

BII: Evolving Meta Ecosystems (EVOME)

Governance Plan Update Aug. 15, 2025

Overall Mission

The Evolving Meta-Ecosystems Institute (EVOME) aims to understand how individual species' responses drive broader ecological changes, from genes to ecosystems and across landscapes. Integrating multiple biological subdisciplines, trophic levels, and ecosystems provides a unique opportunity for synthesis in a rapidly changing region — the Arctic. By combining field observations, laboratory and field experiments, and quantitative analyses into a trait-based model EVOME provides a framework for broadly understanding current meta-ecosystem functions and predicting future changes in regions around the globe.

EVOME will train the next generation of scientists to work across disciplines and study biology at multiple levels. EVOME will use multiple points of intersection with research and education, and with science journalists, to educate participants to communicate integrated biology to broad audiences. By partnering with journalists and creating varied outreach content, we will connect research to Arctic communities, the scientific community, and the public, ensuring broad access to new insights into environmental change.

Our decisions are guided by core values, our mission, and our research, education, and outreach goals. The Executive Committee makes decisions after Institute-wide discussions and input from the Advisory Team. This process ensures fairness, transparency, and broad participation across all EVOME members, including PIs, postdocs, graduate students, and other researchers.

Purpose and Scope of the Governance Plan

This plan describes the structure and procedures that guide governance of EVOME. It describes the structure and composition of the management team and the procedures for making major decisions. Decisions include selection of participants for leadership roles, selection of field sites that will form a major focus of the Institute's work, allocation of EVOME resources, invitations to new participants, and when needed or desired, changes to the management team or participants.

This plan is designed to ensure that decisions are made with broad input across participants and disciplines, that decisions are thoughtful and fair, and that they are documented and explained to the EVOME team.

This governance plan applies to all EVOME participants including PIs, postdocs, graduate students, and affiliated researchers.

Governance Structure

Principal Investigator

Linda Deegan is the current lead PI of the EVOME NSF Biology Integration Institute award. She serves as the primary contact for the NSF. Deegan is responsible for all technical and non-technical aspects of the Institute's management and project reporting requirements. The PI will have the responsibility to make final decisions on Institute budget allocations after input from the Executive Committee. Mark Urban is co-lead of the EVOME Institute and will attend meetings with NSF and perform other leadership functions as needed.

Project Manager

Heidi Golden serves as the current EVOME Project Manager. Golden is employed at the EVOME lead institution Woodwell Climate Research Center. The Project Manager's responsibilities include producing agendas for Executive Committee and Project Team meetings, attending and recording minutes for the Executive Committee and Project Team meetings, operating as scientific coordinator of field research plans and schedules, overseeing procedures for recruitment of project participants, preparation of applications for scientific research permits, and other aspects of Institute coordination and documenting of Institute achievements. Project Manager is an Ex Officio member of the Executive Committee, and may participate in research.

Executive Committee

An EVOME Executive Committee functions as the Institute's principal management team. The initial composition of the Executive Committee was selected to represent different areas of scientific expertise and ranges of experience with project management. The Executive Committee consists of a Lead PI (currently Deegan), four PIs or Senior Personnel with three year terms, (currently Urban, Wegrzyn, Boelman, Neill), the Project Manager (currently H. Golden, Ex Officio), one rotating member with a one-year term (currently Merow) and one member at an early career stage (graduate student, postdoc, early career faculty; currently Postdoc Lind). The lead PI will be chair of the Executive Committee. The rotating and early-career members will be solicited from the team and selected by the current standing Executive Committee.

The Executive Committee meets every two weeks. It is responsible for making major decisions that include, but are not limited to, setting annual overarching research goals, determining research schedules, planning Institute events such as annual events and symposia, soliciting input from the Advisory Committee, overseeing the EVOME budget, and distributing responsibilities for EVOME management including the production of NSF-required BII Institute documents. The Executive Committee will aim to work by consensus, a process of decision-making that seeks widespread agreement among group members. If consensus cannot be reached in a timely manner on an issue, or a member of the Executive Committee requests a vote, a decision will be made by majority vote. In the case of a tie vote, the lead PI has the authority to cast the tiebreaking vote. The time allocated to achieving consensus will vary with the issue. The Executive Committee will have input on allocations of the EVOME Institute

annual budgets but final decisions on budget allocations will lie with the lead PI. If major changes to the budget alter the direction or scope of the proposed overall research, or allocation to a PI or institution, then a majority vote of the Executive Committee will be required. In the case of a tie vote, the lead PI has the authority to cast the tiebreaking vote.

The Executive Committee shall keep minutes of its meetings, and the minutes of recent and past meetings will be posted to the EVOME d Google share drive and available to all EVOME participants.

The PI and Program Manager are permanent members of the Executive Committee. The initial duration of commitment for four other Executive Committee members is three years, while the rotating and Early-Career member positions are for one year. All have the opportunity for continuation. This will allow shifts in expertise based on challenges and opportunities that have arisen, as well as natural rotation based on members' other responsibilities. Members should advise the Executive Committee of their interest 2 months before their term ends. Selection of new members or revocation of membership based on lack of meeting attendance or violation of the Code of Conduct of any existing member will be made by the Executive Committee by majority vote.

Advisory Committee

EVOME has a three-person external Advisory Committee (EAC) that consists of Gillian Bowser (University of Colorado) and Andrew Hendry (McGill University). The Advisory Committee was selected by the PI and co-PIs during the writing of the Institute proposal. The Advisory Committee's role is to advise the EVOME PI and Executive Committee on all aspects of the Institute's science and management. EAC will provide annual feedback and constructive critique of Institute activities, act as a conduit for the exchange of ideas within their networks and provide feedback on how Institute activities compare to others in the BII Network. It is advisory to the EVOME Institute and not to the NSF. Members of the Advisory Committee will attend annual EVOME all-Institute meetings. Advisory Committee members will also participate in selected EVOME working groups if interested. Membership in the Advisory Committee will not have term limits. Any changes to the composition of the Advisory Committee will be determined by the EVOME Executive Committee and approved by the NSF managing Program Director. Additional ad hoc advisors may be sought to address specific Institute challenges.

Evaluator and Team Science Facilitators

Arnell Garrett (Delmarva Associates) serves as the EVOME Institute evaluator. Garrett will annually conduct formative (pre-activity) and summative (post-activity) interviews and surveys of project participants. Garrett will do longitudinal interviews to identify factors that enhance interdisciplinarity and retention. She will meet with the Executive Committee twice per year and will attend annual EVOME all-Institute meetings.

The evaluation will translate findings into feedback for leadership teams and suggest appropriate actions, such as training, to address current weaknesses. The results of each evaluation assessment will be shared with the Executive Committee for discussion and reflection, then shared with individual team leaders or full teams for discussion and action.

Chris Olex (The Point) is the EVOME team science facilitator. She will provide training and lead exercises designed to promote interpersonal interactions in team science. Olex will attend annual EVOME all-Institute meetings in which time will be devoted to these activities and will provide other training as needed.

Provisions and mechanisms for succession in the leadership team and other essential personnel.

Leadership Succession

The role of lead PI for EVOME will transition from Deegan to Urban after the third year of the project. This transition was planned from the conception of EVOME and the project's management is designed to ensure that Urban can seamlessly step into that role. If for any reason Deegan is not able to perform the role of lead PI, Urban will immediately assume that role.

Other, currently unplanned transitions in roles of other PIs will be addressed on a case-by-case basis by the Executive Committee. The Executive Committee will recommend actions to minimize disruption to the Institute's functions and its students. In the case of PI transitions, recruiting new PIs or modifying roles of existing project PIs, decisions will be made by the Executive Committee.

Conflict Resolution

Conflict prevention. Multi-hour workshops on the dynamics of team science conducted by Chris Olex at annual all-Institute in-person meetings will train all Institute participants on how to identify working styles and prevent and diffuse conflict. Monthly Team meetings are open to all participants to ensure communication, and all participants must agree to abide by the EVOME Code of Conduct and the other Institute foundation documents (e.g., Safe and Inclusive field plan, Authorship policy and agreement, Data Management and Intellectual Property)

Conflict intervention: If an EVOME participant's responsibilities are not being met for a substantial period and informal discussion does not resolve the problem, or if conflicts arise among Institute members, the following multi-part process will occur.

a) *Ombudsman.* EVOME has created the role of an Ombudsman to address potential issues or conflicts or conflicts in their early stages. Any member of the EVOME Research Team that has an issue or conflict has the option to try to resolve a conflict by contacting and interacting with the Ombudsman.

b) *PI and Executive Committee.* If a conflict cannot be resolved through interaction with the Ombudsman, or if the parties of a conflict do not wish to approach the Ombudsman team, the issue should be brought to the attention of the lead PI. The PI will initially discuss the conflict with the parties involved and, if necessary, the Executive Committee will conduct a meeting with the parties involved. In the case of nonperformance or underperformance of a team member, the Executive Committee will communicate the issue to the team member and then at its discretion can call a meeting with the underperforming individual.

c) *Negotiation*. Parties will propose possible solutions, with input from the Executive Committee, which could include new training, or new definitions of responsibilities. In the case an agreement is reached, its terms will be written into a Resolution Plan. The Resolution Plan shall describe both immediate and follow-up actions.

d) *Implementation*. The Resolution Plan will be formally agreed to by the Executive Committee and the relevant parties.

e) *Termination*. If no agreed resolution can be identified during the above steps, or if the Resolution Plan is not followed, as a last resort the Executive Committee will identify a path to remove the identified person or persons from the Institute team. Such action will be taken by a majority vote of the Executive Committee. In the event of a tie vote, the PI will cast the tiebreaking vote.

Other Aspects of Organizational Structure

Meeting Schedules

The EVOME Science Team will meet virtually once per month. The Executive Committee will meet twice per month in addition to monthly Team meetings. Agendas for these meetings will be set by the PI and Project Manager in consultation with the Executive Committee.

Working Groups

Much of EVOME's work will take place within working groups. Working groups will be created to tackle specific research challenges and cross-cutting Institute goals. Some working groups may dissolve when work is completed, others may be standing groups. Each working group will have members from all career stages and multiple disciplines. Each working group will have a leader selected by consensus. Working group leaders will report on group activities at monthly Team Meetings. Each leader will also attend annual *Team Science Retreats* and *Annual Meetings*.

Current EVOME working groups (2024/2025) consist of the following:

Site selection: Selecting and defining field activities at field sites across a temperature gradient in northern Alaska. Lead: Urban.

Fish: Completing grayling genome, defining field studies of fish across the study sites, refining plans for fish common garden experiments. Lead: Schoen/Westley

Birds: Creating field plans for initiation of bird studies across the field study sites. Lead: Boelman

Insects: Create plans for collecting, identifying, and analyzing genomics of mayflies and terrestrial beetles across the field study sites. Leads: Lozier/Atkinson

Streams and riparian zones: Identify resources and approaches needed to study stream hydrology, temperature, and other essential ecosystem attributes. Lead: Deegan/Neill.

Willows: Define plans for sampling willow ecology and genomics across the study sites. Creation of field-available apps to record willow presence and species across sites. Lead: Wegrzyn/Heskel.

Heritability: Create a plan for determining heritability across multiple organisms with common garden experiments. Lead: Urban/Bolnick

Communications and Outreach: Create a plan for communicating Institute activities across multiple institutions. Leads: Goldstone/Neill.

RCN Participation: EVOME team members will participate in the BII RCN as appropriate. Currently EVOME has representatives that attend the Project Manager (TBN), Early Career (current I. Shuman, graduate student), and PI meetings (Deegan or Urban).

Procedure for Updating Governance Plan

Updates to this Governance Plan may be necessary from time to time depending on research priorities, changes to personnel, changes in requirements by NSF, new strategic priorities, risk management, or for other reasons. Changes to this Governance Plan will be made by the Executive Committee in discussion with the EVOME Team. Changes might include modification of language or changes to the committee membership or governance structure.

Annually, the Executive Committee will consider if changes are needed, or at any time proposed changes to this Governance Plan can be brought to the Executive Committee. Proponents of proposed changes should describe in writing the proposed change and the reason(s) for the proposed change. Executive Committee members can request time on the agenda at an Executive Committee meeting to discuss the proposed change. Any EVOME participant not on the Executive Committee can request time on the agenda to attend an Executive Committee meeting to discuss the proposed change.