# Tedward Erker

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## Summary of Qualifications and Skills

Biometry M.S. and Forestry Ph.D. (expected spring 2019) with 5 years of research and data analysis experience and 2 years of high school teaching experience. Comfortable with a wide range of statistical methods including generalized linear models and tree-based methods. Driven to understand complex problems and distill key findings for nonexpert audiences via fully reproducible reports and compelling figures. Independently motivated. A positive, constructive team member and leader. Passionate about working in education.

## Education

Sep 2013 - Present
**Ph.D. Forestry**
Department of Forest and Wildlife Ecology, University of Wisconsin–Madison
GPA: 3.929

Sep 2013 - Present
**M.S. Biometry**
Department of Statistics, University of Wisconsin–Madison

Aug 2006 - May 2008 & Aug 2009 - May 2010
**B.A. Environmental Studies–Ecology/Biology**
Summa Cum Laude, Washington University in St. Louis
GPA: 3.83

## Relevant graduate coursework

| | |
|---|---|
| Tools for Reproducible Research | Advanced Data Analysis with R |
| Statistical Methods-Spatial Data | Multilevel Models |
| Intro Mathematical Statistics I & II | Statistical Methods for Bioscience I & II |
| Teaching Statistics | Inquiry-Based Biology Teaching |

## Awards, Grants, and Fellowships

Jan 2018
Stan Conference 2018 Scholarship

2015-2018
NASA Earth and Space Science Fellowship
$105,000

Sep 2016
Mapping Wisconsin's Urban Tree Canopy (co-author), Wisconsin Department of Natural Resources
$50,000

| | |
|---|---|
| Oct 2016 | George Kress Award for Outstanding Contribution of a Forestry Graduate Student<br>$1,000 |
| May 2016 | Travel Award, UW-Madison Department of Forest and Wildlife Ecology |
| Mar 2016 | Cool Science Image contest winner, "Madison Lakes" |
| May 2010 | Outstanding Overall Achievement in Environmental Studies (highest award in major), Washington University in St. Louis |
| Jun 2008 | Tyson Research Center Summer Undergraduate Research Fellowship<br>$3,750 |

## Presentations

| | |
|---|---|
| November 2016 | **Mapping Urban Tree Canopy of Wisconsin**<br>Society of American Foresters National Convention. Madison, WI. |

## Posters

| | |
|---|---|
| April 2018 | **Functional and Species Diversity of Trees in Urban Streets**<br>NASA Biodiversity and Ecological Forecasting Team Meeting in Washington, D.C. |
| May 2016 | **How Does Structural and Functional Diversity of the Urban Forest Affect the Urban Heat Island and Building Energy Use in Madison, WI?**<br>NASA Biodiversity and Ecological Forecasting Team Meeting in Silver Springs, MD. |

## Teaching Experience

| | |
|---|---|
| Spring 2015 | **Statistical Methods for Bioscience II Teaching Assistant**<br>Led 2 weekly discussion groups, graded homework and exams for this graduate-level course. Prof. Murray Clayton. |
| Fall 2013 and Fall 2014 | **Forest Ecology Teaching Assistant**<br>Redesigned, created and independently implemented lab lessons in field and computer lab for ~70 students. Prof. Tom Gower (2013) and Prof. Phil Townsend (2014). |
| Spring 2014 | **Living With Wildlife Teaching Assistant**<br>Graded journals and exams, assisted students during office hours. Prof. Stan Temple. |

August 2010 - May 2012

**High School Chemistry and Biology Teacher**

Educated over 120 students in six classes daily. As first year teacher, developed chemistry curriculum for new charter school integrating College Readiness Standards with Missouri Science Standards. Cross-country coach. Confluence Preparatory Academy. St. Louis, MO.

June 2010 - May 2012

**Teach For America Corps Member**

Selected from over 46,000 applicants nationwide to join the national teacher corps of recent college graduates who commit two years to teach in under-resourced public schools. Chicago, IL & St. Louis, MO.

## Mentoring

My undergraduate mentees research a topic, collect new data, perform statistical analyses, and write final papers to complete small research projects. They create posters or presentations to share their work.

Fall 2017

**Cheyenne Brandt**

Undergraduate Research Project: Effect of Leaf Area and Tree Canopy on the Urban Heat Island of Madison, WI.

Fall 2015

**Bobby Shepherd**

Undergraduate Research Project: Investigating the influence of the urban heat island on autumn phenology of Norway Maple (*Acer platanoides*) with smartphone hemispherical photos.

## Relevant Work Experience

August 2013 - December 2014

**Arborist**

Worked part time as ground crew, hauling brush and aiding climber. Developed online Wisconsin tree species identification application. Urban Tree Alliance, Non-profit. Madison, WI.

February 2013 - August 2013

**Arborist**

Performed ground crew work, climbed, and as certified pesticide applicator treated for a number of pests including the emerald ash borer. American Tree Experts. New Berlin, WI

March 2007 - May 2010

**Greenhouse Assistant**

Water, transplant, propagate plants; maintain greenhouse. Work-Study at Washington University Plant Research Facility. St. Louis, MO.

April - August 2009

**Farm Education Intern and Farmer**

Organized and guided trips of 16-40 students at farm and wilderness education center. Managed 3/4 acre garden and cared for sheep, goats, chickens, pigs, and cows as part of farm team. Farm And Wilderness Summer Camps. Plymouth, VT.

May - August 2008 **Research Assistant**

Sampled vegetation, identified over 100 plant species as part of study to explore phylogenic relationships in invasiveness. Tyson Research Center. Eureka, MO.

## Professional Affiliations

Society of American Foresters, 2016–Present

## Languages

Spoken: English, Spanish

Computing: R

## Service to the Department and University

Oct 2015 - Present **Graduate Student Representative, Department of Forest and Wildlife Ecology**

Jul 2017 **Software Carpentry Volunteer**

## Service to Community

Fall 2014 and Fall 2015 **Guest Lab Instructor, Sustainability by the Numbers, Shabazz High School**

Fall 2017 **Guest Lab Instructor, AP Environmental Studies, East High School**

## Graduate Coursework

| Semester | Code | Course | Credits | Grade |
|---|---|---|---|---|
| F 2013 | F&W ECOL 309 | Diseases of Trees and Shrubs | 3 | A |
| | F&W ECOL 415 | Tree Physiology | 3 | A |
| | HORT 571 | Statistical Methods for Bioscience I | 4 | A |
| S 2014 | PL PATH 800 | Inquiry-Based Biology Teaching | 1 | A |
| | STAT 692 | Intermediate Data Analysis with R | 1 | A |
| | F&W ECOL 410 | Principles of Silviculture | audit | S |
| | STAT 572 | Statistical Methods for Bioscience II | 4 | A |
| | PL PATH 801 | Teaching Biology: Special Topics | 1 | A |
| | STAT 692 | Advanced Data Analysis with R | 1 | A |
| Su 2014 | MATH 234 | Calculus–Functions of Variables | 4 | S |
| F 2014 | F&W ECOL 875 | Field Methods in Remote Sensing | 1 | A |
| | SOIL SCI 532 | Environmental Biophysics | 3 | A |
| | STAT 311 | Intro Mathematical Statistics I | 3 | A |
| S 2015 | BMI 826 | Tools for Reproducible Research | 1 | A |
| | ENVIR ST 556 | Remote Sensing Digital Image Processing | 3 | A |
| | STAT 312 | Intro Mathematical Statistics II | 3 | AB |
| | STAT 692 | Teaching Statistics | 1 | A |
| Su 2015 | STAT 699 | Statistical Consulting | 3 | A |
| F 2015 | STAT 575 | Statistical Methods-Spatial Data | 3 | AB |
| S 2016 | STAT 679 | Multilevel Models | 3 | A |
| S 2017 | ZOOLOGY 725 | Ecosystem Concepts | 3 | |