Raz Jelinek February 2023

CURRICULUM VITAE AND LIST OF PUBLICATIONS

- **Personal Details**

Department of Chemistry, Ben-Gurion University, Beer Sheva 84105, Israel.
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E-mail: razj@bgu.ac.il
Web: razlab.bgu.ac.il

- **Education**

B.Sc. (summa cum laude)	1985-1988, Hebrew University of Jerusalem, Jerusalem, Israel, Department of Chemistry.
Ph.D.	1988-1993, University of California, Berkeley, California, USA. Department of Chemistry. Adviser: Professor Alexander Pines Title of thesis: Double Rotation NMR Studies of Zeolites and Aluminophosphate Molecular Sieves.

- **Employment History**

2019 – present
Vice President and Dean for Research & Development
Ben Gurion University

2015, 2018
Visiting Professor
New York University – Shanghai (NYUSH)
Shanghai, China

2010 – present
Full Professor
Carole and Barry Kaye Chair in Applied Science
Ben-Gurion University, Department of Chemistry

2008 – 2010
Visiting Associate Professor
Johns Hopkins University, Department of Chemical and Biomolecular Engineering

2005 – 2007
Chairman
Ben-Gurion University, Department of Chemistry

2004 – 2010
Associate Professor
Ben-Gurion University, Department of Chemistry

2001 – 2004
Senior Lecturer
Ben-Gurion University, Department of Chemistry

1996-2001
Lecturer
Ben-Gurion University, Department of Chemistry

1997
Visiting Scientist
University of Pennsylvania, Department of Chemistry

1993-1996
Cancer Research Institute Postdoctoral Fellow
University of Pennsylvania, Department of Chemistry

1988-1993
Research Assistant
University of California Berkeley, Department of Chemistry

- **Professional Activities**

Positions in BGU Academic Administration

2019 – present	- Vice President and Dean for Research & Development, Ben Gurion University
2013 – present	- Head, PhD Committee, Nantechnology Interdisciplinary PhD track, Ilse Katz Institute for Nanotechnology
2012 – 2016	- Head, Students Appeals Tribunal, Ben Gurion University
2010 – present	- Member, University Senate
2002 – 2018	- Academic Director, Biophysics Laboratory, Ilse Katz Institute of Nanotechnology
1999 – present	- Head, Admission Committee, Chemistry Department, Ben-Gurion University
2012	- Member, Scientific Advisory Committee, 77th ICS Meeting, Tel-Aviv
2011 – 2012	- Member, Promotion Committee, Faculty of Natural Sciences
2008 – 2010	- Member, Steering Committee, Ilse Katz Institute of Nanotechnology, Ben-Gurion University
2005 - 2006	- Director, BGU/Teva Ltd. analytical chemists training program.
2004 – 2006	- Council Member, VLSI Center, Ben-Gurion University
2003	- Fundraising Coordinator, Faculty of Natural Sciences, Ben Gurion University
2002 – 2010	- Coordinator, Biophysical Chemistry Track, Department of Chemistry, Ben-Gurion University

2002 – 2005	- Coordinator, Construction of Nanotechnology Building. Ilse Katz Institute of Nanotechnology, Ben-Gurion University
2000	- Founding Member, Ilse Katz Center for Nano- and Mesoscience and Technology (renamed the Ilse Katz Institute of Nanotechnology), Ben-Gurion University
1999	- Founding Member, Staedler Minerva Center for Mesoscopic Macromolecular Engineering, Ben-Gurion University

Professional Functions Outside of the University

2022 – present	- Co-Editor, *Journal of Colloids and Interface Science* (IF=9.95)
2021	- Co-Founder and Board Member, *Biotic Therapeutics Ltd*.
2020	- Chairman, Isranalytica 2020
2019 – 2020	- Member, International Chair Committee, NICE-2020 Conference on Bio-Based and Bio-Inspired Chemistry & Materials
2019 – present	- Member, Board of Directors, BGNegev Technologies Ltd.
2019 – present	- Member, Board of Directors, National Institute for Biotechnology in the Negev (NIBN) Ltd.
2019 – 2022	- Member, Management Committee, COST Action CA18103 "Innovation with Glycans: new frontiers from synthesis to new biological targets"
2019	- Member, Organizing Committee, Isranalytica, Tel Aviv, 2019
2017 - 2026	- Member, Scientific Advisory Committee, Singapore-HUJI Alliance for Research and Enterprise (SHARE)
2017	- Co-Organizer, Symposium on “Carbon quantum dots: emerging science and technology”, Materials Research Society Fall Meeting, Boston
2017	- Co-Organizer, International Conference on “Nanoscience and Nanotechnology at Interfaces” (NaNaInt), Institute of Advanced Sciences, Jerusalem
2015	- Co-Organizer, International Workshop on "Nanoparticles at the Interface Between Biology and the Materials World", Rehovot
2013	- Symposium Organizer “Multifunctional polymer-based materials”, MRS Spring Meeting, San Francisco
2012	- Member, Scientific Committee, Bioinspired and Biobased Chemistry & Materials Conference, Nice, France
2006	- Organizer and Chairman, 71th Meeting of the Israel Chemical Society
2006 – 2008	- Israel Chemical Society Representative, Working Party on Chemistry in Microsystems, EuChemMS
2006 – 2008	- Member of the Executive Committee, Israel Chemical Society

Industry relationships and consulting (last 10 years)

2015 - 2016	- Consultant, Dr. Reddy's Laboratories, Bachupally, India.
2014	- Consultant, Tortech/Plasan Ltd, Sasa, Israel
2013 – 2014	- Consultant, Sphere Fluidics Ltd., Cambridge, UK
2012 – 2013	- Member, Scientific Advisory Board, Cirle Inc., Miami, FL

Reviewer:

2012 – present	- *Italian Ministry of Education, University and Research (MIUR)*
2010 -2011	- *Excellence Initiative (2010), Deutsche Forschungsgemeinschaft (DFG), German Research Foundation – Member of Review Committee (Chemistry)*

Other public activities:

2018	Co-Founder and Head (2018-2020), "Toshavim Mashpi'im BeModiin" (Residents Influence in Modiin), an environmental NGO.
2014 – 2018	Member, Committee on Tourism and Preservation, Modiin City Council.

- **Educational Activities**

Courses Taught

- 2018 Environment and Energy, NYU-Shanghai
- 2015 Foundations of Science – Chemistry, Freshman class, NYU-Shanghai
- 2009 – present: Biomimetic and Bio-inspired Chemistry – M.Sc. level, Ben Gurion University
- 2009 – present: Bionanotechnology – M.Sc. level, Ben Gurion University
- 2004 – 2010: Elementary and Analytical Chemistry, B.Sc. level, Ben-Gurion University
- 2000 – present: General Chemistry – B.Sc. level, Ben-Gurion University
- 1998 – 2006: Biomolecular Analysis by Computers – M.Sc. level, Ben-Gurion University
- 2000 – 2010: Selected Topics in Biophysical Chemistry – M.Sc. level, Ben-Gurion University

Recent Teaching Ranking (student grading, 1 to 5 scale, 5 is maximum score)

- 2022 General Chemistry: **4.5 (**out of 5) (Faculty of Natural Sciences average: 3.6)

Research Students

- Sisira Mambram Kunnath, current PhD student, Ben Gurion University
- Nila Nandha, current PhD student. Ben Gurion University
- Daniel Bloch, current Ph.D. student. Ben Gurion University
- Elad Arad, current Ph.D. student. Ben-Gurion University
- Shani Ben Zikri, current Ph.D. student. Ben-Gurion University
- Nitzan Shauloff, current Ph.D. student. Ben-Gurion University
- Orit Malka, Ph.D. 2022. Ben-Gurion University
- Reut Israeli, Ph.D. 2022. Ben Gurion University
- Ravit Malishev, Ph.D. 2021. Ben-Gurion University
- Ahiud Morag, Ph.D. 2019. Ben Gurion University
- Xiuxiu Yin, Ph.D. 2018. Ben Gurion University
- Liron Philosof, Ph.D. 2013, Ben-Gurion University
- Liron Silbert, Ph.D. 2013, Ben-Gurion University
- Shani Eliyahu, Ph.D. 2011, Ben-Gurion University
- Natalie Groisman, Ph.D. 2009. Ben-Gurion University

- Tania Sheynis, Ph.D. 2009. Ben-Gurion University
- Roman Volinsky, PhD 2007. Ben-Gurion University
- Marina Katz, PhD 2007. Ben-Gurion University
- Anna Shteinberg, M.Sc. 2022. Ben Gurion University
- Dana Zimmerman, M.Sc. 2022. Ben-Gurion University
- Inna Bourbo, M.Sc. 2021. Ben Gurion University
- Nick Zerby, M.Sc. 2019. Ben-Gurion University
- Yossi Peretz, M.Sc. 2019. Ben-Gurion University
- Guy Otis, M.Sc. 2019. Ben-Gurion University
- Gil Choona, M.Sc. 2016. Ben Gurion University
- Reut Shafir, M.Sc. 2016. Ben-Gurion University
- Alex Trachtenberg, M.Sc. 2015. Ben-Gurion University
- Ella Mann, M.Sc. 2015. Ben-Gurion University
- Shachar Avraham, M.Sc. 2014. Ben-Gurion University
- Noga Gal, M.Sc. 2013, Ben-Gurion University
- Ahiud Morag, M.Sc. 2013, Ben-Gurion University
- Yelena Demihovsky, M.Sc. 2013, Ben-Gurion University
- Anat Friediger, M.Sc. 2013, Ben-Gurion University
- Alina Mogilevski, M.Sc. 2011. Ben-Gurion University
- Ehud Bazar, M.Sc. 2011. Ben-Gurion University
- Amit Shtainfeld, M.Sc. 2010. Ben-Gurion University
- Or Raifman, M.Sc. 2010. Ben-Gurion University
- Nirit Hanin, M.Sc. 2009. Ben-Gurion University
- Noa Markovich, M.Sc. 2008. Ben-Gurion University
- Sarit Fridman, M.Sc. 2008. Ben-Gurion University
- Izek Ben Shlush, M.Sc. 2008. Ben-Gurion University
- Miri Sokolovsky, M.Sc. 2008. Ben-Gurion University
- Alex Pevzner, M.Sc. 2008. Ben-Gurion University
- Dror Meir, M.Sc. 2007. Ben-Gurion University
- Elena Shtelman, M.Sc. 2005. Ben-Gurion University
- Revital Halevi, M.Sc. 2004. Ben-Gurion University
- Shoshana Rozner, M.Sc. 2003. Ben-Gurion University
- Jan Eisenman, visiting MSc student, 2019
- Kumar Sagar Jaiswal, visiting PhD student, 2021-2022
- Kaviya Parambath Kootery, visiting research student. 2012 - 2015
- Agnieszka Mech, visiting research student. 2007-2009
- Danilo Malferrari, visiting research student. 2011
- Magalie Lebreton, visiting research student. 2003 – 2004
- Julia Gevin, visiting research student. 2003 – 2004
- Damien Evrard, visiting research student. 1999 – 2001
- Laurent Boyer, visiting research student. 1997 – 1999

Post-doctoral Fellows

- Dr. Shubra Bhaumik (PhD IIT Khargpur) 2023 - present
- Dr. Sudipta Biswas (PhD IIT Kharagpur) 2022 - present
- Dr. Rajendran Manikandan (PhD CSIR National Chemistry Laboratory, Pune, India) 2020 - 2023
- Dr. Amrita de Adhikari (PhD IIT Dhanbad) 2019 - 2020
- Dr. Rajesh Bisht (PhD CSIR National Chemistry Laboratory, Pune, India) 2019 – 2022

- Dr. Vartika Kadhari (PhD CSIR National Chemistry Laboratory, Pune, India) 2019 – 2020
- Dr. Seema Singh (PhD IIT Patna, India) 2018 - 2020
- Dr. Kesava Rao (PhD University of Hyderabad, India) 2017 – 2019
- Dr. Nagappa Taradal (PhD Karnatak University, India) 2015 – 2019. Current Position: Assistant Professor, Undergraduate and Postgraduate College, Belagavi, India.
- Dr. Sagarika Bhattacharya (PhD University of Calcutta) 2015 – 2019
- Dr. Susanta Bhunia (PhD Indian Association for the Cultivation of Science, Kolkata) 2015 – 2017. Current Position: Assistant Professor, Chennai University, India.
- Dr. Sukhendu Nandi (PhD University of Wuppertal, Germany) 2013 – 2016. Current position: INSPIRE Faculty Member, IIT Chandri, India.
- Dr. Joydeb Manna (PhD Indian Institute of Chemical Technology, Hyderabad) 2014 – 2015. Current position: Assistant Professor, Mahishadal Raj College, India.
- Dr. Hao Jiang (PhD University of Science and Technology, China) 2013 – 2015. Current position: Associate Professor, Huazhong University of Science and Technology, Wuhan, China.
- Dr. T.P. Vinod (Ph.D. Kongju National University, Korea) 2012 – 2015. Current position: Associate Professor, Christ University, Bangalore, India.
- Dr. Tania Sheynis (Ph.D. Ben-Gurion University) 2009 – 2011. Current position: Teva Pharmaceuticals Ltd.
- Dr. Marina Katz (Ph.D. Ben-Gurion University) 2007 – 2010. Current position: Research Scientist, Teva Ltd.
- Dr. Myint Myint Khine (Ph.D. Halle University, Germany) 2007 – 2009. Current position: Assistant Professor, Yangon University, Myanmar
- Dr. Roman Volinsky (Ph.D. Ben-Gurion University) 2007 – 2009 Current position: Research Associate, Aalto University, Finland.
- Dr. Zulfiya Orynbayeva (Ph.D. Almaty University, Kazakhtan) 2002 – 2007. Current position: Research Professor, Drexel University.
- Dr. Yogesh Scindia (Ph.D. Indian Institute of Technology, Bombay) 2004 – 2006. Current position: Assistant Professor, University of Florida.
- Dr. Fabien Gaboriaud (Ph.D. Rennes University, France) 2000 – 2002. Current position: Research Director, Michelin Srl., Nancy, France.
- Dr. Ramesh Jaganathan (Ph.D. Indian Institute of Science, Bangalore) 1998 – 2000
- Dr. Nagarajao Suryaprakash (Ph.D. Indian Institute of Science, Bangalore) 1997 – 1999. Current position: Professor, IISc, Banglaore.
- Dr. Sofiya Kolusheva (Ph.D. Tashkent University, Uzbekistan) 1997 – 2002. Current position: Staff Scientist, Ilse Katz Institute of Nanotechnology, BGU.

- **Awards, Citations, Honors, Fellowships**

Honors, Citation Awards

- 1988 Student Speaker at Israel's Knesset (parliament), National Award Ceremony for

Distinguished Students

- 1998 Siegel-Roger-Brown Prize, the Israel Academy of Science and Humanities
- 2003 Participant, the 1st Middle East Frontiers of Science and Engineering Conferences, Istanbul (among 25 selected leading scientists and engineers from Israel)
- 2008 – 2010 Ruth L. Kirschstein National Research Service, Senior Fellowship Award, the National Institutes of Health (NIH), USA
- 2009 Toronto Prize for Research Excellence, Ben-Gurion University
- 2011 Distinguished Lecturer Award, Ben Gurion University
- 2015 Carole and Barry Kaye Chair in Applied Science
- 2016 – 2021 Guest Professor, Jilin University, China
- 2018 UK-Israel Science Lectureship Award
- 2020 Quality of Teaching Award, Ben Gurion University
- 2021 Wohl Clean Growth Alliance Award
- 2021 ICS-Adama Prize for Technological Innovation, the Israel Chemical Society

- **Scientific Publications**

Books - Author

1. "Biomimetics, a Molecular Perspective", **Raz Jelinek**¸ De-Gruyter, Berlin 2013, ISBN: 978-3-11-028117-0. **2nd Edition 2021.**
2. "Nanoparticles", **Raz Jelinek**¸ De-Gruyter, Berlin 2015, ISBN: 978-3-11-033002-1.
3. "Carbon Quantum Dots", **Raz Jelinek,** Springer, Berlin 2016, ISBN: 978-3-319-43911-2
4. "Membranes", **Raz Jelinek,** De-Gruyter, Berlin 2018, ISBN: 978-3-11-045369-0.

Refereed Articles in Scientific Journals

- **Total number of publications: 230**
- **h-index: 44 (ISI Web of science); 47 (Scopus); 53 (Google Scholar)**
- **Sum of times cited: 6928 (without self-citations; ISI Web of science)**

Publications (last FIVE years)

158. "Carbon dot - porous silicon bimodal biosensor"
Naama Massad-Ivanir, Susanta Kumar Bhunia, Ester Segal, **Raz Jelinek**
NPG Asia Materials, **2018**, *10*, e463.
159. "Membrane Determinants Affect Fibrillation Processes of β-sheet Charged Peptides"
Elad Arad, Ravit Malishev, Hanna Rapaport, **Raz Jelinek**
Biomacromolecules, **2018**, *19,* 307-314.
160. "Carbon and Nitrogen Based Nanosheets as Fluorescent Probes with Tunable Emission"
Jingwen Sun, Ravit Malishev, Adi Azoulay, **Raz Jelinek**, Menny Shalom
Small, **2018**, *14,* 1800516.
161. "Bacterial model membranes reshape fibrillation of a *Bacillus subtilis* functional amyloid protein", Ravit Malishev, Razan Abbasi, **Raz Jelinek***, Liraz Chai*
Biochemistry, **2018**, *57*, 5230−5238.
162. "Reciprocal Interactions between Membrane Bilayers and Staphylococcus aureus PSMα3 Cross-α Amyloid-like Fibrils Provide Mechanistic Insight into Species-specific Cytotoxicity", Ravit Malishev, Einav Tayeb-Fligelman, Shimrit David, Meytal Landau, **Raz Jelinek**
Journal of Molecular Biology, **2018**, *430,* 1431-1441.

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163. *"*Nanoparticles modulate membrane interactions of human Islet amyloid polypeptide (hIAPP)", Yossef Peretz, Ravit Malishev, Sofiya Kolusheva, **Raz Jelinek**
BBA-Biomembranes, **2018**, *1860,* 1810-1817.
164."Vesicle-based assays to study membrane interactions of amyloid peptides"
Ravit Malishev, **Raz Jelinek**
Proteins in Misfolding Diseases, Springer Protocols – Methods in Molecular Biology, **2018**, 1873, 39-52.
165."Lysine-Derived Carbon Dots for Chiral Inhibition of Prion Peptide Fibril Assembly"
Elad Arad, Susanta Kumar Bhunia, Juergen Jopp, Sofiya Kolusheva, Hanna Rapaport, **Raz Jelinek**
Advanced Therapeutics, **2018**, *1,* 1800006.
166."“On/off/on” hydrogen-peroxide sensor with hemoglobin-functionalized carbon dots”
Susanta Kumar Bhunia, Susmita Dolai, Hongchen Sun, **Raz Jelinek**
Sensors & Actuators: B. Chemical, **2018**, *270,* 223-230.
167."Chiral modulation of amyloid beta fibrillation and cytotoxicity by enantiomeric carbon dots”
Ravit Malishev, Elad Arad, Susanta Kumar Bhunia, Shira Shaham-Niv, Sofiya Kolusheva, Ehud Gazit, **Raz Jelinek**
Chemical Communications, **2018**, *54*, 7762-7765.
168."Tb(III) complexes with nonyl-substituted calix[4]arenes as building blocks of hydrophilic luminescent mixed polydiacetylene-based aggregates"
Julia Elistratova, Bulat Akhmadeev, Rustem Zairov, Alexey Dovzhenko, Sergey Podyachev, Svetlana Sudakova, Viktor Syakaev, **Raz Jelinek**, Sofia Kolusheva, Asiya Mustafina
Journal of Molecular Liquids, **2018**, *268*, 463-470.
169."Porous Silicon Bragg Reflector/Carbon Dot Hybrids: Synthesis, Nanostructure and Optical Properties"
Naama Massad-Ivanir, Susanta Kumar Bhunia, **Raz Jelinek***, Ester Segal*, *Frontiers in Chemistry,* **2018**, *6,* Article 574.
170."Inhibitory Effect of Naphthoquinone-Tryptophan Hybrid towards Aggregation of PAP f39 Semen Amyloid"
V. Guru KrishnaKumar, Satabdee Mohapatra, Ashim Paul, Elad Arad, **Raz Jelinek**, Ehud Gazit, Daniel Segal
Molecules, **2018**, *23(12),* 3279-3284.
171."Cardiolipin Mediates Curcumin Interactions with Mitochondrial Membranes"
Shani Ben Zichri, Sofiya Kolusheva, Michael Danilenko, Saniya Ossikbayeva, Juan L Poggio, David E Stein, Zulfiya Orynbayeva, **Raz Jelinek**
BBA-Biomembranes, **2019**, *1861,* 75-82.
172."Flexible asymmetric micro-supercapacitors from freestanding hollow nickel microfiber electrodes"
Ahiud Morag and **Raz Jelinek**
Advanced Electronic Materials, **2019**, *5,* 1800584.
173."Chemical and Biological Applications of Polydiacetylene Sensors"
Raz Jelinek
Encyclopedia of Analytical Chemistry, **2019**, *in press*.
174."Selective labeling and growth inhibition of Pseudomonas aeruginosa by aminoguanidine carbon dots"
Gil Otis, Sagarika Bhattacharya, Orit Malka, Priyanka Bolel, Angel Porgador, Sofiya Kolusheva, **Raz Jelinek**
ACS Infectious Diseases, **2019**, *5,* 292-302.
175."Polydiacetylene capacitive artificial nose"
V. Kesava Rao, Nagappa L. Teradal, **Raz Jelinek**

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ACS Advanced Materials and Interfaces, **2019**, *11,* 4470–4479.

176."Fluorescent Self-Healing Carbon Dot / Polymer Gel"
Sagarika Bhattacharya, Ravindra Phatake, Shiran Nabha Barnea, Nicholas Zerby, Jun-Jie Zhu, Rafi Shikler, N. Gabriel Lemcoff, **Raz Jelinek**
ACS Nano, **2019**, *13,* 1433–1442.

177. "Deciphering the Rules for Amino Acid Co-Assembly Based on Interlayer Distances"
Santu Bera, Sudipta Mondal, Yiming Tang, Guy Jacoby, Elad Arad, Tom Guterman, **Raz Jelinek**, Roy Beck, Guanghong Wei, and Ehud Gazit
ACS Nano, **2019**, *13,* 1703–1712.

178."Crystallization-induced emissive invisible ink"
Nicholas Zerby, Sagarika Bhattacharya, Nila Nandha, Mark Baranov, **Raz Jelinek**
Advanced Optical Materials, **2019**, *7,* 1900232.

179."Covalently Linked, Perylene-diimide Polydiacetylene Nanofibers Display Enhanced Stability and Photoconductivity with Reversible FRET Phenomenon"
Joonsik Seo, Chandra Kantha, Joonyoung F. Joung, Sungnam Park, **Raz Jelinek**, Jong-Man Kim,
Small, **2019**, *15,* 1901342.

180."Interactions between BIM protein and beta-amyloid may reveal a crucial missing link between Alzheimer's disease and neuronal cell death"
Ravit Malishev, Sukhendu Nandi, Dariusz Śmiłowicz, Shamchal Bakavayev, Stanislav Engel, Nir Bujanover, Roi Gazit, Nils Metzler-Nolte, **Raz Jelinek**
ACS Chemical Neuroscience, **2019**, *10,* 3555-3564.

181. "Elastic Carbon Dot/Polymer Films for Fluorescent Tensile Sensing and Mechano-Optical Tuning"
Nitzan Shauloff, Sagarika Bhattacharya*,* **Raz Jelinek**
Carbon, **2019**, *152,* 363-371. Featured on the journal cover.

182. "Solar-Enabled Water Remediation via Carbon-Dot/Hydrogel Composites"
Seema Singh, Nitzan Shauloff, **Raz Jelinek**
ACS Sustainable Chemistry & Engineering, **2019**, *7,* 13186-13194

*183. ″*Unravelling the role of amino acid sequence order in the assembly and function of the amyloid-β core*″*
Santu Bera, Elad Arad, Lee Schnaider, Shira Shaham-Niv, Valeria Castelletto, Yossef Peretz, Dor Zaguri, **Raz Jelinek**, Ehud Gazit, Ian Hamley
ChemComm, **2019** *55,* 8595-8599.

*184.″*Graphene Quantum Dots Wrapped Gold Nanoparticles with Integrated Enhancement Mechanisms as Sensitive and Homogeneous Substrates for Surface-Enhanced Raman Spectroscopy”
Xuran Miao, Shengping Wen, Yu Su, Jiaju Fu, Xiaojun Luo, Ping Wu, Chenxin Cai, **Raz Jelinek**, Li-Ping Jiang, Jun-Jie Zhu
Analytical Chemistry **2019,** *91*, 7295-7303.

*185.″*N,S-doped carbon dots as dual-functional modifiers to boost bio-electricity generation of individually-modified bacterial cells*″,*
Dan Guo, Hui-Fang Wei, Rong-Bin Song, Jiaju Fu, Xuanzhao Lu, **Raz Jelinek**, Qianhao Min, Jian-Rong Zhang, Qichun Zhang, Jun-Jie Zhu
Nano Energy **2019**, *63,* 103875.

186. "Nanoparticles in cosmetics"
TP Vinod, **Raz Jelinek**,
Nanocosmetics, from ideas to products (Ed. J. Cornier, C.M. Keck, M. van der Voorde), Nature-Springer, **2019.**

187.″ Nanostructured Nickel/Ruthenium/Ruthenium-Oxide Supercapacitor Operating at Very High Frequencies*″*

Ahiud Morag, Nitzan Maman, Natalya Froumin, Vladimir Ezersky, Katya Rechav, **Raz Jelinek**
Advanced Electronic Materials, **2019***,* 1900844.

188. ″Tryptophan-Glucosamine Conjugates Modulate Tau-Derived PHF6 aggregation at Low concentrations″
Ashim Paul, Wen-Hao Li, Guru Viswanathan, Elad Arad, Satabdee Mohapatra, Gao Li. **Raz Jelinek,** Ehud Gazit, Yanmei Li, Daniel Segal
Chemical Communications, **2019**, *55*, 14621-14624.

189. ″Purpurin modulates Tau-derived VQIVYK fibrillization and ameliorates Alzheimer's disease-like symptoms in animal model″
V. Guru KrishnaKumar, Dana Shwartz, Elad Arad, Edward Pichinuk, Hamutal Engel, Avi Raveh, **Raz Jelinek**, Ehud Gazit, Daniel Segal
Cellular and Molecular Life Sciences, **2020**, *77,* 2795-2813.

190. ″Solar-Mediated Oil-Spill Cleanup by a Carbon Dot-Polyurethane Sponge″
Seema Singh, **Raz Jelinek**
Carbon, **2020**, *160*, 196-203.

191. ″Imaging flow cytometry illuminates new dimensions of prion-protein membrane interactions″
Reut Israeli, Sofiya Kolusheva, Uzi Hadad, **Raz Jelinek**
Biophysical Journal, **2020**, *118***,** 1270-1278.

192. ″An Aβ42 double mutant inhibits Aβ42-induced plasma and mitochondrial membrane disruption in artificial membranes, isolated organs and intact cells″
Ofek Oren, Shani Ben Zichri, Ran Taube, **Raz Jelinek**, Niv Papo
ACS Chemical Neuroscience, **2020**, *11,* 1027-1037.

193. ″Revisiting thioflavin T (ThT) fluorescence as a marker of protein fibrillation – the prominent role of electrostatic interactions"
Elad Arad, Hodaya Green, **Raz Jelinek***, Hanna Rapaport*
Journal of Colloids & Interface Science, **2020**, *573,* 87-95.

194. ″Polydiacetylene-perylenediimide supercapacitor"
Amrita De Adhikari, Ahiud Morag, Joonsik Seo, Jong-Man Kim, **Raz Jelinek**
ChemSusChem, **2020**, *13*, 3230 – 3236.

195. ″Polydiacetylene hydrogel self-healing capacitive strain sensor"
V. Kesava Rao, Nitzan Shauloff, XiaoMeng Sui, H. Daniel Wagner, **Raz Jelinek**
Journal of Materials Chemistry C, **2020**, *8,* 6034-6041.

196. ″Porous graphene oxide-metal ion composite for selective sensing of organophosphate gases"
Nitzan Shauloff, Nagappa Teradal, **Raz Jelinek**
ACS Sensors, **2020***, 5,* 1573-1581.

197. ″Nickel Doping Significantly Enhances the Power Density of Ruthenium-Based Supercapacitors"
Ahiud Morag, Nitzan Shauloff, Nitzan Maman, Natalya Froumin, Vladimir Ezersky, **Raz Jelinek**
Batteries & Supercaps, **2020***, 3,* 946-952. Selected for a Cover Image.

198. ″Sunlight-activated phase transformation in carbon dot-hydrogels facilitates water purification and optical switching "
Seema Singh, **Raz Jelinek**
ACS Applied Polymer Materials, **2020***, 2,* 2810-2818.

199. ″Tyrosine carbon dots inhibit fibrillation and toxicity of the human Islet amyloid polypeptide"
Daniel Bloch, Shani Ben Zichri, Sofiya Kolusheva, **Raz Jelinek**
Nanoscale Advances, **2020***, 2,* 5866 – 5873. (Article selected to appear in a special collection on "Quantum and carbon dots")

200. ″The pro-apoptotic domain of BIM protein forms toxic amyloid fibrils"
Ravit Malishev, Shani Ben- Zichri, Ofek Oren, Nitzan Shauloff, Ran Taube, Niv Papo, **Raz Jelinek**
Cellular and Molecular Life Sciences, **2021***, 78,* 2145-2155

201."Mitochondrial membrane transformations in prostate and colon cancers and their biological implications"
Shani Ben Zichri, Sofiya Kolusheva, Alexander I Shames, Elina Abaev Schneiderman, Juan L Poggio, David E Stein, Elena Doubijensky, Dan Levy, Zulfiya Orynbayeva, **Raz Jelinek**
BBA-Biomembranes, **2021***, 1863,* 183471

202."The Amphibian Antimicrobial Peptide Uperin 3.5 is a Cross-α/Cross-β Chameleon Functional Amyloid**"**
Nir Salinas, Einav Tayeb-Fligelman, Massimo Sammito, Daniel Bloch, **Raz Jelinek**, Dror Noy, Isabel Uson, and Meytal Landau
PNAS, **2021***, Vol. 118,* e2014442118

203."Aggregation-dependent chromism and photopolymerization of aminoanthraquinone-substituted diacetylenes**"**
Rajesh Bisht, Vartika Dhyani, **Raz Jelinek**
Advanced Optical Materials, **2021***, in press*

204."Sniffing Bacteria with a Carbon-Dot Artificial Nose**"**
Nitzan Shaulof, Ahiud Morag, Karin Yaniv, Seema Singh, Ravit Malishev, Ofra Paz-Tal, Lior Rokach, **Raz Jelinek**
Nano-Micro Letters, **2021***, 13,* 112. **99% percentile in media exposure among all tracked scientific articles of the same age; in the top 5% in all articles ever tracked (Altmetric)**

205."Modulation of tau amyloid assemblies associated with Alzheimer's disease by Naphthoquinone-Dopamine hybrid"
Ashim Paul, Guru KrishnaKumar Viswanathan, Adi Huber, Elad Arad, Hamutal Engel, **Raz Jelinek**, Ehud Gazit, Daniel Segal
FEBS Journal, **2021***, 13,* 112

206."Cross-kingdom quorum sensing disruption by probiotic milk-fermented yeast"
Orit Malka, Dorin Kalson, Karin Yaniv, Reut Shafir, Ariel Kushmaro, Michael M. Meijler, **Raz Jelinek**
Microbiome, **2021***, 9,* 70. **99.5% percentile in media exposure among all tracked scientific articles of the same age; in the top *0.2%* all articles ever tracked (Altmetric)**

207."Carbon Dot-Polymer Nanoporous Membrane for Recyclable Sunlight-Sterilized Facemasks"
Seema Singh, Nitzan Shauloff, Chetan P. Sharma, Christopher J. Arnusch, **Raz Jelinek**
Journal of Colloids and Interface Science, **2021***, 592,* 342-348.

208."Inhibition of *Staphylococcus aureus* Biofilm-forming Functional Amyloid by Molecular Tweezers"
Ravit Malishev, Nir Salinas, James Gibson, Angela Bailey Eden, Joel Mieres-Perez, Yasser Ruiz-Blanco, Orit Malka, Sofiya kolusheva, Frank-Gerrit Klärner, Thomas Schrader, Elsa Sanchez-Garcia, Chunyu Wang, Meytal Landau, Gal Bitan, **Raz Jelinek**
Cell Chemical Biology, **2021***, 28,* 1310-1320.

209."Triphenylphosphonium-Derived Bright Green Fluorescent Carbon Dots for Mitochondrial Targeting and Rapid Selective Detection of Tetracycline"
Sathish Rajendran, Shani Ben Zichri, Varsha UshaVipinachandran, **Raz Jelinek**, Susanta Kumar Bhunia
ChemNanoMat, **2021***, 7,* 545-552.

210."Tungsten-disulfide / polyaniline high frequency supercapacitors"
Amrita De Adhikari, Nitzan Shauloff, Yury Turkulets, Ilan Shalish, **Raz Jelinek**
Advanced Electronic Materials, **2021***, 7,* 2100025.

211."A Mechanism for the Inhibition of tau Neurotoxicity: Studies with Artificial Membranes, Isolated Mitochondria and Intact Cells"
Segev Naveh Tassa, Shani Ben Zichri, Shiran Lacham-Hartman, Ofek Oren, Zeev Slobodnik, Ekaterina Eremenko, Debra Toiber, **Raz Jelinek**, Niv Papo

ACS Chemical Neuroscience, **2021***, 12,* 1563-1577.

212."Chromatic Dendrimer / Polydiacetylene Nanoparticles"
Reut Israeli, Sofiya Kolusheva, Pablo Mateos-Gil, Electra Gizeli, **Raz Jelinek**
ACS Applied Polymer Materials, **2021***, 3,* 2931-2937.

213."β-amyloid fibrils catalyze neurotransmitter degradation"
Elad Arad, Avigail Baruch-Leshem, Hanna Rapaport, **Raz Jelinek**
Chem Catalysis, **2021***, 1,* 908-922.

214."Dual concentration-dependent effect of Ascorbic acid on PAP(248-286) amyloid formation and SEVI-mediated HIV infection"
Satabdee Mohapatra, Guru Krishna Kumar Viswanathan, Lukas Wettstein, Elad Arad, Ashim Paul, **Raz Jelinek**, Jan Münch, Daniel Segal
RSC Chemical Biology, **2021***, 2,* 1534-1545.

215."Metal-catalyst-free gas-phase synthesis of long-chain hydrocarbons"
Lidia Martinez, Pablo Merino, Gonzalo Santoro, Jose Martinez, Katsanoulis Stergios, Jesse Ault, Alvaro Mayoral, Luis Vazquez, Mario Accolla, Alexandre Dazzi, Jeremie Mathurin, Ferenc Borondics, Enrique Blázquez-Blázquez, Nitzan Shauloff, Rosa Lebron-Aguilar, Jesus Quintanilla, **Raz Jelinek**, José Cernicharo, Howard Stone, Victor de la Pena O'Shea, Pedro de Andres, George Haller, Gary Ellis
Nature Communications, **2021***, 12,* 5937.

216."Bcl-2-homology-only pro-apoptotic peptides modulate β-amyloid aggregation and toxicity"
Shani Ben- Zichri, Ravit Malishev, Ofek Oren, Daniel N. Bloch, Ran Taube, Niv Papo, **Raz Jelinek**
ACS Chemical Neuroscience, **2021**, *12,* 4554-4563.

217."Size-selective detection of nanoparticles in solution and air by imprinting"
Linoy Dery, Nitzan Shauloff, Yury Turkulets, Ilan Shalish, **Raz Jelinek***, Daniel Mandler*
ACS Sensors, **2022**, *7,* 296-303.

218."Amyloid fishing: β-amyloid adsorption using tailor-made coated titania nanoparticles"
Elad Rad, **Raz Jelinek**, Hanna Rapaport
Colloids and Surfaces B: Biointerfaces, **2022**, *112,* 112374.

219."Visual Organophosphate Vapor Sensing by Dibenzylidine Derivatives Exhibiting Intramolecular Charge Transfer and Aggregation Induced Emission"
Rajendran Manikandan, Nitzan Shauloff, Ashim Nandi, Alexander Pevzner, Sharon Marx, **Raz Jelinek** *Journal of Materials Chemistry C,* **2022**, *10*, 5458 - 5465.

220."Catalytic amyloids", Elad Arad, **Raz Jelinek** *Trends in Chemistry,* **2022**, *4,* 907-918.

221."Native glucagon amyloids catalyze key metabolic reactions", Elad Arad, Gal Yosefi, Sofiya Kolusheva, Ronit Bitton, Hanna Rapaport, **Raz Jelinek***, ACS Nano,* **2022**, *16,* 12889-12899.

222."Resveratrol Carbon Dots Disrupt Mitochondrial Function in Cancer Cells", Shani Ben-Zichri, Sathish Rajendran, Susanta K. Bhunia, **Raz Jelinek***, Bioconjugate Chemistry,* **2022,** *33,* 1663-1671.

223."Stimulus-responsive Tubular Conjugated Polymer 2D Nanosheets", Daewoong Jang, Jung-Moo Heo, Fadilatul Jannah, Mohammed Iqbal Khazi, Young Ji Son, Jaegeun Noh, Hyosung An, Soon Mo Park, Dong Ki Yoon, Nila Nandha K, **Raz Jelinek*,** Jong-Man Kim**, Angewandte Chemie International Edition,* **2022, *Very Important Paper (VIP),*** *in press.*

224."High resolution cryo-electron microscopy reveals unique striated hollow structure of photocatalytic macrocyclic polydiacetylene nanotubes", Nila Nandha Kadamannil, Jung-Moo Heo, Daewoong Jang, Ran Zalk, Sofiya Kolusheva, Raz Zarivach, Jong-Man Kim, **Raz Jelinek***, Journal of the American Chemical Society,* **2022,** *144,* 17889-17996.

225."Ultra-low-temperature reversible thermochromism and contactless bacterial sensing by chalcone-functionalized polydiacetylene", Rajendran Manikandan, Nitzan Shauloff, **Raz Jelinek***, Journal of Materials Chemistry C,* **2022,** *10,* 16265-16272.

226."Synergistic activity of anti-cancer polyphenols embedded in amphiphilic dendrimer nanoparticles", Shani Ben-Zichri, May Meltzer, Shiran Lacham-Hartman, Sofiya Kolusheva, Uzi Hadad, Niv Papo, **Raz Jelinek,** *ACS Applied Polymer Materials,* **2022**, *in press.*

227."Multispectral and circular polarization-sensitive carbon dot polydiacetylene capacitive photodetector", Nitzan Shauloff, Rajesh Bisht, Yury Turkulets, Rajendran Manikandan, Ahiud Morag, Avi Lehrer, Joshua Baraban, Ilan Shalish, **Raz Jelinek,** *Small,* **2022**, *in press.*

228."Scavenging neurotoxic aldehydes by lysine carbon dots", Daniel Bloch, Michele Sandre, Shani Ben Zichri, Anna Masato, Sofiya Kolusheva, Luigi Babaco, **Raz Jelinek,** *Nanoscale Advances,* **2023**, *5*, 1356 - 1367.

229."Genistein carbon dots exhibit antioxidant and anti-inflammatory effects *in vitro"*, Kumar Sagar Jaiswal, Orit Malka, Nitzan Shauloff, Marina Bersudsky, Elena Voronov, Bhawna Gupta, **Raz Jelinek,** *Colloids and Surfaces B: Biointerfaces,* **2023**, *in press.*

230."Tryptophol acetate and tyrosol acetate, small molecule metabolites identified in a probiotic mixture, inhibit hyperinflammation", Orit Malka, Ravit Malishev, Marina Bersudsky, Manikandan Rajendran, Mathumathi Krishnamohan, Jakeer Shaik, Evgeni Tikhonov, Eliya Sultan, Daniel Chamovitz, Omry Koren, Ron N. Apte, Benyamin Rosental, Elena Voronov, **Raz Jelinek,** *Journal of Innate Immunity,* **2023***, in press.*

Submitted manuscript:

- "Carbon dot / thermo-responsive polymer capacitive wavelength-specific photodetector", Nitzan Shauloff, Noa Prishkolnik, Seema Singh, Rajendran Manikandan, Uri Ben Nun, **Raz Jelinek**, *submitted for publication.*
- *"*Anthraquinone-functionalized polydiacetylene supercapacitors", Sudipta Biswas, Nitzan Shauloff, Rajesh Bisht, **Raz Jelinek,** *submitted for publication.*
- "*Staphylococcus aureus* functional amyloids catalyze degradation of β-lactam antibiotics", Elad Arad, Nimrod Golan, Hanna Rapaport, Meytal Landau, **Raz Jelinek**, *submitted for publication.*

- Recent reports on Jelinek work in the general press:

- "**Flexible electronics: 21st century alchemy that's reshaping your world**" – *Haaretz International Edition,* April 2014. https://www.haaretz.com/science-and-health/.premium-new-alchemy-of-flexible-electronics-1.5243465
- "**Can a cup of yogurt 'cure' your case of COVID-19?**" – Jerusalem Post, April 2021. https://www.jpost.com/health-science/could-a-cup-of-yogurt-cure-your-case-of-covid-19-664976
- "**Israeli lab 'cures' mice of COVID-style inflammation using yogurt molecules**" – The Times of Israel, April 2021. https://www.timesofisrael.com/using-yogurt-molecules-israeli-lab-cures-mice-of-covid-style-inflammation/
- "**Yeast in kefir drink combats disease-causing bacteria**", *Medical News Today,* April 2021. https://www.medicalnewstoday.com/articles/yeast-in-kefir-drink-combats-disease-causing-bacteria
- "**Ben-Gurion University Researchers Introduce Novel Probiotic Yogurt-Based Treatment for Inflammatory Conditions**", *Yahoo Finance* https://finance.yahoo.com/news/ben-gurion-university-researchers-introduce-103900966.html

- **"Ben-Gurion University researchers developing probiotic yogurt-based drugs,** *Microbiome Times* https://www.microbiometimes.com/ben-gurion-university-researchers-developing-probiotic-yogurt-based-drugs/
- "**BGU researchers develop antibiotic tweezers to battle resistant bacteria**", *The Jerusalem Post,* May 2021 https://www.jpost.com/health-science/bgu-researchers-develop-antibiotic-tweezers-to-battle-resistant-bacteria-667162
- "**Scientists invent an artificial nose for continuous bacterial monitoring**", *Phys.Org,* June 2021 https://phys.org/news/2021-06-scientists-artificial-nose-bacterial.html
- "**Israeli researchers develop electronic nose to detect diseases, poisons**", *The Jerusalem Post,* June 2021 https://www.jpost.com/health-science/israeli-researchers-develop-electronic-nose-to-detect-diseases-poisons-671446
- "**New Study shows how amyloid plaques cause Alzheimer's disease**", *The Jerusalem Post,* August 2021 https://www.jpost.com/health-science/new-study-shows-how-amyloid-plaques-cause-alzheimers-disease-676068
- **"Do amyloid plaques cause Alzheimer's disease?".** *Psychiatric Times*, August 2021 https://www.psychiatrictimes.com/view/do-amyloid-plaques-cause-alzheimer-disease
- **"E-nose developed to detect nanoplastics in the air".** *The Science Times*, August 2022 https://www.sciencetimes.com/articles/39536/20220824/e-nose-developed-detect-nanoplastics-air.htm

Plenary and Invited Lectures [last five years]

Presentation of papers at conferences/meetings

2022

- "Carbon dots: from sensing to environmental applications and back", 11th International Colloids Conference. Lisbon, Portugal. **Plenary Lecture.**
- "Carbon-dot based smart materials", Nature Inspired Creativity Engineers (N.I.C.E.) conference, Nice, France. **Keynote Lecture.**
- **"**Carbon dots in environmental applications", ACS Fall Meeting, Chicago, US. **Invited Lecture.**

2021

- "Nickel-Ruthenium High Frequency Supercapacitors", International Workshop on World-Leading Energy Materials (IWWEM), Hanyang University, Korea *(hybrid conference)*. **Invited Lecture**
- *"*Cross-kingdom quorum sensing disruption by probiotic milk-fermented yeast", Asian Chemical Biology Initiative, 2021 Online Meeting. **Invited Lecture.**
- "New strategies for disrupting bacterial biofilms and bacterial virulence", 4th CRC1093 International Symposium: Supramolecular Chemistry Meets Biology. Essen University, Germany. **Plenary Lecture.**
- **"**E-nose for "smelling" bacteria", NanoIL, Jerusalem, **Invited Lecture.**

2020
- "BIM forms cytotoxic amyloid fibrils", 4th Ulm Meeting on Amyloid Biophysics, Ulm, Germany. **Invited lecture.**

2019
- "Carbon dots – new properties and functions", Annual Meeting of the Israel Chemical Society, Tel Aviv, Israel. **Invited lecture.**
- "Blood pulse and pressure sensor based on innovative gold nanostructure technology", Annual conference on Wearable Devices for Medical Diagnosis, Haifa, Israel. **Invited lecture.**

2018
- "Carbon nanomaterials for analytical applications", Isranalytica, Tel Aviv, Israel. **Invited lecture.**
- "Carbon-dot / water interface: fluorescence up, down, and in between", Carbon Nanomaterials in Aqueous Environment: From Characterization to Applications, Freigeist Workshop, Berlin, Germany. **Invited lecture.**
- **"**Functional amyloids and membranes", Protein misfolding in ageing and neurodegeneration: from basic biology to drug development, UK-Israel Synergy Meeting, London, UK. **Invited lecture**
- "Monitoring water contamination and volatile organic compounds (VOCs) using colorimetric polymers", Italy-Israel Workshop on Nanomaterials and Nano Technologies in Cleantech Applications", Tel Aviv, **Invited lecture**

Seminar presentations at universities and institutions (last 5 years)

2022
- ETH Zurich
- Universidad Catolica del Maule, Chile

2019
- University of Geneva
- Instituto de Ciencia de Materiales de Madrid (ICMM)

2018
- Shaanxi Normal University, Xian, China
- Nanjing University

- **Patents and Patent Applications**

- 2014	Polydiacetylene / poly(methyl methacrylate) matrices as colorimetric and/or fluorescent detectors (US 10,101,277)
- 2015	Gold nanostructures and processes for their preparation (US 10,895,013)
- 2018	Microorganism mixtures, molecules derived therefrom, and methods of use thereof. (WO 2020/031191)
- 2018	Synthesis of antimicrobial carbon dots and uses thereof. (US Provisional Application 62/755,490)
- 2019	An electrode and a pseudo-capacitor based on the electrode (PCT/IL 2020/050056)
- 2020	High sensitivity metal-composite porous graphene-oxide

capacitive organophosphate sensor (PCT/IL2021/050522)
- 2020 Therapeutic activity of molecules extracted from fermented milk and their derivatives (US Provisional Application 63/022,598)
- 2020 Device and methods for detecting bacteria (US Provisional Application 63/112,260)
- 2020 Compositions of tryptophol derivatives and 4-ethyl-phenol derivatives and methods of using same (US Provisional Application ,63/132,619)
- 2020 Methods for modulating microbial populations (US Provisional Application 63/158,342)
- 2021 High sensitivity broad-target porous graphene oxide capacitive vapor sensor (US Patent 10,890,550)
- 2022 Therapeutic effect of molecules derived from probiotic milk-based fermentation microbial consortium ("kefir") embedded in ointments on wounds healing (US Provisional Application 63/393,926)
- 2022 New molecule for colorimetric and fluorescence detection of food spoilage (US Provisional Application 63/394,646)
- 2022 Detecting nanoplastics in the air (US Provisional Application63/397,846)

- **Research Grants (last 10 years)**

- **2021-2023** "Kamin" Program, Israel Innovation Authority. PI: **Raz Jelinek**
  "Electronic nose for monitoring bacteria in foods"
  IS 600,000
- **2021-2023** MoST Italy-Israel Cooperation Grant. Co-PIs: **Raz Jelinek,** Paola Galetti
  "Biobased and Biodegradable Carbon Dot-Polymeric Nanofibrous Membranes for Solar-Assisted Water Remediation and Oil Spill Cleanup"
  IS 400,000
- **2020-2021** Bergida Fund. PI: **Raz Jelinek**
  "Aromatic carbon dots - a new therapeutic vehicle for Parkinson's disease"
  $ 105,000
- **2020-2024** Israel Science Foundation Personal Grant. PI: **Raz Jelinek**
  "Carbon dots as new antibacterial and antiviral agents"
  IS 1,100,000
- **2019-2021** "Kamin" Program, Israel Innovation Authority. PI: **Raz Jelinek**
  "Supercapacitors for work in high frequencies"
  IS 800,000
- **2019-2022** Ministry of Energy, Co-PI: **Raz Jelinek**, Zeev Zalevsky
  " Wirelessly-charged micro-supercapacitors for reduced energy loss in microelectronics "
  Jelinek: **IS 325,000**
- **2018-2021** BG3C, Cincinnati Children's Hospital and Ben Gurion University. Co-PI: **Raz Jelinek**, David Morales, Zafar Farhan
  "Non-**i**nvasive **C**ontinuous **He**art Monitor (NICHe Monitor)"
  Jelinek: **$100,000**
- **2018-2021** Horizon 2020 Secured Society. Co-PI: **Raz Jelinek** + 8 participants.
  COSMIC; "CBRNE Detection in Containers"

Jelinek: **Eu 335,000**

- **2017-2018** MoD Grant. **PI: Raz Jelinek**
  "Novel gas sensor for volatile materials"
  IS 165,000
- **2017-2020** Horizon 2020 FET-OPEN. Co-PI: **Raz Jelinek** + 7 participants.
  CATCH-U-DNA; "Capturing non-Amplified Tumor Circulating DNA with Ultrasound Hydrodynamics"
  Jelinek: **Eu 575,000**
- **2017-2021** Pazy Foundation Grant. Co-PI: **Raz Jelinek,** Ofra Paz-Tal
  "Molecular design and self-assembly of polydiacetylene (PDA) - ligand arrays: A potential tool for radionuclide sensing"
  IS 1,400,000
- **2017-2020** National Grant for Applied and Engineering Research, Ministry of Science and Technology. Co-PI: **Raz Jelinek,** Dani Mandler, Sharon Marx
  "New platform for monitoring and speciation of nanoparticles"
  Jelinek: **IS 400,000**
- **2017-2018** China-Israel Cooperative Scientific Research Grant, Ministry of Science and Technology. PI: **Raz Jelinek**
  "Carbon quantum dots coupled to metal nanoparticles: properties and applications"
  Jelinek**: IS 510,000**
- **2017-2018** Marcus Foundation. Co-PI: **Raz Jelinek,** Shai Arnon
  "Carbon quantum dot "light tracers" for monitoring light exposure in aquatic systems"
  Jelinek: **$25,000**
- **2016-2018** "Kamin" Program, Chief Scientist, Ministry of Trade. PI: **Raz Jelinek**
  "Supercapacitors based upon gold/graphene electrodes"
  IS 700,000
- **2016-2019** Applied Science and Engineering Grant, Ministry of Science and Technology, co-PIs: **Raz Jelinek,** Zeev Zalevsky
  "Active solar concentrators through a novel piezoelectric nanoparticle/sol-gel design"
  Jelinek: **IS 750,000** (total grant IS 1,500,000)
- **2016-2017** The Louis and Bessie Stein Fellowship, co-PIs: **Raz Jelinek,** J.L. Poggio
  "Biophysical patterns and clinical aspects of colon tumor mitochondrial membranes"
  $ 20,000
- **2015-2016** "Nofar" Program, Ministry of Trade and Industry, PI: **Raz Jelinek**
  "Monitoring pollutants in drinking water"
  IS 500,000
- **2015** Israel Science Foundation Equipment Grant, **R. Jelinek**, A. Bernheim, S. Cohen
  "Scanning confocal microscope"
  IS 750,000
- **2014-2018** Israel Science Foundation Individual Grant, PI: **Raz Jelinek**
  "Au thiocyanate – a new building block for gold nanotechnology"
  $ 300,000
- **2013-2016** US-Israel Binational Agriculture Research and Development Fund (BARD) grant,

co-PIs: **R. Jelinek,** P. Dawson, T. Hanks, W. Pennington, J. Northcutt
"Bacterial sensors for food processing environments"
Jelinek: **$ 140,000** (total grant $ 300,000)

- **2013-2014** M.F.S. Fund, Ben Gurion University, PI: **R. Jelinek**
"Single step assembly of ultrathin transparent conductive metal films"
$ 100,000
- **2013-2014** Israel-Czech Republic Science Cooperation grant, co-PIs: **R. Jelinek,** M. Hof
"Membrane interactions of proteins associated with Alzheimer's disease; implications for diseases' pathologies and therapeutic avenues"
IS 300,000 (Jelinek share)
- **2012 - 2013** "Nevet" BGU-Technion Cooperation Grant, co-PIs: **R. Jelinek**, A. Porgador, M. Aviram
"Chromaric nanoparticle-based cardiovascular diagnostic technology"
Jelinek: **IS 37,500** (total grant IS 150,000)
- **2012 - 2013** Kamin grant, Ministry of Trade and Industry, **R. Jelinek (PI)**
"Novel bottom-up nanolithography technology for production of transparent conductive electrodes employed in electronic and photonic devices"
IS 770,000
- **2011 - 2015** US-Israel BSF grant, co-PIs: **R. Jelinek**, J. Hanes
"Mucus transport and membrane interactions of gene carriers"
Jelinek: **US$ 140,000** (total grant US$ 188,000)
- **2011 - 2014** Ministry of Science and Technology Infrastructure grant, co-PIs: **R. Jelinek**, S. Richter, Z. Zalevsky
"Electronic and nanophotonic devices based upon new molecular and soft lithography methods"
Jelinek: **IS 600,000** (total grant IS 1,800,000)

Present Academic Activities - Synopsis of Research

Research in the laboratory of Dr. R. Jelinek is multidisciplinary and spans nanotechnology, surfaces and thin films, sensors, and biological membranes. The research activity in the laboratory has a certain applied-science emphasis, with several patents awarded/submitted. Current projects focus on ***self-assembled functional Au coatings in 2D and 3D*** using a novel ***Au precursor; construction of organized structures at the air/water interface; amphiphilic carbon dots for biological applications;*** development of ***chromatic sensors for biological and chemical molecules*** based upon ***polydiacetylene*** – a unique conjugated polymer; and ***membrane interactions of amyloid peptides***.