Adel M. Abdallah
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HIGHLIGHTS

- Co-authored three published peer-reviewed journal articles and preparing three manuscripts
- Recipient of the Best Research-Oriented Paper of the Year. “Heterogeneous Residential Water and Energy Linkages and Implications for Conservation and Management.” Environmental & Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE), 2015
- Earned 19 regional and national awards and scholarships in graduate school, totaling over $30,000
- Recipient of the Blue Goes Green Grand: “Measuring Water and Energy Conservation of High-Efficient Automatic Faucets.” $3,710. Utah State University Student Sustainability Office. 2013-2015
- Designed the Water Management Data Model (WaMDaM): A database standard and software tools to manage water resources data for modeling http://wamdam.org/
- Interned at the Western States Water Council and the USAID Water for Food Program
- Peer-reviewed nine articles for four top tier water resources journals
- Served as the College of Engineering Graduate Students Senator, Graduate Student Senate, Utah State University. 2014-2015

EDUCATION

PhD Water Resources Engineering and Hydrology, Utah State University, Logan, UT **May 2018**
Dissertation “A Data Model and Workflows to Enable Systematic Comparisons for Water Resources Management Data and Models.”

M.Sc Civil and Environmental Engineering, Utah State University, Logan, UT **May 2012**
Thesis: "Heterogeneous Water and Energy End-Uses and Implications for Residential Water and Energy Conservation and Management"

B.Sc Civil Engineering, An-Najah National University, Nablus, Palestine **May 2008**
Capstone Project: "Modeling Fate and Transport of Chlorine in Drinking Water Distribution Network, Nablus City, Palestine"

PUBLICATIONS

In Preparation (*copies available upon request)

1. **Adel M. Abdallah** and David E. Rosenberg: “A New Data Model to Manage Data for Water Resources Systems Modeling *.” Environmental Modeling and Software.

2. **Adel M. Abdallah**, Steve Knox, David Rosenberg. “Workflows to Automate Data Preparation for Comparison Water Management Systems Models.”

3. **Adel M. Abdallah**, David Rosenberg, David Rheinheimer, Steve Knox, Julien Harou, Josué Medellín-Azuara. “A Software Ecosystem to Publish and Discover Data and Models for Water Resources Systems *.”

Peer-Reviewed Publications (copies attached)

1. Andrea Cominola, Matteo Giuliania, Andrea Castellettia, David Rosenberg, **Adel M. Abdallah** (2018). “Implications of Data Sampling Resolution on Water use Simulation, End-Use Disaggregation, and Demand Management.” Environmental Modeling and Software.

2. Jeffery S. Horsburgh, Miguel E. Leonardo, **Adel M. Abdallah**, David E. Rosenberg (2017). “Measuring Water Use, Conservation, and Differences by Gender Using an Inexpensive, High-Frequency Metering System.” Environmental Modeling and Software.

3. **Adel M**. **Abdallah** and David E. Rosenberg (2014). “Heterogeneous Residential Water and Energy Linkages and Implications for Conservation and Management.” ASCE-Journal of Water Resources Planning and Management.

Peer-Reviewed Conference papers

1. Andrea Cominola, Matteo Giuliani, Andrea Castelletti, **Adel M. Abdallah**, and David E. Rosenberg (2016). “Developing a Stochastic Simulation Model for the Generation of Residential Water End-Use Demand Time Series.” Proc., 8th International Congress on Environmental Modelling and Software, International Environmental Modelling and Software Society (iEMSs), Toulouse, France.

2. **Adel M. Abdallah** and David E. Rosenberg (2014). "WaM-DaM: A Data Model to Organize and Synthesize Water Management Data." Proc., 7th International Congress on Environmental Modelling and Software, International Environmental Modelling and Software Society (iEMSs), San Diego, California, USA.

Conference proceeding

- Marwan Haddad, Numan Mizyed, **Adel M. Abdallah** (2009) “Performance of Hydroponic System as Decentralized Wastewater Treatment and Reuse for Rural Communities.” 2nd International Conference on the Palestinian Environment, An-Najah National University, October 2009.

RESEARCH, TRAINING, and WORK EXPERIENCE

1. June 2017– Present. **Intern,** Western States Water Council, Utah. Water Data Exchange (WaDE) Project

2. Fall 2017. **Teaching Assistant**, Engineering Economics, Utah State University

3. July 2014 – Present. **Visiting Scholar**, University of Utah, Salt Lake City, UT

4. 2014 – 2016. **E-intern,** the United States Agency for International Development (USAID), Program: Securing Water for Food Grand Challenge (three months each year).

5. January 2010 – Present. **Graduate Research Assistant**, Utah Water Research Laboratory, Logan, UT.

6. June 2009 – December 2009. **Staff Engineer**, Universal Group for Engineering and Consulting, Nablus-Palestine.

7. June 2008 – June 2009. **Research Assistant**, An-Najah National University, Nablus-Palestine. Project: Decentralized Wastewater Treatment in Arid Regions in Palestine, a research pilot study.

AWARDS / HONORS

1. Diversity Graduate Scholarship (2018). The American Public Works Association, Intermountain Section

2. Graduate Student Travel Award (2017). Utah State University Office of Research and Graduate Studies

3. Utah Chapter Graduate Scholarship (2016). American Public Works Association

4. WaterSmart Innovations Scholarship (2015). University Council on Water Resources (UCOWR). Nominated by the Director of the Utah Water Research Laboratory to receive the scholarship to cover the full expenses of attending the conference, September 7, 2015

5. Best Research-Oriented Paper (2015). “Heterogeneous residential water and energy linkages and implications for conservation and management.” Environmental & Water Resources Institute (EWRI) of the American Society of Civil Engineers, May 2015

6. Paper Competition Scholarship (2015) J. Paul Riley AWRA Utah Section: Student Water Conference & Paper Competition

7. President's Award and Scholarship (2015). Utah State University Student Association, April 2015

8. Second Place Best Graduate Poster Award (2015). 6th Annual Intermountain Sustainability Summit, Weber State University, Ogden UT, March 2015

9. Graduate Student Travel Award (2014). Utah State University Office of Research and Graduate Studies

10. Utah Water Users Association Scholarship (2013)

11. Graduate Enhancement Award (2013). Graduate Student Senate at Utah State University

12. Graduate Student Travel Award (2013). World Environmental and Water Resources Congress, Cincinnati, OH. May 2013

13. PhD Research Assistantship Scholarship (2012-2018). Utah Water Research Laboratory

14. Paper Competition Scholarship (2012). J. Paul Riley AWRA Utah Section: Student Water Conference & Paper Competition

15. Eva Nieminski Honorary Graduate Category Scholarship (2011). The Intermountain Section of the American Water Works Association (AWWA)

16. Utah Water Conservation Forum Scholarship (2011)

17. Great Basin Chapter of Air and Waste Management Association Scholarship (2011)

18. Ivanhoe Fellow, Ivanhoe Foundation Fellowship (2010 and 2011)

19. MSc. Research Assistantship Scholarship (2010-2012). Utah Water Research Laboratory,

FUNDED PROJECTS

- **Adel M. Abdallah**. "Measuring Water and Energy Conservation of High-Efficient Automatic Faucets." (2013) Utah State University. Utah State University Student Sustainability Office. Blue Goes Green Grant. **$3,710**. March 2013-October 2015

TEACHING ACTIVITIES

- Teaching Assistant. Engineering Economics. Undergraduate class Fall 2017 at Utah State University, Professor: Dr. David Rosenberg

- Code Camp Facilitator (2013 and 2014). Facilitated the implementation of a one-day code camp for high school students at USU. Toured USU's high-performance computing and data storage center, assisted the students in debugging their Python code for a reservoir release functions for Pineview reservoir, Utah that generated hydropower, delivered water for irrigation, and protected the city of Ogden from floods.

- Guest lecture. Water Resources Systems Analysis, Graduate class Fall, 2013 at Utah State University. Professors: Dr. Bruce Bishop and Dr. David Rosenberg. Topic: Monte Carlo Methods - Water Conservation. Nov. 6, 2013

- Guest lecture. Hydroinformatics, Graduate class Fall, 2013 at Utah State University. Professors: Jeff Horsburgh and Dr. Dan Ames, and Dr. Steven Burian. Topic: Water and Energy Conservation though High-Efficiency Automatic Faucets. Nov. 26, 2013

LEADERSHIP and PROFESSIONAL ACTIVITIES

- Peer-reviewer for four journals: ASCE-Journal of Water Resources Planning and Management, Journal of Hydrology and Earth Science Systems (HESS), Journal of Sustainable Cities and Society, Journal of Environmental Modelling and Software. Peer-reviewed nine articles (*copies of reviews are available upon request).* 2012-present.

- College of Engineering Graduate Student Senator. Graduate Student Senate, Utah State University. 2014 – 2015.

- Students Representative Organizer and Competition Judge. Spring Runoff Conference, Utah State University, Logan, Utah, 2013 – 2015.

- Member of the Utah State University Interfaith Initiative Committee, 2014 – 2016.

ONLINE OPEN-SCIENCE REPOSITORIES

- Created code and documentation of the Water Management Data Model (WaMDaM) on GitHub https://github.com/WamdamProject

- Developed and documented a project to streamline disparate flow data files into a central database for the Utah Division of Water Resources https://github.com/amabdallah/UDWR_FlowStorageData

- Contributed to code and documentation of Water Data Exchange Program (WaDE), the Western States Water Council https://github.com/WSWCWaterDataExchange

GRADUATE COURSEWORK

- **PhD:** Hydroinformatics, Microeconomics, Water Law and Policy, Database Implementation, GIS in Water Resources, Advanced Web-based Management Information Systems Development, Research Integrity, and College Teaching Seminar, the Role of Cognition in Engineering Education (audited).

- **M.Sc:** Integrated River Basin/Watershed Planning and Management, Surface Water Quality Modeling, Water Resources Systems Analysis, GIS for Civil Engineers, Groundwater Engineering, Data Analysis and Experimentation in Environmental Science and Engineering, and Physical Hydrology

CERTIFICATIONS

- Utah Division of Risk Management Defensive Driver Training, May 2013-July 2018

- Utah State University Research Scholars Certificate, 2015

- Institutional Review Board (IRB) Training Certificate. Social & Behavioral Research Investigators and Key Personnel. Collaborative Institutional Training Initiative (CITI), July 2010 - December 2016

- Structured Query Language (SQL) Certificate. ExpertRating.com, April 2013

PROFESSIONAL DEVELOPMENT

- "Getting Started as a Successful Proposal Writer and Academician," One-day intensive Seminar, USU sponsored: Grant Writers' Seminars & Workshops LLC, April 2012 and 2016
- "Software Carpentry Boot Camp." Software Carpentry, two-day intensive workshop, Logan Utah, March 23-24, 2013.
- "Using Python for Weather and Climate Applications" By Johnny Lin, Salt Lake City, UT, Mar 8, 2013
- "Integrated Modeling Workshop" Utah Water Research Laboratory, Logan, UT, August 9, 2012.
- "Great Work Great Career Seminar": Eight weeks seminar by the Stephen R. Covey group which partnered with the Huntsman School of Business, Utah State University, June-July 2011
- "Water Chemistry in Reverse Osmosis and Nanofiltration," Four-day intensive course, Middle East Desalination Research Center, Amman, Jordan, April 2009
- "Public Relations Skills," Continuing Learning Center An-Najah National University, August-2008, Nablus, Palestine

KEY COMPUTER SKILLS

Python, Matlab, ArcGIS, General Algebraic Modeling System (GAMS), Structured Query Language (SQL), WEAP, HEC-ResSim, GitHub

LANGUAGES

- English: Fluent
- Arabic: Native speaker

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- The International Environmental Modelling & Software Society, member (2014-present)
- American Geophysical Union (AGU), Member (2011-present)
- American Water Works Association (AWWA), Member (2011-present)
- American Society of Civil Engineers (ASCE), Member (2012-present)
- American Water Resources Association (AWRA), Member (2011-present)
- Engineers Association - Jerusalem Center, Member (2008-present)

IN THE MEDIA and OUTREACH

- Co-presented in a short educational movie: "What is a Model?" Educational movie for grades 8 and up. October 2013. This movie was part of the outreach program of the Cyberinfrastructure (CI)-Water project. The video is available on YouTube at: http://www.youtube.com/watch?v=-wWQvBC625E

- Co-presented a short educational movie "Get Involved with Science Activities" to encourage high school students to choose a career in Science Technology Engineering and Math (STEM). The video is available on YouTube at: http://www.youtube.com/watch?v=TGO-w0ovGkE

- Blog contribution, Utah and Western Water Blog. "Field Trip to Park City's Water Treatment Plants, Utah" January 2018. https://utahandwesternwater.wordpress.com/2018/01/12/field-trip-to-park-citys-water-treatment-plants-utah/

CONFERENCE AND PROFESSIONAL MEETING PRESENTATIONS

- Andrea Cominola*****, Matteo Giuliania, Andrea Castellettia, David E. Rosenberg, **Adel M. Abdallah** (2018). "Can Data from Intelligent Water Meters Inform Water Demand Modelling and Management Accurately, Feasibly, and Cost-Effectively?." European Geosciences Union General (EGU) Assembly 2018.

- Jeffery S. Horsburgh*****, Miguel E. Leonardo, **Adel M. Abdallah**, David E. Rosenberg (2018). "Inexpensive, High-Resolution Data for Quantifying Water Use, Conservation, and Differences by Gender." European Geosciences Union (EGU) General Assembly 2018.

- **Adel M. Abdallah**** and David E. Rosenberg (2017). "A New Method to Organize, Identify, and Compare Water Management Data for Systems Models." World Environmental & Water Resources Congress, Sacramento, CA: May 2125, 2017.

- **Adel M. Abdallah**** and David E. Rosenberg (2016) "Applying Best Data Practices to Work with Water Management Data (WaM-DaM)". The 9th Annual UC Davis Informal Water Management Workshop, University of California, Davis. Modernizing Data Management for System Modeling Discussion. December 13, 2015.

- **Adel M. Abdallah**** and David E. Rosenberg (2015) "Let's Target Collaborative Water and Energy Conservation Actions?" WaterSmart Innovations. Las Vegas, Nevada. September 7, 2015.

- Miguel Leonardo*****, **Adel M. Abdallah**,** Jeffery Horsburgh, David E. Rosenberg (2015) "Low-Cost Smart Water Meter for Sustainable Water Monitoring and Conservation." 6th Annual Intermountain Sustainability Summit, Weber State University, Ogden UT, March 2015.

- **Adel M. Abdallah**** and David E. Rosenberg (2015). "A Relational Model to Organize and Synthesize Disparate Systems Water Management Data." 3rd CUAHSI Conference on HydroInformatics. Model and Data Interoperability: From Theory to Practice July 15-17, 2015, the University of Alabama and the National Water Center, Tuscaloosa, AL.

- **Adel M. Abdallah**** and David E. Rosenberg (2015). "WaM-DaM: A Data Model to Organize and Synthesize Water Management Data." Utah Water Data Users Group 2nd Meeting, Salt Lake City, Utah: Jan. 27, 2015.

- **Adel M. Abdallah**** and David E. Rosenberg (2014). "WaM-DaM: A Data Model to Organize and Synthesize Water Management Data." 8th International Congress on Environmental Modelling and Software (iEMSs)". San Diego, California, USA. June 15-19, 2014.

- **Adel M. Abdallah** and David E. Rosenberg****** (2014). "WaM-DaM: A Data Model to Organize, Share, and Publish Water Management Data." World Environmental & Water Resources Congress - EWRI, ASCE, Portland, Oregon. June 1-5, 2014.

- **Adel M. Abdallah** and David E. Rosenberg****** (2014). "Targeted and Collaborative Household Water and Energy Conservation Programs to Achieve City-Wide Goals." World Environmental & Water Resources Congress - EWRI, ASCE, Portland, Oregon. June 1-5, 2014.

- **Adel M. Abdallah**** and David E. Rosenberg (2014). "WaM-DaM: A Data Model to Organize and Synthesize Water Management Data." American Water Resources Association (AWRA) Spring Specialty Conference". Snowbird, Utah, USA. May 12-14, 2014.

- **Adel M. Abdallah**** and David E. Rosenberg (2013). "A Proposed Water Management Data Model (WaM-DaM)." 2013 CUAHSI Conference on Hydroinformatics and Modeling. Logan, Utah. July 19-21, 2013.

- **Adel M. Abdallah**** (2013) "Design a Database to Manage Water Reservoir Data." CI-WATER Symposium, Salt Lake City, UT, May 10, 2013.

- **Adel M. Abdallah**** and David E. Rosenberg (2013). "Identifying Collaborative City-Wide Residential Water and Energy Conservation Programs." World Environmental & Water Resources Congress - EWRI, ASCE, Cincinnati, Ohio. May 19-23, 2013.

- **Adel M. Abdallah**** and David E. Rosenberg (2012). "Water and Energy Conservation Modeling and Planning: Stretching Resources to Save Money." Intermountain Section AWWA 2012 Annual Conference, Logan UT, September 12-14, 2012.

- **Adel M. Abdallah**** and David E. Rosenberg (2012). "Heterogeneous Water and Energy End-Uses and Implications for Water and Energy Conservation and Management." 7th Annual J. Paul Riley AWRA Utah Section, Student Water Conference & Paper Competition, Logan UT, April 10, 2012.

- **Adel M. Abdallah**** and David E. Rosenberg (2012). "Simulating Household-City Water and Energy Conservation Opportunities Modeling Stochastic Energy and Water Consumption to Manage Residential Water Uses." Spring Runoff Conference, Logan UT April 3-4, 2012.

- **Adel M. Abdallah** and David E. Rosenberg****** (2011). "Modeling Stochastic Energy and Water Consumption to Manage Residential Water Uses." American Geophysical Union Annual Fall Conference, San Francisco CA, Dec 5-9, 2011.

- **Adel M. Abdallah****and David E. Rosenberg (2011). “Water System Water and Energy Linkages and Implications for Household and City-Scale Systems Modeling.” Spring Runoff Conference, Logan UT March 29-30, 2011.

  ****Indicates the presenter

KEYWORDS

Hydroinformatics; smart meters; water conservation; data management; modeling; water resources; demand management; systems analysis; optimization; simulation; stochastic modeling, uncertainty, water-energy nexus