Potential NIMO Host Institution Profile

Institution/Department: Harvard University/Harvard Forest

Background: The Harvard Forest (HF) was established in 1907. It is an independent research institution in the Faculty of Arts and Sciences (FAS); the Director reports to the Deans of FAS. HF has a full-time staff of 45, 1500 hectares of diverse land holdings, > 10,000 m^2 of buildings, and > 100 collaborating scientists worldwide. HF serves as Harvard's ecological laboratory and classroom. With academic programs that include: a 30-year-old Summer Undergraduate Research Program in Ecology Program (an REU Site since 1993); the Bullard Fellowship for 6–8 mid-career academics and professionals annually; a Winter Break Ecology/Arts program for undergraduates and graduate students; and > 30 field courses annually for Harvard and other New England institutions. HF also hosts the Harvard Forest LTER Site (1988 – present); the NEON Domain 1 core site; a 35-ha ForestGeo Forest Dynamics plot; the longest running AMERIFLUX site; the Harvard Program on Conservation Innovation; and the Science Policy Exchange, which includes four northeastern LTER sites (HBR, PIE, BES, HFR).

Co-Principal Investigator Candidates: Aaron M. Ellison and Emery R. Boose

Name: Aaron M. Ellison (proposed lead PI)

Current Position: Senior Research Fellow in Ecology, Department of Organismic and Evolutionary Biology, and Senior Ecologist, Harvard Forest. Full-time research focused on community and statistical ecology and computer science/software engineering. Co-I, Harvard Forest LTER site (2006-present); lead PI on three successive FSML awards (2003-present); lead PI for Harvard Forest REU Site (2004-present); lead or co-PI on research grants (2002-present) from NSF DEB, NSF CISE, DOE, and USDA.

Background: Aaron Ellison (http://tinyurl.com/oqc6m57) received his B.A. in East Asian Philosophy from Yale University in 1982, his Ph.D. in Evolutionary Ecology from Brown University in 1986, and did post-doctoral work at Cornell and with the Organization for Tropical Studies in Costa Rica. From 1990-2001, he was an Assistant, Associate, and Full Professor; Chair of the Program in Environmental Studies; Founding Director of the Center for Environmental Literacy; and Sponsored Research Officer and Associate Dean for Science at Mount Holyoke College. Since 2001, Aaron has been a Senior Research Fellow at Harvard Forest, where he studies: food web dynamics and community ecology of wetlands and forests; evolutionary ecology of carnivorous plants; responses of plants and ants to global climate change; application of Bayesian statistical inference to ecological research and environmental decision-making; and software engineering for provenance metadata and reproducible research. He has authored or co-authored > 150 scientific papers, dozens of book reviews and software reviews, and the books *A Primer of Ecological Statistics* (2004/2012 [2nd edition]), and *A Field Guide to the Ants of New England* (2012). Aaron is the Editor-in-Chief of Ecological Monographs and in 2012, was elected a Fellow of the Ecological Society of America.

Prior LTER Network Service and Leadership: Co-I Harvard Forest LTER; 2014 Awardee, OBFS Human Diversity Award (for Harvard Forest REU Site); NISAC member (2012-2015); Co-Chair (with Diane McKnight), NSF task force for the next-generation LTER Network Office (2013-2014); Co-organizer (with Deb Peters and Brandon Bestelmeyer) of EcoTrends working groups on ecological threshold dynamics (2011); Organizer, working group on foundation species in forests (2005).

Other Relevant Synergistic Activities:

- Appointed member, Ecological Society of America (ESA) Ad-hoc Committee on Communication in the Electronic Age; Chair, Subcommittee on Data Archiving (1994-1995).
- Chair, ESA Ad-hoc Committee on Ecological Data Archiving (1995-1998).
- Founding Editor, *Ecological Archives* (1998-2001).

- Associate Editor-in-Chief, *Ecology* (2002-2010) responsible for math/stats/computational submissions.
- Editor-in-Chief, *Ecological Monographs* (2009-2015); instituted data requirement for the journal.
- Chair, Data Committee, and Member, Science Advisory Committee, Southwest Experimental Garden Array (MRI award to Northern Arizona University) (2011-present) (http://www.sega.nau.edu/).

Name: Emery R. Boose (proposed co-PI)

Current Position: Information Manager and Senior Researcher at Harvard Forest. Research interests include meteorology, hydrology, computer modeling, and software engineering. Co-PI on NSF CISE award (2015); Co-I on LTER, FSML, and REU awards (since 1994).

Background: Emery Boose (http://tinyurl.com/pwbbnud) received his A.B. in mathematics from Harvard College in 1974 and his Ph.D. in Sanskrit & Indian Studies from Harvard University in 1988. Since 1989 he has served as Information Manager at Harvard Forest, where he has led IM activities, set up and managed meteorological and hydrological stations, and worked closely with the university to upgrade the IT infrastructure at HF (≈120 km from Harvard's main campus) and create a wireless network for remote access to experiments in the forest. He has contributed to research projects ranging from computer modeling of hurricane impacts in New England and Puerto Rico to development of software tools for capturing data provenance, and has served as a mentor in the Harvard Forest summer REU program since 2009.

Prior LTER Network Service and Leadership: Co-I Harvard Forest LTER (since 1994); IM rep to LTER EB (2011-2014); IM-Exec (2001-2007, 2009-2012); IMC (I989-1992, and since 1998); NISAC (2002-2006); Climate Committee (since 1990). Co-chair with Phil Robertson of LTER visioning committee for a next generation LTER Network Office.

Institutional Infrastructure

Technology: Harvard University is a leading research institution with 2400 faculty and 21,000 students. The university provides strong IT support for both research and education, including high speed network connectivity (level 1 member of Internet2), on-campus facilities for research computing, partnerships for high performance computing, and centralized support for virtual servers, data backup, network security, and cloud computing (for additional details, please see: http://huit.harvard.edu/). If Harvard supported the NIMO office, Harvard Forest would administer the grant but the NIMO computer systems (if located at Harvard) would be located on the main campus in Cambridge to take advantage of improved security and significantly faster network connections.

Non Technology Support Services: Both co-PIs are senior scientists at the Harvard Forest. They are both supported predominantly from departmental sources and have no teaching responsibilities, which will allow them to devote concentrated effort to the proposed NIMO office. Broader administrative support for their activities comes from the Director, Department Administrator, System and Web Administrator, Grant Accountant and other support staff. We expect Harvard University will consider this "Other Sponsored Activity" and allow the reduced indirect cost rate of 34% for the NIMO effort. Through collaborations centered on-site and throughout the surrounding region HF and its senior scientists/PIs maintain strong linkages with diverse agencies, national research programs, and institutional efforts including NEON, AmeriFlux, ForestGEO, the PhenoCam Network, Project BudBurst, the USDA Forest Service Experimental Research Forests at Hubbard Brook and Bartlett, the USDA/USFS Forest Inventory and Analysis Program and the USGS Northeast Climate Center.