



# Lichens, Biofilms, and Stone

June 28–July 4, 2026

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Maine's rocky shorelines and inland outcroppings are rich with diverse lichen and biofilm covers. Buildings made with granite from local quarries host lichens and biofilms, as do grave markers of granite, marble, slate, and sandstone from other New England states and foreign countries. In this seminar, we will study the physical, chemical, and ecological relationships between lichens, biofilms, and stone.

Lectures will cover basic lichen morphology and species identification; biofilm morphology; the role of lichens and biofilms in the environment; basic geology; the history of stone quarrying and working; and the history and practice of stone preservation. Field trips are planned for forest and shore environments, a granite quarry, and local cemeteries. We will examine lichens, biofilms, and stones outdoors and in the laboratory. As a class project, participants will compile a checklist of the lichen species found during field trips.

We expect participants to represent a wide variety of disciplines and avocations; the pursuit of individual interests will be encouraged. While prior knowledge of lichens, biofilms, or stone will be useful for this seminar, it is not necessary.

**Judy Jacob** ([judyjacob@gmail.com](mailto:judyjacob@gmail.com)) is an architectural conservator, now retired from the National Park Service. She worked primarily on stone monuments and masonry buildings: evaluating conditions, preparing preservation plans, and executing stabilization and repair treatments. She is currently working on a National Science Foundation study examining biofilms and marble.

**Manuela Dal Forno**, PhD ([mdalforno@fwbg.org](mailto:mdalforno@fwbg.org)) is a lichenologist at the Botanical Research Institute of Texas, a research associate at the Smithsonian's National Museum of Natural History, and an adjunct faculty at Texas Christian University and University of Texas, Austin, where she mentors students and leads collections-based research programs. Her fieldwork spans continents.