

CURRICULUM VITAE

Tracy A. Heath

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Department of Ecology, Evolution & Organismal Biology
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EDUCATION

Ph.D. 2008 University of Texas at Austin, Ecology, Evolution, & Behavior
B.A. 2000 Boston University, Biology










ACADEMIC POSITIONS

2015–present **Assistant Professor**
Dept. of Ecology, Evolution, & Organismal Biology, Iowa State University
2010–2015 *Associate Research Specialist*
Dept. of Integrative Biology, University of California, Berkeley
2013–2015 *Postdoctoral Researcher*
Dept. of Ecology & Evolutionary Biology, University of Kansas
2008–2010 *NSF Postdoctoral Fellow in Biological Informatics*
University of Kansas & University of California, Berkeley
2003–2008 *NSF IGERT Graduate Research Trainee*
Computational Phylogenetics, University of Texas at Austin
2007 *Visiting Scholar*
Biomathematics Research Centre, Christchurch, NZ
2002–2007 *Graduate Research Assistant*
School of Biological Sciences, University of Texas at Austin
2000–2001 *DNA Sequencing Facility Manager*
Dept. of Biology, Boston University
2000 *Research Assistant*
Dept. of Biology, Boston University

PUBLICATIONS

Citations ([Google Scholar](#), February 2021): 3,157 • Erdős Number: 3

Heath Lab trainees:  student/postdoc,  visiting student/postdoc.

- Thomas, D.B., A.J.D. Tennyson, R.P. Scofield, **T.A. Heath**, W. Pett^{}, D.T. Ksepka. 2020. Ancient crested penguin constrains timing of recruitment into seabird hotspot. *Proceedings of the Royal Society B*, 287:20201497. 
- Pett, W.^{} and **T.A. Heath**. 2020. Inferring the timescale of phylogenetic trees from fossil data. Eds: C. Scornavacca, F. Delsuc, N. Galtier. *Phylogenetics in the Genomic Era*. No commercial publisher | Authors open access book, pp: 5.1:1–5.1:18. 
- Barido-Sottani, J.^{}, J.A. Justison^{}, A.M. Wright^{}, R.C.M. Warnock^{}, W. Pett^{}, and **T.A. Heath**. 2020. Estimating a time-calibrated phylogeny of fossil and extant taxa using RevBayes. Eds: C. Scornavacca,

- F. Delsuc, N. Galtier. *Phylogenetics in the Genomic Era*. No commercial publisher | Authors open access book, pp: 5.2:1–5.2:23. [↗](#)
- Warnock, R.C.M.[¶], **T.A. Heath**, and T. Stadler. 2020. Assessing the impact of incomplete species sampling on estimates of speciation and extinction rates. *Paleobiology*, 46:137-157. [↗](#)
- Satler, J.D.[¶], E.A. Herre, D.A.R. Eaton, C.A. Machado, and **T.A. Heath**, J.D. Nason. 2019. Inferring processes of coevolutionary diversification in a community of Panamanian strangler figs and associated pollinating wasps. *Evolution*, 73:2295–2311. [↗](#)
- Stadler, T., A. Gavryushkina[¶], R.C.M. Warnock[¶], A.J. Drummond, and **T.A. Heath**. 2018. The fossilized birth-death model for the analysis of stratigraphic range data under different speciation concepts. *Journal of Theoretical Biology*, 447:41–55. [↗](#)
- Barido-Sottani, J., V. Bošková, L. du Plessis, D. Kühnert, C. Magnus, V. Mitov, N.F. Müller, J. Pečerska, D.A. Rasmussen, C. Zhang, A.J. Drummond, **T.A. Heath**, O.G. Pybus, T.G. Vaughan, and T. Stadler. 2018. Taming the BEAST – A community teaching material resource for BEAST 2. *Systematic Biology*, 67:170–174. [↗](#)
- Höhna, S., M.J. Landis[¶], and **T.A. Heath**. Phylogenetic inference using RevBayes. 2017. *Current Protocols in Bioinformatics*, 57:6.16.1–6.16.34. [↗](#)
- Gavryushkina, A., **T.A. Heath**, D.T. Ksepka, T. Stadler, D. Welch, and A.J. Drummond. 2017. Bayesian total evidence dating reveals the recent crown radiation of penguins. *Systematic Biology*, 66:57–73. [↗](#)
- Höhna, S., M.J. Landis, **T.A. Heath**, B. Boussau, N. Lartillot, B.R. Moore, J.P. Huelsenbeck, and F. Ronquist. 2016. RevBayes: Bayesian phylogenetic inference using graphical models and an interactive model-specification language. *Systematic Biology*, 65:726–736. [↗](#)
- Zhang, C., T. Stadler, S. Klopstein, **T.A. Heath**, and F. Ronquist. 2016. Total-evidence dating under the fossilized birth-death process. *Systematic Biology*, 65:228–249. [↗](#)
- Heath, T.A.**, J.P. Huelsenbeck, and T. Stadler. 2014. The fossilized birth-death process for coherent calibration of divergence-time estimates. *Proceedings of the National Academy of Sciences*, 111(29):E2957–E2966. [↗](#)
- Cook, J.A., S.V. Edwards, E.A. Lacey, R.P. Guralnick, P.S. Soltis, D.E. Soltis, C.K. Welch, K.C. Bell, K.E. Galbreath, C. Himes, J.M. Allen, **T.A. Heath**, A.C. Carnival, K.L. Cooper, M. Liu, J. Hanken, and S. Ickert-Bond. 2014. Natural history collections as emerging resources for innovative education. *Bio-science*, 64:725–734. [↗](#)
- Höhna, S., **T.A. Heath**, B. Boussau, M.J. Landis, F. Ronquist, and J.P. Huelsenbeck. 2014. Probabilistic graphical model representation in phylogenetics. *Systematic Biology*, 63:753–771. [↗](#)
- Heath, T.A.** and B.R. Moore. 2014. Bayesian inference of species divergence times. In: Chen, M.-H., L. Kuo, and P.O. Lewis (editors). *Bayesian Phylogenetics: Methods, Algorithms, and Applications*. Chapman & Hall/CRC. [↗](#)
- Stoltzfus, A., H. Lapp, N. Matasci, H. Deus, B. Sidlauskas, C.M. Zmasek, G. Vaidya, E. Pontelli, K. Cranston, R. Vos, C.O. Webb, L.J. Harmon, M. Pirrung, B. O'Meara, M.W. Pennell, S. Mirarab, M.S. Rosenberg, J.P. Balhoff, H.M. Bik, **T.A. Heath**, P.E. Midford, J.W. Brown, E.J. McTavish, J. Sukumaran, M. Westneat, M.E. Alfaro, A. Steele, and G. Jordan 2013. Phylotastic! Making tree-of-life knowledge accessible, reusable and convenient. *BMC Bioinformatics*, 14:158. [↗](#)
- Darriba, D., A. Aberer, T. Flouri, **T.A. Heath**, F. Izquierdo-Carrasco, and A. Stamatakis. 2013. Boosting the performance of Bayesian divergence time estimation with the Phylogenetic Likelihood Library. *IEEE 27th International Symposium on Parallel & Distributed Processing* doi:10.1109/IPDPSW.2013.267. (peer-reviewed conference proceedings) [↗](#)
- Heath, T.A.** 2012. A hierarchical Bayesian model for calibrating estimates of species divergence times. *Systematic Biology*, 61:793-809. [↗](#)
- Heath, T.A.**, M.T. Holder, and J.P. Huelsenbeck. 2012. A Dirichlet process prior for estimating lineage-specific substitution rates. *Molecular Biology and Evolution*, 29:939-955. [↗](#)

- Heath, T.A.**, S.M. Hedtke, and D.M. Hillis. 2008. Taxon sampling and the accuracy of phylogenetic analyses. *Journal of Systematics and Evolution*, 46:239-257. [↗](#)
- Heath, T.A.**, D.J. Zwickl, J. Kim, and D.M. Hillis. 2008. Taxon sampling affects inferences of macroevolutionary processes from phylogenetic trees. *Systematic Biology* 57:160-166. [↗](#)
- Hillis, D.M., **T.A. Heath**, and K. St. John. 2005. Analysis and visualization of tree space. *Systematic Biology*, 54(3):471-482. (cover article) [↗](#)
- Wilcox, T.P., D.J. Zwickl, **T.A. Heath**, and D.M. Hillis. 2002. Phylogenetic relationships of the dwarf boas and a comparison of Bayesian and bootstrap measures of phylogenetic support. *Molecular Phylogenetics and Evolution*, 25(2):361-371. [↗](#)

INVITED PRESENTATIONS AND SEMINARS

CONFERENCES & SYMPOSIA

- 2021 Mathematical, Inferential and Computational Phylogenomics, Keynote Speaker, Virtual Conference
- 2020 Bird 10K Genome Project Avian Phylogenomics Symposium, Royal Danish Academy of Sciences & Letters, Copenhagen, Denmark
- 2019 Phylogenetic Paleobiology Symposium, Geological Society of America, Phoenix, AZ
- 2018 The Molecular Tree of Life Symposium, Jiangsu Normal University, Xuzhou, China
- 2017 SBE Symposium, Society for Molecular Biology & Evolution, Austin, TX
- 2016 Bird 10K Genome Project Workshop, Beijing, China
- 2016 Jacques Monod Conference on Molecular Evolution, Roscoff, France
- 2013 [Phyloseminar.org](#) Series on Integrating Fossils into Molecular Phylogenies [▶](#)
- 2013 France-Berkeley Fund Symposium on Fossils & Phylogenetics, Berkeley, CA
- 2012 Symposium on Molecular Dating, Hennig XXXI, Riverside, CA
- 2011 Symposium on Bayesian Inference of Phylogeny, Berkeley, CA
- 2011 Bay Area Biosystematists Meeting, Berkeley, CA
- 2010 SSB Symposium, Evolution 2010, Portland, OR
- 2006 CIPRES Symposium & Workshop on Evolutionary Simulation, Philadelphia, PA

DEPARTMENTAL SEMINARS

- 2019 University of Florida, Florida Museum Department of Natural History Seminar
- 2019 University of Helsinki, Viikki Monday Seminar
- 2018 The Rancho Santa Ana Botanic Garden, Research Seminar
- 2018 University of California, Los Angeles, EEB Seminar
- 2018 University of Chicago, Committee on Evolutionary Biology – Evolutionary Morphology Seminar
- 2018 Montana State University, Department of Earth Sciences Seminar
- 2018 University of New Mexico, Biology Department Seminar
- 2017 University of Michigan, UMMZ Hubbell Invited EEB Speaker
- 2016 University of Idaho, Institute for Bioinformatics and Evolutionary Studies Seminar
- 2016 American Museum of Natural History, Comparative Biology Seminar
- 2016 Indiana University, Department of Biology EEB Seminar
- 2015 University of Missouri, EEB Seminar
- 2015 University of Minnesota, EEB Seminar
- 2014 The European Bioinformatics Institute, EMBL-EBI External Seminar Series
- 2014 University of California, Berkeley, Museum of Paleontology Seminar
- 2014 University of Connecticut, Ecology & Evolutionary Biology Seminar
- 2014 Smithsonian Institution National Museum of Natural History, PhyloPizza Seminar

2014 Auburn University, Department of Biological Sciences Seminar
 2014 North Carolina State University, Bioinformatics Seminar
 2014 University of Alabama, Department of Biological Sciences Seminar
 2014 University of California Los Angeles, Division of Life Sciences Faculty Mentorship Colloquium
 2013 Iowa State University, Ecology, Evolution, & Organismal Biology Seminar
 2013 Brown University, Center for Computational Molecular Biology Seminar
 2013 Brigham Young University, Biology Department Seminar
 2013 Cornell University, Ecology & Evolutionary Biology Seminar
 2013 University of Washington PopGenLunch Seminar
 2013 Bowdoin College, Biology Department Seminar
 2013 Texas Tech University, Department of Biological Sciences Seminar
 2012 California Academy of Sciences, Research Seminar
 2012 University of California, Davis, Center for Population Biology Seminar

OTHER INVITED TALKS

2020 ISU SACNAS Chapter Invited Panelist: Preparing for Your Preliminary Exams, Iowa State University, Ames, IA (virtual panel)
 2020 ISU Hunting Club Invited Speaker, Iowa State University, Ames, IA
 2020 ISU SACNAS Chapter Invited Panelist: Preparing for a Postdoc, Iowa State University, Ames, IA
 2018 ISU SACNAS Chapter Invited Panelist: Social Media, Iowa State University, Ames, IA
 2017 Public Speaker, The Des Moines March for Science, Iowa State Capitol, Des Moines, IA
 2016 ISU Biological Sciences Club Invited Speaker, Iowa State University, Ames, IA
 2016 [Brown Scholars/Bridge Up Program](#), American Museum of Natural History, New York, NY
 2013 [Girls Who Code](#) Summer Program @Twitter, San Francisco, CA

CONTRIBUTED PRESENTATIONS

2015 Iowa State University, EEB Spring Symposium
 2014 Society for Vertebrate Paleontology (education/outreach poster), Berlin, Germany
 2014 iEvoBio 2014, Raleigh, NC, USA
 2013 Evolution 2013, Snowbird, UT, USA
 2012 Evolution 2012, Ottawa, Ontario, Canada
 2011 Evolution 2011, Norman, OK, USA
 2009 Evolution 2009, Moscow, ID, USA
 2007 Evolution 2007, Christchurch, New Zealand
 2007 The Annual New Zealand Phylogenetics Meeting – Doom07, Whakapapa, NZ
 2006 Evolution 2006, Stony Brook, NY, USA
 2006 NSF IGERT Project Meeting (poster), Arlington, VA, USA
 2004 Evolution 2004, Fort Collins, CO, USA

NATIONAL AND INTERNATIONAL WORKSHOPS

2020 Stay-at-Home RevBayes Workshop, Online
 2019 Midwest Phylogenetics Workshop, University of Minnesota Itasca Biological Station, Lake Itasca, MN USA
 2019 Bayesian phylogenetics and macroevolution in RevBayes, Centre for Biodiversity Analysis, Australian National University, Canberra, Australia (upcoming)
 2018 Introduction to RevBayes, The Field Museum of Natural History, Chicago, IL USA

- 2018 Introduction to RevBayes, Department of Earth Sciences, Montana State University, Bozeman, MT USA
- 2017–2019 Workshop on Phylogenomics, Český Krumlov, Czechia
- 2017 Introduction to Bayesian inference of phylogenies using molecular and fossil data in RevBayes, International Biogeography Society, Bengaluru, India
- 2017 Phylogenetic Inference Using RevBayes, NIMBios, Knoxville, TN USA
- 2017 Taming the BEAST – Workshop on Bayesian Evolutionary Analysis by Sampling Trees, Waiheke Island, New Zealand
- 2017 RevBayes: Analysis of Fossil and Molecular Data, SSB Meeting, Baton Rouge, LA USA
- 2016 Taming the BEAST – Workshop on Bayesian Evolutionary Analysis by Sampling Trees, Engelberg, Switzerland
- 2015 Model-Based Molecular Systematics Workshop at Evolution 2015, Guarujá, Brazil
- 2015 Workshop on Bayesian Divergence Time Estimation at Society of Systematic Biologists Meeting 2015, Ann Arbor, MI USA
- 2014–2016 Advanced Course on Computational Molecular Evolution, European Molecular Biology Organization, Institute of Marine Biology, Biotechnology and Aquaculture, Hellenic Centre for Marine Research, Heraklion, Greece
- 2014 NESCent Academy Course: Phylogenetic Analysis Using RevBayes, National Evolutionary Synthesis Center (NESCent), Durham, NC USA
- 2013–2016 Advanced Course on Computational Molecular Evolution, Wellcome Trust and European Bioinformatics Institute, Hinxton, UK
- 2013 Workshop on Molecular Evolution, Český Krumlov, Czechia
- 2012–2019 Workshop on Molecular Evolution, Marine Biological Laboratory, Woods Hole, MA USA
- 2011–2015 Bodega Applied Phylogenetics Workshop, Bodega Bay, CA USA

MAJOR GRANTS

- 2018–2022 **National Science Foundation.** ([DBI-1759909](#) & [DBI-1759811](#))
 “Collaborative Research: ABI Development: Improving the stability, usability, and speed of the RevBayes platform for phylogenetic analysis” (start date: July 1, 2018)
 PIs: Tracy Heath and John Huelsenbeck (UC Berkeley)
- 2016–2021 **National Science Foundation.** ([DEB-1556853](#))
 “Multilocus analyses of co-diversification and phylogenetic incongruence between highly coevolved figs and fig wasps” (start date: June 1, 2016)
 PI: John Nason, Co-PIs: Tracy Heath, Allen Herre (Smithsonian)
- 2016–2021 **National Science Foundation.** ([DEB-1556615](#) & [DEB-1556701](#))
 “Collaborative Research: Advancing Bayesian phylogenetic methods for synthesizing paleontological and neontological data” (start date: May 1, 2016)
 PIs: Tracy Heath & Robert Meredith (Montclair State University), Co-PI: Daniel Ksepka (Bruce Museum).
- 2008–2010 **National Science Foundation.** ([DBI-0805631](#))
 “Complex models of substitution rate variation and a comparison of Bayesian methods for estimating species divergence times”
 NSF PostDoctoral Research Fellowship in Biology

SERVICE IN SUPPORT OF DIVERSITY, EQUITY, & INCLUSION

2020–present	Diversity, Equity, & Inclusion Committee Member, EEOB Department, Iowa State University
2020	Mentor Judge, SACNAS National Conference (virtual meeting)
2020	Diversity Committee Co-Chair, American Society of Naturalists
2019–2020	Diversity, Equity, & Inclusion Committee Member, Society of Systematic Biologists
2019	Mentor, Vanguard STEM Guerrilla Mentoring at SACNAS 2019, Honolulu, HI
2019	Faculty Mentor, Grant Writing Retreat, ISU/KU Joint SACNAS Chapters, University of Kansas, Lawrence, KS
2019	Mentor for the Undergraduate Diversity at Evolution Program
2019	Evo Ally, Evolution 2019, Providence, RI
2018	Faculty Mentor, Grant Writing Retreat, ISU/KU Joint SACNAS Chapters, Iowa State University, Ames, IA
2017–2019	Diversity Committee Member, American Society of Naturalists
2017	Speaker (representing SACNAS), 2017 March for Science, Des Moines, IA  
2016	Mentor Judge, SACNAS National Conference, Long Beach, CA
2016	Organizer, Scientific Symposium on “(Day and) Night at the Museum: Exploring Research in Ecology and Evolution behind the Scenes of Natural History Museums”, SACNAS National Conference, Long Beach, CA 
2016	Field Trip Leader, The Rancho Santa Ana Botanic Garden, SACNAS National Conference, Long Beach, CA 
2016	Mentor for the Preparing Future Faculty Program at Iowa State University
2015–present	Member, Iowa State University SACNAS Chapter
2015–2016	Social Media Street Team Member, SACNAS National Conference, Washington, DC
2015	Organizer, SSB Symposium on “Breaking Barriers: Empirical, Theoretical, and Gender Issues in Phylogenetics”, Evolution Meetings, Guarujá, Brazil
2015	Panelist for large-format discussion on “iEvoBio: How to start software development in evolutionary biology” at the Society of Systematic Biologists Meeting, Ann Arbor, MI
2014	Session Chair and Organizer, Professional Development Session on Computational Biology at the SACNAS National Conference 
2013–2015	Participant, AIM-UP!–Advancing Integration of Museums into Undergraduate Programs (NSF RCN-UBE DEB-0956129)
2013	Organizing Committee Member, <i>iEvoBio</i> 2013 Conference, Snowbird, UT
2012–2014	Mentor for the Undergraduate Diversity at Evolution Program
2011	Panelist, The Women in Science and Engineering Residential Program Seminar, U.C. Berkeley
2011	Panelist, The Initiative for Maximizing Student Development (IMSD) Graduate Fellows Program Workshop, U.C. Berkeley

IOWA STATE UNIVERSITY SERVICE

2020–present	Member, Diversity, Equity, & Inclusion Committee, EEOB Department
2019–2020	Member, Faculty Search Committee: Comparative Animal Physiology, EEOB Department
2018–2019	Member, Strategic Hiring Planning Committee, EEOB Department
2018–2019	Member, Honors & Awards Committee, EEOB Department
2017–present	Member, Graduate Studies Committee, EEOB Department
2015–present	Member, Recruitment Committee, EEB Graduate Program

2016–2018 Member, Admissions Committee, BCB Graduate Program
 2015–2017 Member, Social Committee, EEOB Department

PROFESSIONAL SERVICE

2019–2021 Communications Director, Society of Systematic Biologists Executive Council
 2018 Organizer, SSB Ernst Mayr Award Symposium, Evolution Meetings, Montpellier, France
 2017 *ad hoc* Reviewer, National Science Foundation (DEB)
 2017 Organizer, SSB Ernst Mayr Award Symposium, Evolution Meetings, Portland, OR
 2017 Panelist, National Science Foundation (DEB), Arlington, VA
 2016–2018 Awards Director, Society of Systematic Biologists Executive Council
 2016 Ph.D. Defense External Evaluator, Louis du Plessis, ETH Zürich
 2016 Organizer, SSB Spotlight Session on “Next-generation Phylogenetic Inference”, Evolution Meetings, Austin, TX
 2016 Organizer, SSB Ernst Mayr Award Symposium, Evolution Meetings, Austin, TX
 2016 Ph.D. Thesis Reviewer, Australian National University
 2015 Judge, Ernst Mayr SSB Graduate Student Presentation Award, Evolution Meetings, Guarujá, Brazil
 2015 Textbook Chapter Reviewer for *Life: The Science of Biology*
 2015 Panelist, National Science Foundation (DEB), Arlington, VA
 2013–2015 Elected Council Member, Society of Systematic Biologists
 2012 & 2014 Proposal Reviewer, The Society of Systematic Biologists Graduate Student Research Award Competition
 2012 Proposal Reviewer, The Graduate Women in Science 2012 National Fellowships Program
 2008–present Editorial Board Member, *Systematic Biology*
 2006–present Reviewer for: *Bioinformatics*, *BMC Evolutionary Biology*, *Ecology Letters*, *Evolution*, *Gene*, *Journal of Systematics & Evolution*, *Molecular Biology & Evolution*, *Nature Ecology & Evolution*, *Philosophical Transactions B*, *Proceedings B*, *PNAS*, *Systematic Biology*, *Trends in Ecology & Evolution*, *Trends in Genetics*

PROFESSIONAL AFFILIATIONS

- Society of Systematic Biologists (Life Member)
- Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS Life Member)
- American Society of Naturalists