

Curriculum Vitae
Isaac J. Stewart

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PROFILE

I am a passionate, dedicated scientist and educator seeking to constantly improve my practice in biology education. Saving the diversity and preventing the decline of bumble bees and insects in general is where my research interests are focused. I enjoy using my experience in the field to improve my practice as an educator.

EDUCATION

University of Illinois, Urbana-Champaign, IL

- Master of Science in Biology- Teaching Biology, May 2010
 - Illinois Secondary Type 09 Initial Teaching Certification with Science/Biology/Chemistry/Environmental Science endorsements (summer 2010)
 - Non-Degree graduate coursework in Entomology, Fall 2007 & Spring 2008
 - Bachelors of Science, Integrative Biology, 2007
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TEACHING EXPERIENCE

- Black Hawk College East Campus, Galva, IL, Fall 2015-Present
 - BIOL 295, Research in Biology and independent study course that focuses on bee surveys at Illiniwek Forest Preserve in Hampton, IL; BIOL 100, Introduction to Biology; BIOL 105, General Biology I; BIOL 145, Human Anatomy & Physiology I; BIOL 146 Human Anatomy & Physiology I (Lab only, coordinated instruction with another faculty member to deliver a cohesive student experience); and BIOL 201, Environmental Biology II. I have also taught BIOL 100 during a 4-week summer session.
 - Established and implemented two ongoing dual credit BIOL 100 sections at local high schools. This includes two fall semesters at Stark County High School and two spring semesters at Wethersfield High School to date.
 - Use a variety of collaborative and interactive instructional methods to foster an inquiry-based classroom environment that is comfortable for students. Instructional methods used include:
 - Authored and received Black Hawk College East Campus Foundation Mini-Grants for compound light microscopes, micropipettes, pipette stands, gel electrophoresis rigs, microcentrifuges, Cornell University system insect collection cabinet and drawers to establish a college insect collection for reference and teaching purposes, and EKG sensors and electrodes for use in human biology related courses.
- Fisher High School, Fisher, IL, Fall 2010-2015; Teaching Life Science, Biology, Anatomy and Physiology, and Environmental Science.
 - Responsible for the development and all instruction for biological science curriculum.
 - Teaching responsibilities have included Life Science, Introductory Biology, Human Anatomy and Physiology, Environmental Science, and two new fully personally designed and implemented courses called Invertebrate Zoology and Human Biology.
 - All courses now maintain online components that provide students learning resources.
 - Lead teachers in multiple professional development opportunities that have focused on using Google applications to improve students access online and developing curriculum using Wiggins and McTighe's Backwards Design format.
 - Promoted to Science Department Head for academic year 2013-2014.
 - Served on multiple committees including Technology Committee, Administrative Advisory, and Curriculum Committee.
- Parkland College, Champaign, IL, Fall 2011-Present; Co-developed and taught dual credit Human Biology (BIO 105) course.
 - Co-Developed with Parkland Faculty course to be taught at local high schools by college instructors.
 - Modified course to follow flipped classroom format where students utilize online resources including video lectures, virtual labs, and discussion boards to engage in course content.
- University of Illinois, Teaching Assistant for Molecular and Cellular Biology 253, Spring 2009 and Fall 2009
 - Taught multiple laboratory sections in this laboratory techniques course for Pre-med and biology majors
 - Responsible for teaching, conducting lab activities, grading, and holding office hours.
 - Utilized LON CAPA course administration system.
- University of Illinois, Teaching Assistant for Integrative Biology 100/101 Fall 2008
 - Taught multiple laboratory and discussion sections for this non-biology majors introductory course.
 - Responsible for teaching, conducting lab activities, grading, and holding office hours.
 - Instructional methods included the use of online components that utilized the Moodle application.

AWARDS AND HONORS

- Promoted to Assistant Professor at Black Hawk College for the 2019-2020 Academic Year
 - Awarded tenure at Black Hawk College for the 2018-2019 Academic Year
 - Recipient of the 2014 New Science Teacher of the Year Award from the Illinois Science Teachers Association
 - Recipient of the 2013 Outstanding New Biology Teacher Achievement Award from the National Association of Biology Teachers
 - Recipient of the 2013 Neil Campbell Fellowship Award from the National Association of Biology Teachers
 - Nominated for the Environmental Science Teaching Award from the National Association of Biology Teachers
 - Featured on Bloomberg National Radio's Bloomberg EDU Honor Roll for work in biology education.
 - Recipient of Knowles Science Teaching Foundation Fellowship, one of eight recipients of a 5 year, national teaching fellowship program that provides professional development support and classroom grants specifically for math and science teachers 2009-present
 - Listed on University of Illinois "List of Teachers Ranked as Excellent By Their Students" with outstanding rating distinction for Fall 2008, Spring 2009, and Fall 2009
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PROFESSIONAL EXPERIENCE

- Currently conducting bee surveys at Illiniwek Forest Preserve in Hampton, IL where a current prairie recreation project is underway. The Forest Preserve District has enlisted my services to conduct a bee diversity survey in an effort to establish current diversity and track changes in pollinator diversity as efforts to improve the pollinator friendliness of the site are undertaken. Besides continuing my own development of field work and bee identification skills, the project has already yielded opportunities for Black Hawk students interested in working on research projects.
- Serving as science expert and discussion facilitator for Rural Gateways, a National Science Foundation funded educational project that brings science themed book and video discussions to local libraries. Spring 2018-Present.
- Serving as reviewer for The American Biology Teacher journal publication. Responsibilities include reviewing multiple biology teaching and biology content related manuscripts per year with thorough notes, suggestions, and edits submitted to the editor for dissemination to authors.
- Served as reviewer for session proposals for the 2016 Knowles Teacher Initiative annual summer conference in Philadelphia, PA. I was trained on using a common rubric to assess session proposals, provide feedback to authors, and support authors during a revision process where necessary. Session proposals focused around a diversity of topics related to math and science teaching.
- I am currently working with Principal Investigators Dr. Becky Fuller (Integrative Biology UIUC) Dr. Barbara Hug (Curriculum and Instruction UIUC) on a National Institutes of Health grant funded project entitled PAGES (Progressing through the Ages: Global change, Evolution, and Societal well-being). The project is working to develop high quality educational resources for all levels of education that links current research to classroom experience. Professional development opportunities have included:
 - Fall workshop with PIs, area educators and graduate students to develop curriculum materials.
 - A two-week long summer institute hosted at UIUC collaborating with life science educators from middle grades through upper level undergraduate to explore curriculum development and research best based science teaching practices.
 - I have also been working with the PIs of this project to begin planning a professional development group designed for local area high school biology teachers that will provide collaborative, inquiry-based professional development opportunities for teachers that often do not have in-house collaborators due to the small size of most rural school districts around the East Campus area.
- During the 2017-2018 academic year I mentored a high school biology teacher currently teaching in Festus, MO through a grant funded teacher mentorship opportunity provided by the Knowles Teacher Initiative. This included two full days of classroom observation when our college semester had ended while the high school teacher's had not yet ended, online video observations, phone conferences, reading of mutually selected books for professional development, and written feedback on issues and materials developed by the mentee.
- Member of the National Association of Biology Teachers
- Research Assistant for Dr. Sydney Cameron, University of Illinois, Summer 2008, Spring and Summer 2009, and Summer 2010-2011
 - Lead research team studying bumble bee diversity and decline across the United States coordinating collecting, identifying, and data basing bumble bee efforts.
 - Trained and coordinated undergraduate employees, communicated with regional government institutions overseeing collections
- Research Assistant for Illinois Natural History Survey Fall 2007
 - Assisted in curating large invertebrate collection
 - Coordinated undergraduate and adult hourly employees in massive Hymenoptera databasing effort

ADDITIONAL TEACHER TRAINING AND EXPERIENCE

- Teacher participant in NIH SEPA grant funded curriculum development project titled "Project Neuron" from summer 2010 to present (<http://neuron.illinois.edu/>). Project coordinated by Dr. Barbara Hug, College of Education UIUC.
 - Assisted in the development of curriculum based around new advances in neuroscience.
 - Participated in multiple opportunities for classroom based action research.
 - Assisted with multiple presentations at conferences for the National Science Teachers Association and National Association of Biology Teachers.
- Teacher participant in Workshop in Evolutionary Biology: Developing Tools to Teach Evolution and Dispel Common Misconceptions. Workshop lead by Dr. Becky Fuller, UIUC, July 2013.
- Teacher participant in workshop on Differentiated Instruction. This workshop was put on by the Knowles Science Teaching Foundation with lead consultation by Matt Kloser from Stanford University (Spring 2012, Hawthorne, CA).
- Teacher participant in workshop on Summative and Formative assessment with an emphasis on Performance Assessment. This workshop was put on by the Knowles Science Teaching Foundation with lead consultation by Amy Germundson (University of Virginia) and Amanda Jansen (University of Delaware). (Fall 2012, Hawthorne, CA).
- Teacher participant in Illinois State grant funded "Classroom Cubed" workshop promoting three dimensional classroom technologies (Winter 2011 Danville, IL).
- Teacher participant in weekend workshop on Formative Assessment by Dr. Erin Furtak from the University of Colorado at Boulder (Fall 2011, Philadelphia, PA)
- Teacher participant in weekend workshop presented by the High School POGIL Initiative for developing inquiry based science instruction (Spring 2010, Denver, CO).

CONFERENCE PRESENTATIONS

- Stewart, Isaac. The Plight of the Bumble Bee. Invited Dinner Speaker at the Illinois Association of Conservation Districts Annual Conference at Starved Rock State Park in Utica, IL, February 2020.
- Stephen Traphagen, Julie Minbiole, Jim Lane, Kirstin Milks, Margaret Silliker, and Isaac Stewart. Designing Courses to Integrate Student-centered Learning: A Constructivist Workshop for College and High School Instructors, National Association of Biology Teachers Annual Conference. Chicago, IL, November, 2019
- Stewart, Isaac. The Search for *Bombus affinis*: How a Team of Researchers Scientifically Established a Species' Decline. Illinois Association of Conservation Districts Annual Conference at Starved Rock State Park in Utica, IL, February 2019.
- Stewart, Isaac and Jim Lane. Nature in the Classroom: The Power of Place. National Association of Biology Teachers Annual Conference. Atlanta, GA, November 2013.
- Stewart, Isaac and Jim Lane. Nature in the Classroom: Inquiry and the Nature of Science. National Association of Biology Teachers Annual Conference. Atlanta, GA, November 2013.
- Holloway, S. and I.J. Stewart. Tree-Thinking: A multidisciplinary, evidence-based approach to teaching evolution. Knowles Science Teaching Foundation Annual Summer Meeting. Moorestown, NJ, July 2013
- Stewart, Isaac and Jim Lane. Nature in the Classroom: The Importance of Informal Learning. National Association of Biology Teachers Annual Conference. Dallas, TX, November 2012.
- Cameron, S.A., J.D. Lozier, and I.J. Stewart. The Importance of Native Pollinators and Their Decline. Master Naturalist Pollinator Conference in Urbana, IL Fall 2009

PUBLICATIONS

- Koch, JB, J Lozier, JP Strange, H Ikerd, T Griswold, N Cordes, L Solter, I Stewart, SA Cameron. 2015. USBombus, contemporary survey data of North American bumble bees (Hymenoptera, Apidae, *Bombus*) distributed in the United States. *Biodiversity Data Journal* 3: e6833 doi: 10.3897/BDJ.3.e6833
- Boussau, Bastien, Zaak Walton, Juan A. Delgado, Francisco Collantes, Laura Beani, Isaac J. Stewart, Sydney A. Cameron, James B. Whitfield, J. Spencer Johnston, Peter W.H. Holland, Doris Bachtrog, Jeyaraney Kathirithamby, John P. Huelsenbeck. 2014. Strepsiptera, Phylogenomics and the Long Branch Attraction Problem. *PLOS ONE*. DOI: 10.1371/journal.pone.0107709
- Lozier, J. D., J. P. Strange, I. J. Stewart, and S. A. Cameron. 2011. Patterns of range wide variation in six North American bumble bee (*Bombus*) species. *Molecular Ecology* 20: 4870-4888.

REFERENCES AVAILABLE UPON REQUEST