ANJULI JAIN FIGUEROA

170 Gore Street #213
Cambridge MA, 02139

989-493-2901
ajainf@mit.edu

EDUCATION

Ph.D.	Massachusetts Institute of Technology, Cambridge, MA Civil and Environmental Engineering (CEE) *Dissertation*: Sustainable Agricultural Management: A Systems Approach for Examining Food Security Tradeoffs	2019
M.S.	Massachusetts Institute of Technology, Cambridge, MA, Technology and Policy, Engineering Systems *Thesis*: Using Water Balance Model to Analyze the Implications of Potential Irrigation Development in the Upper Blue Nile Basin	2012
B.SE	University of Michigan, Ann Arbor, MI, Civil and Environmental Engineering, summa cum laude	2009

EXPERIENCE

Jun 2014-Feb 2019 — MIT CEE, Graduate Research Assistant, Parsons Lab — Cambridge, MA

- Used remote sensing data and optimization methods to investigate water and food security issues.
- Wrote grants, fellowships and proposals to help raise over $450,000 in funds
- Presented ideas to specialist and general audiences in a variety of settings
- Published in peer-reviewed publications
- Collaborated with economists and anthropologists to develop behavioral and game theoretical models for groundwater depletion and farmer crop choices.

Aug 2012 Jun 2014 — ARCADIS, Water Resources Engineer — Long Island City, NY

- Conducted modeling, data analysis, environmental monitoring and design of various water systems for decision support.
- Executed Superstore Sandy emergency response and recovery to return Waste Water Treatment Plants and Hospitals into operation.
- Helped clients secure over $1.4 billion in public funding assistance from FEMA through damage assessments, risk analyses and innovative designs for hazard mitigation.
- Leveraged experience with implementation of NYC first Green Infrastructure (GI) projects and helped win additional ~$10 million for siting and design of GI.
- Selected as a Global Shaper, one of top100 young leaders of the business, to take part in an intensive one-week program for strategic planning with senior leadership.
- Provided technical support for the successful activation of NYC Tunnel No. 3, the city's largest public works project, costing ~$5billion (350 MGD).

Aug 2010- Jun 2012 MIT CEE, Graduate Research Assistant, Parsons Lab Cambridge, MA

- Developed models to find "win-win" management options for water-scarce regions
- Identified and defined research questions and developed hypothesis
- Read and processed large amounts of complex information

Jan 2010- Aug 2010 Malcolm Pirnie Consulting, Environmental Engineer, Washington DC

- Modeled water and wastewater treatment systems to inform construction and CSO consent decrees.
- Developed detailed hydraulic and hydrologic models for collection system.
- Conducted lab tests for drinking water contaminants including emerging contaminants.
- Interpreted data to understand market potentials and capital improvements and create figures and tables for reports and presentations.

PUBLICATIONS

Peer-reviewed journal articles

Allam, M., **Jain Figueroa, A**., McLaughlin, D., & Eltahir, E. (**2016**). Estimation of evaporation over the upper Blue Nile basin by combining observations from satellites and river flow gauges. Water Resources Research, 52(2), 644-659.

Jain Figueroa, A., Kleyman, J., Glus, P. (**2014**) Applying Integrated Modeling Tools to Provide Resiliency and Sea-level Rise Protection for Bellevue Hospital, Proceedings of the Water Environment Federation, 2065-2074(10)

AWARDS AND FELLOWSHIPS

2017 American Association of University Women Dissertation Fellowships

2015 Martin Family Society of Fellows for Sustainability

2014 Lemelson Engineering Presidential Fellow

2011 Bernard Rabinowitz Endowed Fellow

CONFERENCE PRESENTATIONS

Talks

April 2018 A Systems Approach to Characterize the Tradeoff between Food Security and Environmental Impacts. Talk presented at 7th Agricultural Model Improvement and Intercomparison Project (AgMIP) Workshop, IICA, San Jose, Costa Rica

April 2018 Can changing cropping patterns increase water efficiency in India's Krishna Basin? Talk presented at Twenty65 Water Conference, Manchester, United Kingdom.

April 2018 Can changing cropping patterns increase water efficiency in India's Krishna Basin? Talk presented at University of Sheffield, United Kingdom – Lab Seminar. * *Invited*

Oct 2017 Sustainable Agricultural Management: A Systems Approach to Characterize the Tradeoff between Food Security and Environmental Impacts. Talk presented at University of Michigan – Lab Seminar. * *Invited*

Jun 2017 Sustainable Agricultural Management: A Systems Approach to Characterize the Tradeoff between Food Security and Environmental Impacts. Talk presented at the Technology, Management and Policy Graduate Consortium, Stony Brook University, NY.

Nov 2016 What Limits Yields in India? Talk presented at the Water and Food Security Graduate Student Symposium at MIT, Cambridge, MA.

Sep 2016 Leverage Points: Opportunities for Increasing Food Production in Developing Countries. Talk presented at Jameel Water and Food Security Fall Research Workshop, MIT, Cambridge, MA.

Sep 2014 Applying Integrated Modeling Tools to Provide Resiliency and Sea level Rise Protection for Bellevue Hospital. Talk presented at the Water Environment Federation Technical Conference, New Orleans, LA.

Posters

Dec 2018 Optimization and Reduced Order Modeling for Land and Water Management in the Closing Krishna Basin. Poster to be presented at the American Geophysical Union (AGU) Fall Meeting, Washington, DC

Dec 2017 Optimizing Land and Water Resources for Agriculture in the Krishna River Basin, India. Poster presented at the American Geophysical Union (AGU) Fall Meeting, New Orleans, LA

Mar 2017 Allocating Land and Water Resources for Agriculture. Poster presented at the MIT Water Night Poster Session, MIT, Cambridge, MA. Awarded 1st place Water for Policy Poster.

Dec 2016 Using a Water Balance Model to Bound Potential Irrigation Development in the Upper Blue Nile Basin. Poster Presented at the American Geophysical Union (AGU) Fall Meeting, San Francisco, CA

Apr 2016 Leverage Points: Opportunities for Increasing Food Production in Developing Countries. Poster presented at the MIT J-WAFS and Industrial Liaison Program Food and Water conference, MIT, Cambridge, MA

Conference Organization

Dec 2018 Chair for GC21A: Coupled Human–Natural Systems and Global Environmental Change: Innovative Interdisciplinary Approaches I

May 2018	Note taker for MIT's JWAFS Climate Change, Agriculture, Water, and Food Security: What We Know and Don't Know Expert Workshop for especially selected 50 participants.
Fall 2015	Content Director for MIT 3rd Annual Water Summit – Thriving with Change. Helped organize the MIT water club flagship event for over 300 participants contacting speakers, raising funds, and bringing together industry and academia.

TEACHING

Teaching Assistant

Fall 2018	CEE 1.101 Civil and Environmental Engineering Design. Design, Fabrication, Project Based and Communication Intensive Course
Fall 2017	CEE 1.101 Civil and Environmental Engineering Design. Design, Fabrication, Project Based and Communication Intensive Course

Outreach Instructor

Jan 2018	Aventuras de la Ciencia con Carretica Cuentera. Teaching elementary students about science and climate change. MIT Public Service Fellowship.
Spring 2017	Introduction to Environmental Engineering. Middle School. MIT Office of Engineering Outreach Programs
Aug 2016	Clear Waters: Science in Service of Water. Clubes de Ciencia, Mexico. Undergraduate and Graduate Students

Mentor

Jan 2016	Mini Undergraduate Research Opportunity Program (UROP) – Using Crop Models To Understand Yield Gaps
Summer 2013	Costa Rica Ministry of Science and Technology Mentor for High School Science Talent Club, San Jose, Costa Rica.

Assistant

Oct 2016	CEE 1.075 Undergraduate Course on Water Resource Systems
Spring 2015	CEE 1.74 Graduate seminar on land, water, food, and climate

Certifications

Jun 2014	Kaufman Teaching Certificate Program

SERVICE

Public Lectures and Panels

May 2018 AAUW East Toutan Annual Meeting. Speaker. East Toutan, MA **Invited*

Dec 2017 Zero Hunger and Sustainable Urban Communities. Panelist. Legatum Center for Entrepreneurship MIT Cambridge, MA. **Invited*

Professional Organization Member

American Geophysical Union (AGU)
American Society of Civil Engineers (ASCE)
Boston Society of Civil Engineers (BSCE)
Environmental Water Resources Institute (EWRI)
New England Water Environment Association (NEWEA)

Committee Member

2014 - 2017	CEE Graduate Student Committee
Fall 2016	Graduate Student Leadership Institute Member
2015 - 2016	Sid-Pac Cultural and Inter Cultural Exchange Chair
2015 - 2016	Toastmaster at MIT, Treasurer
Fall 2015	MIT Water Club, Officer
2011 - 2012	Technology and Policy Student Society, Secretary

OTHER

Languages and Skills

Fluent in Spanish (Written, Spoken, Read)
Proficient in German (Spoken, Read)
Programming: C++, Python, Matlab, GAMS, Google Earth Engine
Design Programs: AutoCAD, RISA, Rhino, ArcGIS
Models: InfoWater, InfoWorks, SWMM, APSIM, DSSAT, Hydrus, EPANET