

Name: Mashor Housh

Date: September 19, 2024

ID: 066516766

PART A: CURRICULUM VITAE

1. Personal Details

Office Telephone Number:	04-8288541
Cellular Phone:	052-3237099
E-mail Address:	mhoush@univ.haifa.ac.il

2. Higher Education

a. Undergraduate and Graduate Studies

Period of Study (month/year – month/year)	Name of Institution and Department	Degree
10/2002-8/2007	Civil and Environmental Engineering, Technion	B.Sc., Cum Laude
10/2007-8/2011	Civil and Environmental Engineering, Technion	Ph.D. (direct program)

b. Post-Doctoral Studies

Period of Study (month/year – month/year)	Name of Institution and Department/Lab	Name of Host
8/2011-10/2013	CEE, University of Illinois at Urbana- Champaign	Prof. Ximing Cai

3. Academic Ranks and Tenure in Institutes of Higher Education

Period (month/year – month/year)	Name of Institution and Department	Rank/Position Specify if full or percent part time
10/2013-10/2017	University of Haifa, Department of natural resources and environmental management	Lecturer 100%
10/2018-6/2021	University of Haifa, Department of natural resources and environmental management	Senior Lecturer (with tenure) 100%
6/2021-Present	University of Haifa, Department of natural resources and environmental management	Associate Professor 100%

For all remaining entries: the character * Represents activities and publications since your last promotion.

4. Offices in Academic Administration

Years	Name of Institution and Department	Role
2017-2023	Global Green MBA Program	Head
2021-2023	Steering Committee for Accessibility of Minorities	Member
*2023-Present	Steering Committee for Accessibility of Minorities	Head
*2023	Department of Natural Resources and Environmental management	Head
*2023-Present	Water Resources Management Program	Head
*2022-Present	Faculty of Social Sciences Research Committee	Member
*2023-Present	PhD Committee in the School of Environmental Sciences	Member
*2023-Present	Management Forum in the School of Environmental Sciences (out of 3 members)	Elected Member

Years	Name of Institution and Department	Role
*2024-Present	The Ambassadors of the Environment Project. This is a project at UoH aims to offering practical MA training for students in Arab Israeli communities	Head I initiated contact with Yad Hanadiv and led the proposal that secured their sponsorship of 1,100,000 NIS for the project. The overall program budget amounts to approximately 2 million NIS.
*2024-Present	Promotion Committee	Head
*2024	Dean Search Committee in the Faculty of Social Sciences, UoH	Elected Member
*2024-Present	Subcommittee for Academic Incentives, Academic 360 Project, UoH.	Member

5. Scholarly Positions and Activities outside the University

Years	Memberships in Academic Professional Associations
2011-Present	American Society of Civil Engineers (ASCE)
2011-Present	The Operations Research Society of Israel (ORSIS).
2011-Present	Environmental and Water Research Institute (EWRI).
2012-Present	Standing Committee on Environmental and Water Resources systems, ASCE
2014-Present	The Institute for Operations Research and the Management Sciences (INFORMS).
2014-Present	Grand Water Research Institute (GWRI).
2014-Present	Standing Committee on Water Distribution Systems Analysis, ASCE
2014-Present	Task Committee on “Using Hydroclimatic Prediction for Water Systems Operations and Management”, EWRI-ASCE
2017-2022	Member of COST Action (EU), CA16209: Natural Flood Retention on Private Land. http://www.land4flood.eu/
*2024-Present	Task Committee on “Integrated Micro Water-Energy Systems Operation” EWRI-ASCE

Years	Editorial Positions in Scientific Journals
2021-Present	Associate Editor: <i>The Journal of Water Resources Planning & Management</i> , IF 2019= 2.406, R 2019= Water Resources: 36/94 (Q2). Noteworthy that it is a leading journal in the field of water resources management.
2021-Present	Member of Editorial Board: <i>Water</i> , IF 2019= 2.544, R 2019= Water Resources: 31/94 (Q2)
2021-Present	Member of Editorial Board: <i>Sustainability</i> , IF 2019= 2.592, R 2019= Environmental Studies: 53/123 (Q2)
2021-Present	Member of Editorial Board: <i>Urban Water</i> , IF 2019= 1.888, R 2019= Water Resources: 56/94 (Q3)
2021-Present	Member of Editorial Board: <i>Civil Engineering and Environmental Systems</i> , IF 2019= 1.04, R 2019= Civil Engineering: 104/134 (Q4)
2021-Present	Section Board Member: <i>Water</i> , IF 2019= 2.544, R 2019= Water Resources: 31/94 (Q2)

Years	Reviewing for Refereed Journals
2011-Present	<i>The Journal of Water Resources Planning & Management</i> , IF 2019= 2.406, R 2019= Engineering, Civil: 44/134 (Q2)
2012-Present	<i>Water Resources Research</i> , IF 2019= 4.309, R 2019= Limnology: 2/22 (Q1)
2012-Present	<i>Water Research</i> , IF 2019= 9.130, R 2019= Water Resources: 1/94 (Q1)
2012-Present	<i>Journal of Environmental Modeling and Software</i> , IF 2019= 4.807, R 2019= Computer Science, Interdisciplinary Applications: 14/109 (Q1)
2012-Present	<i>Advances in Water Resources</i> , IF 2019= 4.016, R 2019= Water Resources: 11/94 (Q1)
2014-Present	<i>Urban Water Journal</i> , IF 2019= 1.888, R 2019= Water Resources: 56/94 (Q3)
2015-Present	<i>Journal of Hydrology</i> , IF 2019= 4.5, R 2019= Water Resources: 6/94 (Q1)
2020-Present	<i>Water</i> , IF 2019= 2.544, R 2019= Water Resources: 31/94 (Q2)
2020-Present	<i>Sustainability</i> , IF 2019= 2.592, R 2019= Environmental Studies: 53/123 (Q2)

Year	Reviewing for Funding Agencies
*2021-Present	Member of the Grant Evaluation Committee in the Israeli Smart Transportation Research Center (ISTRC)
*2022-Present	Israeli Science Foundation

Year	Other Scholarly Positions and Activities
*2024-Present	Council of Higher Education (Malag): Member of Evaluation Committee for Evaluation of M.Sc. Program in Sami Shamoon College of Engineering

Years	Other Relevant Positions and Activities
2014-Present	Consulter for the Israeli Water Authority: Development and implementation of a suite of models for optimal operation of the National Water System
2019-Present	Board member of Albyader Foundation for Higher Education
2019-Present	Member of the Advisory Expert Committee in Albyader Foundation for Higher Education
2019-Present	Board member of Almaram Association for Science Education
*2023-Present	Board member of Galilee Society – The Arab National Society for Health, Research and Services

6. Research Grants

a. Grants Awarded

Note: V= Vatat Fund (council of higher education); C= Other Competitive Fund

Years	Role in Research	Other Researchers (Name & Role)	Title	Funded by	Amount	Relevant Publications
2014-2017	PI	Co-PI: Anna Brook, Andrea Ghermandi, David Katz: <i>UoH</i> , Avi Shaviv, <i>Technion</i>	An integrated modeling framework for real-time irrigation scheduling: the benefit of imaging spectroscopy and weather forecasts	Water Authority (C)	366,390 NIS	C25, C29

Years	Role in Research	Other Researchers (Name & Role)	Title	Funded by	Amount	Relevant Publications
2015-2016	PI		Development of multi-sensor system for hydraulic and contamination events detection	USAID (C)	12,190 \$	C20, C21
2017-2020	PI		Optimal management of multisource water supply systems under uncertainty: Novel Approaches and Methods	Water Authority (C)	359,950 NIS	C28, C30, C32, C34
2019-2022	PI		Disaster Resilient Urban Water Systems: measures and tools	Water Authority (C)	353,000 NIS	C35, C36, C39
2019-2022	PI	Co-PI: Uri Shamir, <i>Technion</i>	Advanced methods for online control of water distribution systems	Water Authority (C)	320,000 NIS	C38, C41
2020-2023 ¹	PI	Industrial Partner: ProCom	Transforming digital content to actionable content: a practical approach for the water sector	MOST-BMBF (V)	145,000 Euro	NA ²
2020-2022	PI	Co-PI: Jack Haddad, <i>Technion</i>	Cyberattacks detection in water distribution systems based on stochastic hydraulic model	Technion Hiroshi Fujiwara Cyber Security Research Center (C)	415,000 NIS	C50
*2022-2026	PI		Managing water distribution	ISF (V)	880,000 NIS	C55

¹ Due to the impact of Covid-19 pandemic on the business of our industrial partner, they withdrawal from the project after it was awarded, as a result the project was cancelled. The awarding letter could be provided upon request.

Years	Role in Research	Other Researchers (Name & Role)	Title	Funded by	Amount	Relevant Publications
			systems under combination of long-term and spot market power contracts			
*2022-2025	PI		Multiobjective management of the desalination array in the Israeli water systems	Israeli Water Authority (C)	350,000 NIS	C52, C53
*2022-2025	PI	Co-PI: Barak Fishbain, <i>Technion</i>	Coupling machine learning and physically based hydraulic models for detecting and localizing cyber-attacks in water systems	Israeli Water Authority (C)	359,000 NIS	
*2022-2026	PI		Transforming digital content to actionable content: a practical approach for the water sector	MOST (V)	400,000 NIS	

Internal Funds

Years	Role in Research	Other Researchers (Name & Role)	Title	Funded by	Amount	Relevant Publications
2017-2019	PI	Co-PI: Ofira Ayalon, <i>UoH</i>	Cyber-Security of Water Distribution Systems: Attacks' Detection Algorithms	The center of cyber law and policy (C)	40,000 NIS	C26, C27

Years	Role in Research	Other Researchers (Name & Role)	Title	Funded by	Amount	Relevant Publications
2019	PI	Co-PI: Ofira Ayalon, <i>UoH</i>	Policy Implications of Cyber-Security in Water Distribution Systems	The center of cyber law and policy (C)	40,000 NIS	C40
2020	PI		Hydraulic-based modeling for cyber-attacks detection in water distribution systems	The center of cyber law and policy (C)	100,000 NIS	C37
*2022	PI	Co-PIs: Alan Hartman, Bracha Nir: <i>UoH</i> , Meira Levy, <i>Shankar</i>	Climate Change Readiness in the Israeli Water Sector	Rector's call for SDG related research	15,000 NIS	Stakeholders Workshop

7. Scholarships, Awards and Prizes

Years	Name of Award	Other Awardees	Purpose of Award or Achievement	Source
2003, 2005, 2006	Dean Award for Excellence	N/A	Excellence in B.Sc. Studies	Technion
2006	The Ronen Cohen Memorial Scholarship for Excellence	N/A	Highest Grade in Pavement Design Class during B.Sc. Studies, ~3000 NIS	Technion
2007	Technion Fellowship for PhD Students	N/A	PhD Scholarship, ~8000 NIS per month	Technion

Years	Name of Award	Other Awardees	Purpose of Award or Achievement	Source
2009	Water Authority Scholarship	N/A	Ph.D. Scholarship, ~60,000 NIS	Water Authority
2010	Second Place in Poster Competition	Co-authors: Avi Ostfeld & Uri Shamir	Posters Competition	Jordan Water Week
2011	Excellence in Teaching Award	N/A	Excellence in Teaching as a Teaching Assistant	Technion
2012	Outstanding Reviewer Award	N/A	Excellent Peer Review Service	Journal of Water Resources P&M
2012	Publication C4 was featured on the cover of the journal	Co-authors: Avi Ostfeld & Lina Sela	Paper Highlight	Environmental Science and Technology
2013	Maof Scholarship	N/A	Scholarship for Young Arab Academic Staff, Salary support for the first three years of the appointment + startup research money (~150,000 NIS)	Council of Higher Education
2015	Excellence in Refereeing Award	N/A	Excellent Peer Review Service	Water Resources Research
2016	First Place Poster Award	MA Student (Tal Silver)	Posters Competition	Israel Society of Ecology and Environmental Sciences
2017	First Place Award in the Battle of Cyber-Attacks Detection Algorithms	Research Assistant (Ziv Ohar)	Algorithmic Competition	American Society of Civil Engineering

Years	Name of Award	Other Awardees	Purpose of Award or Achievement	Source
2018	Outstanding Reviewer Award	N/A	Excellent Peer Review Service	Journal of Water Resources P&M
2020	Publication C37 was selected as Editor's Highlight	Co-authors: Lina Sela, Elad Salomons	Paper Highlight	Water Resources Research
*2022	Fourth Place in the Battle of Intermittent Water Supply	Four Co-Authors	Algorithmic Competition	American Society of Civil Engineering
*2022	The Leadership and Excellence Award as an influential personality of the year	N/A	Highlighting Public Figures and Academics in the Arab Israeli Community	The Arab Public Centers Foundation "Moustawa"
*2022	Best Presentation Award	Research Assistant (Elad Salomons)	Best presentation as per the voting of the conference attendees	19 th CCWI Conference
*2023	First Place Award	Three B.Sc. Students under my Supervision	Hackathon Competition on Sustainable Technological Solutions	The Sixth National Hackathon at Shenkar College of Engineering
*2024	Best Associate Editor Award	N/A	Every year the journal selects the best associate editor of the year based on the quality of the editorial work.	Journal of Water Resources P&M
*2024	The Social Sciences Faculty Award for Outstanding Scholarly Publication	N/A	Publishing one or more papers in journals ranked in the top 10%, ~3000 NIS.	The Social Sciences Faculty at the University of Haifa

8. Teaching

a. Courses Taught (last 10 years)

Years	Name of Course	Type of Course	Level	Number of Students
2013-2022	Environmental project management and green entrepreneurship	Lecture	M.A.	15
2013-2020	Application of Matlab for environmental studies	Lecture	M.A.	15
2013-Present	Statistics	Lecture	M.A.	30
2014-2022	Environmental Systems Analysis	Lecture	M.A.	15
2014-Present	Fluid Mechanics and Hydraulics	Lecture	B.Sc.	50
2017-Present	Surface Hydrology	Lecture	B.Sc.	50
2017-2021	Green Entrepreneurship	Lecture	M.A.	15
2017-Present	Introduction to Economics	Lecture	M.A.	30
2017-2023	Quantitative Methods	Lecture	M.A.	20
2017-2020	Advanced Quantitative Methods	Lecture	M.A.	20
2017-Present	Research Methods	Lecture	M.A.	20
*2024-Present	Hydro-Informatics	Lecture	M.A.	10
*2024-Present	Decision Support Systems	Lecture	M.A.	20

b. Supervision of Graduate Students

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion	Students' Achievements
M.A. Students					
Mariam Egbariah	Uri Shamir, Technion	Optimal regional management of reclaimed water system with different qualities	M.A.	2017	Presentation in conference
Naama Shapira		Developing a negotiation support system for environmental-Economics conflicts resolution	M.A.	2017	C31
Tal Silver	Gideon Gal, Kinneret Laboratory	Developing space-time dynamic model for analyzing lake Kinneret fishery	M.A.	2017	Presentation in conference, Poster (first place poster award)
Alaa Jamal	Raphael Linker, Technion	Optimal irrigation scheduling incorporating probabilistic weather forecasts	M.A.	2017	C25, C29
Merav Tal-maon	Dani Broitman, Technion	Quantifying the Interdependency, Resiliency, Reliability and Vulnerability of Interdependent Systems	M.A.	2019	C43
Noy Kadosh	Alex Frid	Detecting Cyber-attacks in water distribution systems	M.A.	2019	C35
Tomer Aharon		Management of water supply systems under uncertainty: an info-gap approach	M.A.	2020	C42

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion	Students' Achievements
Riky Levin	Boris Portnov	Characterization of Localities with High Likelihood of Illicit Connections between Runoff and Sewage Systems	M.A.	2019	C33
Alex Webb		Applications of Game Theory for water resources problems	M.A. Exchange students from McGill University, Canada (1 Semester)	2020	
Yoav Bornstein		Reducing implementation cost of wetlands water quality decision support systems	M.A.	2021	C49
*Fouad Taya		Integrating Renewable Energy Sources in the Design of Water Treatment Plants	M.A.	In Progress	
*Yoav Cohen		Optimal Design of Turbine System for Energy Recovery in the National Water System	M.A.	In Progress	
Ph.D. Students					
*Elad Salomons		Practical methods for WDSs operation	Ph.D.	2022	C32, C34, C37, C38, C41, C46, C47
*Merav Tal-maon	Dani Broitman & Michelle Portman, Technion	Developing decision support systems for optimal placement of nature-based solutions	Ph.D.	2024	C54, C58

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion	Students' Achievements
*Tomer Aharon		Developing HydraSPICE: a Framework for Modeling and Dynamic Simulations of Water Distribution Systems using SPICE	Ph.D.	In Progress	
*Alon Mandel		Enhancing Operational Efficiency of Cross-Country Pipelines and Pumping Facilities in the Modern Energy Era	Ph.D.	In Progress	
*Stav Cohen	Barak Fishbain, Technion	Cyber-Physical-Human Systems Secure & Optimal Operations Through GenAI	Ph.D.	In Progress	
Post-Docs and Research Assistants (RA)					
Alaa Jamal		Analysis of Water Distribution Systems	Post-Doc	2020	C45, Now a Principal Researcher in Volcani Center
*Noy Kadosh		Cyber-Physical Attacks in Water Distribution Systems	RA	2022	C50
*Elad Salomons		Operation of Water Distribution Systems	Post-Doc	2022-Present	C53, C55
*Anudeep Bhatraj		Design of Combined Water and Energy Systems	Post-Doc	2023-2024	C55
*Nahum Gabinet		Pipes Failure Prediction in Water Distribution Systems	Post-Doc	2024-Present	

9. Conferences / Invited Lectures / Seminars (last 5 years)

a. Participation in International Conferences

Notes: presenter is underlined; #students under my supervision

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
April 24-26, 2019	4 th Open Science Meeting of the Global Land Programme	Bern, Switzerland	The decision-maker matters: An operational Multi-Objective Game Theoretic Model for environmental-economic conflict resolution	Presentation <u>Broitman D.</u> , #Shapira N., Housh M.
May 19-23, 2019	World Environmental and Water Resources Congress	Pittsburgh, Pennsylvania, USA	A practical optimization scheme for real time operation of water distribution systems	Presentation # <u>Salomons E.</u> , Housh M.
Aug 27-30, 2019	The 59 th Congress of European Regional Science Association (ERSA)	Lyon, France	Decision-makers' characteristics matter: An operational model for environmental-economic conflict resolution	Presentation <u>Broitman D.</u> , Housh M., and #Shapira N.,
Sep 1-4, 2019	17th International Computing & Control for the Water Industry Conference	University of Exeter, UK	1. WDSLlib 1.1: A Demand- and Pressure-Dependent Simulation Testbed for Water Distribution Systems 2. Distributed Micro-Storage Tanks for Pressure Management in Water Distribution System	Presentation 1. <u>Qiu M.</u> , Housh M., Ostfeld A., 2. <u>Qiu M.</u> , Housh M., Ostfeld A.,
May 4-8, 2020	EGU General Assembly Conference	Online	Water Energy Nexus as Manifested in Desalination based Water Sector: the case of Israel	Presentation #Salomons E., <u>Housh M.</u>

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
Dec, 13-17, 2021	AGU General Assembly Conference	Online	Optimal Management of Desalination for Coastal Water Supply Systems	Poster # <u>Hendrickson G.</u> , Housh M., Sela L.,
*May, 23-27, 2022	EGU General Assembly Conference	Vienna, Austria	Sustainable runoff management using spatial modeling and multi-objective optimization	Presentation # <u>Tal-maon M.</u> , Broitman D., Portman M., Housh M.
*June, 4-9, 2022	World Environmental and Water Resources Congress	Atlanta, Georgia, USA	<ol style="list-style-type: none"> 1. Privacy protection in the presence of smart water meters 2. An Optimization Algorithm for Real-time Operation of water networks 3. A Multi-Objective Optimization Framework for Integrating Desalination Operation into Regional Water Supply Systems 	Presentation <ol style="list-style-type: none"> 1. #<u>Salomons E.</u>, Housh M. 2. <u>Housh M.</u>, #Salomons E. 3. <u>Hendrickson G.</u>, Housh M., Sela L.

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
*July, 18-22, 2022	2nd International Joint Conference on Water Distribution System Analysis (WDSA) & Computing and Control in the Water Industry (CCWI) Joint Conference	Valencia, Spain	<ol style="list-style-type: none"> 1. Local control schemes for real-time optimization of variable speed pumps 2. Optimal flow meters placement for uncovering the water network flow distribution 3. Optimizing Rehabilitation Strategies for a Deteriorated Water Distribution System 	Presentation <ol style="list-style-type: none"> 1. <u>#Salomons E.</u>, Housh M., Housh M., Shamir U. 2. <u>Housh M.</u>, #Salomons E., Shamir U., Newman I. 3. Perelman G., Xing L., <u>Housh M.</u>, Kandiah V., Fishbain B., Shafiee E.
*April, 23-28, 2023	EGU General Assembly Conference	Vienna, Austria	Identifying optimal type and locations of natural water retention measures using spatial modeling and cost-benefit analysis	Poster <u>#Tal-maon M.</u> , Broitman D., Portman M., Housh M.
*May, 21-24, 2023	World Environmental and Water Resources Congress	Henderson, Nevada, USA.	<ol style="list-style-type: none"> 1. A DSS for energy contracts procurement in water distribution systems 2. Head and efficiency curves calibration for water pumps using SCADA data 3. Conjunctive optimal operation of power and water networks 	Presentation <ol style="list-style-type: none"> 1. <u>Housh M.</u>, #Salomons E. 2. <u>#Salomons E.</u>, Housh M. 3. <u>#Shmaya T.</u>, Housh M., Pecci F., Baker K., Kasprzyk J., Ostfeld A.,

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
*June, 26-30, 2023	The 2023 International SWAT Conference	Aarhus, Denmark	Combining a hydrological model with ecological planning for optimal placement of water-sensitive solutions	Presentation # <u>Tal-maon M.</u> , Broitman D., Portman M., Housh M.
*September, 4-7, 2023	Computing and Control in the Water Industry (CCWI) Conference	Leicester, UK	1. Positional Control Valve calibration based on SCADA data for modeling of WDNs 2. Assessing the Interplay Between the Water and Energy Sectors in a Desalination-Based Water Supply System	Presentation 1. <u>\$Salomons E.</u> , Housh M., 2. <u>\$Salomons, E.</u> , Housh M., David K., Sela L.
*April, 14-19, 2024	EGU General Assembly Conference	Vienna, Austria	Combining a hydrological model with ecological planning for optimal placement of water-sensitive solutions	Presentation # <u>Tal-maon M.</u> , Broitman D., Portman M., Housh M.
*May, 19-22, 2024	World Environmental and Water Resources Congress	Milwaukee, Wisconsin, USA	OWPF solutions using polyhedral and conic relaxations	Presentation # <u>Shmaya T.</u> , Pecci F, Housh M., Ostfeld A.,
*July, 1-4, 2024	Distribution System Analysis (WDSA) & Computing and Control in the Water Industry (CCWI) Joint Conference	Ferrara, Italy	Optimized integration of solar and battery systems in water distribution networks	Presentation \$ <u>Bhatraj, A.</u> , \$ <u>Salomons, E.</u> , Housh M.,

b. Participation in Local Conferences (last 5 years)

Date	Name of Conference	Place of Conference	Subject of Lecture	Role
March 27, 2019	Israeli Association of Water Resources conference	Hatsva, Israel	DSS for the planning and management of Kinneret watershed's water system.	Presentation Housh M., Kronaveter L., <u>Shamir U.</u> , Hadad A., Achipaz Z.
May 22, 2019	Israeli Association of Water	Tel Aviv, Israel	One Class Classifiers for Detecting Cyber-Physical Attacks in Water Distribution Systems	Presentation <u>#Kadosh N.</u> , Frid A., Housh M.
Feb 4, 2020	Regional Science Association International	Hertzelya, Israel	Characterization of Localities with a High Likelihood of Illicit Connections between Runoff and Sewage Systems	Presentation <u>#Levin R.</u> , Housh M., Portnov B.
March 25, 2020	Israeli Association of Water Resources Conference	Ma'le Hmisha, Israel	Using water quality models for streams reservation and reclamation.	Presentation <u>#Bornstein Y.</u> , Housh M.
Feb 9, 2021	Regional Science Association International	Online	Development of an optimization model for sensitive water planning of upper watershed: A case study of the Tabor River basin	Presentation <u>#Tal-maon M.</u> , Broitman D., Portman M., Housh M.
July 6-7, 2021	The 49th Annual Conference on Science and Environment	Tel-Aviv, Israel	Runoff management using water sensitive planning and multiobjective optimization: Tavor Drainage Basin Case Study	Poster <u>#Tal-maon M.</u> , Broitman D., Portman M., Housh M.

Date	Name of Conference	Place of Conference	Subject of Lecture	Role
*April 3, 2022	Regional Science Association International	Sderot, Israel	Integration of spatial modeling and optimization for identifying optimal areas for reducing runoff and sediment: A case study of the Nahal Tabor drainage basin	Presentation # <u>Tal-maon M.</u> , Broitman D., Portman M., Housh M.
*July 6-7, 2022	The 50th Annual Conference on Science and Environment	Tel-Aviv, Israel	Integration of spatial modeling and multi-objective optimization for optimal siting of sensitive water planning solutions	Poster # <u>Tal-maon M.</u> , Broitman D., Portman M., Housh M.

c. Invited Scholarly Lectures (other than in conferences)

c.1. Abroad

Year	Name of Forum	Place of Lecture (institute, city, country)	Subject of Lecture	Role
2018	Seminar	University of Tufts, USA	A System Analysis Approach for Infrastructure and Natural Resources Planning and Management	Presenter
2020	KMBrasil	Online	Management of Smart Water Systems - Operational and Security Aspects	Presenter
*2022	University of Texas at Austen	Online	Smart Water Management: the Role of Decision Support Systems	Presenter

c.2. In Israel

Year	Name of Forum	Place of Lecture (institute, city)	Subject of Lecture	Role
2019	The Center for Cyber, Law and Policy (CCLP)	University of Haifa	Model-based Approach for Cyber-Physical Attacks Detection in WDSs	Presenter
2021	Workshop on data science	University of Haifa	Management of Smart Water Systems - Operational and Security Aspects	Presenter
*2022	The center for agricultural economics research, Hebrew University: A Memorial Conference Honoring the Legacy of Prof. Yoav Kislev	Hebrew University, Online	Optimal Management of the Kinneret Watershed	Presenter
*2022	The annual meeting of the Israeli water cooperations	Israeli Water Cooperations Forum, Eilat	The Role of Academia in Advancing the Water Utilities Operations	Keynote Speaker
*2022	The annual meeting of the Galilee Society – The Arab National Society for Health, Research and Services	Galilee Society, Shefa Amr	The Role of Machine Learning in Monitoring Water Systems	Keynote Speaker
*2023	Annual meeting on systems thinking & systems engineering for environmental & social impact	Gordon Center, Technion, Haifa	Decision Support Systems for the Israeli Water Sector	Presenter

d. Colloquium or Seminar Talks

Year	Name of Forum	Place of Lecture	Presentation
2019	Short course for international students	International School, Haifa University	Smart Infrastructure Systems (~8 hours course)
*2022-Present	Educational Outreach in Schools <i>Note: in some of the schools I have had multiple visits in different years</i>	<ul style="list-style-type: none"> • Kfar Manda, High School • Kfar Manda, Al-Hekma School • Araba, Albatof School • Araba, Eben Khaldon, School • Beer Almksor, High School • Kfar Kana, High School • Nazareth, Mar Yosef School • Rama, High School 	A System Analysis Approach for Infrastructure Systems and Natural Resources Planning and Management (<i>in Arabic</i>)
*2022-Present	University of Haifa for Youth	Haifa, Israel	Managing Water Systems using Algorithms and Machine Learning (<i>in Hebrew</i>)

e. Organization of Conferences, Sessions and Workshops

Year	Name of Conference	Place of Conference	Subject of Conference	Role
2015	World Environmental and Water Resources Congress	Florida, USA	Chair for water resources management track	² Track Chair (20 sessions)
2016	World Environmental and Water Resources Congress	California, USA	Chair for water resources management track	¹ Track Chair (20 sessions)
2016	World Environmental and Water Resources Congress	Florida, USA	Session: Using Hydro-climatic Predictions for Water Resources Systems Planning and Management II	Moderator
2017	World Environmental and Water Resources Congress	California, USA	Session: Water Resources Management under Uncertainty	Moderator
2017	World Environmental and Water Resources Congress	Minnesota, USA	Chair for water resources management track	¹ Track Chair (20 sessions)
2018	World Environmental and Water Resources Congress	Minnesota, USA	Session: Systems Thinking and Modeling Complex Adaptive Systems	Moderator
2018	World Environmental and Water Resources Congress	Pennsylvania, USA	Chair for water resources management track	¹ Track Chair (20 sessions)
2019	World Environmental and Water Resources Congress	Pennsylvania, USA	Session 1: Systems Analysis of the Urban Water Sector Session 2: Systems Thinking and Modeling Complex Adaptive Systems	Moderator (2 sessions)

² As a track chair, I was responsible for organizing a set of sessions (e.g. 20 sessions) in specific topic within a conference. I organized the planning and management track in the annual congress of the environmental water research institute.

Year	Name of Conference	Place of Conference	Subject of Conference	Role
2019	World Environmental and Water Resources Congress	Nevada, USA	Chair for water resources management track	¹ Track Chair (20 sessions)
2019	Stakeholders workshop: cyber-attacks in the water sector	Technion, Haifa	Stakeholders workshop for water- and cyber-aspects. Invited stakeholders ~50 participants.	Initiator and Organizer <i>(based on funded project)</i>
2020	World Environmental and Water Resources Congress	Online	Chair for water resources management track	¹ Track Chair (20 sessions)
2021	World Environmental and Water Resources Congress	Online	Chair for water resources management track	¹ Track Chair (20 sessions)
2021	EIGHTH INTERNATIONAL ENGINEERING SYSTEMS SYMPOSIUM	Virginia, USA.	Engineering Systems	Technical Committee Member
*2022	World Environmental and Water Resources Congress	Georgia, USA	Chair for water resources management track	¹ Track Chair (20 sessions)
*2022	Stakeholders workshop: Climate Change Readiness in the Israeli Water Sector	Technion, Haifa	Stakeholders workshop. Invited stakeholders ~20 participants.	Initiator and Organizer <i>(based on funded project)</i>
*2023	World Environmental and Water Resources Congress	Nevada, USA	Chair for water resources management track	¹ Track Chair (20 sessions)
*2024	3rd International Joint Conference on Water Distribution Systems Analysis& Computing and Control for the Water Industry (WDSA/CCWI)	University of Ferrara, Italy	Water Distribution Systems	Scientific Committee Member

10. Miscellaneous

Public Outreach

2018, Radio Interview (~15 min): “Water Systems and Climate Change Implications”, Makan (*in Arabic*)

*2022, Radio Interview (~20 min): "The Journey to Professorship in Water Systems Management", Makan (*in Arabic*)

*2022, TV Interview (~1 hour): "Smart Water Systems: The Role of Advanced Technology and AI", Hala TV (*in Arabic*)

*2024, Radio Interview (~1 hour): “Environmental Sciences Studies, Climate Change, Water Smart Systems”, Al-Nas (*in Arabic*)

PART B: PUBLICATIONS

H-index:	20	Source: Google Scholar
Citation index:	1575	Source: Google Scholar
ORCID number:	https://orcid.org/0000-0003-4924-2636	
Google Scholar link:	https://scholar.google.com/citations?user=6SbwCREAAAAJ&hl=en	

A. Ph.D. Dissertation

Title:	Optimal Multi-year Management of Regional Water Resources Systems under Uncertainty
Date of submission:	August 15, 2011
Number of pages:	215
Language:	English
Name of supervisor:	Prof. Avi Ostfeld and Prof. Uri Shamir
University:	Technion
Publications: item no. from the following list (for example: B2, D12, etc.)	C1-3, C5-6.

Notes for the following chapters

For joint publications with colleagues, the order of the listed authors is according to their relative contribution. For papers with my students, the last author and/or corresponding author is a sign of leading the study.

Index:

IF=Impact Factor (*from JCR-web of science, by year of publication*)

R= Rank (*from JCR-web of science, by year of publication*)

Q=Quartile (*from JCR-web of science, by year of publication*)

SJR=SCImago Journal Rank Indicator

V=Included in VATAT list of journals (The Council for Higher Education list)

#=Student

\$=Research Assistant

B. Scientific Books (Refereed)

C. Articles in Refereed Journals

1. **Housh, M.**, Ostfeld A., and Shamir U., (2011), Optimal multiyear management of a water supply system under uncertainty: Robust counterpart approach, *Water Resources Research*, 47(10), 1-15.
IF 2011= 2.957
R 2011= Limnology: 2/19; Water Resources: 3/78 (Q1)
V
2. **Housh, M.**, Ostfeld, A., & Shamir, U. (2012). Box-constrained optimization methodology and its application for a water supply system model. *Journal of Water Resources Planning and Management*, 138(6), 651-659.
IF 2012 = 1.709
R 2012= Engineering, Civil: 19/122 (Q1)
V
3. **Housh, M.**, Ostfeld, A., & Shamir, U. (2012). Seasonal multi-year optimal management of quantities and salinities in regional water supply systems. *Environmental modelling & software*, 37, 55-67.
IF 2012= 3.476
R 2012= Computer Science, Interdisciplinary Applications: 8/100 (Q1)
V
4. Perelman, L., Arad, J., **Housh, M.**, & Ostfeld, A. (2012). Event detection in water distribution systems from multivariate water quality time series. *Environmental science & technology*, 46(15), 8212-8219.
IF 2012= 5.257
R 2012= Engineering, Environmental: 2/42 (Q1)
V
5. **Housh, M.**, Ostfeld, A., & Shamir, U. (2012). Implicit mean-variance approach for optimal management of a water supply system under uncertainty. *Journal of Water Resources Planning and Management*, 139(6), 634-643.
IF 2013= 1.760
R 2013= Engineering, Civil: 21/124 (Q1)
V
6. **Housh, M.**, Ostfeld, A., & Shamir, U. (2013). Limited multi-stage stochastic programming for managing water supply systems. *Environmental modelling & software*, 41, 53-64.
IF 2013= 4.538
R 2013= Computer Science, Interdisciplinary Applications: 5/102 (Q1)
V
7. Perelman, L., **Housh, M.**, & Ostfeld, A. (2013). Least-cost design of water distribution systems under demand uncertainty: the robust counterpart approach. *Journal of Hydroinformatics*, 15(3), 737-750.

IF 2013= 1.336

R 2013= Engineering, Civil: 21/124 (Q1)

V

8. Arad, J., **Housh, M.**, Perelman, L., & Ostfeld, A. (2013). A dynamic thresholds scheme for contaminant event detection in water distribution systems. *Water research*, 47(5), 1899-1908.

IF 2013= 5.323

R 2013= Water Resources: 1/81 (Q1)

V

9. Perelman, L., **Housh, M.**, & Ostfeld, A. (2013). Robust optimization for water distribution systems least cost design. *Water Resources Research*, 49(10), 6795-6809.

IF 2013= 3.709

R 2013= Limnology: 1/20 (Q1); Water Resources: 3/81 (Q1)

V

10. **Housh, M.**, Cai X., Ng T., McIsaac G., Ouyang Y., Khanna M., Sivapalan M., Jain A., Eckhoff S., Gasteyer S., Al-Qadi I., Bai Y., Yaeger M., Ma S., Song Y., (2014), System of Systems Model for Analysis of Biofuel Development, *Journal of Infrastructure Systems*, 21(3), 1-14.

IF 2014= 1.049

R 2014= Engineering, Civil: 55/125 (Q2)

V

11. Yaeger, M.A., **Housh, M.**, Cai, X., & Sivapalan, M. (2014). An integrated modeling framework for exploring flow regime and water quality changes with increasing biofuel crop production in the US Corn Belt, *Water Resources Research*, 50 (12), 9385–9404.

IF 2014= 3.549

R 2014= Limnology: 2/20 (Q1); Water Resources: 3/83 (Q1)

V

12. Pan, L., **Housh, M.**, Liu, P., Cai, X., & Chen, X. (2015). Robust stochastic optimization for reservoir operation. *Water Resources Research*, 51(1), 409-429.

IF 2015= 3.792

R 2015= Limnology: 1/20 (Q1); Water Resources: 5/85 (Q1)

V

13. **Housh, M.**, & Cai, X. (2015). Successive smoothing algorithm for solving large-scale optimization models with fixed cost. *Annals of Operations Research*, 229(1), 475-500.

IF 2015= 1.406

R 2015= Operations Research /Management Science: 32/82 (Q2)

V

14. **Housh, M.**, & Ostfeld, A. (2015). An integrated logit model for contamination event detection in water distribution systems. *Water Research*, 75, 210-223.

IF 2015= 5.991

R 2015= Water Resources: 1/85 (Q1)

V

15. **Housh, M.**, Khanna, M., & Cai, X. (2015). Mix of first-and second-generation biofuels to meet multiple environmental objectives: Implications for policy at a watershed scale. *Water Economics and Policy*, 1(3), 1-26.
N/A
16. **Housh M.**, Yaeger M., Cai X., Khanna M., McIsaac G., Sivapalan M., Ouyang Y., Jain, A., (2015), Managing Multiple Mandates: A System of Systems Model to Analyze Strategies for Producing Cellulosic Ethanol and Reducing Riverine Nitrate Loads in the Upper Mississippi River Basin, *Environmental Science and Technology*, 49 (19), 11932–11940.
IF 2015= 5.393
R 2015= Engineering, Environmental: 3/50 (Q1)
V
17. Schwartz, R., **Housh, M.**, & Ostfeld, A. (2016). Least-Cost Robust Design Optimization of Water Distribution Systems under Multiple Loading. *Journal of Water Resources Planning and Management*, 142(9), 1-11.
IF 2016= 3.537
R 2016= Water Resources: 5/88 (Q1)
V
18. Nguyen, T. D., Cai, X., Ouyang, Y., & **Housh, M.** (2016). Modelling infrastructure interdependencies, resiliency and sustainability. *International Journal of Critical Infrastructures*, 12(1-2), 4-36.
IF 2016= N/A
SJR 2016= 0.373
R 2016= Safety, Risk, Reliability and Quality: 70/344 (Q2)
19. Schwartz, R., **Housh, M.**, & Ostfeld, A. (2016). Limited multistage stochastic programming for water distribution systems optimal operation. *Journal of Water Resources Planning and Management*, 142(10), 1-6.
IF 2016= 3.537
R 2016= Water Resources: 5/88 (Q1)
V
20. **Housh, M.**, ^sOhar, Z. (2017). Integrating Physically based Simulators with Event Detection Systems: Multi-Site Detection Approach. *Water Research*, 110, 180-191.
IF 2017= 7.051
R 2017= Water Resources: 1/90 (Q1)
V
21. **Housh, M.**, ^sOhar, Z. (2017). Multiobjective Calibration of Event-Detection Systems. *Journal of Water Resources Planning and Management Division*, 143(8), 1-5.
IF 2017= 3.197
R 2017= Water Resources: 11/90 (Q1)
V
22. **Housh, M.** (2017). Non-probabilistic robust optimization approach for flood control system design. *Environmental Modelling & Software*, 95, 48-60.

IF 2017= 4.177

R 2017= Computer Science, Interdisciplinary Applications: 9/105 (Q1)

V

23. Givati A., **Housh M.**, Levi Y., Paz D., Carmona I., Becker E., (2017), The advantage of using international multi-model ensemble for seasonal precipitation forecast in Israel, *Advances in Meteorology*, 1-13.

IF 2017: 1.645

R 2017= METEOROLOGY & ATMOSPHERIC SCIENCES: 58/86 (Q3)

V

24. Shafiee-Jood, M., **Housh, M.**, & Cai, X. (2018). Hierarchical Decision-Modeling Framework to Meet Environmental Objectives in Biofuel Development. *Journal of Water Resources Planning and Management*, 144(7), 1-15.

IF 2018= 3.404

R 2018= Water Resources: 13/91 (Q1)

V

25. #Jamal, A., Linker, R., & **Housh, M.** (2018). Comparison of Various Stochastic Approaches for Irrigation Scheduling Using Seasonal Climate Forecasts. *Journal of Water Resources Planning and Management*, 144(7), 1-10.

IF 2018= 3.404

R 2018= Water Resources: 13/91 (Q1)

V

26. **Housh, M.**, ^SOhar, Z. (2018). Model-based approach for Cyber-Physical Attacks Detection in Water Distribution Systems. *Water Research*, 139, 132-143.

IF 2018= 7.913

R 2018= Water Resources: 1/91 (Q1)

V

27. Taormina, R., et al., **Housh, M.**, ^SOhar, Z., (31 co-authors) (2018). The battle of the attack detection algorithms: disclosing cyber-attacks on water distribution networks. *Journal of Water Resources Planning and Management Division*, 144(8), 1-11.

IF 2018= 3.404

R 2018= Water Resources: 13/91 (Q1)

V

28. **Housh M.**, ^SSalomons E., (2018). Optimal dynamic pump triggers for cost saving and robust water distribution system operations. *Journal of Water Resources Planning and Management*, 145(2), 1-9.

IF 2018= 3.404

R 2018= Water Resources: 13/91 (Q1)

V

29. #Jamal A., Linker R., **Housh M.**, (2019). Optimal Irrigation with Perfect Weekly Forecasts versus Imperfect Seasonal Forecasts. *Journal of Water Resources Planning and Management*³, 145(5), 1-6.
IF 2019= 2.406³
R 2019= Water Resources: 36/94 (Q2, was 13/91, Q1, when submitted the paper)
V
30. Sela L., **Housh M.**, (2019). Increasing Usability of Water Distribution Analysis Tools through Plug-In Development in EPANET. *Journal of Hydraulic Engineering*, 145(5), 1-4.
IF 2019= 1.993
R 2019= Civil Engineering: 58/134 (Q2)
V
31. #Shapira N., **Housh M.**^C, Broitman D., (2019). Decision-makers matter: An operational model for environmental-economic conflict resolution. *Environmental Science & Policy*, 98, 77-87.
IF 2019= 4.767
R 2019= ENVIRONMENTAL SCIENCES: 48/265 (Q1)
V
32. Sela L., #Salomons E., **Housh M.**, (2019). Plugin prototyping for the EPANET software. *Environmental Modelling & Software*, 119, 49-56.
IF 2019= 4.807
R 2019= Computer Science, Interdisciplinary Applications: 14/109 (Q1)
V
33. #Levin R., **Housh M.**^C, Portnov B., (2020). Characterization of Localities with a High Likelihood of Illicit Connections between Runoff and Sewage Systems, *Environmental Management*, 65(6), 748-757.
IF 2019= 2.561
R 2019= ENVIRONMENTAL SCIENCES: 123/265 (Q2)
V
34. #Salomons E., **Housh M.**, (2020). A Practical Optimization Scheme for Real-Time Operation of Water Distribution Systems. *Journal of Water Resources Planning and Management*, 146(4), 1-12.
IF 2019= 2.406³
R 2019= Water Resources: 36/94 (Q2, was 13/91, Q1, when submitted the paper)
V
35. #Kadosh N., Frid A., **Housh M.**, (2020). Detecting Cyber-Physical Attacks in Water Distribution Systems: One-class Classifier Approach. *Journal of Water Resources Planning and Management*³, 146(8). 1-13.
IF 2019= 2.406³
R 2019= Water Resources: 36/94 (Q2, was 13/91, Q1, when submitted the paper)
V

³ Noteworthy that it is a leading journal in the field of water resources management, it was 13/91(Q1) in 2018 and before it was ranked in top 10 (see publications list).

36. Qiu M., **Housh M.**, Ostfeld A., (2020), A Two-Stage LP-NLP Methodology for the Least-Cost Design and Operation of Water Distribution Systems. *Water*, 12(5), 1-21.
IF 2019= 2.544
R 2019= Water Resources: 31/94 (Q2)
V
37. #Salomons E., Sela L., **Housh M.** (2020). Hedging for Privacy in Smart Water Meters. *Water Resources Research*, 56(9), 1-16. (**Paper was selected as Editor's Highlight**)
IF 2020= 5.24
R 2020= water resources: 11/98 (Q1)
V
38. #Salomons E., **Housh M.** (2020). Practical real-time optimization for energy efficient water distribution systems operation. *Journal of Cleaner Production*, 275, 1-14.
IF 2019= 7.10
R 2019= Green sustainable science and technology: 6/41 (Q1)
V
39. Qiu M., **Housh M.**, Ostfeld A., (2021), Analytical Optimization Approach for Simultaneous Design and Operation of Water Distribution–Systems Optimization. *Journal of Water Resources Planning and Management*³, 147(3), 1-8.
IF 2019= 2.406³
R 2019= Water Resources: 36/94 (Q2)
V
40. §Shapira N., Ayalon O., Ostfeld A., Farber Y., **Housh M.**, (2021), Cyber-security in the water sector – a stakeholders' perspective. *Journal of Water Resources Planning and Management*³, 147(8), 1-15.
IF 2019= 2.406³
R 2019= Water Resources: 36/94 (Q2)
V
41. #Salomons E., Shamir U., **Housh M.**, (2021), Optimization methodology for estimating pump curves using SCADA data. *Water*, 13(5), 1-14.
IF 2019= 2.544
R 2019= Water Resources: 36/94 (Q2)
V
42. **Housh M.**, #Aharon T., (2021), Info-Gap models for Optimal Multi-Year Management of Regional Water Resources Systems under Uncertainty. *Sustainability*, 13(6), 1-27.
IF 2019= 2.592
R 2019= Environmental Studies: 53/123 (Q2)
V
43. #Tal-maon, M., Broitman, D., & **Housh, M.** (2021). Nonlinear Interdependency Measures for Infrastructure Systems: Case Study of Biofuel Infrastructure Development. *Journal of Infrastructure Systems*, 27(4), 1-14.
IF 2019= 1.825

- R 2019= Civil Engineering: 67/134 (Q2)**
V
44. **Housh, M.** (2021). Optimization of Multi-Quality Water Networks: Can Simple Optimization Heuristics Compete with Nonlinear Solvers?. *Water*, 13(16), 1-18.
IF 2019= 2.406
R 2019= Water Resources: 36/94 (Q2)
V
45. **Housh M.** and ^SJamal Alaa, (2021), Utilizing Matrix Completion for Simulation and Optimization of Water Distribution Networks, *Water Resources Management*.
IF 2021= 4.426
R 2021= Water Resources: 24/131 (Q1)
V
46. **Housh, M.**, [#]Salomons, E., Sela, L., & Simpson, A. R. (2022). Water Distribution Systems on the Spot: Energy Market Opportunities for Water Utilities. *Journal of Water Resources Planning and Management*³, 148(3), 1-5.
IF 2022= 3.1³
R 2022= Water Resources: 40/103 (Q2)
V
47. [#]Salomons E., **Housh M.**, (2022), Smart Water Meters Can Save Lives during the Covid-19 Pandemic, *Journal of Water Resources Planning and Management*³, 148(4), 1-6.
IF 2022= 3.1³
R 2022= Water Resources: 40/103 (Q2)
V
48. Raška P, Bezak N, Ferreira CSS, Kalantari Z, Banasik K, Bertola M, Bourke M, Cerdà A, Davids P, Madruga de Brito M, Evans R, Finger DC, Halbac-Cotoara-Zamfir R, **Housh M**, Hysa A, Jakubínský J, Solomun MK, Kaufmann M, Keesstra S, et al., (2022), Identifying barriers for nature-based solutions in flood risk management: An interdisciplinary overview using expert community approach. *J Environ Manage*, (1), 1-10.
IF 2022= 8.7
R 2022= ENVIRONMENTAL SCIENCES: 31/275 (Q1)
V
49. [#]Bornstein Y., Dayan B., Cahn, A., Wells C., **Housh M.**, (2022), Environmental Decision Support Systems as a Service: Demonstration on CE-QUAL-W2 model. *Water*, 14(6), 1-16.
IF 2022= 3.4
R 2022= Water Resources: 38/103 (Q2)
V
50. ^{*}**Housh M.**, ^SKadosh N., Haddad J., (2022), Detecting and Localizing Cyber-Physical Attacks in Water Distribution Systems without Records of Labeled Attacks. *Sensors*, 22(16), 6035
IF 2022= 3.9
R 2022= INSTRUMENTS&INSTRUMENTATION: 19/63 (Q2)

V

51. *[#]Hendrickson G., **Housh M.**, Sela L., (2023), Optimizing desalination for regional water systems: Integrating uncertainty, quality, and sustainability. *Journal of Cleaner Production*, 415, 137785.

IF 2022= 11.1

R 2022= ENVIRONMENTAL SCIENCES: 22/275 (Q1)

V

52. ***Housh M.**, (2023), Optimizing bilinear multi-source water supply systems using mixed-integer linear programming approximations: An analysis of the Israeli seawater desalination array. *Advances in Water Resources*, 178, 104498.

IF 2022= 4.7

R 2022= Water Resources: 19/103 (Q1)

V

53. *^{\$}Salomons E., **Housh M.**, Katz D., Sela L., (2023), Water-energy nexus in a desalination-based water sector: the impact of electricity load shedding programs. *npj Clean Water*, 6(1), 67.

IF 2022= 11.4

R 2022= Water Resources: 2/103 (Q1)

V

54. *[#]Tal-maon M., Broitman D., Portman M.E., **Housh M.**, (2024), Combining a hydrological model with ecological planning for optimal placement of water-sensitive solutions. *Journal of Hydrology*, 628, 130457.

IF 2022= 6.4

R 2022= Water Resources: 9/103 (Q1)

V

55. *^{\$}Bhatraj A., ^{\$}Salomons E., **Housh M.**, (2024), An optimization model for simultaneous design and operation of renewable energy microgrids integrated with water supply systems. *Applied Energy*, 361, 122879.

IF 2022= 11.2

R 2022= ENGINEERING, CHEMICAL: 11/160 (Q1)

V

56. *[#]Gaz D., Shpiner R., **Housh M.**, (2024), Development of an Israeli Hydrological Calculator using the Rational Method: Part 1. Water Engineering (*in Hebrew*).

<https://www.dmag.co.il/pub/shinar/WE/140/26/>

N/A

57. *[#]Gaz D., Shpiner R., **Housh M.**, (2024), Development of an Israeli Hydrological Calculator using the Rational Method: Part 2. Water Engineering (*in Hebrew*).

<https://www.dmag.co.il/pub/shinar/WE/141/18/>

N/A

58. *Tal-maon M., Broitman D., Portman M.E., **Housh M.**, (2024), Identifying the optimal type and locations of natural water retention measures using spatial modeling and cost-benefit analysis. *Journal of Environmental Management*, 368, 122229.

IF 2023= 8

R 2023= ENVIRONMENTAL SCIENCES: 34/358 (Q1)

V

D. Submitted for Publication

1. *Shmaya T., **Housh M.**, Pecci F., Baker K., Kasprzyk J., Ostfeld A., (2024), Conjunctive optimal operation of water and power networks, *Cleaner Production*.

JCR IF 2022= 11.1

R 2022= ENGINEERING, ENVIRONMENTAL 8/55 (Q1)

2. *Levy M., Hadar I., Hartman A., **Housh M.**, Ayalon O., Nir B., Ostfeld A., (2024), Muddy waters: design thinking for understanding the multi-organizational problem space of the water sector, *Sustainability*.

JCR IF 2022= 3.9

R 2022= ENVIRONMENTAL SCIENCES 114/275 (Q2)

3. *Perelman, G., Xing, L., **Housh M.**, Kandiah V., Fishbain B., Shafiee E., (2024), Greedy Budget Allocation for Optimizing the Performance of Water Distribution Systems Under Intermittent Supply Conditions. *Journal of Water Resources Planning and Management*.

JCR IF 2022= 3.1

R 2022= WATER RESOURCES 40/103 (Q2)

E. Articles or Chapters in Scientific Books (Refereed)

1. *Fong B., **Housh M.**, Hong G.Y., Wang J.M., (2023), Pipeline management technologies for sustainable water supply in a smart city environment. DOI:10.1016/B978-0-323-90386-8.00055-3

F. Articles in Conference Proceedings

1. **Housh M.**, Ostfeld A., and Shamir U., (2011), Multi-year optimal management of quantities and salinities in water supply systems, Bearing Knowledge for Sustainability - Proceedings of the 2011 World Environmental and Water Resources Congress, Palm Springs, California, USA, pp. 4267-4277.
2. **Housh M.**, Ostfeld A., and Shamir U., (2011), Optimal multi-year management of a water supply system under uncertainty: Robust counterpart approach, Bearing Knowledge for Sustainability - Proceedings of the 2011 World Environmental and Water Resources Congress, Palm Springs, California, USA, pp. 3075-3085.
3. **Housh M.**, Ostfeld A., and Shamir U., (2011), Search method for box-constrained optimization, Bearing Knowledge for Sustainability - Proceedings of the 2011 World Environmental and Water Resources Congress, Palm Springs, California, USA, pp. 2901-2910.

4. **Housh M.**, Ostfeld A., and Shamir U., (2011), Optimal multi-year operation of a water supply system under uncertainty: robust methods. Risk in Water Resources Management - Proceedings of Symposium H03 held during IUGG2011 in Melbourne, Australia, July 2011. IAHS Publ. 347, 2011, pp. 183-190.
5. **Housh M.**, Ostfeld A., and Shamir, U., (2012), Optimal multi-year management of a regional water supply system under uncertainty: the affine adjustable robust counterpart approach, Crossing Boundaries - Proceedings of the 2012 World Environmental and Water Resources Congress, Albuquerque, New Mexico, USA, pp. 793-807.
6. Arad J., **Housh M.**, Perelman L., and Ostfeld A., (2012), Contamination event detection utilizing Genetic Algorithm, Proceedings of the 14th Water Distribution Systems Analysis Conference, Adelaide, South Australia.
7. Perelman L., **Housh M.**, Olikier N., and Ostfeld A., (2012), Non-probabilistic approach for the optimal design of water distribution systems under demand uncertainty, Proceedings of the 14th Water Distribution Systems Analysis Conference, Adelaide, South Australia.
8. Arad J., **Housh M.**, Perelman L., and Ostfeld A., (2012), Comparison between Fixed thresholds and Genetic algorithm methods for water quality event detection, Proceedings of the 14th Water Distribution Systems Analysis Conference, Adelaide, South Australia.
9. Perelman L., **Housh M.**, and Ostfeld A., (2013), Explicit Demand Uncertainty Formulation for Robust Design of Water Distribution Systems, Showcasing the future - Proceedings of the 2013 World Environmental and Water Resources Congress, Cincinnati, Ohio, USA, pp. 684-695.
10. Fagiolini, A., **Housh M.**, Ostfeld, A., and Bicchi, A., (2014), Distributed Estimation and Control of Water Distribution Networks by Logical consensus", International Symposium on Communications, Control, and Signal Processing: Special Session on Wireless Sensor and Actuator Network Applications, Athens, Greece.
11. **Housh M.**, Ostfeld A., and Shamir U., (2014), Management of Water Systems under Hydrological Uncertainty, Proceedings of the Dooge Nash International Symposium, 23-26 April 2014, Dublin, Ireland, pp. 355-364.
12. **Housh M.**, and Ostfeld A., (2015), Utilizing discrete choice models for fusing alarms from multiple water quality indicators, Proceedings of the 2015 World Environmental and Water Resources Congress, Austin, Texas, USA, pp. 652-657
13. **Housh M.**, ^sOhar Z., (2017), Model based approach for Cyber-Physical Attacks Detection in Water Distribution Systems, Proceedings of the 2017 World Environmental and Water Resources Congress, Sacramento, CA, USA, pp. 727-736
14. [#]Perelman, G., Xing, L., **Housh M.**, Kandiah V., Fishbain B., Shafiee E., (2022), Optimizing the Performance of Water Distribution System Under Intermittent Supply Conditions Using a Heuristic Technique, Proceedings of the WDSA-CCWI Joint Conference, Valencia, Spain.
15. ^sSalomons, E., **Housh M.**, Shamir U., (2022), Local Control Schemes for Real-Time Optimization of Variable Speed Pumps, Proceedings of the WDSA-CCWI Joint Conference, Valencia, Spain.

16. *[§]Salomons, E., **Housh M.**, Shamir U., Newman I., (2022), Optimal Flow Meters Placement for Uncovering the Water Network Flow Distribution, Proceedings of the WDSA-CCWI Joint Conference, Valencia, Spain.
17. *[§]Salomons, E., **Housh M.**, (2023), Positional Control Valve calibration based on SCADA data for modeling of WDNs, Proceedings of the CCWI Conference, Leicester, UK.
18. *[§]Salomons, E., **Housh M.**, David K., Sela L., (2023), Assessing the Interplay Between the Water and Energy Sectors in a Desalination-Based Water Supply System, Proceedings of the CCWI Conference, Leicester, UK.
19. *[#]Shmaya T., **Housh M.**, Pecci F., Baker K., Kasprzyk J., Ostfeld A., (2023), Conjunctive optimal operation of power and water networks, Proceedings of the 2023 World Environmental and Water Resources Congress, Henderson, Nevada, USA.
20. *[#]Shmaya T., Pecci F., **Housh M.**, Ostfeld A., (2024), OWPF solutions using polyhedral and conic relaxations, Proceedings of the 2024 World Environmental and Water Resources Congress, Milwaukee, Wisconsin, USA.
21. *[§]Bhatraj, A., [§]Salomons, E., **Housh M.**, (2024), Optimized integration of solar and battery systems in water distribution networks, Proceedings of the WDSA-CCWI Joint Conference, Ferrara, Italy.