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Lecturer

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Department of Civil Engineering

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Block A, 1st Floor

Aksaray University, Aksaray, Turkey

RESEARCH INTERESTS

Water resources management; hydroeconomic modeling; hydropower optimization; climate change

EDUCATION

University of California, Davis, Davis, CA

Ph.D., Civil and Environmental Engineering, June 2019

M.S., Civil and Environmental Engineering, September 2015

Dokuz Eylul University, Izmir, TR

B.S., Civil Engineering, June 2011

RESEARCH EXPERIENCE

Graduate Student Researcher

Center for Watershed Sciences,
University of California, Davis
Supervisor: Jay Lund, Ph.D

July 1, 2015 to June 30, 2019

Center for Watershed Sciences,
University of California, Davis
Supervisor: Josue Medellin, Ph.D

July 1-31, 2018

Center for Watershed Sciences,
University of California, Davis
Supervisor: Jon Herman, Ph.D

July 1-Sep. 30, 2016

PROJECTS INVOLVED

- Assessing climate change impacts on optimal hydropower design and investment strategies. US-China Clean Energy Research Center, Water Energy Solutions and Technologies (CERC-WET) Program Grant #DE-1A0000018 (2016-2021).
- Advancing Hydro-Economic Optimization to Identify Vulnerabilities and Adaptation Opportunities in California's Water System. California Natural Resources Agency (2018).

REFEREED JOURNAL PUBLICATIONS

Google Scholar Profile: <https://scholar.google.com/citations?user=K3D94coAAAAJ>

ORCID ID: <https://orcid.org/0000-0002-3378-9955>

5. Maskey, M., **Dogan, M.S.**, Fernandez-Bou, A.S., Li, L., Guzman, A., Arnold, W., Goharian, E., Lund, J., and Medellin-Azuara, J., (2022). "Managing Aquifer Recharge to Overcome Overdraft in the Lower American River, California, USA" *Water*, 14(966). <https://doi.org/10.3390/w14060966>
4. **Dogan, M.S.**, Lund, J.R., and Medellin-Azuara, J., (2021). "Hybrid Linear and Nonlinear Programming Model for Hydropower Reservoir Optimization" *Journal of Water Resources Planning and Management*, 147(3). [https://doi.org/10.1061/\(ASCE\)WR.1943-5452.0001353](https://doi.org/10.1061/(ASCE)WR.1943-5452.0001353)
3. **Dogan, M.S.**, Buck, I., Medellin-Azuara, J., and Lund, J.R. (2019). "Statewide Effects of Ending Long-term Groundwater Overdraft in California" *Journal of Water Resources Planning and Management*, 145(9). [https://doi.org/10.1061/\(ASCE\)WR.1943-5452.0001096](https://doi.org/10.1061/(ASCE)WR.1943-5452.0001096)

2. Nover, D.M., **Dogan, M.S.**, Ragatz, R., Booth, L., J., Medellin-Azuara, J., Lund, J.R., and Viers, J.H. (2019). “Does more storage give California more water?” *Journal of the American Water Resources Association*, 55(3), 759-771. <https://doi.org/10.1111/1752-1688.12745>
1. **Dogan, M. S.**, Fefer, M. A., Herman, J. D., Hart, Q. J., Merz, J. R., Medellin-Azuara, J., and Lund, J. R. (2018). “An open-source Python implementation of California’s hydroeconomic optimization model.” *Environmental Modelling and Software*, 108(October), 8-13. <https://doi.org/10.1016/j.envsoft.2018.07.002>

REPORTS

Herman, J., M. Fefer, **M.S. Dogan**, M. Jenkins, J. Medellin-Azuara, and J. Lund. 2018. “Advancing Hydro-Economic Optimization to Identify Vulnerabilities and Adaptation Opportunities in California’s Water System.” California’s 4th Climate Change Assessment, California Natural Resources Agency. Publication number: CCC4A-CNRA-2018-016.

PRESENTATIONS

- M.S. Dogan September 2021
 “Predicting routed streamflow using machine learning”
 Advances in Civil Engineering ACE 2020-21, Istanbul, TURKEY
- M. Maskey, J. Medellin, A.S. Fernandez Bou, A. Guzman, E. Goharian & M.S. Dogan Aralık 2020
 “Investigating benefits from additional recharge facilities within the American River Basin”
 American Geophysical Union Fall Meeting, Online
- M.S. Dogan & J.R. Lund Dec 2018
 “Evaluating solar PV effects on California’s hydropower generation with a hybrid LP-NLP optimization model”
 American Geophysical Union Fall Meeting, Washington, DC (poster)
- M.S. Dogan, M. Fefer, J. Herman, Q. Hart, J. Merz, J. Medellin & J.R. Lund Jun 2018
 “An open-source implementation of California’s hydroeconomic model”
 World Environmental and Water Resources Congress, Minneapolis, MN
- M.S. Dogan, I. Buck & J.R. Lund Apr 2018
 “Statewide evaluation of ‘no overdraft policy’ with a hydroeconomic model, CALVIN”
 California Water and Environmental Modeling Forum, Folsom, CA
- M. Fefer, M.S. Dogan & J. Herman Dec 2017
 “Sensitivity analysis of California water supply: Assessment of vulnerabilities and adaptations”
 American Geophysical Union Fall Meeting, New Orleans, LA (poster)
- M.S. Dogan, I. Buck & J.R. Lund May 2017
 “Ending Overdraft in California under Climate Change”
 World Environmental and Water Resources Congress, Sacramento, CA (poster)
- M. Fefer, M.S. Dogan, E. White, J. Herman, Q. Hart, J. Merz, J. Medellin & J.R. Lund May 2017
 “PyVIN: An Open Source Hydroeconomic Model for California’s Water Supply System”
 World Environmental and Water Resources Congress, Sacramento, CA (poster)
- M.S. Dogan, E. White, J. Herman, Q. Hart, J. Merz, J. Medellin & J.R. Lund Mar 2017
 “Representing California’s Water System with an Open Source Model: PyVIN”
 California Water and Environmental Modeling Forum, Folsom, CA
- M.S. Dogan, E. White, J. Herman, Q. Hart, J. Merz, J. Medellin & J.R. Lund Dec 2016
 “An Open Source Hydroeconomic Model for California’s Water Supply System: PyVIN”
 American Geophysical Union Fall Meeting, San Francisco, CA (poster)
- M.S. Dogan, K. Singh, J. Medellin & J.R. Lund Nov 2016
 “Interactions of Ending Overdraft and Delta Water Management”
 Bay-Delta Science Conference, Sacramento, CA (poster)
- M.S. Dogan, K. Singh, J. Medellin & J.R. Lund Mar 2016
 “Effects of Ending Long-Term Overdraft on California’s Water Supply System”
 California Water and Environmental Modeling Forum, Folsom, CA
- M.S. Dogan, K. Singh, J. Medellin & J.R. Lund Dec 2015
 “Tying California’s Water System Together”
 American Geophysical Union Fall Meeting, San Francisco, CA (poster)
- M.S. Dogan, K. Singh, J. Medellin & J.R. Lund Mar 2015
 “CALVIN: Model and Updates”
 California Water and Environmental Modeling Forum, Folsom, CA
- K. Singh, M.S. Dogan, J. Medellin, R. Esralew, J.R. Lund & J. Viers Mar 2015
 “Ecosystem Management under Uncertain Hydrologic Conditions”
 California Water and Environmental Modeling Forum, Folsom, CA

	<ul style="list-style-type: none"> • M.S. Dogan, K. Singh, J. Medellin & J.R. Lund “CALifornia Value Integrated Network: Model Updates” California Water and Environmental Modeling Forum, Folsom, CA (poster) 	Mar 2015
BLOG POSTS	<ul style="list-style-type: none"> • Ties Between the Delta and Groundwater Sustainability in California, Dogan M.S., Buck-Macleod, I., Medellin-Azuara, J., Lund, J. California Water Blog. July 14, 2019. 	
AWARDS	Academic Scholarship - The Ministry of National Education of the Republic of Turkey	Nov 2011
TEACHING EXPERIENCE	<p>Aksaray University: Instructor</p> <ul style="list-style-type: none"> • İNŞ 204 - Fluid Mechanics Spring 2022 • İNŞ 443 - River Hydraulics Spring 2022 • İNŞ 307 - Hydrology Spring 2022 • İNŞ 208 - Engineering Economics Spring 2021, 2022 • EEM 104 - Computer-Aided Technical Design Spring 2021, 2022 • İNŞ 111 - Introduction to Computer Basics I Fall 2020 <p>University of California, Davis: Instructor</p> <ul style="list-style-type: none"> • ECI 153 - Deterministic Optimization and Design Fall 2018 Course Syllabus <p>Assisted in Teaching</p> <ul style="list-style-type: none"> • ECI 153 - Deterministic Optimization and Design Fall 2017 <p>Guest Lecturer</p> <ul style="list-style-type: none"> • ECI 273 - Water Resources Systems Engineering Winter 2016 • ECI 153 - Deterministic Optimization and Design Fall 2015 <p>Workshop</p> <ul style="list-style-type: none"> • CALVIN Hydroeconomic Modeling Workshop: Spring 2015, Spring 2017, Fall 2018, Summer 2020 https://github.com/msdogan/CALVIN-shortcourse 	
PROFESSIONAL ACTIVITIES	<p>Reviewer Journal of Water Resources Planning and Management, Water Security, Journal of Hydrology, Environmental Modelling and Software</p> <p>Member</p> <ul style="list-style-type: none"> • American Society of Civil Engineers, 2013-Present • American Geophysical Union, 2015-Present • California Water and Environmental Modeling Forum, 2015-Present • Turkish Chamber of Civil Engineers, Izmir, 2007-2011 	
EXTRA-CURRICULAR ACTIVITIES	<p>Board member, Turkish Student Association @ UC Davis</p> <ul style="list-style-type: none"> • Officer, 2018-2019 • Financial Officer, 2017-2018 • Officer, 2016-2017 	

Last Updated: March 22, 2022