

CURRICULUM VITAE AND LIST OF PUBLICATIONS



- **Personal Details**

Work address: Department of Chemistry, Ben-Gurion University, Beer Sheva 84105, Israel. Telephone: +972-8-6428665

Home address: 14 Gilboa St. Reut 7179000. Telephone: +972-52-6839384

E-mail: [razj@bgu.ac.il](mailto:razj@bgu.ac.il)

Web: [www.bgu.ac.il/~razj](http://www.bgu.ac.il/~razj)

- **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, Nanotechnology Interdisciplinary PhD track, Ilse Katz Institute for Nanotechnology |
| 2012 – 2016    | - Head, Students Appeals Tribunal, Ben Gurion University  |
| 2010 – present | - Member, University Senate   |
| 2002 – present | - Academic Director, Biophysics Laboratory, Ilse Katz Institute of Nanotechnology                         |
| 1999 – present | - Head, Admission Committee, Chemistry Department, Ben-Gurion University                                  |
| 2012           | - Member, Scientific Advisory Committee, 77 <sup>th</sup> 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                |
| 2007           | - Member, President's Committee for development of an Academic Leadership Program                         |
| 2005 – 2007    | - Member, University Senate   |
| 2005 - 2006    | - Director, BGU/Teva Ltd. analytical chemists training program.   |
| 2006           | - Organizer and Chairman, 71 <sup>th</sup> Meeting of the Israel Chemical Society                         |
| 2004 – 2006    | - Council Member, VLSI Center, Ben-Gurion University  |

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- 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

- 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 - 2021 - 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 – 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, Torteck/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)

- 2019 General Chemistry: **4.7** (Faculty of Natural Sciences average: 3.5)

Research Students

- Nila Nandha, current PhD student. Ben Gurion University
- Reut Israeli, current Ph.D. student. Ben Gurion University
- Orit Malka, current Ph.D. 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
- Anna Shteinberg, current M.Sc. student. Ben Gurion University
- Dana Zimmerman, current M.Sc. student. Ben-Gurion University
- Inna Bourbo, current M.Sc. student
- 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 Filosof, 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
- 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 Chooana, 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
- 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. Manikandam Dhotam (PhD CSIR National Chemistry Laboratory, Pune, India) 2020 - present
- Dr. Amrita de Adhikari (PhD IIT Dhanbad) 2019 - 2020
- Dr. Rajesh Bisht (PhD CSIR National Chemistry Laboratory, Pune, India) 2019 – present
- 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. Zuly 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, Bangalore.
- 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 1<sup>st</sup> Middle East Frontiers of Science and Engineering

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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

## • **Scientific Publications**

### Books - Author

1. "Biomimetics, a Molecular Perspective", **Raz Jelinek**, De-Gruyter, Berlin 2013, ISBN: 978-3-11-028117-0.
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 [among top 25% most downloaded eBooks at the Springer site]
4. "Membranes", **Raz Jelinek**, De-Gruyter, Berlin 2018, ISBN: 978-3-11-045369-0.

### Books - Editor

5. "Cellular and Biomolecular Recognition: Synthetic and Non-Biological Molecules", **Raz Jelinek** (Editor), WILEY-VCH, Weinheim 2009, ISBN: 978-3-527-32265-7.
6. "Lipids and Cellular Membranes in Amyloid Diseases", **Raz Jelinek** (Editor), WILEY-VCH, Weinheim 2011, ISBN: 978-3-527-32860-4.

### Refereed Articles in Scientific Journals

- **Total number of publications: 209**
- **h-index: 41 (ISI Web of science); 47 (Google Scholar)**
- **Sum of times cited without self-citations: 5518 (ISI Web of science)**

### Publications (last FIVE years)

130. "Hierarchical assembly of polydiacetylene microtubes mediated by divalent metal ions"  
H. Jiang, **Raz Jelinek**  
*ChemPlusChem*, **2016**, *81*, 119-124.
131. "Tunable light-emitting carbon-dot/polymer flexible films prepared through one-pot synthesis"  
S.K. Bhunia, S. Nandi, R. Shikler, **Raz Jelinek**  
*Nanoscale*, **2016**, *8*, 3400-3406.
132. "Imaging cancer cells expressing the folate receptor with carbon dots produced from folic acid"  
S.K. Bhunia, A. Maity, S. Nandi, D. Stepensky, **Raz Jelinek**  
*ChemBioChem*, **2016**, *17*, 614-619. **Featured on the journal cover**
133. "Conductive and SERS-active nano-crystalline gold film spontaneously assembled at a liquid/liquid interface"  
X. Yin, Y. Peretz, P.G. Oppenheimer, L. Zeiri, A. Masarwa, N. Froumin, **R. Jelinek**  
*RSC Advances*, **2016**, *6*, 33326-33331.

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134. "Imaging *Pseudomonas aeruginosa* biofilm extracellular polymer scaffolds with amphiphilic carbon dots"  
M. Ritenberg, S. Nandi, S. Kolusheva, R. Dandelia, M.M. Meijler, **Raz Jelinek**  
*ACS Chemical Biology*, **2016**, *11*, 1265-1270.
135. "Pomegranate Juice Polyphenols Induce Macrophage Death via Apoptosis as oppose to Necrosis Induced by Free Radical Generation: a Central Role for Oxidative Stress"  
O. Rom, N. Volkova, S. Nandi, **Raz Jelinek**, M. Aviram  
*Journal of Cardiovascular Pharmacology*, **2016**, *68*, 106-114.
136. "High surface area electrodes by template-free self-assembled hierarchical porous gold architecture"  
A. Morag, T. Golub, J. Becker, **R. Jelinek**  
*Journal of Colloids and Interface Science*, **2016**, *472*, 84-89.
137. "Lipid-bilayer dynamics probed by a carbon dot-phospholipid conjugate"  
Sukhendu Nandi, Ravit Malishev, Sofiya Kolusheva, Jurgen Jopp, Susanta Kumar Bhunia, **Raz Jelinek**  
*Biophysical Journal*, **2016**, *110*, 2016-2025. **Featured on the journal cover.**
138. "Light-Induced Conductivity in a Solution-Processed Film of Polydiacetylene and Perylene Diimide"  
Jiang Hao, Hershtig Guy, Richter Shachar, **Raz Jelinek**  
*Journal of Physical Chemistry Letters*, **2016**, *7*, 1628-1631.
139. "Bacoside-A, an anti-amyloid natural substance, inhibits membrane disruption by the amyloidogenic determinant of prion protein through accelerating fibril formation"  
R. Malishev, S. Nandi, S. Kolusheva, S. Shaham-Niv, Ehud Gazit, **Raz Jelinek**  
*BBA-Biomembranes*, **2016**, *1858*, 2208-2214.
140. "'Bottom-up' transparent electrodes"  
Ahiud Morag, **Raz Jelinek**  
*Journal of Colloids and Interface Science*, **2016**, *482*, 267-289.
141. "Carbon-Dot/Silver-Nanoparticle Flexible SERS-Active Films"  
Susanta Kumar Bhunia, Leila Zeiri, Joydeb Manna, Sukhendu Nandi, **Raz Jelinek**  
*ACS Applied Materials & Interfaces*, **2016**, *8*, 25637-25643.
142. "Colorimetric analysis of painting materials using polymer-supported polydiacetylene films"  
Alexander Trachtenberg, Orit Malka, Kaviya Parambath Kootery, Stella Beglaryan, Danilo Malferrari, Paola Galletti, Silvia Prati, Rocco Mazzeo, Emilio Tagliavini, **Raz Jelinek**  
*New Journal of Chemistry*, **2016**, *40*, 9054-9059. **Featured on the journal cover**
143. "Carbon-dot-hydrogel for esterase-mediated bacterial detection"  
Sagarika Bhattacharya, Sukhendu Nandi, **Raz Jelinek**  
*RSC Advances*, **2017**, *7*, 588-594.
144. "Carbon-dot-WS<sub>2</sub> Nanorods for Photothermal Therapy and Cell Imaging"  
Sukhendu Nandi, Susanta Kumar Bhunia, Leila Zeiri, Maayan Pour, Iftach Nachman, Daniel Raichman, Jean-Paul Moshe Lellouche, **Raz Jelinek**  
*Chemistry – A European Journal*, **2017**, *23*, 963-969.
145. "In vitro reactive oxygen species (ROS) sensing by a carbon-dot-ascorbic acid hydrogel"  
Sagarika Bhattacharya, Rhitajit Sarkar, Sukhendu Nandi, Angel Porgador, Raz Jelinek  
*Analytical Chemistry*, **2017**, *89*, 830-836.
146. "In-situ synthesized Carbon-Dot-Aerogel Sensor for Aromatic Volatile Organic Compounds"  
Susmita Dolai, Susanta Bhunia, **Raz Jelinek**  
*Sensors and Actuators B. Chemical*, **2017**, *241*, 607-613.
147. "Polydiacetylene sensor interaction with food sanitizers and surfactants"  
Yueyuan Zhang, Julie Northcutt, Tim Hanks, Ian Miller, Bill Pennington, Inyee Han, **Raz Jelinek**, Paul Dawson



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*Food Chemistry*, **2017**, *221*, 515-520.

148. "Colorimetric Polydiacetylene-Aerogel Detector for Volatile Organic Compounds (VOCs)"  
Susmita Dolai, Susanta Kumar Bhunia, Stella Beglaryan, Sofiya Kolusheva, Leila Zeiri, **Raz Jelinek**  
*ACS Advanced Materials and Interfaces*, **2017**, *9*, 2891-2898.
149. "Porous graphene oxide chemi-capacitor vapor sensor array"  
Nagappa Teradal, Ahiud Morag, Sharon Marx, **Raz Jelinek**  
*Journal of Materials Chemistry C*, **2017**, *5*, 1128-1135.
150. "Bacoside-A, an Indian traditional medicine substance, inhibits beta amyloid cytotoxicity, fibrillation, and membrane interactions"  
Ravit Malishev, Shira Shaham-Niv, Sofiya Kolusheva, Sukhendu Nandi, Ehud Gazit, **Raz Jelinek**  
*ACS Chemical Neuroscience*, **2017**, *8*, 884-891.
151. "Catalytic Au "nano-wool balls"  
Xiuxiu Yin, Nagappa Teradal, Ahiud Morag, **Raz Jelinek**  
*ChemCatChem*, **2017**, *9*, 2473-2479.
152. "Freestanding Gold/Graphene-Oxide/MnO<sub>2</sub> Microsupercapacitor Displaying High Areal Energy Density"  
A. Morag, J. Becker, **R. Jelinek**  
*ChemSusChem*, **2017**, *10*, 2736-2741.
153. "Carbon nanomaterials in biological studies and biomedicine"  
N. Teradal, **R. Jelinek**  
*Advanced Healthcare Materials*, **2017**, *6*, 1700574.
154. "Nitric oxide sensing through azo-dye formation on carbon dots"  
Bhattacharya, S., Chakraborty, B., Sarkar, R., Porgador, A., **Jelinek, R.**  
*ACS Sensors*, **2017**, *2*, 1215-1224.
155. "Coupling of Carbon Dots and Surface Plasmons Enables Energy Transfer and Provides Unique Functional Group Signatures"  
Lih Efremskin, Susanta Kumar Bhunia, **Raz Jelinek**, Adi Salomon  
*Journal of Physical Chemistry Letters*, **2017**, *8*, 6080-6085.
156. "Thenoyltrifluoroacetone (TTA)-Carbon Dot/Aerogel Fluorescent Sensor for Lanthanide and Actinide Ions"  
Susmita Dolai, Susanta Kumar Bhunia, Leila Zeiri, Ofra Paz-Tal, **Raz Jelinek**  
*ACS Omega*, **2017**, *2*, 9288-9295.
157. "Porous Au nanotubes for enhanced methanol oxidation catalysis"  
Xiuxiu Yin, Nagappa Teradal, **Raz Jelinek**  
*ChemistrySelect*, **2017**, *2*, 10961-10964.
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  $\beta$ -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**<sup>\*</sup>, Liraz Chai<sup>\*</sup>  
*Biochemistry*, **2018**, *57*, 5230-5238.

162. "Reciprocal Interactions between Membrane Bilayers and Staphylococcus aureus PSM $\alpha$ 3 Cross- $\alpha$  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.
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"

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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**

*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- $\beta$  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 Schwartz, 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 A $\beta$ 42 double mutant inhibits A $\beta$ 42-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-perylene diimide 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**

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*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- $\alpha$ /Cross- $\beta$  Chameleon Functional Amyloid"  
Nir Salinas, Einav Tayeb-Fligelman, Massimo Sammito, Daniel Bloch, **Raz Jelinek**, Dror Noy, Isabel Uson, and Meytal Landau  
*PNAS*, **2021**, in press
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**, in press
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**, in press
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**, in press
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**, in press
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**, in press
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**, in press

### **Submitted manuscript:**

- “ $\beta$ -amyloid fibrils are catalytic”, Elad Arad, Avigail Baruch-Leshem, Hanna Rapaport, **Raz Jelinek**, *submitted for publication*
- “Tungsten-disulfide / polyaniline high frequency supercapacitors”, Amrita De Adhikari, Nitzan Shauloff, **Raz Jelinek**, *submitted for publication*.
- “Chromatic Dendrimer / Polydiacetylene Nanoparticles”, Reut Israeli, Sofiya Kolusheva, Pablo Mateos-Gil, Electra Gizeli, **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.
- "Carbon nanomaterials in biological studies and nanomedicine" – *Advanced Science News*, September 2017.

### **• Plenary and Invited Lectures [last five years]**

#### Presentation of papers at conferences/meetings

##### 2021

- "Nickel-Ruthenium High Frequency Supercapacitors", International Workshop on World-Leading Energy Materials (IWWEM), Hanyang University, Korea. **Invited lecture (hybrid conference)**
- "Cross-kingdom quorum sensing disruption by probiotic milk-fermented yeast", Asian Chemical Biology Initiative, 2021 Online Meeting. **Invited lecture.**

##### 2020

- "BIM forms cytotoxic amyloid fibrils", 4<sup>th</sup> 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**

#### 2017

- "Membranes are critical parameters in fibrillation inhibitor activities", DISTALZ Conference on Protein Misfolding, Lille, France. **Invited lecture.**
- "Carbon dots in chemical and biological sensing", Asian ChIP conference, Beijing, China. **Invited lecture**
- "Membrane interactions of bacterial amyloids: cell-cell communication, biofilm formation, and toxicity", International Symposium on Protein Misfolding Diseases", Catania, Italy. **Invited lecture.**
- "Nanoporous graphene oxide gas sensor", MRS Fall Meeting, Boston, US. **Invited lecture.**

#### 2016

- "Functionalized carbon quantum dots for biological applications", N.I.C.E, Conference, Nice, France. **Keynote lecture.**

#### Seminar presentations at universities and institutions (last 5 years)

#### 2019

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

#### 2018

- Shaanxi Normal University, Xian, China
- Nanjing University

#### 2017

- Jilin University
- Nanjing University
- University of Basel

#### 2016

- Bar Ilan University
- Israel Institute of Biological Research
- Drexel University, USA
- Jilin University, China

#### • **Patents and Patent Applications**

- 2004 Polydiacetylene-containing solid colorimetric and/or fluorescent detector, method for its preparation and uses thereof. US patent 8,008,039; European Patent 04744945.9
- 2004 Cells containing a nanopatch sensor in their membranes. EU patent 04770570. US patent 7,855,073
- 2014 Polydiacetylene / poly(methyl methacrylate) matrices as colorimetric and/or fluorescent detectors (US 10,101,277)

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- 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 (Israel Patent Application 274539)
- 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 Carbon dot-polymer Nanoporous Membrane for Recyclable Sunlight-Sterilized Anti Covid-19 Facemasks (US Provisional Application ,63/112,659)
- 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 Carbon Dot-Polymer Nanoporous Membrane for Recyclable Sunlight-Sterilized Facemasks (US Provisional Application 63/154,826)
- 2021 High sensitivity broad-target porous graphene oxide capacitive vapor sensor (US Patent 10,890,550)

• **Research Grants (last 10 years)**

- **2021-2022** 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, Chief Scientist, Ministry of Trade. PI: **Raz Jelinek**  
“Supercapacitors for work in high frequencies”  
**IS 700,000**
- **2019-2021** 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



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- "Non-invasive Continuous Heart 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**

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- “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** ISF Institutional Equipment Grant, **R. Jelinek**, Y. Golan, J. Kost  
“Fast scanning microscope”  
**IS 900,000**
  - **2012 - 2013** “Nevat” 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)
  - **2007 - 2011** German-Israel Project Cooperation (DIP), co-PIs: **R. Jelinek**, G. Lederkremer, E. Gazit, N. Ben-Tal, U. Hartl, J. Tatzelt, J. Hohfeld  
“Integrated *in vivo*, *in vitro* and *in silico* studies of protein misfolding diseases”  
Jelinek: **Euro 62,000 p/a** (total grant Euro 1,200,000)

### 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

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*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.*