Date: 29.1.2023

R E S U M E

1. PERSONAL DETAILS

Full Name: Razi Epsztein
Identity No: 032624645
Date and place of birth: 29.8.1983, Israel
Phone numbers: 054-5951541, office – 04-8293362
E-mail: raziepsztein@technion.ac.il

2. ACADEMIC DEGREES

2013-2017	Ph.D.	Civil and Environmental Engineering, Technion – Israel Institute of Technology; Dissertation: "*Groundwater Hydrogenotrophic Denitrification in a Pressurized Reactor*"; Advisor: Prof. Michal Green. Co-advisor: Dr. Sheldon Tarre
2010-2012	M.Sc.	Environmental Engineering, Ben-Gurion University of the Negev, Beer-Sheba, Israel. Advisor: Prof. Vitaly Gitis
2006-2010	B.Sc.	Biotechnological Engineering, Ben-Gurion University of the Negev, Beer-Sheba, Israel

3. ACADEMIC APPOINTMENTS

2019-present	Senior Lecturer	Civil and Environmental Engineering, Technion – Israel Institute of Technology
2017-2019	Postdoctoral Fellow	Chemical and Environmental Engineering, Yale University; Host: Prof. Menachem Elimelech

4. PROFESIONAL EXPERIENCE (outside academia)

5. RESEARCH INTERESTS

- Membrane processes for selective separation at the water-energy nexus
- Molecular transport and selectivity in membranes and nanopores
- Biological processes for water and wastewater treatment

6. TEACHING EXPERIENCE

- "Biological Processes in Environmental Engineering", undergraduate-level course (2020-present)
- "Membrane Separation", undergraduate- and graduate-level course (2020-present)
- "Advanced Wastewater Treatment", graduate-level course (2020-present)

7. TECHNION ACTIVITIES

8. DEPARTMENTAL ACTIVITY

2020-present	Member in the undergraduate studies committee
2022	Organizing committee of the departmental seminar day (April 26)

9. PUBLIC PROFESSIONAL ACTIVITIES

2018-present	Reviewer for the following journals: Proceedings of the National Academy of Sciences; Science Advances; Journal of the American Chemical Society; Water Research; Environmental Science & Technology; Journal of Membrane Science; Desalination; Environmental Science: Nano; Environment International; Frontiers in Microbiology; ACS Applied Polymer Materials; Environmental Science & Technology Engineering; Resources, Conversion & Recycling; Separation and Purification Technology; ACS Sustainable Chemistry and Engineering; and Langmuir.
2022-present	Reviewer of grant applications for the following foundations: Israel Science Foundation (ISF)

10. MEMBERSHIP IN PROFESIONAL SOCIETIES

11. FELLOWSHIPS, AWARDS, AND HONORS

2022-2023	Dalfen Family Fund, New Directions in Membrane Science – excellence award (research grant)
2022	*Nature Water* Prize for the Excellent Presentation in the Nanofiltration 2022 conference, Achalm, Germany, 26-30 June 2022
2022	Henri Gutwirth Fund for the Promotion of Research – excellence award (research grant)
2021	*ES&T* Excellence in Review Award 2021
2017-2018	Vaadia-BARD Postdoctoral Fellowship
2016	The Eitan Spitzer Memorial Award for excellent oral presentation at the annual conference for science and environment organized by "The Israel Society of Ecology and Environmental Science", Tel-Aviv, Israel, 21-23 June 2016
2015-2016	The Irwin and Joan Jacobs Excellence Fellowship (Technion)
2014-2015	The Miriam and Aaron Gutwirth Memorial Excellence Fellowship (Technion)
2014	The Grand Water Research Institute Excellence Fellowship (Technion)

12. GRADUATE STUDENTS

Completed MSc theses

1. Vladislav Pavluchkov, year of graduation: 2022, title of thesis: Elucidating transport and selectivity mechanisms of anions in polyamide membranes, sole advisor

PhD theses in progress

2. Idit Shefer, starting year: 2020, expected year of graduation: 2024, title of thesis: Applying transition-state theory to explore and improve solute-solute selectivity in polyamide nanofiltration membranes, sole advisor (personal awards: Russell Berrie Nanotechnology Institute Excellence Fellowship 2021-2022, Jacobs Excellence Fellowship 2022-2023)

MSc theses in progress

3. Ophir Peer-Haim, starting year: 2020, expected year of graduation: 2023, title of thesis: Mechanisms for cation transport and selectivity in polyamide membranes, sole advisor
4. Rebecca-Sophia Roth, starting year: 2021, expected year of graduation: 2023, title of thesis: Effect of ion "stickiness" on surface charge and performance of nanofiltration membranes, sole advisor
5. Mor Avidar, starting year: 2021, expected year of graduation: 2024, title of thesis: before topic Temperature-dependent ion-ion selectivity in nanofiltration membranes, sole advisor
6. Oren Ben Porat, starting year 2022, expected year of graduation: 2024, title of thesis: before topic selection (first year student), sole advisor
7. Noa Bachinsky, starting year 2022, expected year of graduation: 2025, title of thesis: before topic selection (starting in Oct 2022)
8. Jinghao Gao, starting year: 2023, expected year of graduation: 2025, title of thesis: before topic selection (first year student), primary advisor: Xiaowu Huang (GTIIT)

13. SPONSORED LONG-TERM VISITORS AND POST-DOCTORAL ASSOCIATES

1. Dr. Liat Birnhak, research associate (2022-present)

14. RESEARCH GRANTS

Competitive

Grant period	Grant details
2022-2025	National Science Foundation (NSF) - Binational Science Foundation (BSF), $236,933, Ion transport and selectivity in salt-rejecting membranes operating at elevated salinities and pressures, PIs: Razi Epsztein, Anthony P. Straub (University of Colorado Boulder), and Michael R. Shirts
-	Binational Science Foundation (BSF), $75,000, Ion transport and selectivity in salt-rejecting membranes operating at elevated salinities and pressures, PIs: Razi Epsztein, Anthony P. Straub (University of Colorado Boulder). Replaced with NSF-BSF grant (see line above)
2022	German - Israeli Foundation (GIF), €25,000, Production of mineral-rich desalinated brackish water using a hybrid filtration scheme with "reversed" nanofiltration selectivity, personal grant

2021-2025	Israel Science Foundation (ISF, personal grant), 1,040,000 Shekels, Applying transition-state theory to elucidate mechanisms of ion transport in polyamide membranes, personal grant
2021-2025	Israel Science Foundation (ISF, personal equipment), 702,780 Shekels, Equipment required for chemical analyses of water and for synthesis and characterization of membranes

Industrial and other sources

Grant period	Grant details
2020-2022	Israel-US Binational Industrial Research and Development Foundation (BIRD), $90,000 (shared budget), Israel-US CoWERC, PIs: Razi Epsztein, Matthew Suss, and Guy Ramon.

15. PUBLICATIONS

Theses

- MSc thesis title: '*Effect of Coagulation on Effluent Quality and UF Operational Stability at Tertiary Treatment of Municipal Wastewater*', advised by Prof. Vitaly Gitis, Ben-Gurion University of the Negev, 2012
- PhD dissertation title: '*Groundwater Hydrogenotrophic Denitrification in a Pressurized Reactor*', advised by Prof. Michal Green; co-advised by Dr. Sheldon Tarre, Technion – Israel Institute of Technology, 2017

Refereed papers in professional journals

Published papers

1. Felder A., **Epsztein R.**, Villensky N., and Gitis V., (2011) 'Optimization of coagulation pretreatment in desalination of municipal wastewater effluents', *Desalination and Water Treatment* 35, 62-67
2. Naim R., **Epsztein R.**, Felder A., Heyer M., Heijnen M. and Gitis V., (2014) 'Rethinking the role of in-line coagulation in tertiary membrane filtration of municipal effluents', *Separation and Purification Technology* 125, 11-20
3. **Epsztein R.**, Nir O., Lahav O. and Green M., (2015) 'Selective nitrate removal from groundwater using a hybrid nanofiltration-reverse osmosis filtration scheme', *Chemical Engineering Journal* 279, 372-378
4. **Epsztein R.**, Beliavski M., Tarre S. and Green M., (2016) 'High-rate hydrogenotrophic denitrification in a pressurized reactor', *Chemical Engineering Journal* 286, 578-584
5. **Epsztein R.**, Beliavski M., Tarre S. and Green M., (2016) 'Submerged bed versus unsaturated flow reactor: a pressurized hydrogenotrpohic denitrification reactor as a case study', *Chemosphere* 161, 151-156
6. **Epsztein R.**, Beliavski M., Tarre S. and Green M., (2016) 'Simplified model for hydrogenotrophic denitrification in a novel unsaturated-flow pressurized reactor', *Chemical Engineering Journal* 306, 233-241
7. **Epsztein R.**, Beliavski M., Tarre S. and Green M., (2018) 'Pressurized hydrogenotrophic denitrification reactor for small water systems', *Journal of Environmental Management* 216, 315-319

8. **Epsztein R.**, Desitti C., Beliavski M., Tarre S. and Green M., (2017) 'Co-reduction of nitrate and perchlorate in a pressurized hydrogenotrophic reactor with complete H_2 utilization', *Chemical Engineering Journal* 328, 133-140

9. **Epsztein R.**, Cheng W., Shaulsky E., Dizge N. and Elimelech M., (2018) 'Elucidating the mechanisms underlying the difference between chloride and nitrate rejection in nanofiltration', *Journal of Membrane Science* 548, 694-701

10. Dizge N., **Epsztein R.**, Cheng W., Porter C. J. and Elimelech M., (2018) 'Biocatalytic and salt selective multilayer polyelectrolyte nanofiltration membrane', *Journal of Membrane Science* 549, 357-365

11. Cheng W., Liu C., Tong T., **Epsztein R.**, Sun M., Verduzco R., Ma J. and Elimelech M., (2018) 'Selective removal of divalent cations by polyelectrolyte multilayer nanofiltration membrane: role of polyelectrolyte charge, ion size, and ionic strength', *Journal of Membrane Science* 559, 98-106

12. **Epsztein R.**, Shaulsky E., Dizge N., Warsinger D. M. and Elimelech M., (2018) 'Role of ionic charge density in Donnan exclusion of monovalent anions by nanofiltration', *Environmental Science & Technology* 52, 4108-4116

13. Qin M., Deshmukh A., **Epsztein R.**, Patel S. K., Owoseni O. M., Walker W. S., and Elimelech M., (2019) 'Comparison of energy consumption in desalination by capacitive deionization and reverse osmosis', *Desalination* 455, 100-114

14. DuChanois R. M., **Epsztein R.**, Trivedi J. A., and Elimelech M., (2019) 'Controlling pore structure of polyelectrolyte multilayer nanofiltration membranes by tuning polyelectrolyte-salt interactions', *Journal of Membrane Science* 581, 413-420

15. Qin M., Deshmukh A., **Epsztein R.**, Patel S. K., Owoseni O. M., Walker W. S., and Elimelech M., (2019) 'Response to comments on "Comparison of energy consumption in desalination by capacitive deionization and reverse osmosis" ', *Desalination* 462, 48-55

16. Faucher S., Narayana A., Bazant M. Z., Elimelech M., **Epsztein R.**, Strano M. S. et al., (2019) 'Critical knowledge gaps in mass transport through single-digit nanopores: a review and perspective', *The Journal of Physical Chemistry C* 123, 21309-21326

17. **Epsztein R.**, Shaulsky S., Qin M., and Elimelech M., (2019) 'Activation behavior for ion permeation in ion-exchange membranes: Role of ion dehydration in selective transport', *Journal of Membrane Science* 580, 316-326

18. Lester Y., Shaulsky E., **Epsztein R.**, and Zucker I., (2020) 'Capacitive deionization for simultaneous removal of salt and uncharged organic contaminants from water', *Separation and Purification Technology* 237, 116388

19. Aydin F., Zhan C., Ritt., **Epsztein R.**, Elimelech M., Schwegler E., and Pham T. A., (2020) 'Similarities and differences between potassium and ammonium ions in liquid water: A first-principles study', Physical Chemistry Chemical Physics 22, 2540-2548

20. Malmir H., **Epsztein R.**, Elimelech M., and Haji-Akbari A., (2020) 'Induced charge anisotropy: A hidden variable affecting ion transport through membranes', *Matter* 2, 735-750

21. Sigurdardottir S., Duchanois R. M., **Epsztein R.**, Pinelo M., and Elimelech M., (2020) 'Energy barriers to anion transport in polyelectrolyte multilayer nanofiltration: Role of intra-pore diffusion', *Journal of Membrane Science* 603, 117921

22. Patel S. K., Ritt C. L., Deshmukh A., Wang Z., Qin M., **Epsztein R.**, and Elimelech M., (2020) 'The relative insignificance of advanced materials in enhancing the energy efficiency of desalination technologies', *Energy & Environmental Science* 13, 1694-1710

23. **Epsztein R.**, DuChanois R. M., Ritt C. L., Noy A., and Elimelech M., (2020) 'Towards single-species selectivity of membranes with sub-nanometer pores', *Nature Nanotechnology* 15, 426-436
24. Zhou X., Wang Z., **Epsztein R.**, Zhan C., Li W., Fortner J. D., Pham T. A., Kim. J., and Elimelech M., (2020) 'Intrapore energy barriers govern ion transport and selectivity of desalination membranes', *Science Advances* 6, eabd9045
25. Keisar I., Desitti C., Beliavski M., **Epsztein R.**, Tarre S., and Green M., (2021) 'A pressurized hydrogenotrophic denitrification system for removal of nitrates at high concentrations', *Journal of Water Process Engineering* 42, 102140
26. Nativ P., Leifman O., Lahav O., **Epsztein R.**, (2021) 'Desalinated brackish water with improved mineral composition using monovalent-selective nanofiltration followed by reverse osmosis', *Desalination* 520, 115364
27. Zhou X., Heiranian N., Yang M., **Epsztein R.**, Gong K., White CE., Hu S., Kim. J., Elimelech M., (2021) 'Selective Fluoride transport in subnanometer TiO2 pores', *ACS Nano* 15, 16828-16838
28. Shefer I., Peer-Haim O., Leifman O., **Epsztein R.**, (2021) 'Enthalpic and entropic selectivity of water and small ions in polyamide membranes', *Environmental Science & Technology* 55, 14863-14875
29. Ritt C. L., Liu M., Pham T. A., **Epsztein R.**, Kulik H. J., Elimelech M., (2022) 'Machine learning reveals key ion selectivity mechanisms in polymeric membranes with subnanometer pores', *Science Advances* 8, eabl5771
30. Pavluchkov V., Shefer I., Peer-Haim O., Blotevogel J., **Epsztein R.**, (2022) 'Indications of ion dehydration in diffusion-only and pressurized nanofiltration', *Journal of Membrane Science* 648, 120358
31. Shefer I., Lopez K., Straub A. P., **Epsztein R.**, (2022) 'Applying transition-state theory to explore molecular transport and selectivity in salt-rejecting membranes: A critical review', *Environmental Science & Technology* 56, 7467-7483
32. Shefer I., Peer-Haim O., **Epsztein R.**, (2022) 'Limited ion-ion selectivity in salt-rejecting membranes due to enthalpy-entropy compensation', *Desalination* 541, 116041
33. Shocron A. N., Roth R. S., **Epsztein R.**, Suss M. E., (2022) 'Comparison of ion selectivity in electrodialysis and capacitive deionization', *Environmental Science & Technology Letters* 9, 889-899
34. **Epsztein R.**, (2022) 'Intrinsic limitations of nanofiltration membranes to achieve precise selectivity in water-based separations', *Frontiers in Membrane Science and Technology* 1, 1048416

Submitted papers

35. Jeong N., **Epsztein R.**, Wang R., Park S., Lin S., Tong T., (2023) 'Exploring the knowledge attained by machine learning on ion transport across polyamide membranes using explainable artificial intelligence', *Environmental Science & Technology* (revision submitted)
36. Peer-Haim O., Shefer I., Singh P., Nir O., **Epsztein R.**, (2023) 'The adverse effect of concentration polarization on ion-ion selectivity in nanofiltration', *Environmental Science & Technology Letters* (in revision)

Review papers (Shown also in the list of published papers above)

1. **Epsztein R.**, DuChanois R. M., Ritt C. L., Noy A., and Elimelech M., (2020) 'Towards single-species selectivity of membranes with sub-nanometer pores', *Nature Nanotechnology* 15, 426-436
2. Shefer I., Lopez K., Straub A. P., **Epsztein R.**, (2022) 'Applying transition-state theory to explore molecular transport and selectivity in salt-rejecting membranes: A critical review', *Environmental Science & Technology* 56, 7467-7483
3. Shocron A. N., Roth R. S., **Epsztein R.**, Suss M. E., (2022) 'Comparison of ion selectivity in electrodialysis and capacitive deionization', *Environmental Science & Technology Letters* 9, 889-899
4. **Epsztein R.**, (2022) 'Intrinsic limitations of nanofiltration membranes to achieve precise selectivity in water-based separations', *Frontiers in Membrane Science and Technology* 1, 1048416

Patents granted

1. Green M., Tarre S., **Epsztein R.**, Method and device for nitrate removal from water. PCT/IL2016/050888, WO2017029659, Published on February 23, 2017
2. Green M., Lahav O., **Epsztein R.**, Nir O., Removal of nitrates from ground water. PCT/IL2016/050457, US 2018/0257964 A1, Published on Nov 10, 2016

Research reports and other publications

1. Siebdrath N., Uhl W., **Epsztein R.**, Felder A., Gitis V., Heyer M., Heijnen M., Dahdal Y., Rapaport H., Kasher R., Pipich V., Schwahn D., Herzberg M., Ying W., Al-Ashaab A., Gillor O., Ding W., Lerch A., Fouling minimised reclamation of secondary effluents with reverse osmosis - fundamental and applied research (ReSeRO), German – Israeli Cooperation in Water Technology Research, 12th Status Seminar, Leonardo Haifa Hotel, Israel, 17-18 October 2012
2. **Epsztein R.**, Shaulsky S., Qin M., and Elimelech M., (2019) 'Corrigendum to "Activation behavior for ion permeation in ion-exchange membranes: Role of ion dehydration in selective transport" ', *Journal of Membrane Science* 596, 117582
3. Qin M., Deshmukh A., **Epsztein R.**, Patel S. K., Owoseni O. M., Walker W. S., and Elimelech M., (2019) 'Corrigendum to "Comparison of energy consumption in desalination by capacitive deionization and reverse osmosis" ', *Desalination* 461, 55

16. CONFERENCES

Plenary, keynote or invited talks

- Invited talk: title to be determined, Alleviating Global Water Scarcity by Desalination and Water Reuse - The 2023 annual Blavatnik US-Israel Scientific Forum organized by the Israel Academy of Sciences and Humanities (IASH) and the National Academy of Sciences (NAS), Israel, 6-8 November 2023
- Invited talk: 'Intrinsic limitations of nanofiltration membranes to achieve precise separations', The 8th International Conference on Drylands, Deserts, & Desertification, Israel, 27 November – 1 December 2022

- Invited talk: 'The adverse effect of concentration polarization on ion-ion selectivity in nanofiltration', 5th International Symposium on Physics of Membrane Processes (PMP2022), The Netherlands, 13-14 October 2022

Contributed talks and posters

International

- Zhou X., Heiranian N., Yang M., **Epsztein R.** Gong K., White C.E., Hu S., Kim J., and Elimelech M. 'Selective fluoride transport through subnanometer TiO_2 voids', Association of Environmental Engineering & Science Professors (AEESP) conference, Washington University, St. Louid, USA, 28-30 June 2022 (Oral)
- Peer-Haim O., and **Epsztein R.** 'Can pressure induce dehydration of ions in polyamide membranes?', Nanofiltration 2022, Achalm, 26-30 June 2022 (Poster)
- Shefer I., Pavluchkov V., Peer-Haim O., and **Epsztein R.** 'Selectivity of ionic species in polyamide membranes and the relation to the dehydration phenomenon', Nanofiltration 2022, Achalm, 26-30 June 2022 (Poster)
- Shefer I., Lopez K., Straub A. P., and **Epsztein R.** 'Insights into the application of transition-state theory to transport in nanofiltration membranes', Nanofiltration 2022, Achalm, 26-30 June 2022 (Oral)
- Shefer I., Pavluchkov V., Peer-Haim O., and **Epsztein R.** 'Experimental indications of ion dehydration in nanofiltration membranes', Nanofluidics 2022, Lake Tahoe, 23-27 May 2022 (Oral)
- Peer-Haim O., Shefer I., and **Epsztein R.** 'Indications of pressure-induced ion dehydration in polyamide membranes', International Water Summit, Sde Boker Campus, Israel, 22-23 May 2022 (Poster)
- Shefer I., Pavluchkov V., Peer-Haim O., and **Epsztein R.** 'Enthalpic and entropic selectivity of water and small ions in polyamide membranes and the relation to the dehydration phenomenon', International Water Summit, Sde Boker Campus, Israel, 22-23 May 2022 (Poster)
- Shefer I., Peer-Haim O., Leifman O., Pavluchkov V., and **Epsztein R.** 'Enthalpic and entropic selectivity of water and small ions in polyamide membranes', Euromembrane 2021, Copenhagen, Denmark, 28 November - 2 December 2021 (Oral)
- Shefer I., Peer-Haim O., Leifman O., and **Epsztein R.** 'Elucidating molecular mechanisms for selective separation in polyamide membranes using transition-state theory', Membrane Desalination 2021 (MEMDES2021), Online international conference, Shanghai, China, 14-17 November 2021 (Oral).
- Shefer I., Peer-Haim O., Leifman O., and **Epsztein R.** 'Elucidating molecular mechanisms for selective separation in polyamide nanofiltration membranes using transition-state theory', NANOIL- the international nanotechnology conference in Israel, Jerusalem, Israel, 4-6 October 2021 (Poster)
- Ritt C. L., Liu. M., Pham T. A., **Epsztein R.** Kulik H.J., and Elimelech M. 'Molecular mechanisms of ion selectivity in nanoporous polymeric membranes', North American Membrane Society (NAMS) – 30th Annual Meeting, Estes Park, Colorado, USA, 28 Aug – 2 Sep 2021 (Oral)
- **Epsztein R.**, DuChanois R. M., Ritt C. R., and Elimelech M. 'Applying Transition-State Theory to Model Solute Transport in Membranes with Sub-nanometer Pores', North

American Membrane Society (NAMS) - 29th Annual Meeting, online conference (due to COVID-19), 18-21 May 2020 (Oral)

- Zhou X., **Epsztein R.**, Kim J., and Elimelech M. 'Energy Barriers for decoupled Cation and Anion Transport in Sub-nanometer Pores', North American Membrane Society (NAMS) - 29th Annual Meeting, online conference (due to COVID-19), 18-21 May 2020 (Oral)
- DuChanois R. M., **Epsztein R.**, Trivedi J.A., and Elimelech M. 'Controlling pore structure of polyelectrolyte multilayer nanofiltration membranes by tuning polyelectrolyte-salt interactions', Environmental Nanotechnology (Gordon Research Seminar and Conference), Newry, Maine, USA, 2-7 June 2019 (Poster)
- **Epsztein R.** and Elimelech M. 'Transport and selectivity in membranes with sub-1-nm pores', Dead Sea Water 2019 Workshop - Nanomaterials at the water-energy nexus, Ein Gedi Hotel, the Dead Sea, Israel, 4-7 February 2019 (Oral)
- **Epsztein R.** Cheng W., Dizge N., Shaulsky E., Warsinger D. M., and Elimelech M. 'Role of ion dehydration in the selectivity of membrane with sub-1-nm pores', Dead Sea Water 2019 Workshop - Nanomaterials at the water-energy nexus, Ein Gedi Hotel, the Dead Sea, Israel, 4-7 February 2019 (Poster)
- Malmir H., **Epsztein R.**, Elimelech M., and Haji-Akbari A. 'Computational investigation of water desalination across nanofiltration membranes using advanced sampling techniques', American Institute of Chemical Engineers (AIChE) – Recent Advances in Molecular Simulation Methods II, David L. Lawrence Convention Center, Pittsburgh, Pennsylvania, USA, 2 November 2018 (Oral)
- DuChanois R. M., **Epsztein R.**, and Elimelech M. 'Controlling pore structure of polyelectrolyte multilayer nanofiltration membranes', North East Graduate Students Water Symposium, University of Massachusetts Amherst, Massachusetts, USA, 7-9 September 2018 (Oral)
- **Epsztein R.**, Shaulsky E., Dizge N., Warsinger D.M., and Elimelech M. 'Elucidating the mechanisms underlying the difference in selectivity of nanofiltration membranes for various monovalent anions', Membranes: Materials and Processes (Gordon Research Conference), Colby-Sawyer College, New-London, New Hampshire, USA, 12-17 August 2018 (Poster)
- DuChanois R. M., **Epsztein R.**, and Elimelech M. 'Control of pore structure of layer-by-layer polyelectrolyte nanofiltration membranes to tune ion selectivity', Membranes: Materials and Processes (Gordon Research Conference), Colby-Sawyer College, New-London, New Hampshire, USA, 12-17 August 2018 (Poster)
- Porter C., Dizge N., **Epsztein R.**, Cheng W., and Elimelech M. 'Layer-by-layer assembled biocatalytic and salt selective nanofiltration membrane', American Institute of Chemical Engineers (AIChE) - North America Membrane Society (NAMS) 2018 Annual Meeting, Lexington, Kentucky, USA, 9-13 June 2018 (Poster)
- **Epsztein R.**, Beliavski M., Tarre S., Green M. 'Pressurized hydrogenotrophic denitrification reactor for small water systems', The 13th IWA Specialized Conference on Small Water and Wastewater Systems, Athens, Greece, 14-16 September 2016 (Oral)
- **Epsztein R.**, Beliavski M., Tarre S., Green M. 'Groundwater denitrification using hydrogen gas in a new reactor type', The annual conference for science and environment, Tel-Aviv, Israel, 21-23 June 2016 (Oral)

- **Epsztein R.**, Tarre S., Green M. 'High-rate groundwater denitrification in a pressurized hydrogen gas reactor', The annual conference for science and environment, Jerusalem, Israel, 12-14 October 2015 (Oral)
- **Epsztein R.**, Tarre S., Green M. 'Groundwater denitrification using a closed biofilm reactor with hydrogen at low partial pressure', Water research in Israel – The 2nd conference for research students, Grand Water Research Institute (Technion), Israel, 21 December 2014 (Poster)
- Gitis V., Shitrit H., Felder A., **Epsztein R.**, Naim R., Heijnen M., Siebdrath N., Uhl W. 'Tertiary treatment of municipal wastewater by diverse filtrations', IWA World Water Congress & Exhibition, Lisbon, Portugal, 21-26 September 2014 (Poster)
- Gitis V., Shitrit H., Felder A., **Epsztein R.**, Naim R., Heijnen M., Siebdrath N., Uhl W. 'Bio- and membrane filtrations as two options for tertiary wastewater treatment', The 5th International Slow Sand and Alternative Biological Filtration Conference, Nagoya, Japan, 19-21 June 2014 (Oral)
- **Epsztein R.**, Felder A., Shitrit H., Gitis V. 'Pretreatment-driven organic fouling of UF membranes and its effect on RO performance', Membranes in drinking and industrial water production, Leeuwarden, The Netherlands, 10–12 September 2012 (Oral)
- **Epsztein R.**, Felder A., Gitis V. 'Pretreatment-driven organic fouling of UF membranes and its effect on RO performance', BMBF-MOST project "Fouling minimized Reclamation of Secondary Effluents with Reverse Osmosis - ReSeRO" meeting in conjunction with the International Workshop "Understanding Fouling of RO Membranes in Reclamation of Secondary Effluents and its Minimization by Pre-Treatment", Dresden, Germany, 27 February - 2 March 2012 (Oral)

Israeli

- Shefer I., Peer-Haim O., and **Epsztein R.**, 'Exploring ion-ion selectivity in polyamide membranes with transition-state theory', Graduate student conference – Water Research in Israel, Technion, Israel 22 December 2022 (Oral)
- Roth R. S., Birnhak L., and **Epsztein R.**, 'Effect of ion stickiness on surface charge and performance of polyamide membranes', Graduate student conference – Water Research in Israel, Technion, Israel 22 December 2022 (Poster)
- Avidar M., Shefer I., and **Epsztein R.**, 'Temperature-dependent ion-ion selectivity in nanofiltration membranes', Graduate student conference – Water Research in Israel, Technion, Israel 22 December 2022 (Poster)
- Ben-Porat O., Birnhak L., and **Epsztein R.**, 'Applying Quartz crystal microbalance (QCM) to explore molecular partition in polyamide membranes', Graduate student conference – Water Research in Israel, Technion, Israel 22 December 2022 (Poster)
- Shefer I., Pavluchkov V., and **Epsztein R.**, 'Applying Transition-State Theory to Explain Water-Ion and Ion-Ion Selectivity in Polyamide Membranes', Water Research in Israel – The Next Generation of Research, Management & Industry (Virtual Graduate Student Conference), online conference (due to COVID-19), 13 December 2020 (Oral)
- Pavluchkov V., Shefer I., and **Epsztein R.**, 'Arrhenius Energy Barriers and Pre-Exponential Factors for the Transport of Monovalent Anions Through Dense Polyamide Membranes', Water Research in Israel – The Next Generation of Research, Management & Industry (Virtual Graduate Student Conference), online conference (due to COVID-19), 13 December 2020 (Poster)

- **Epsztein R.** ‘Learning from the K^+ Channel: Principles for Selective Membrane Separation’, Open day of the Environmental Engineering Department at the Technion, Technion, Israel, 23 January 2020 (Oral)
- **Epsztein R.** ‘Removal of nitrate and perchlorate from groundwater and brines using hydrogenotrophic pressurized reactor’, Invited speaker at “The Grand Water Research Institute” (Technion), Haifa, Israel, 21 December 2016 (Oral)
- **Epsztein R.**, Beliavski M., Tarre S., Green M. ‘Groundwater denitrification using hydrogen gas in a new reactor type’, Invited speaker at "IDE Technologies", Kadima, Israel, 6 July 2016 (Oral)