

Roni (Ron) Kasher

CURRICULUM VITAE AND LIST OF PUBLICATIONS

Roni Kasher, Associate professor, Zuckerberg Institute for Water Research, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Sede Boqer Campus 84990, Israel.

Tel: 972-8-6563531; 972-54-2475802 (mobile); kasher@bgu.ac.il
<http://in.bgu.ac.il/en/bidr/ziwr/dwt/Pages/staff/Kasher.aspx>

Education

B.Sc. - 1986-1989 - *cum laude*, Hebrew University of Jerusalem – Chemistry and Geology.

M.Sc. - 1990-1992 - *cum laude*, Hebrew University of Jerusalem - Organic Chemistry.

Thesis supervisor: Prof. Itamar Willner.

Ph.D. - 1994-2000 - Hebrew University of Jerusalem - Organic Chemistry.

Thesis supervisor: Prof. Chaim Gilon

Postdoctoral research – 2000-2003 – Weizmann Institute of Science, Department of Biological Chemistry. Israel. Advisor: Prof. Ephraim Katchalski-Katzir.

Prof. Kasher is an Associate Professor at the Zuckerberg Institute for Water Research, The Jacob Blaustein Institutes for Desert Research, Ben Gurion University of the Negev, Israel. Prof. Kasher did his BSc in Geology and Chemistry, and MSc and PhD in Organic Chemistry from The Hebrew University of Jerusalem, Israel, whereas his postdoc was at Weizmann Institute of Science (Rehovot, Israel).

Significant accomplishments of Prof. Kasher are the development of novel oligoamide thin-film membranes for nanofiltration, stabilizing metal-organic framework (MOF) nanoparticles on UF membranes for selective removal of pollutants, the development of antifouling reverse osmosis membranes by surface immobilized antimicrobial peptides, antifouling membrane modifications for mitigating with calcium phosphate scaling in reverse osmosis desalination of domestic wastewater, understanding silica scaling mechanisms in brackish water desalination, and the use of saline groundwater as an alternative for seawater as feed for desalination. R. Kasher received many awards and grants, among them are the Israel Science Foundation (ISF) in a joint program with China (NSFC), the German-Israeli Foundation for Science (GIF), and BMBF-MOST Germany-Israel Water Program. He is a coauthor of more than 70 research articles, and in addition patents and book chapters. Kasher supervised and is supervising 37 graduate students (MSc, PhD, and postdocs).

Employment

2017-present Associate Professor, Department of Desalination & Water Treatment, Zuckerberg Institute for Water Research, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel.

- 2011-2017 Senior Lecturer, Faculty member, Department of Desalination & Water Treatment, Zuckerberg Institute for Water Research, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel.
- 2005-2011 Lecturer, Faculty member, Department of Desalination & Water Treatment, Zuckerberg Institute for Water Research, Ben-Gurion University of the Negev, Israel.
- 2003 -2005 Research associate, In the group of the late Prof. Ronit Nativ, Department of Soil and Water Sciences, Faculty of Agriculture, Rehovot, The Hebrew University of Jerusalem, Israel.

Areas of expertise:

My main research interests include the development of novel membranes for water treatment and desalination and applying surface modification techniques to enhance membrane performance. Synthetic-organic chemistry approaches are used to prepare membranes with improved surface properties, antifouling, and solute transport for ultrafiltration, nanofiltration, and reverse osmosis processes. Taking advantage of my long experience in polymer and organic chemistry, I develop advanced membranes for freshwater purification, industrial waste treatment, domestic wastewater reclamation, seawater and brackish water desalination, and process water treatment. Other areas of interest are scaling mechanisms in water treatment processes, and the effects of organic matter on mineralization.

Recent committees and Services

- 2018–present: The Teaching committee, Zuckerberg Institute for Water Research (BGU).
- 2022: Steering committee member and session organizer. Session title: Functionalized Antifouling Surfaces in Membrane-Based Water Treatment, Conference: *The 8th International Deserts, Drylands and Desertification Conference (DDD2022)* chaired by Prof. Shimon Rachmilevitch; Conference dates: November 27–December 1, 2022.
- 2012–2021: The Scientific Steering Committee of Blaustein Center for Scientific Cooperation (BCSC), BIDR, Ben-Gurion University of the Negev.
- 2011–2018: The Safety Committee of Jacob Blaustein Institute for Desert Studies (BIDR), Ben-Gurion University of the Negev.

Graduate Students Advisees (year of graduation)

- **MSc students (total 21):** Eyal Hershkovitz (2008), Karin Berliner (2008), Eva Aroch (2009), Matan Brami (2009), Jenny Lerner-Yardeni (2009), Zvi Steiner (2009), Inbal Eshet (2011), Shani Avneri (2012), Gagik Ghazaryan (2012), Nitzan Kandiyote (2012), Bara Wahbeh (2012), Ani Vardanyan (2014), Shaked Stein (2015), Clil Regev (2015), Itay Lutsky (2016), Mahmood Al-Ramahi (2017), Canwei Mao (2017), Adva Kalman (2018), Einav Nissim (2018), Nada Abdalhadi (2022), Brhanu Kelali Desta (current).
- **PhD students (total 9):** Marina Yamit-Lutskiy (2014), Yara Dahdal (2014), Aviv Cohen (2018), Nitzan Shtreimer Kandiyote (2018), Suleiman Halasah (2019), Shaked Stein (2020), Paramita Manna (2022), Clil Regev (current), Xiaoke Tan (current).

- **Postdocs (total 6):** Miao Jing (2008), Rajender Kumar (2013), David Meridor (2015), Karthik Rathinam (2017), Swati Sundararayan (2020), Akshay Modi (current).

Teaching voluntarily in High School and high school summer camps:

- *The School of Environmental Education*, Sde Boqer, Israel. Workshop on Water Technologies and Desalination in Israel, in years 2016 – 2020.
- Lecture for US visitors to Midreshet Sde Boqer campus of BGU. Title: Water Situation in Israel and Advanced membranes for water treatment and desalination.

Scientific Publications

H-index (ISI): 21

Number of peer-reviewed journal articles: 71

Roni Kasher - List of Publications

(a) Refereed articles and refereed letters in scientific journals

1. I. Willner^{PI*}, **R. Kasher^S**, E. Zahavy^S and N. Lapidot^S (1992). Electron-transfer communication between redox-functionalized polymers and the active center of the enzyme glutathione reductase. *J. Am. Chem. Soc.* **114**, 10963-10965. (20 citations; IF 13.038; Ranking 10/163, Q1)
2. I. Willner^{PI*}, E. Katz^T, A. Riklin^T and **R. Kasher^S** (1992). Mediated electron transfer in glutathione reductase organized in self-assembled monolayers on Au electrodes. *J. Am. Chem. Soc.* **114**, 10965-10966. (115 citations; IF 13.038; Ranking 10/163, Q1)
3. A. Vengosh^{PI*}, K. G. Heumann^C, S. Jura'ske^S and **R. Kasher^S** (1994). Boron isotope application for tracing sources of contamination in groundwater. *Environ. Sci. Technol.* **28**, 1968-1974. (159 citations; IF 5.393; Ranking 14/225, Q1)
4. I. Willner^{PI*}, N. Lapidot^S, A. Riklin^T, **R. Kasher^S**, E. Zehavy^S and E. Katz^T (1994). Electron-transfer communication in glutathione reductase assemblies: Electro-catalytic, photocatalytic, and catalytic systems for the reduction of oxidized glutathione. *J. Am. Chem. Soc.* **116**, 1428-1441. (170 citations; IF 13.038; Ranking 10/163, Q1)
5. G. Bitan^S, D. Muller^S, **R. Kasher^S**, E. V. Gluhov^S and C. Gilon^{PI*} (1997). Building units for n-backbone cyclic peptides. Part 4. Synthesis of n- ω -functionalized amino acids by reductive alkylation of natural amino acids. *J. Chem. Soc., Perkin Trans. I*, 1501-1510. (26 citations; IF 2.42 (2004); Ranking 17/58, Q2)
6. **R. Kasher^S**, G. Bitan^S, C. Halloun^S and C. Gilon^{PI*} (1998). Synthesis of a bicyclic BPTI mimetic containing 4-thioproline replacing Cys(38). *Letters in Peptide Science* **5**, 101-103. (2 citations; journal ceased publication)
7. **R. Kasher^S**, D. A. Oren^T, Y. Barda^S and C. Gilon^{PI*} (1999). Miniaturized proteins: the backbone cyclic proteinomimetic approach. *J. Mol. Biol.* **292**, 421-429. (39 citations; IF 4.517; Ranking 62/289, Q1)

8. **R. Kasher^{PD}**, M. Balass^T, T. Scherf^T, M. Fridkin^C, S. Fuchs^C and E. Katchalski-Katzir^{PI*} (2001). Design and synthesis of peptides that bind α -bungarotoxin with high affinity. *Chemistry & Biology* **8**, 147-155. (35 citations; IF 5.774; Ranking 38/289, Q1)
This work was featured in the InterFace magazine, a publication of the Weizmann Institute of Science, Rehovot, on May 2002; URL: <http://wiswander.weizmann.ac.il/the-riddle-of-snake-venom-binding>
9. T. Scherf^T, **R. Kasher^{PD}**, M. Balass^T, M. Fridkin^C, S. Fuchs^C and E. Katchalski-Katzir^{PI*} (2001). A β -hairpin structure in a 13-mer peptide that binds α -bungarotoxin with high-affinity and neutralizes its toxicity. *Proc. Natl. Acad. Sci. USA* **98**, 6629-6634. (50 citations; IF 9.423; Ranking 4/63, Q1)
10. M. Harel^{T#}, **R. Kasher^{PD#}**, A. Nicolas^S, J. M. Guss^C, M. Balass^T, M. Fridkin^C, A. B. Smit^C, K. Brejc^S, T. Sixma^S, E. Katchalski-Katzir^{PI}, J. L. Sussman^{PI} and S. Fuchs^{PI*} (2001). The structure of the binding site of the acetylcholine receptor as visualized in the X-ray structure of a complex between α -bungarotoxin and a high affinity mimotope peptide. *Neuron* **32**, 265-275. (90 citations; IF 13.974; Ranking 6/256, Q1)
Equal contribution.
This paper was previewed by Arthur Karlin, Columbia University (USA), in a separate article: A. Karlin (2001), Of Snakes, Snails and Surrogates. Neuron 32, 173-174.
11. N. Venkatesh^{PD}, Y. Zaltsman^T, D. Somjen^T, B. Gayer^T, E. Boopathi^S, **R. Kasher^{PD}**, T. Kulik^T, E. Katchalski-Katzir^{PI} and F. Kohen^{PI*} (2002). A peptide with estrogen-like activity derived from a phage-display peptide library. *Peptides*, **23**, 573-580. (18 citations; IF 2.535; 108/253; Q2)
12. E. Katchalski-Katzir^{PI*}, **R. Kasher^{PD}**, M. Balass^T, T. Scherf^C, M. Harel^T, M. Fridkin^C, J. L. Sussman^{PI} and S. Fuchs^{PI} (2003). Design and synthesis of peptides that bind α -bungarotoxin with high affinity and mimic the three-dimensional structure of the binding-site of acetylcholine receptor. *Biophysical Chemistry*, **100**, 293-305. (11 citations; IF 2.363; 36/72; Q2)
13. S. Fuchs^{PI*}, **R. Kasher^{PD}**, M. Balass^T, T. Scherf^C, M. Harel^T, M. Fridkin^C, J. L. Sussman^C and E. Katchalski-Katzir^{PI} (2003). The binding site of acetylcholine receptor: from synthetic peptides to solution and crystal structure. *Ann. N. Y. Acad. Sci.* **998**, 93-100. (12 citations; IF 4.518; 8/63; Q1)
14. **R. Kasher^{PD}**, B. Gayer^T, T. Kulik^T, D. Somjen^T, N. Venkatesh^{PD}, M. Fridkin^C, E. Katchalski-Katzir^{PI} and F. Kohen^{PI*} (2004). Design, synthesis and evaluation of synthetic peptides with estrogen-like activity. *Biopolymers* **76**, 404-420. (8 citations; IF 2.248; 39/72; Q3)
15. **R. Kasher^{PI*}**, A. Bajayo^S, Y. Gabet^S, N. Nevo^T, M. Fridkin^C, F. Kohen^{PI}, E. Katchalski-Katzir^C and I. Bab^{PI} (2009). Restrain of bone growth by Estrogen-Mimetic Peptide-1 (EMP-1): A micro-computed tomographic study. *Peptides* **30**, 1181-1186. (5 citations; IF 2.535; 108/253; Q2)

16. **R. Kasher**^{PI*}. Membrane-based water treatment technologies: Recent achievements, and new challenges for a chemist. Invited review paper for *Bulletin of the Israel Chemical Society*, issue 24, 10-18 (2009). (Times cited: 0; journal data not available)
17. K. Berliner^S, E. Hershkovitz^S, Z. Ronen^C and **R. Kasher**^{PI*} (2009). Immobilization of Antimicrobial Peptides on Reverse Osmosis Polyamide Membranes: Potential Biofilm Inhibitors? In Peptides for youth - the proceedings of the 20th American peptide symposium; DelValle S; Escher E; Lubell WD (Eds.). *Book Series: Advances in Experimental Medicine and Biology* **611**, 241-242. (0 citations; IF 1.953; Ranking 26/86, Q2)
18. D. Somjen^{PI*}, E. Knoll^T, B. Gayer^T, **R. Kasher**^C, F. Kohen^C, N. Stern^T (2010). The effects of peptides with estrogen-like activity on cell proliferation and energy metabolism in human derived vascular smooth muscle cells. *J. Cellular Biochemistry* **110**(5), 1142-1146. (0 citations; IF 3.446; Ranking 86/187, Q2).
19. Z. Steiner^S, H. Rapaport^{PI*}, Y. Oren^C and **R. Kasher**^{PI*} (2010). Effect of surface-exposed chemical groups on calcium-phosphate mineralization in water-treatment systems. *Environmental Science & Technology* **44**, 7937-7943 (16 citations; IF 5.393; Ranking 14/225, Q1).

This article was highlighted in the magazine *Chemical & Engineering News* (by Rajendrani Mukhopadhyay, Nov. 3rd, 2010

URL: <http://pubs.acs.org/cen/news/88/i41/8841news.html>

20. ** Z. Steiner^S, J. Miao^{PD} and **R. Kasher**^{PI*} (2011). Development of an oligoamide coating as a surface mimetic for aromatic polyamide films used in reverse osmosis membranes. *Chemical Communications*, **47** (8), 2384-2386 (14 citations; IF 6.567; Ranking 21/163, Q1).
21. ** M. Herzberg^{PI*#}, A. Sweity^S, M. Brami^S, Y. Kaufman^S, V. Freger^C, G. Oron^C, S. Belfer^C, and **R. Kasher**^{PI*#} (2011). Surface properties and reduced biofouling of graft-copolymers that possess oppositely charged groups. *Biomacromolecules* **12** (4), 1169–1177 (32 citations; IF 5.583; Ranking 41/289, Q1).
22. ** I. Eshet^S, V. Freger^{PI*}, **R. Kasher**^{PI*}, M. Herzberg^C, J. Lei^S, and M. Ulbricht^C (2011). Chemical and physical factors in design of antibiofouling polymer coatings. *Biomacromolecules*, **12**, 2681-2685 (26 citations; IF 5.583; Ranking 41/289, Q1)
23. ** Alison E. Contreras^S, Zvi Steiner^S, Jing Miao^{PD}, **Roni Kasher**^{PI*}, and Qilin Li^{PI*} (2011). Studying the Role of Common Membrane Surface Functionalities on Adsorption and Cleaning of Organic Foulants Using QCM-D. *Environmental Science & Technology*, **45**, 6309-6315 (41 citations; IF 5.393; Ranking 14/225, Q1)
24. Yair Kaufman, **Roni Kasher**, Rob G.H. Lammertink, and Viatcheslav Freger (2012). Microfluidic NF/RO Separation: Cell Design, Performance and Application. *J. Memb. Sci.*, **396**, 67-73.

25. Bara Wahbeh, Tareq Abuhamed and **Roni Kasher**. Hydrogen and Boric Acid Production via Boron Hydrolysis Renewable Energy. Accepted to *Renewable Energy* 48, 10-15.
26. Vitaliy Pipich, Yara Dahdal, Hanna Rapaport, **Roni Kasher**, Yoram Oren, Dietmar Schwahn (2013). The effect of organic matter on calcium mineral formation - A basic research on scaling of reverse osmosis membranes in desalination of wastewater using small-angle neutron scattering. *Langmuir* 29, 7607-7617.
27. Bara Wahbeh, Samuel Tell, Tareq Abu-Hamed and **Roni Kasher** (2013). Kinetics of boron hydrolysis for hydrogen production. *International Journal of Hydrogen Energy* 38, 6210-6214.
28. Yara Dahdal, Vitaliy Pipich, Hanna Rapaport, Yoram Oren, **Roni Kasher**, Dietmar Schwahn (2014). Small-Angle Neutron Scattering Studies of Mineralization on BSA coated Citrate capped Gold Nano-Particles used as a Model Surface for Membrane Scaling in RO Wastewater Desalination. *Langmuir* 30, 15072-15082.
29. Marina-Yamit Lutskiy, Shani Avneri-Katz, Ni Zhu, Mark Itsko, Zeev Ronen, Christopher J. Arnusch, **Roni Kasher** (2015). A microbiology-based assay for quantification of bacterial early stage biofilm formation on reverse-osmosis and nanofiltration membranes. *Separation and Purification Technology* 141, 214-220.
30. Wang Ying, Rajender Kumar, Moshe Herzberg, and **Roni Kasher** (2015). Diminished swelling of cross-linked aromatic oligoamide surfaces revealed a new fouling mechanism of reverse-osmosis membranes. *Environmental Science & Technology* 49, 6815-6822.
31. Aviv Cohen, Jenny Lerner-Yardeni, David Meridor, **Roni Kasher**, Ilana Nathan, Abraham H. Parola (2015). Humanin derivatives inhibit necrotic cell death in neurons. *Molecular Medicine*, 21, 505-514.
32. D. Schwahn, V. Pipich, **R. Kasher**, and Y. Oren (2015). Accumulation of GdCl₃ in the feed of a reverse osmosis system during desalination as determined by neutron absorption. *European Conference on Neutron Scattering* 2015.
33. Y.N. Dahdal, V. Pipich, H. Rapaport, Y. Oren, **R. Kasher**, D. Schwahn (2016). Small-Angle Neutron Scattering Studies on Alginate as Biomineralizing Agent and Scale Initiator. *Polymer*, 85, 77-88.
34. Shaked Stein, Amos Russak, Orit Sivan, Yoseph Yechieli, Eyal Rahav, Yoram Oren, and **Roni Kasher** (2016). Saline groundwater from coastal aquifers as a source for desalination. *Environmental Science & Technology* 50, 1955-1963.

This article was highlighted in the magazines:

- Saline groundwater better than seawater for desalination, researchers say; *Flow Control*, 3 March 2016. <http://www.flowcontrolnetwork.com/saline-groundwater-better-than-seawater-for-desalination-researchers-say/>
- Study shows saline groundwater beats seawater; *Desalination and Water Reuse* (D&WR) online magazine, 8 March 2016.

<http://www.desalination.biz/news/2/Study-shows-saline-groundwater-beats-seawater/8359/>

35. Yara N. Dahdal, Yoram Oren, Dietmar Schwahn, Vitaliy Pipich, Moshe Herzberg, Wang Ying, **Roni Kasher** and Hanna Rapaport (2016). Biopolymer-Induced Calcium Phosphate Scaling in Membrane-Based Water Treatment Systems: Langmuir Model Films Studies. *Colloids and Surfaces B: Biointerfaces*, 143, 233-242.
36. Elias J. Bodner, Nitzan Kandiyote, Marina Y. Lutskiy, H. Bauke Albada, Nils Metzler-Nolte, Wolfgang Uhl, **Roni Kasher**, Christopher J. Arnusch (2016). Attachment of antimicrobial peptides to reverse osmosis membranes by Cu(I)-catalyzed 1,3-dipolar alkyne–azide cycloaddition. *RSC Advances* 6, 91815-91823.
37. D. Schwahn*, H. Feilbach, T. Starc, V. Pipich, **R. Kasher** and Y. Oren* (2017). Design and Test of a Reverse Osmosis Pressure Cell for in-situ Small-Angle Neutron Scattering Studies. *Desalination* 405, 40-50.
38. Dietmar Schwahn*, Vitaliy Pipich and **Roni Kasher** (2017). Phase behavior of methacrylic acid, poly(ethylene glycol) methyl ether, and poly(ethylene glycol) methacrylate in aqueous solutions. *Polymer* 121, 111-123.
39. Karthik Rathinam, Swatantra P. Singh, Yilun Li, **Roni Kasher**, James M. Tour, Christopher J. Arnusch (2017). Polyimide derived laser-induced graphene as adsorbent for cationic and anionic dyes. *Carbon* 124, 515-524.
40. Antonio Amelio, Marco Sangermano, **Roni Kasher**, Roy Bernstein, Alberto Tiraferri (2017). Fabrication of Nanofiltration Membranes via Stepwise Assembly of Oligoamide on Alumina Supports: Effect of Number of Reaction Cycles on Membrane Properties. *Journal of Membrane Science* 543, 269-276.
41. Mengyuan Wu, Tianyi Ma, Yanlei Su, Hong Wu, Xinda You, Zhongyi Jiang, **Roni Kasher** (2017). Fabrication of composite nanofiltration membrane by incorporating attapulgite nanorods during interfacial polymerization for high water flux and antifouling property. *Journal of Membrane Science* 544, 79-87.
42. Canwei Mao, Gunasekaran Mohanraj, Nitzan Shtreimer Kandiyote, **Roni Kasher**, Christopher J. Arnusch (2018). UV mediated attachment of short Arginine-Tryptophan antimicrobial peptides on reverse osmosis membrane surfaces inhibit *Pseudomonas aeruginosa* biofilm. *Desalination* 431, 73-79.
43. Karthik Rathinam, Yoram Oren, Winfried Petry, Dietmar Schwahn and **Roni Kasher*** (2018). Calcium phosphate scaling during wastewater desalination on oligoamide surfaces mimicking reverse osmosis and nanofiltration membranes. *Water Research* 128, 217-225.
44. Ziv Hezi, Shaked Shpak, Mordechai Fliesher, Leonid Gillerman, **Roni Kasher**, Gideon Oron (2018). Optimal managing the coastal aquifer for seawater desalination and meeting nitrates level of drinking water. *Desalination* 436, 63-68.

45. David Meridor, Aviv Cohen, Boris Khalfin, Lakshminarasiah Uppalapati **Roni Kasher***, Ilana Nathan*, Abraham H. Parola*. The Protective Effect of Humanin Derivative AGA(C8R)-HNG17 Against Acetaminophen-Induced Liver Injury in Mice. *International Journal of Peptide Research and Therapeutics*, formerly "Letters in Peptide Science" pp 1-7 (DOI: <https://doi.org/10.1007/s10989-018-9700-2>).
46. Gunasekaran Mohanraj, Canwei Mao, Asatryan Armine, **Roni Kasher*** and Christopher J. Arnusch* (2018). Ink-jet printing-assisted modification on polyethersulfone membranes using a UV-reactive antimicrobial peptide for fouling resistant surfaces. *ACS Omega* 3, 8752–8759.
47. Karthik Rathinam, Swatantra Pratap Singh, Christopher J. Arnusch* and **Roni Kasher*** (2018) An environmentally-friendly chitosan-lysozyme biocomposite for the effective removal of dyes and heavy metals from aqueous solutions. *Carbohydrate Polymers* 199, 506-515.
48. Swatantra Pratap Singh, Karthik Rathinam, **Roni Kasher***, Christopher J. Arnusch* (2018). Hexavalent chromium ion and methyl orange dye uptake via a silk protein sericin-chitosan conjugate. *RSC Advances* 8, 27027-27036.
49. Nitzan Shtreimer Kandiyote, Gunasekaran Mohanraj, Canwei Mao, **Roni Kasher*** and Christopher J. Arnusch* (2018). Synergy on Surfaces: Anti-Biofouling Interfaces using Surface-Attached Antimicrobial Peptides PGLa and Magainin-2. *Langmuir* 34, 11147–11155.
50. Clil Regev, Sophia Belfer, Marina Holenberg, Rozalia Fainstein, Abraham H. Parola and **Roni Kasher*** (2019). Fabrication of poly(ethylene glycol) particles with a micro-spherical morphology on polymeric fibers and its application in high flux water filtration. *Separation and Purification Technology* 210, 729-736.
51. Aum Solanki, Rudy Smalling, Abraham H. Parola, Ilana Nathan, **Roni Kasher**, Yashwant Pathak, Vijaykumar Sutariya (2019). Humanin nanoparticles for reducing pathological factors characteristic of age-related macular degeneration. *Current Drug Delivery* 16, 226-232.
52. Vitaliy Pipich, Kornelia Schlenstedt, Marcel Dickmann, **Roni Kasher**, Jochen Meier-Haack, Christoph Hugenschmidt, Winfried Petry, Yoram Oren, Dietmar Schwahn (2019). Morphology and porous structure of standalone aromatic polyamide films as used in RO membranes – an exploration with SANS, PALS, and SEM. *Journal of Membrane Science*, 573, 167-176.
53. Paramita Manna, Alberto Tiraferri, Marco Sangermano, Roy Bernstein*, and **Roni Kasher*** (2019). Stepwise synthesis of oligoamide coating on a porous support: Fabrication of a membrane with controllable transport properties. *Separation and Purification Technology*, 213, 11-18.
54. Nitzan Shtreimer Kandiyote, Tehila Avidris, Christopher J. Arnusch* and **Roni Kasher*** (2019). Grafted polymer coatings enhance fouling inhibition by an antimicrobial peptide on reverse osmosis membranes. *Langmuir* 35, 1935-1943.
55. Mengyuan Wu, Jinqiu Yuan, Hong Wu, Yanlei Su, Hao Yang, Xinda You, Runnan Zhang, Xueyi He, Niaz Ali Khan, **Roni Kasher**, Zhongyi Jiang (2019).

- Ultrathin nanofiltration membrane with polydopamine-covalent organic framework interlayer for enhanced permeability and structural stability. *Journal of Membrane Science* 576, 131-141.
56. Fei Wang, Mingrui He, Kang Gao, Yanlei Su, Runnan Zhang, Yanan Liu, Jianliang Shen, Zhongyi Jiang and **Roni Kasher** (2019). Constructing membrane surface with synergistic passive antifouling and active antibacterial strategies through organic-inorganic composite modifier. *Journal of Membrane Science* 576, 150-160.
 57. Shaked Stein, Yoseph Yechieli, Eyal Shalev, **Roni Kasher** and Orit Sivan (2019). The effect of pumping saline groundwater for desalination on the fresh–saline water interface dynamics. *Water Research* 156, 46-57.
 58. Karthik Rathinam, Shiju Abraham, Yoram Oren, Dietmar Schwahn, Winfried Petry, Yair Kaufman, **Roni Kasher*** (2019). Surface-induced silica scaling during brackish water desalination: The role of surface charge and specific chemical groups. *Environmental Science and Technology* 53, 5202-5211.
 59. Niaz Ali Khan, Jinqiu Yuan, Hong Wu, Li Cao, Runnan Zhang, Yanan Liu, Lianshan Li, Ata Ur Rahman, **Roni Kasher**, Zhongyi Jiang* (2019). Mixed nanosheet membranes assembled from chemically grafted graphene oxide and covalent organic frameworks for ultra-high water flux. *ACS Appl. Mater. Interfaces* 11, 28978-28986.
 60. Shaked Stein, Fernando Sola, Yoseph Yechieli, Eyal Shalev, Orit Sivan, **Roni Kasher**, Angela Vallejos (2020). The effects of long-term saline groundwater pumping for desalination on the fresh–saline water interface: Field observations and numerical modeling. *Science of the Total Environment*, 732, 139249.
 61. Vitaliy Pipich, Marcel Dickmann, Henrich Frielinghaus, **Roni Kasher**, Christoph Hugenschmidt, Winfried Petry, Yoram Oren and Dietmar Schwahn (2020). Morphology of thin film composite membranes explored by small-angle neutron scattering and positron-annihilation lifetime spectroscopy. *Membranes* 10, 48.
 62. Shaked Stein, Orit Sivan, Yoseph Yechieli, **Roni Kasher** (2020). Redox condition of saline groundwater from coastal aquifers influences reverse osmosis desalination process. *Water Research* 188, 116508.
 63. Vitaliy Pipich, Thomas Starc, Johan Buitenhuis, **Roni Kasher**, Winfried Petry, Yoram Oren, Dietmar Schwahn* (2021). Silica fouling in reverse osmosis systems—operando small-angle neutron scattering studies. *Membranes*, 11, 413.
 64. Runnan Zhang, Yu Zheng, Niaz Ali Khan, Kang Gao, Shiyu Zhang, Chao Yang, Jingyuan Guan, **Roni Kasher**, Zhongyi Jiang* (2021). Engineering dual-heterogeneous membrane surface with heterostructured modifier to integrate multi-defense antifouling mechanisms. *Chemical Engineering Science: X*, 11, 100103.
 65. Mengying Long, Chao Yang, Xinda You, Runnan Zhang, Jinqiu Yuan, Jingyuan Guan, Shiyu Zhang, Hong Wu, Niaz Ali Khan, **Roni Kasher**, Zhongyi Jiang* (2021). Electrostatic enhanced surface segregation approach to self-cleaning and

antifouling membranes for efficient molecular separation. *Journal of Membrane Science* 638, 119689.

66. Shaked Stein, Orit Sivan, Yoseph Yechieli, **Roni Kasher***, and Oded Nir* (2021). An advantage for desalination of coastal saline groundwater over seawater in view of boron removal requirements. *Environmental Science: Water Research & Technology*, 7, 2241-54.

Cover art of this article is selected as the journal front page.

67. Jana Gaálová, Mahdi Bourassi, Karel Soukup, Tereza Trávníčková, Daniel Bouša, Swati Sundararajan, Olga Losada, **Roni Kasher**, Karel Friess, Zdeněk Sofer. Modified single-wall carbon nanotube membranes for the elimination of antibiotics from water. *Membranes*, 11, 720.
68. Mahdi Bourassi, Mariia Pasichnyk, Oscar Oesch, Swati Sundararajan, Tereza Trávníčková, Karel Soukup, **Roni Kasher**, Jana Gálová (2021). Glycidyl and methyl methacrylate UV-grafted PDMS membrane modification toward tramadol membrane selectivity. *Membranes* 11, 752.
69. Paramita Manna, Roy Bernstein, **Roni Kasher** (2022). Stepwise synthesis of polyacrylonitrile-supported oligoamide membranes with selective dye–salt separation. *Journal of Membrane Science* 643, 120035.
70. Akshay Modi, Zhongyi Jiang, **Roni Kasher** (2022). Hydrostable ZIF-8 layer on polyacrylonitrile membrane for efficient treatment of oilfield produced water. *Chemical Engineering Journal*, 434, 133513.
71. Karthik Rathinam, Akshay Modi, Dietmar Schwahn, Yoram Oren, **R. Kasher**. Surface grafting with diverse charged chemical groups mitigates calcium phosphate scaling on reverse osmosis membranes during municipal wastewater desalination. *Journal of Membrane Science*, 647, 120310.
72. Clil Regev,^S Zhongyi Jiang,^C **Roni Kasher**^{PI}, Yifat Miller^{PI} (2022). Critical surface density of zwitterionic polymer chains affect antifouling properties. Accepted manuscript, *Applied Surface Science* (0 citations; IF 7.392; Ranking 42/165, Q2 physical chemistry, 28/161 applied physics, Q1).
73. Clil Regev,^S Zhongyi Jiang,^C **Roni Kasher**^{PI}, Yifat Miller.^{PI} (2022). Distinct antifouling mechanisms on different chain densities of zwitterionic polymers. Accepted manuscript, *Molecules* 27, 7394 (0 citations; IF 4.927; Ranking 65/179, Q2).
74. Eric Ziemann^S, Arindam Kumar Das^{PD}, Paramita Manna^S, Revital Sharon-Gojman^T, Charles Linder^C, **Roni Kasher**^{PI}, Roy Bernstein^{PI} (2023). Crosslinked polyethersulfone membranes for organic solvent nanofiltration in polar aprotic and halogenated solvents. *Journal of Membrane Science*, in press (0 citations; IF 10.530; Ranking 11/143, Q1)