Amber Woodburn McNair, Ph.D.

278 Knowlton Hall, Columbus OH 43210 • woodburnmcnair.1@osu.edu • 614-292-8322

ACADEMIC APPOINTMENTS

Assistant Professor, The Ohio State University, Fall 2016 – current

Primary appointment: City and Regional Planning, Knowlton School, College of Engineering

Secondary appointment: Center for Aviation Studies, College of Engineering

EDUCATION

Degree	Institution	Awarded
Ph.D. City & Regional Planning	University of Pennsylvania	Summer 2016
M.S. Civil Engineering	University of Tennessee, Knoxville	Summer 2013
B.S. Civil & Environmental Engineering	University of California, Berkeley	Spring 2009

PEER-REVIEWED PUBLICATIONS

McNair, A. W. (2020). Investigation of environmental justice analysis in airport planning practice from 2000 to 2010. Transportation Research Part D: Transport and Environment, 81, 102286. https://doi.org/10.1016/j.trd.2020.102286

Woodburn, A. (2017). Investigating neighborhood change in airport-adjacent communities in multiairport regions from 1970 to 2010. Transportation Research Record: Journal of the Transportation Research Board, 2626, 1-8. https://doi.org/10.3141/2626-01

Zhao, D., Wang, W., **Woodburn, A.,** & Ryerson. M. (2016) Isolating high-priority metro and feeder bus transfers using smart card data. Transportation. https://doi.org/10.1007/s11116-016-9713-7.

Ryerson, M. S., & **Woodburn, A**. (2014). Build airport capacity or manage flight demand? How regional planners can lead American aviation into a new frontier of demand management. Journal of the American Planning Association, 80(2), 138–152. https://doi.org/10.1080/01944363.2014.961949 *(Open Access)*

Woodburn, A., & Ryerson, M. (2014). Airport capacity enhancement and flight predictability. Transportation Research Record: Journal of the Transportation Research Board, 2400, 87–97. https://doi.org/10.3141/2400-10

Woodburn, A., Ryerson, M. S., & Chester, M. (2013). Challenges to analysis of air and rail alternatives in government environmental impact review processes. Transportation Research Record: Journal of the Transportation Research Board, 2336, 9–17. https://doi.org/10.3141/2336-02

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PEER-REVIEWED CONFERENCE PRESENTATIONS

Year	Conference	Presentation Topic
2020	**APA Ohio** Cleveland, OH	"Ohioans in Orbit? Design and planning contexts for the city's evolving relationship with outer space" (*copresenters: Karen Lewis, Kim Burton, Jake Boswell*).
2019	**UAA** Los Angeles, CA	Does short-term aviation growth correlate with local development and employment? A study of airport activity centers as local-scale economic engines" (*copresenter: Hui Jeong Ha*)
2018	**AMPS** Cleveland, OH	Connected, Autonomous Vehicle Futures: Advancing Socially-Inclusive Mobility Services
2018	**APA National** New Orleans, LA	Transit in the Age of Autonomy *(copresenters: Justin Robbins, Jason Sudy, and Rick Stein)*
2017	**ACSP** Denver, CO	Detecting environmental justice impacts of hub airport expansion: An evaluation of airport planning practice
2017	**APA Ohio** Athens, OH	Who's Driving This Thing: Planning for Livable Communities in the Era of Disruptive Transportation Tech *(copresenters: Dr. Jason Reece, Dr. Gulsah Akar, Chris Herman, and Justin Goodwin)*
2016	**ACSP** Portland, OR	How will big data change planning? (*served as co-moderator*)
2015	**ACSP** Houston, TX	Airport expansion: Assessing the vulnerability of airport-adjacent communities
2014	**TRB** Washington, DC	Airport capacity enhancement and flight predictability (*coauthor: Dr. Megan Ryerson*)
2013	**INFORMS** Minneapolis, MN	Airport capacity enhancement and flight predictability (*coauthor: Dr. Megan Ryerson*)
2013	**TRB** Washington, DC	Challenges to air and rail alternatives assessments in government environmental impact review processes (*coauthors: Dr. Megan Ryerson & Dr. Mikhail Chester*)
2012	**ICRAT** Berkeley, CA	Modeling aircraft performance: A comparison of PIANO and airline fuel consumption (*coauthor: Dr. Megan Ryerson*)
2012	**TSITE** Gatlinburg, TN	Assessment of public transit system service impacts with consideration for pedestrian service corridors and ADA-compliant pedestrian infrastructure (*Received award*)

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RESEARCH FUNDING & SPONSORED PROGRAMS

Awarded $9,592 in February 2020, subcontractor award for Burton Planning Services for project sponsored by the Ohio Department of Transportation (ODOT)

Investigators: Dr. Amber **Woodburn McNair** (PI)

Subject: Develop eLearning content on the topic of Drone Pilot Certification

Awarded $2,326 in November 2019, from OSU's Fisher College of Business Leadership Research Grant Program. The OSU Center for Aviation Studies matched an addition $1,800 to supplement the award.

Investigators: Dr. Shannon Morrison (PI), Dr. Amber **Woodburn McNair** (co-PI),

Subject: Development of a training program and study of the self-efficacy of collegiate women interested in aviation careers

Awarded $93,247 in September 2019 from the OSU Office of Corporate Engagement

Investigators: Dr. Amber **Woodburn McNair** (co-PI), Dr. Jason Reece (co-PI)

Subject: Study the impact of the Connected, Electric Autonomous Shuttle on the Linden community

Awarded $37,000 in April 2018, from the Columbus Regional Airport Authority (CRAA)

Investigators: Dr. Seth Young (PI), Dr. Amber **Woodburn**, Dr. Zhenhua Chen

Subject: Economic impacts analysis of CRAA facilities

Awarded $10,000 in March 2017 from The Ohio State University's Connect and Collaborate Grant

Investigators: Dr. Jason Reece (PI), Dr. Amber **Woodburn**, Dr. Gulsah Akar, Dr. Rachel Kleit

Subject: "Ladders to Opportunity: Leveraging Transportation Investment and Stabilizing Housing to Improve Infant & Maternal Health and Improve Condition for the South Side & Linden Communities"

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RESEARCH PROJECTS & SCHOLARLY REPORTS

Summary: C**ontributed to research collaborations** with Columbus Regional Airport Authority, Delta Air Lines, TRB's Airport Cooperative Research Program, the Port Authority of New York and New Jersey, the International Council on Clean Transportation, and UC Berkeley's NEXTOR Research center. A number of these projects resulted in reports and publications, some of which are listed below.

Economic Development Research Group. (2019). Economic impacts of the Columbus Regional Airport Authority. Columbus, Ohio: Columbus Regional Airport Authority.

Summary: Research Manager, design passenger intercept survey, research land use tax incentives, lead data analysis, write tax impact analysis chapter, and manage three undergraduate research assistants and one graduate research assistant for Columbus Regional Airport Authority.

Ryerson, M. S., & **Woodburn, A**. (2016). Manage Flight Demand or Build Airport Capacity. ACCESS, 48, 8-12. Available at: http://www.accessmagazine.org/articles/spring-2016/manage-flight-demand-or-build-airport-capacity/.

Summary: This is a short policy brief, which translates research from our 2014 JAPA article into readable prose for policymakers and practitioners.

Woodburn, A. (2016) Pushback in the jet age: Investigating neighborhood change, environmental justice, and planning process in airport-adjacent communities. Publicly Accessible Penn Dissertations. 2010. University of Pennsylvania, Philadelphia, PA. http://repository.upenn.edu/edissertations/2101

Summary: This dissertation builds scholarly foundations to explore the tensions between local residents who want to maintain healthy and stable communities and airport owners who want to grow operations and promote regional economic growth. To address gaps in aviation urbanism scholarship, I derived and investigated three research questions pertaining to neighborhood change, environmental justice outcomes, and the airport infrastructure planning process for airport-adjacent communities. Overall, this dissertation contributes a methodological approach to define airport-adjacent communities and offers a basis for further inquiries into the relationship between airport infrastructure, airport-adjacent communities, and airport-centric activity centers.

Ryerson, M.S., Hansen, M., Lu, H., Seelhorst, M. (2015). Landing on Empty: Estimating the Benefits from Reducing Fuel Uplift in U.S. Civil Aviation. *Environmental Research Letters*, 10, 1-11.

Summary: I contributed to the research framing and data collection for this research at Delta Airlines. I also presented results to senior staff at the airline. Data collection required 5 field visits to interview flight dispatchers and data analysts in Delta's Operations Control Center. This research evaluates sustainable fuel loading practices for airlines.

Ryerson, M.S. 2013. Airport Capacity Study: Demand Management at the Port Authority of New York and New Jersey Airports. Submitted to the Port Authority of New York and New Jersey.

Summary: I contributed to the data collection and results synthesis for this research project for the Port Authority of New York and New Jersey. Particularly, I focused on the component of the research that evaluates environmental impact statements for airport development.

Chester, M., Ryerson, M.S. 2013. Environmental Assessment of Air and High-speed Rail Corridors. Airport Cooperative Research Program Synthesis 11-03 Report.

Summary: I contributed heavily to the research and writing for Chapter 2 (Spatial Incompatibility) and Chapter 4 (NEPA Process) in this research document for the Airport Cooperative Research Program.

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POSTERS, EXHIBITS, & SPEAKING ENGAGEMENTS

2020	**Urban Air Mobility Symposium** Columbus, OH	**Moderator**, Infrastructure Panel, Coordinated panelists and panel questions. Hosted by the Ohio State University. 02/27/2020
2020	**TRB Conference Poster** Washington, D.C.	**Poster Session,** *Current Issues in Aviation.* "Long-term Airfreight Growth and Spatial Patterns of Economic Development near United States Airports". Transportation Research Board Conference. 01/13/2020 *(co-presenter: Hui Jeong Ha)*
2019	**Lunch-up Seminar** Ann Arbor, MI	**Invited Speaker**, "Smart Mobility and the Equitable Distribution of Goods and Services". Invited by the Taubman College at the University of Michigan. 10/10/2019.
2019	**OSU Enarson Hall** Columbus, OH	**Exhibit Installation.** "#IPlanFor #CompleteStreets" exhibit showcasing student work from Spring 2019. Content focused on aerial survey product and complete streets design concepts.
2019	**COE External Advisory Council** Columbus, OH	**Invited Speaker**, "#iplanfor Aviation Urbanism at OSU". Invited by Dean's Office of the College of Engineering. 05/10/2019
2019	**OSU ARC Seminar** Columbus, OH	**Invited Speaker**, "Urban Air Mobility: Assessing Viability and Equity with an Urban Planning Lens". Hosted by the Aeronautical Research Center. 01/25/2019
2018	**OSU GIS Day** Columbus, OH	**Invited Speaker**, "Spatial Analysis with Drones: A Planning and Pedagogical Tool for Designing Complete Streets." GIS Day. Hosted by OSU's Center for Urban and regional Analysis. 11/12/2018.
2018	**STEAM Factory** Columbus, OH	**Featured Speaker**, "Transportation and Disruption", Wonder women and Super Scholars theme for the Saturday with a Scholar speaker series. Hosted by the STEAM Factory. 09/29/2018.
2018	**Innovate Conference** Columbus, OH	**Invited for Interactive Display**, "Knowlton's drones: Leveraging high resolution aerial imagery for 'complete street' service learning." *(co-presenter: Chris Strasbaugh)* Innovate Conference, Imaginarium Exhibit. Hosted by The Ohio State University. 05/11/2018.
2018	**AIAS Midwest Quad Conference** Columbus, OH	**Invited Keynote,** "Smart: Future of the Built Environment" *(co-presenters: Dr. Dennis Ong, and Yanitza Brongers-Marrero).* AIAS Midwest Quad Conference. 04/07/2018.
2017	**TRB Conference Poster** Washington, D.C.	**Poster Session,** *Current Issues in Aviation."* Investigating Neighborhood Change in Airport-Adjacent Communities in Multiairport Regions from 1970 to 2010". Transportation Research Board Conference. 01/10/2017.

2014	**Penn IUR** Philadelphia, PA	**Poster Session,** *Sustainable Urbanization: Place Matters*. "Manage vs. Build: An Overlooked Alternative to Unbridled Airport Growth". Hosted by the Penn Institute for Urban Research. 3/27/2014.
2014	**Penn IUR** New York, NY	**Poster Session,** *Thinking Inside Out: How Cities Contribute to Solving Global Problems*. "Manage vs. Build: An Overlooked Alternative to Unbridled Airport Growth".Hosted by the New School, UN Habitat, The Observatory on Latin America, and the Penn Institute for Urban Research.. 9/16/2014.

REVIEWER EXPERIENCE

Date	Organization	Review activity
Mar 2020	Transportation Research Part D	**Reviewed 3 manuscripts** for journal publication on the topics area of airport expansions and noise analysis.
Oct 2018	Journal of Transport and Land Use	**Reviewed 1 manuscript** for journal publication in the topic area of air transportation and land use.
Sep 2018	Transportation Research Record	**Reviewed 2 manuscripts** for journal publication in the topic area of air transportation and unmanned aerials systems.
Aug 2018	Transportation Research Part C	**Reviewed 1 manuscript** for journal publication in the topic area of air transportation surveys.
Feb 2018	Alfred P. Sloane Foundation	**Reviewed 1 proposal** for grant funding in the topic area of large commercial airport expansion.
Nov 2017	Cities	**Reviewed 1 manuscript** for journal publication in the topic area of transportation commutes in urban environments.
Oct 2017	UCLA Institute of Transportation Studies	**Reviewed 1 proposal** for grant funding award in the topic area of air quality impacts of general aviation.
Sep 2017	Transportation Research Record	**Reviewed 2 manuscripts** for journal publication in the topic area of airport capacity and delay.
Sep 2016	Transportation Research Record	**Reviewed 2 manuscripts** for journal publication in the topic area of airport capacity and delay.
Sep 2016	Transportation Research Board	**Reviewed 1 abstract** for presentation in the topic area of aviation.
Apr 2016	Transportation Research Part D	**Reviewed 1 manuscript** for journal publication in the topic area of environmental impacts of aviation.
Apr 2016	Airport Cooperative Research Program, Problem Statements	**Reviewed 7 problem statements** in the topic area of environmental impacts of aviation to assist with research funding decisions. Proposals ranged from $40K to $500K.
Jan 2016	Journal of Infrastructure Systems	**Reviewed 1 manuscript** for journal publication in the topic of high speed rail systems.
Apr 2015	Airport Cooperative Research Program, Problem Statements	**Reviewed 24 problem statements** in the topic area of environmental impacts of aviation to assist with research funding decisions. Proposals ranged from $30K to $500K.

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COURSE DESIGN AND TEACHING

PEDAGOGICAL TRAINING

UITL, *The Ohio State University, University Institute for Teaching and Learning, AY 2018-2019*

Completed Teaching Practices Inventory (TPI) questionnaire
Completed Teaching@Ohio State modules
Completed supplemental readings and reflections (1 Book and 3 Journal Articles)

ODEE Events, *The Ohio State University, Office of Distance Education and eLearning, AY 2018-2019*

Introduction to Active Learning Strategies, 09/17/2018
Engagement Strategies in Carmen, 09/*11/2018*
Syllabus Basics, 08/03/2018

Course Design Institute, *The Ohio State University, University Center for the Advancement of Teaching*

Completed 5-day training in December 2016. Participants design a course built on learner-centered design principles and learn how to apply research-based teaching and learning principles to design other courses.

Teaching Assistant Training, *University of Pennsylvania, Center for Teaching and Learning*

Completed 3-day training in summer 2015. Participants reviewed teaching methods, time management, and university policies. Participants also critiqued each TA's teaching demonstration.

UNIVERSITY TEACHING

Prepared diverse lecture content and educational assignments for students in undergraduate and graduate coursework that draws from planning theory, engineering practice, and transportation research.

Assistant Professor, *The Ohio State University*

Semester	Course Title	Responsibilities
AU 2016, AU 2017, AU 2018, AU 2019	CRPLAN 6600, Evaluation Methods in City and Regional Planners	Sole instructor for core curriculum course for the Master's degree in City and Regional Planning.
SP 2017, SP 2018, SP2019	CRPLAN 4110, Transportation and Land Use Planning	Sole instructor for elective course for upperclassmen undergraduates.
SP 2018, SP 2019, SP 2020	CRPLAN/CIVILEN/AVIATN 5300, Airport Systems, Planning, Design, and Development	Sole instructor for elective course for upperclassmen undergraduates and graduate students.
AU 2017, AU 2018, AU 2019	CRPLAN 5320, Introduction to Data Analytics for Transportation Planners	Sole instructor for elective course for upperclassmen undergraduates and graduate students.

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Graduate Teaching Assistant, *University of Pennsylvania*

Semester	Course Title	Responsibilities
Fall 2015	Planning Theory, with Dr. John Landis	Lead biweekly recitation and grade graduate planning students' assignments.
Fall 2015	Quantitative Planning Methods, with Dr. Erick Guerra	Host weekly office hours, lead review sessions, and grade graduate planning students' assignments.
Fall 2014	Sustainability in Practice, with Mark A. Hughes & Leslie Billhymer	Manage student forums for free, online Coursera class. (20,000+ enrolled students)

Graduate Teaching Assistant, *University of Tennessee, Knoxville*

Semester	Course Title	Responsibilities
Fall 2012, Spr. 2012, Fall 2011	Transportation Engineering I, with Dr. Megan Ryerson & Dr. Stephen Richards	Host weekly office hours, exam reviews, and grade undergraduate students' exams and assignments.)

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TRANSPORTATION INDUSTRY EXPERIENCE

Civil Engineer (PDP), *US Department of Transportation, FHWA* *(7/2009 – 6/2011)*

Selected for competitive 2-year engineering training program in the Federal Highway Administration. Engineering experience included topics on environmental justice, context sensitive solutions, environmental impact analysis, livability, and multimodal infrastructure design.

Completed multi-month training assignments in highway design, construction, technical services, and federal oversight. Hosted in various US locations.

- Federal oversight: Federal Aid Office, FHWA Idaho Division (Boise ID)
- Leadership: PDP Leadership and Professional Skills Academy (Indianapolis IN)
- Design: Denali National Park, Western Federal Lands Highway Division (Vancouver WA)
- Construction: State Road 76 Expansion, California Department of Transportation (San Diego CA)
- Technical services: Geotechnical Team, FHWA Resource Center (Atlanta GA)

Undergraduate Research Assistant, *UC Berkeley, NEXTOR* *(9/2008 – 7/2009)*

Assist Dr. Mark Hansen and Dr. Megan Ryerson in research on passenger air travel modeling.

Intern (STIPDG), *US Department of Transportation, FHWA* *(6/2008 – 8/2008)*

Selected for competitive internship program (Summer Transportation Internship Program for Diverse Groups). Authored documents on efficiency and clarity of NEPA process for Caltrans highway projects.

HONORS & AWARDS

2013 **Top-awarded fellow ($100K)**, Dwight D. Eisenhower Graduate Fellowship

Eno fellow, Leadership Development Conference, Eno Center for Transportation

Winner ($2.5K), WTS Philadelphia's Sylvia Alston Graduate Scholarship

Winner ($2K), TSITE's William L. Moore Jr. Scholarship

2012 **Research grant winner ($10K),** Airport Cooperative Research Program

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SERVICE

Strong record of leadership since 2012 in both university and professional organizations. Maintains active involvement since 2008 in community organizations focused on STEM outreach.

UNIVERSITY SERVICE& AFFILIATIONS

2019-2020 **Panelist, OSU Sesquicentennial Event.** Interviewed for promotional video and invited panelist for "Planes, Trains, Automobiles and Sustainability: Lessons Learned for the Future of Transportation" (03/21/2020 – Event cancelled due to COVID-19).

Member, STEAM Factory, OSU (Reviewed applications for posdoc position, Participant in NSF Research Study of Convergent Learning.)

Planning Faculty Representative, Computer Committee, Knowlton School, OSU

2018-2019 **Member,** STEAM Factory, OSU

Member, Smart Campus Faculty Engagement Working Group, OSU

Committee Member, Search for Air Transportation and Aerospace Executive Director, College of Engineering, OSU

Planning Faculty Representative, Computer Committee, Knowlton School, OSU

Committee Member, Search for CRP Section Head, Knowlton School, OSU

Committee Member, 'Planniversary' Symposium Planning Committee, CRP Section, OSU

2017-2018 **Judge**, 4th Annual Student Organization Awards (SOA), College of Engineering, OSU

Planning Faculty Representative, Computer Committee, Knowlton School, OSU

Committee Member, 'Planniversary' Symposium Planning Committee, CRP Section, OSU

Committee Member, MCRP Core Courses Committee, CRP Section, OSU

2016-2017 **Planning Faculty Representative,** Computer Committee, Knowlton School, OSU

Planning Faculty Representative, Library Committee, Knowlton School, OSU

2012-2013 **Civil Engineering Representative**, UT Knoxville Graduate Student Senate. Co-sponsored a bill for domestic partner benefits equality for graduate students.

Committee Member, UT Knoxville Traffic and Parking Authority.

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INDUSTRY LEADERSHIP

2020 **Program Committee Member,** 9th International Conference for Research in Air Transportation (ICRAT). Review four research paper submissions.

[active since 2020] Committee Member, New Users in Shared Airspace Committee (AV095), Transportation Research Board. Review four chapters of the Critical Issues report. Revise committee scope.

[active since 2017] Committee Member, Airspace and Airfield Capacity and Delay Committee (AV060), Transportation Research Board.

[active since 2015] Committee Member, Environmental Issues in Aviation Committee (AV030), Transportation Research Board. Review four chapters of the Critical Issues report. Revise committee scope.

2019 **Invited Participant,** National Science Foundation (NSF) sponsored workshop on "Rural-Urban Linkages". Hosted by Central Michigan University. July 29-30, 2019.

Invited Participant, Workshop on "New mobility and cities: Exploring a research network of urban sustainability observatories via data-enabled university-community partnerships." Hosted by the Ohio State University. July 15-16, 2019.

Presiding Officer, Communication Workshop for Aviation Group Committee Communications Coordinator, Transportation Research Board.

[2017-2019] Committee Member, Aviation Executive Board, Transportation Research Board.

[2015-2019] Committee Communications Coordinator, Environmental Impacts of Aviation Committee, Transportation Research Board. Review ACRP grant proposals. Manage the committee's email distribution list, LinkedIn, and Google website.

2018 **Invited Panel Committee Member and Conference Facilitator**, Airport Cooperative Research Program, Project 11-08/ 16-01, "Challenges to Implementing Successful Land Use Strategies at Airports".

Invited member, Data Stories Technical Working Group, in support of the Smart Columbus and OSU "Smart City" grant collaboration (February 2018 – April 2018).

2017 **Discussant,** Association of Collegiate Schools of Planning (ACSP) Conference on the topic of Transportation Access and Equity (session 14.1, Thursday 8AM, 10/12/2017, Denver, CO)

2015 **Committee Friend**, Young Member's Council for Planning and the Environment, Transportation Research Board. Prepared survey for Young Member outreach.

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COMMUNITY OUTREACH & VOLUNTEERISM

2020 **Booth Leader, COSI After Dark.** Created interactive, airport-themed learning booth for COSI guests. Engaged in public outreach with team of two undergraduates (02/06/2020).

2019 **Mentor, OnRamp Resource Day.** Provide feedback to undergraduate students to guide their research projects on the topic of mobility and college commutes (10/14/2019).

Facilitator, Camp Architecture Design Studio. Designed and led city planning activity for 20 high school students (6/12/2019).

Monthly WiE Tea mentor, Attended Women in Engineering "WiE Tea" event on the topic of and 'Work/Life Balance' (2/20/2019). OSU Campus.

2018 **Guest judge**, Metro Middle School "Smart City Design Challenge" (12/11/2018).

Field trip host, Created drone network design challenge event called "#iplanfor Air Transportation in Smart Cities", hosted 100 7th grade students from Metro Middle School at OSU Airport. Recruited 8 student, staff, and faculty volunteers (10/12/2018).

Monthly WiE Tea mentor, Attended Women in Engineering "WiE Tea" events on the topic of 'Balance-Managing Work and Life in College and Your Career' (2/19/2018), '#MeToo: Gender Discrimination and the Workplace' (3/21/2018), 'Career Readiness' (9/27/2018), and 'Professional Development' (11/14/2018).

2014-2015 **Monthly education programs volunteer**, St Louis Science Center. Assist with hour-long science demonstrations for boy scout and girl scout groups. Mentor high school students participating in the Youth Exploring Science program. (*St Louis, MO*)

Weekly youth mentor, Gateway 180: Homelessness Reversed. Provide tutoring services for children living in the homeless shelter. Support classroom management for children's after-school and summer programs. (*St Louis, MO*)

2014 **Mentor,** UPenn Graduate / Undergraduate Mentoring Program. Offer career advice and encouragement to undergraduate architecture student. (*Philadelphia, PA*)

Volunteer and panelist, WTS Transportation YOU program to encourage high school girls to pursue careers in transportation. (*Philadelphia, PA*)

2012 **Coordinator**, ITE exhibit for outreach to high school students. (*Knoxville, TN*)

Panelist, Hardin Valley STEM Academy, outreach for young women in STEM. (*Knoxville, TN*)

Event staff, US Rowing Youth National Championships. (*Knoxville, TN)*

2011 **Science judge**, Intel Northwest Science Expo at Portland State University. Judge middle school science projects and meet with students. (*Portland, OR)*

2009 **Youth monitor**, Discovery Center of Idaho. Help families and children interact with science exhibits. Assist with weekend learning program for elementary-age children. (*Boise, ID*)

2008-2009 **Weekly mentor**, Berkeley Engineers and Mentors & YWCA TechGyrls. Design and lead interactive science and engineering activities for 5th grade girls. (*Berkeley, CA)*