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Curriculum Vitae

Ai Wen
Department of Biology, University of Northern Iowa
193 McCollum Science Hall, Cedar Falls, IA 50614-0421
Tel: (319)-273-2670 Email: ai.wen@uni.edu

EDUCATION:

Ph.D.: Ecology and Evolution Graduate Program, Rutgers Univ.   2003-2010

Graduate Certificate: Graduate Certificate in GIS. Center for Remote Sensing & Spatial Analysis, Rutgers Univ.
 2007-2009

B.S.: Ecology and Environmental Biology, Peking Univ., P. R. China   1998-2002

TEACHING:

Assistant Professor, University of Northern Iowa   2019-

 Introductory Biology: Organismal Diversity (biology for major students)

 Entomology (lecture and lab)

Adjunct Professor, University of Northern Iowa   2013-2019

 Life: the Natural World (biology for non-major students)

 Capstone: Environment, Technology and Society

 Laboratory of General Biology: Organismal Diversity

 Introductory Biology: Organismal Diversity (biology for major students)

 Laboratory of Life: Continuity and Change (biology for non-major students)

Lecturer, University of Michigan   Fall 2011

 Food, Energy and the Environment

Teaching Assistant, Rutgers University   Fall 2004-2009, Spring 2005-2010

 General Biology 101, 102

 Head Teaching Assistant for Principles of Biology (for non-biological majors)

RESEARCH EXPERIENCE:

Advisor for student research project "Genetic Diversity of Brown-belted Bumblebees in Restored Prairies in NE Iowa; advisee: Emma Simpson, Clarissa Bruns   2019-

PI Quantitative assessment of the association between CRP cover quality and mid-contract management approaches in major CRP regions   2018-

Co-PI Assessment of Conservation Reserve Program Grasslands for Compliance, Durability and Wildlife Habitat. (PI: Dr. Laura Jackson; Mark Vandever)   2016-2017

Collaborated Research with the UNI Tallgrass Prairie Center   2017-2019

 Seed mix experiments and analysis of native seed supply for the pollinator habitat initiative

Collaborated Research with the Practical Farmers of Iowa and local farmers   2014-

Pollinator community ecology, pollinator-plant interaction and ecosystem services in vegetable farms

Postdoctorate Research Fellow, University of Michigan   2010-2013

Application of ecological methods in human oral and reproductive microbiome study

Ph.D. thesis research, Rutgers University   2005-2010

Habitat value of active and abandoned cranberry farms: avian and anuran distribution and the post abandonment succession. New Jersey.

Survey team leader, Wildlife Conservation Society   July 2005

Wildlife trade along the China-Mongolia border. Inner Mongolia Province, China.

Research Assistant, Peking University and Washington Zoo   May-Aug 2004

Population and distribution of Asiatic Black Bear (*Ursus thibetanus*). Tang Jiahe Natural Preserve, Sichuan Province, China.

Research Assistant, Institute of Biophysics, CAS, Beijing, China   Sep 2001-Jun 2002

Visual Behavior of the Fruit Fly (Drosophila melanogaster).

Research Assistant, Peking University, Guangxi, China   Jun-Jul 2001, Jun-Aug 2002

Conservation of White-headed Langur (*Trachypithecus leucocephalus*). Peking University Chongzuo Natural Preserve, Guangxi Province, China.

FUNDING AND GRANTS:

2019 Pre-Tenure Faculty Grant, University of Northern Iowa; $1,475

2019 **co-PI** Evaluation of the Conservation Reserve Program Pollinator Habitat Conservation Practice (CP-42) on Central Iowa Farms; Iowa Academy of Science; $5,000 PI: Mark Myers

2019 **PI** Additional funding from 2018 Quantitative assessment of the association between CRP cover quality and mid-contrast management approaches in major CRP regions; $10,000 Co-PI: Dr. Kenneth Elgersma

2018 **PI** Quantitative assessment of the association between CRP cover quality and mid-contract management approaches in major CRP regions; $27,011 Co-PI: Dr. Kenneth Elgersma, Dr. Laura Jackson

2016 **co-PI** USGS CRP field quality survey in Iowa and Missouri $47,000 PI: Mark Vandever, Laura Jackson

2013 Veridian Credit Union Community Engagement Fellowship Award $3,000 Co-PI: Kenneth Elgersma, Laura Jackson

2013 University of Northern Iowa Capacity Building Grant $1,500. Co-PI: Kenneth Elgersma

2008 New Jersey Water Resource Research Institute $5000

2006 New Jersey Water Resource Research Institute $5000

2005 Pre-Dissertation Research Award, Graduate School-New Brunswick, Rutgers University $1600

2003 Excellence Fellowship, Graduate School, New Brunswick, Rutgers University $20,000

PUBLICATIONS:

Vandever, M.W., Carter, S.K., Assal, T.J., Elgersma, K., **Wen, A**., Welty, J., Arkle, R., and Iovanna, R., 2021, Presence of erosional features and cover of grasses, forbs, and bare ground on fields enrolled in grassland, wetland, and wildlife practices of the Conservation Reserve Program in the central and western United States from 2016 to 2018: U.S. Geological Survey data release, https://doi.org/10.5066/P9XCC65W

Wen, A, Weyant, R.J., McNeil, D.W., Crout, R.J., Neiswanger, K., Marazita, M.L., Foxman, B. (**2017**) Bayesian Analysis of the Association between Family-Level Factors and Siblings' Dental Caries. *Journal of Dental Research Clinical & Translational Research*, 2(3): 278-286.

Wen, A. (**2015**) Association between habitat characteristics, human activities and Anuran species in a wetland agricultural landscape. *Journal of Herpetology*, 49(4): 594-601.

Wen, A., Srinivasan, U., Goldberg, D., Owen, J., Marrs, C.F., Misra, D., Wing, D.A., Ponnaluri, S., Miles-Jay, A., Bucholz, B., Abbas, K., Foxman, B. (**2014**) Selected vaginal bacteria and risk of preterm birth: an ecological perspective. *Journal of Infectious Diseases*, 209(7): 1087-1094. Epub 2013 Nov 22.

Foxman, B., **Wen, A**., Srinivasan, U., Goldberg, D., Marrs, C.F., Owen, J., Wing, D.A., Misra, D. (**2014**) Mycoplasma, bacterial vaginosis-associated bacteria BVAB3, race and risk of preterm birth in a high-risk cohort. *American Journal of Obstetric and Gynecology*, 210(3): 226.e1-7. Epub 2013 Oct 4.

Foxman, B., **Wen, A.**, Srinivasan, U., Zhang, L., Marrs, C.F., Goldberg, D., Weyant, R., McNeil, D., Crout, R., Marazita, M. (**2014**) Exploring the effect of dentition, dental decay and familiality on oral health using metabolomics. *Infection, Genetics and Evolution*, 22:201-207. Epub 2013 Sept 27.

Wen, A., D. Goldberg, C.F. Marrs, R.J. Weyant, M.L. Marazita, U. Srinivasan, L. Zhang, R. Crout, D.W. McNeil, B. Foxman. (**2012**) Caries resistance as a function of age in an initially caries-free population. *Journal of Dental Research*, 91(7): 671-675.

Srinivasan, U., S. Ponnaluri, L. Villareal, B. Gillespie, A. **Wen**, A. Miles, B. Bucholz, C.F. Marrs, R.K. Lyer, D. Misra, B. Foxman. (**2012**) Gram stains: a resource for restrospective analysis of bacterial pathogens in clinical studies. *Plos One*, 7(10): e42898. doi: 10.1371/journal.pone.0042898. Epub 2012 Oct 11

Foxman, B., K.J. Elgersma, **A. Wen**, M. Buxton, L. Zhang, and C. Barbosa-Cesnik (**2011**). Reply to Eells et al. Daily Cranberry Prophylaxis to Prevent Recurrent Urinary Tract Infections May Be Beneficial in Some Populations of Women. *Clinical Infectious Diseases* 52: 1394-1395. (with erratum published in Clin Infect Dis 54(2): 309)

Liu,G., H. Seiler, **A. Wen**, T. Zars, K. Ito, R. Wolf, M. Heisenberg, L. Liu. (**2006**) Distinct memory traces for two parameters of visual pattern recognition in the Drosophila brain. *Nature*, 439: 551-556.

Ai Wen & Li Liu. (**2003**). Drosophila as a Model to Study Human Neurodegenerative Diseases. *Progress in Biochemistry and Biophysics* (in Chinese), **30**(3): 357-362.

Ai Wen & Li Liu. (**2002**). Molecular Mechanism of Learning and Memory in *Drosophila*. *Progress in Biochemistry and Biophysics* (in Chinese), **29** (5): 60-673.

MANUSCRIPTS IN REVIEW:

Vandever, M., Cater, S., Assal, T., Elgersma, K., **Wen, A**., Welty, J., Arkle, R. & Iovanna, R. Evaluating establishment of conservation practices in the Conservation Reserve Programs across the western United States. Environmental Research Letters (**In Review**)

MANUSCRIPTS IN PREP:

Wen, A., Elgersma, K., Sherrard, M., Jackson, L., Meissen, J. & Myers, M. Wild bee pollinators and their association with sown and unsown floral resources in reconstructed pollinator habitats within an agriculture landscape. Insect Conservation and Diversity (in prep)

Wen, A., Magee, D, Elgersma, K. Weeds invasion in Conservation Reserve Program (CRP) in North America (in prep)

Wen, A. Seed bank heterogeneity in a post-agricultural wetland system: implication for restoration. *Agriculture, Ecosystems and Environment* (in revision)

Ridgeway, A., Hendrix, S., Elgersma, K, **Wen, A.** Pollinator community composition and its interaction with biofuel plants in Eastern Iowa (in prep)

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AWARDS:

December, 2019, Summer Fellowship, University of Northern Iowa, Graduate College. $3,600.

Spring 2018, Excellence in Liberal Arts Teaching, University of Northern Iowa

ORAL PRESENTATIONS:

Srinivasan, U., **Wen, A**., Marrs, C., Zhang, L., Weyant, R., McNeil, D., Marazita, M., Crout, R., Foxman, B. **2012** Exploring the effect of dentition, dental decay and familiality on oral health using metabolomics. 11th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases.

Wen, A. 2010. Anuran's habitat selection in active and abandoned cranberry farms in the Pine Barrens, New Jersey. 95th Ecological Society of America Annual Meeting. Aug. 1-6, 2010, Pittsburgh, PA.

Wen, A. **2009**. Effects of agriculture's legacy on wetland succession and its implication on restoration. Society of Wetland Scientists Annual Meeting. June 21-26, 2009, Madison, WI.

Wen, A. 2008. Seed bank composition and its function in farmland succession in abandoned cranberry farms. Invited talk. Annual meeting of the Firman E. Bear Chapter of the Soil and Water Conservation Society.

Wen, A. 2007. The habitat use by birds of active and abandoned cranberry farms in the Pine Barrens of New Jersey. 92nd Ecological Society of America Annual Meeting. **2007**. Ecological Society of America Annual Meeting. Aug. 5-10, 2007, San Jose, CA.

POSTER PRESENTATIONS:

Eagan, A, G Brown and A Wen (2019). Assessing CP-42 habitat value for bees using the Floral Resource Index. UNI Summer Undergraduate Research Program Poster Session, 8/2/2019

Johnson, P, K Elgersma and A Wen (2019). Sown and unsown floral resources both support bee abundance. UNI Summer Undergraduate Research Program Poster Session, 8/2/2019

Willoughby, O, A Burgert, N Theel, and **A Wen** (2018). Correlation between wild bee populations and vegetative resources in the conservation reserve program's pollinator enhancement plantings. UNI Summer Undergraduate Research Program Poster Session, 7/27/2018.

Madsen, K, C Dolan, M Myers and **A Wen** (2017). Bee and Butterfly Response to Floral Resources in Central Iowa Prairie Restorations. UNI Summer Undergraduate Research Program Poster Session, 7/28/2017.

Ridgway, A, KJ Elgersma, S Hendrix, M Myers, B Hoksch, and **A Wen** (2015). Density and diversity of bees in the Midwestern agricultural landscape: comparing vegetable and biofuel production to native remnant prairies. Ecological Society of America Annual Meeting, Baltimore, MD, 8/12/2015.

Jensen, J, A Ridgway, **A Wen**, and K Elgersma (2015). Wild Bee Abundance and Diversity in Relation to Landscapes Surrounding Iowa Vegetable Farms. UNI Summer Undergraduate Research Program Poster Session, 7/31/ 2015.

Nettleton, B, A Ridgway, **A Wen**, and K Elgersma (2015). Comparing Bee Diversity and Abundance in Candidate Biomass Crops. UNI Summer Undergraduate Research Program Poster Session, 7/31/2015.

Elgersma, K., **Wen, A**., Herben, T., Currie, W., Goldberg, D. Estimating dynamic allocation to clonal plant growth using static measurements. 98th Ecological Society of America Annual Meeting, Aug 3-9, 2013, Minneapolis, MN

Wen, A., Srinivasan, U., Goldberg, D., Owen, J., Marrs, C.F., Misra, D., Wing, D.A., Foxman, B. **2013**. Vaginal microbial community and risk of preterm birth: an ecological perspective. 98th Ecological Society of America Annual Meeting, Aug 3-9, 2013, Minneapolis, MN.

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Betsy Foxman, **Ai Wen**, Usha Srinivasan, Mariana Rosenthal, Carl Marrs, Lixin Zhang, Jiean Li, Richard Crout, Daniel W. McNeil, Mary Marazita. **2013**. Does similarity of oral microbiome explain why dental decay runs in families? Cell Symposia: Microbiome & Host Health, 12-14 May 2013, Lisbon, Portugal.

Srinivasan, U., **Wen, A.**, Zhang, L., Marrs, C., Goldberg, D., Thomas, J., Weyant, R., Crout, R., McNeil, D., Marazita, M., Foxman, B. **2012**. Exploring bacterial community structure of dental decay using Illumina deep sequencing: a pilot. International Society for Microbial Ecology bi-annual meeting.

Srinivasan, U., **Wen, A.**, Zhang, L., Farrer, E., Marrs, C., Goldberg, D., Thomas, J., Weyant, R., Crout, R., McNeil, D., Marazita, M., Foxman, B. **2010**. Does oral bacterial diversity predict progression to caries in children? Results of a pilot study. International Society for Microbial Ecology bi-annual meeting.

Wen, A. 2008. Species composition in the seedbank of abandoned cranberry farms: from a restoration perspective. 93rd Ecological Society of America Annual Meeting. Aug. 3-8, 2008, Milwaukee, WI.

REVIEWERS:

Forest Science 2009-2013

Journal of Public Health Dentistry 2015-

PROFESSIONAL SERVICES:

Board member of Iowa Organic Association 2015-

STUDENT MENTOR SERVICES:

Faculty advisor to student organization "Student Nature Society" 2019-

Faculty advisor to student organization "Be the Match" at UNI 2017-

Oct. 2013 Nominated as an Honorary Sideline Coach by students from the UNI Volleyball Team

SKILLS:

Statistics: conventional (multivariate analysis, regression analysis, zero-inflated poisson modeling, non-parametric analysis, etc.), information theory and Bayesian statistics (including Bayesian hierarchical models)

Genetics research: ecological analysis using deep-sequencing data

GIS: ArcGIS and ERDAS

Computer programming skills: R; Visual Basic; WinBugs

Pollinator survey: pan-trapping and sweep netting; native bee species level identification

Avian survey: transect and point survey; mist netting; usage of Distance software (for bird population survey)

Amphibian survey: anuran vocal transect and point survey; anuran vocal identification; mist-net survey; population multinomial and latent class modeling

Small mammal: mark-recapture technique

Languages: fluent in English and Mandarin