

Emily S. Bellis (née Weiss)

Assistant Professor of Bioinformatics
Arkansas Biosciences Institute & Department of Computer Science
Arkansas State University, Jonesboro, AR

✉ ebellis@astate.edu ☎ 870 972 3979 🔗 [em-bellis](https://github.com/em-bellis) 🌐 em-bellis.github.io

EDUCATION

Oregon State University, Corvallis, OR, Ph.D. Integrative Biology 2017

Texas A&M University, College Station, TX, B.S. Genetics & Biochemistry 2010

APPOINTMENTS

Arkansas State University, Jonesboro, AR:

Assistant Professor of Bioinformatics 01/2020–Present

Research Assistant Professor of Bioinformatics 10/2019–01/2020

The Pennsylvania State University, State College, PA:

NSF Nat'l Plant Genome Postdoctoral Research Fellow 01/2018–09/2019

Reed College, Portland, OR:

Postdoctoral Research Associate in Genomics 07/2017–12/2017

RESEARCH INTERESTS

Genetic basis of genotype-phenotype-environment interactions; machine learning in the life sciences to improve food security, human well-being, and ecosystem health; evolutionary ecology and genomics of parasites and mutualists

PUBLICATIONS

R.D. Lucardi, **E.S. Bellis**, C.E. Cunard, J.K. Gravesande, S.C. Hughes, L.E. Whitehurst, S.J. Worthy, K.S. Burgess, T.D. Marsico. (Accepted). Seeds attached to refrigerated shipping containers represent a substantial risk of nonnative plant species introduction and establishment. *Scientific Reports*.

L. Lopez, K. Turner, **E.S. Bellis**, & J.R. Lasky. (Accepted). Genomics of Natural History Collections for Understanding Evolution in the Wild. *Molecular Ecology Resources*.

J.S. Shaver, **E.S. Bellis**, C. Iwaki, J. Qualls, J. Randolph, & J. Smith. (Accepted). Massard Prairie Restoration and Soil Microbiome Succession. *Journal of the Arkansas Academy of Science*.

M. Staton, C. Addo-Quaye, [and 29 others including **E.S. Bellis**]. (2020). A reference genome assembly and adaptive trait analysis of *Castanea mollissima* 'Vanuxem', a source of resistance to chestnut blight in restoration breeding. *Tree Genetics & Genomes*.

R.M. Gutaker, S.C. Groen, **E.S. Bellis**, J.Y. Choi, I.S. Pires, R.K. Bocinsky, E. Slayton, O. Wilkins, C.C. Castillo, S. Negrao, M.M. Oliveira, D.Q. Fuller, J.A. d'Alpoim Guedes, J.R. Lasky, and M.D. Purugganan (2020). Genomic history and ecology of the geographic spread of rice. *Nature Plants* 6: 492-502.

E.S. Bellis, E.A. Kelly, C.M. Lorts, H. Gao, V.L. Deleo, G. Rouhan, A. Budden, G.B. Bhaskara, Z. Hu, R. Muscarella, M.P. Timko, B. Nebie, S.M. Runo, N.D. Chilcoat, T.E. Juenger, G.P. Morris, C.W. dePamphilis, and J.R. Lasky (2020). Genomics of sorghum local adaptation to a parasitic plant. *PNAS* 117: 4243-4251.

L. Lopez, **E.S. Bellis**, E. Wafula, S. Hearne, L. Honaas, P. Ralph, N. Unachukwu, C.W. dePamphilis, and J.R. Lasky (2019). Transcriptomics of host-specific interactions in natural populations of the parasitic plant *Striga hermonthica*. *Weed Science* 67: 397-411.

E.S. Bellis, R.B. Edlund, H.K. Berrios, H.A. Lessios, and D.R. Denver (2018). Molecular signatures of host specificity linked to habitat specialization in a symbiotic sea anemone. *Ecology & Evolution* 8: 5413-5426.

E.S. Bellis and D. R. Denver (2017). Natural variation in responses to acute heat and cold stress in a sea anemone model system for coral bleaching. *Biological Bulletin* 233: 168-181. *Cover article.

E.S. Bellis, D.K. Howe, and D.R. Denver. Genome-wide polymorphism and signatures of selection in the symbiotic sea anemone *Aiptasia*. *BMC Genomics* 17: 160.

W.S. Phillips, A.L. Coleman-Hulbert, **E.S. Weiss**, D.K. Howe, S. Ping, R.I. Wernick, S. Estes, and D.R. Denver (2015). Selfish mitochondrial DNA proliferates in small, but not large, experimental populations of *Caenorhabditis briggsae*. *Genome Biology and Evolution* 7: 2023-2037.

A. Emblem, S. Okkenhaug, **E.S. Weiss**, D.R. Denver, B.O. Karlsen, T. Moum, and S.D. Johansen (2014). Sea anemones possess dynamic mitogenome structures. *Molecular Phylogenetics and Evolution* 75: 184-193.

RESEARCH GRANTS

NATIONAL

US-AID PEER Program Grant "Deploying *Striga* Smart Sorghum: The last mile" (\$75,000; PI: S.M. Runo; US-supported partner: Bellis) 2019

Coral Reef Alliance Coral Adaptation Challenge Grant (\$18,000; role: PI) 2016

REGIONAL

Arkansas INBRE Core Facility Voucher Award (\$5,000; role: PI) 2020

FELLOWSHIPS & AWARDS

NATIONAL

Ecological Society of America NEON Early Career Scholar (\$1,500) 2020

NSF Postdoctoral Research Fellowship in Biology (\$207,000)	2017
Society for Integrative & Comparative Biology Libbie H. Hyman Memorial Scholarship (\$1,500; declined)	2013
NSF Graduate Research Fellowship (\$121,000)	2011
National Merit Scholarship (\$2,500)	2006

INSTITUTIONAL

Oregon State University Paul & Mary Roberts Fellowship for the Study of Evolution (\$2,500)	2017
University of Washington Summer Institute Scholarship (\$900)	2016
Smithsonian Tropical Research Institute Short Term Fellowship (\$3,000)	2014
Oregon State University Provost's Distinguished Fellowship (\$30,000)	2011
Texas A&M University President's Endowed Scholarship, National Merit Recognition Award, Director's Excellence Award, and Non-Resident Tuition Waiver (\$75,000)	2006

INVITED TALKS

University of Memphis Earth Sciences Colloquium Series, Memphis, TN, April 17 (<i>cancelled due to COVID-19</i>)	2020
University of Arkansas Fort Smith STEM Seminar, Fort Smith, AR, Feb. 14	2020
The Pennsylvania State University Ecology Seminar, State College, PA, Sep. 13	2019
NSF Plant Genome Research Program Awardee Meeting, Washington D.C., Sep. 4-6	2019
Society of Herbarium Curators Annual Meeting, Tucson, AZ, Aug. 1	2019
University of Arkansas for Medical Sciences Career Day, Little Rock, AR, Oct. 18	2019
Workshop on Genomics Tools for <i>Striga</i> management, Nairobi, Kenya, June 22-30	2018
Reed College Biology Department Seminar Series, Oct. 27	2017
Coral Reef Alliance Adaptation Challenge Workshop, San Francisco, CA, April 17-18	2017

COURSES TAUGHT

ARKANSAS STATE UNIVERSITY

CS6823: Special Topics: Introduction to Statistical Learning (cross-listed w/ MBS6251)
Summer 2020

OREGON STATE UNIVERSITY

Z362: Invertebrate Biology Lab (Instructor)	Spring 2017
MCB525: Techniques in Molecular and Cellular Biology (Instructor)	Fall 2016
BI213: Principles of Biology (Curriculum Development Assistant)	Winter 2016
BI311: Genetics (Teaching Assistant)	Spring 2014

BI212: Principles of Biology Lab (Teaching Assistant)
BI211: Principles of Biology Lab (Teaching Assistant)

Winter 2014
Fall 2013

STUDENT MENTORING

ARKANSAS STATE UNIVERSITY

E. Soriano Chavez, Undergraduate Research Mentor
J. Stubblefield, Graduate Committee Member
S. Rutledge, Undergraduate Research Mentor

2020–Present
2019–Present
2020 (Jan. - Aug.)

THE PENNSYLVANIA STATE UNIVERSITY

T. Xia, Undergraduate Research Mentor
C. Yim, Undergraduate Research Mentor

2019
2018–2019

OREGON STATE UNIVERSITY

E. Kramer, Undergraduate Research Mentor
R. Edlund, Undergraduate Research Mentor
A. Vercruyssen, Undergraduate Research Mentor
B. VerWey, Undergraduate Research Mentor
J. Seng, Undergraduate Research Mentor

2016–2017
2014–2016
2013–2014
2013
2011–2014

PROFESSIONAL SERVICE (since 2018)

NATIONAL/INTERNATIONAL

Review Editor for *Frontiers in Plant Science*

Panel Reviewer for the National Science Foundation (2020)

Manuscript Reviewer for *Agronomy* (2020), *American Society of Agricultural and Biological Engineers* (2020), *IEEE/ACM Transactions on Computational Biology and Bioinformatics* (2020), *Plant Physiology* (2020), *The Plant Journal* (2019, 2020), *Marine Biology* (2019), and *Molecular Ecology Resources* (2020).

Guest Editor for *Molecular Ecology Resources* special issue (to be published September 2020).

REGIONAL

Team coach for Arkansas AI-Campus 2020, a hands-on training program to provide skills in machine learning to students and professionals in AR.

Member of the Scientific Program Committee for Arkansas Bioinformatic Consortium 2020 Meeting: Artificial Intelligence in Arkansas.

Invited speaker for ~1hr session on Individual Development Plans for Graduate Student Professional Development workshop at the annual faculty and student Center for Advanced Surface Engineering (CASE) Retreat in Petit Jean, AR (Jan. 10). Event attended by ~30 graduate students from five Arkansas institutions.

INSTITUTIONAL

Co-organizer of the [A-State R User Group](#) (2020 – Present)