

## Biographical Sketch – James Joseph Smith (Jan. 2018 – Education Focused)

### Professional Preparation

Undergraduate:	Macalester College, St. Paul, MN	Chemistry	B.A. 1979
Graduate:	Michigan State University, E. Lansing, MI	Botany & Plant Pathology	Ph.D. 1985
Post-Doctoral	Univ. of North Carolina at Chapel Hill	Microbiology & Immunology	1985-1987
	Michigan State University	Cell & Molecular Biology	1987-1989
	Michigan State University	Evolutionary Biology	1989-1991

### Academic/Professional Appointments

2012 -	Professor, Lyman Briggs College, Department of Entomology, and Department of Integrative Biology (formerly Zoology), Michigan State University, E. Lansing, MI
2006 - 2012	Associate Professor, Department of Entomology, Michigan State University, E. Lansing, MI
2002 - 2012	Associate Professor, Lyman Briggs College (formerly School), and Department of Zoology, Michigan State University, E. Lansing, MI
1996 - 2002	Assistant Professor, Lyman Briggs School of Science, Michigan State University, E. Lansing, MI
1996 - 2002	Assistant Professor, Department of Zoology, Michigan State University, E. Lansing, MI
1991- 1996	Research Assistant Professor (non-tenure stream), Department of Zoology, Michigan State University, E. Lansing, MI
1989-1991	Research Associate, Department of Zoology, Michigan State University, E. Lansing, MI
1987-1989	Visiting Research Associate, MSU-DOE Plant Research Laboratory, Michigan State University, E. Lansing, MI
1985-1987	Post-Doctoral Trainee, Department of Microbiology and Immunology, University of North Carolina, Chapel Hill, NC
1979-1985	Graduate Research Assistant, MSU-DOE Plant Research Laboratory, Michigan State University, E. Lansing, MI

### Publications

#### (i) Most closely related to the proposed project

- Burmeister AR, **Smith JJ**. 2016. Evolution across the curriculum: A key and convenient time to change microbiology education. *Journal of Microbiology & Biology Education*, 17: 252-260. (DOI: <http://dx.doi.org/10.1128/jmbe.v17i2.988>)
- Heidemann MK, White PJT, **Smith JJ**. 2016. "Evolution in Action." Published Case Study and Teaching Notes, National Center for Case Study Teaching in Science, University at Buffalo, State University of New York.
- White PJT, Heidemann MK, **Smith JJ**. 2015. A cross-course investigation of integrative cases for evolution education. *Journal of Microbiology & Biology Education*, 16: 157-166; doi: <http://dx.doi.org/10.1128/jmbe.v16i2.876>.
- White PJT, Heidemann MK, **Smith JJ**. 2013. A new integrative approach to evolution education. *BioScience*, 63: 586-594.
- Smith JJ**, Cheruvilil KS, Auvenshine S. 2013. Assessment of student learning associated with tree-thinking in an undergraduate introductory Organismal Biology course. *CBE Life Sciences Education*, 12: 542–552.

#### (ii) Other significant publications

- Smith JJ**, Johnson WR, Lark AM, Mead LS, Wiser MJ, Pennock RT. 2016. An Avida-ED digital evolution curriculum for undergraduate biology. *Evolution: Education and Outreach*, 9(1), 1-11; (DOI: 10.1186/s12052-016-0060-0)
- Hood GR, Forbes AA, Powell T, Egan SP, Hamerlinck G, **Smith JJ**, Feder JL. 2015. Sequential divergence and the multiplicative origin of community diversity. *Proceedings of the National Academy of Sciences of the United States of America*, 112: E5980-E5989; doi:10.1073/pnas.1424717112.
- Smith JJ**, Powell THQ, Teixeira L, Armstrong WO, McClowry RJ, Isaacs R, Hood GR, Feder JL, Gut L.

2014. Genetic structure of Cherry Fruit Fly (*Rhagoletis cingulata*) populations across managed, unmanaged, and natural habitats. *Entomologia Experimentalis et Applicata*, 150: 157–165; DOI: 10.1111/eea.12148.
- Bray AM, Bauer LS, Poland TM, Haack RA, Cognato AI, **Smith JJ**. 2011. Genetic analysis of emerald ash borer (*Agrilus planipennis* Fairmaire) populations in Asia and North America. *Biological Invasions*, 13: 2869-2887.
- Smith JJ**, Baum DA, Moore A. 2009. The need for molecular genetic perspectives in evolutionary education (and vice versa). *Trends in Genetics*, 25: 427-429.

### **Synergistic Activities**

1. *Evolution Education Materials Development, Dissemination and Research*: Served as PI on an NSF-TUES project entitled, “Integrative Case Studies in Evolution Education” (Dr. Merle Heidemann, co-PI; Dr. Peter White, project post-doc) that involved the development and testing of a set of online case studies (<http://www.evo-ed.org>) to help students learn evolutionary principles. Currently serve as co-PI on an NSF IUSE project, Active LENS (Rob Pennock, PI), involving development of curricula for and dissemination of Avida-ED (<http://avida-ed.msu.edu>), an artificial life platform for helping students learn evolution principles and science process skills. I have led several workshops and given many presentations for college biology teachers in the US and Canada in support of these two initiatives.
2. *Teaching Biology in MSU’s Lyman Briggs Residential College*: Primary appointment in the Lyman Briggs (residential) College at MSU involves teaching Introductory Cell and Molecular Biology (LB145; <http://www.msu.edu/course/lb/145/smith/fl4>) using active learning pedagogies in a student-learning-centered teaching model. I teach labs that are multi-week inquiry-based laboratories, which emphasize hypothesis formation and testing, data analysis, and scientific communication.
3. *Evolution Education and Outreach*: I am active in Evolution Education and Outreach activities both locally and nationally. I am on the Education committee of the Society for the Study of Evolution. I served as co-PI (with Dr. Norman Johnson and Dr. Louise Mead) of the Communicating the Relevance of Human Evolution Working Group at the NSF-funded National Evolutionary Synthesis Center (NESCent) in Durham, NC, which met from 2010 – 2015, and led to the development of a senior seminar on Evolutionary Medicine, which I’ve now taught four separate times (<https://msu.edu/course/lb/492/smith/s17/index.html>).
4. *CBE-Life Sciences Education*: In January 2017 I began a three-year editorial board term for the journal CBE-LSE. In this position, I am working with Editor-in-Chief, Dr. Erin Dolan, the other members of the editorial board, and the broader community to guide the journal and the direction of DBER research.
5. *Evolutionary Biology Research*: I maintain an evolutionary entomology research program at Michigan State in which my students and I work on questions pertaining to the systematics and evolution of tephritid flies, with an emphasis on the genus *Rhagoletis*. A number of undergraduate students from the Lyman Briggs College have worked with me as research assistants in the lab and in the field. I am also involved in graduate education and research, currently serving as the sponsor for a Fulbright post-doctoral scholar, major advisor for two Ph. D. students, and as a contributing member the guidance committee for five other Ph. D. students on the MSU campus.