participants are required to have access to a digital camera and lens during the duration of the course.

Learning Objectives

The aims of the course are to empower participants with the knowledge and skills to do the following:

1. Identify and describe relevant features of biodiversity specimens that can be captured and shared with common digital imaging modalities.
2. Identify sources of digital imaging protocols and best practices.
3. Identify and prioritize major differences among digital image file formats, hardware, and software options.
4. Explain the workings of a digital SLR or mirrorless camera/lens, camera control software, and image processing software.
5. Archive and share digital images.
6. Anticipate new uses for digital images of biodiversity specimens, such as in artificial intelligence and immersive media.

Class Format & Homework

This course is a fast-moving mix of synchronous presentation and discussion and asynchronous work either alone or in small groups. In general, each day will begin with time for questions about the asynchronous activity and/or readings from the day prior, followed by a presentation of new content and activities related to the new content.

Schedule & Topics

The schedule below provides a high-level overview of course content. Topics will be updated with links to their corresponding slide decks as available. Links to recordings of each block will be posted after the conclusion of the block.

	Synchronous	Asynchronous
Block 1	• Course Introduction • Brief History of Imaging • How Imaging Works • Ethics in Scientific Documentation	**Optional Reading:** Nelson et al. 2012
Block 2	• Types of Digital Media • Imaging as Part of the Biodiversity Data Creation/Use Workflow • Uses and Other Considerations • Articulation of Requirements	**Activity 1:** Devise Personally Relevant Experiment
Block 3	• Hardware	**Optional Reading:** (1) iDigBio imaging-related workflow modules and tasks lists (2) A detailed specimen imaging protocol of your choice produced for a collection or Thematic Collection Network (TCN) focused on a specimen type relevant to you.
Block 4	• Software • Best Practices • Data Standards • Protocol Development • Subject Preparation	**Activity 2:** Perform Imaging Experiment
Block 5	• Image Capture • Image Processing	**Optional Reading:** Your camera's manual
Block 6	• Expert Panel on New Approaches to Imaging Biodiversity Collections	**Activity 3:** Presentation Prep to Report on Experiment
Block 7	• New Developments in Imaging • Image Sharing • Image Archiving • New Uses for Digital Media	**Optional Reading:** Marcer et al. 2022
Block 8	• Participant Presentations • Outro	

Meeting Time & Place

The course will occur via Zoom.

Content & Communication

Access to and management of the course's digital content will be accomplished via Google Drive. Communication outside of the synchronous Zoom sessions will be via email.

Materials Needed

Participants will need to access Zoom and Google Drive as part of this course.

Code of Conduct

All participants are expected to abide by iDigBio's Code of Conduct and Community Code of Conduct: https://www.idigbio.org/content/idigbio-code-conduct

Recording Policy

Each class will be recorded and posted for later asynchronous viewing. Zoom recordings are available exclusively to participants and not to be shared publicly.

Acknowledgements

The Digitization Academy is funded by iDigBio and Florida State University's Institute for Digital Information and Scientific Communication. iDigBio is funded by grants from the National Science Foundation [DBI-1115210 (2011-2018), DBI-1547229 (2016-2022), & DBI-2027654 (2021-2026)]. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.