Curriculum Vitae

Kolodkin-Gal Ilana

Personal Details:

Status: Married +2

Nationality: Israeli, Latvian

Email: ilana.kolodkin@mail.huji.ac.il, ilana.kolodkin@runi.ac.il

ORCID: https://orcid.org/0000-0002-8464-5660

Education:

2004-2010 **Direct PhD track**

Department of Molecular Biology, The Hebrew University of Jerusalem, Israel

Supervisor - Prof. Hanna Engelberg-Kulka

Graduated *summa cum laude.*

2000-2003 **B. Sc** in Biology and Medical Sciences, Tel Aviv University, Israel

Employment:

Oct 2023-Present **Senior Lecturer,** Scojen Institute for Synthetic Biology, Reichman University

June 2023-present **Cofounder and Scientific Advisor**, BioCe LTD, London, United Kingdom

March 2023- present **Adjacent Lecturer,** Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University.

2022-present, **Executive Editor**, *Cambridge University Press,* https://www.cambridge.org/core/journals/research-directions-biotechnology-design/information/about-this-journal/editorial-board

June 2021-Dec 2022, **Visiting Faculty,** Department of Plant Pathology and Microbiology, **The Hebrew University of Jerusalem. Host: Prof. Edouard Jurkevitch**

Jan 2013-Oct 2021, **Senior Scientist**, Weizmann Institute of Science, Israel

2021- present Consultant, **Proofig**, — a tool to minimize image errors, for more on the activities of the company's activities, *Nature news* https://www.nature.com/articles/d41586-021-03807-6

2009 -2012 **Postdoctoral Research Fellow**, Department of Molecular and Cellular Biology, Harvard Medical School, USA

Teaching Experience

- Starting Fall 2025, **Lecturer and Course Manager**, Microbiology Course and Microbiology Student Labs, LS-CS joint program, Reichman University
- Starting Fall 2025, Research Project Coordinator, LS-CS joint program Reichman University
- **Lecturer,** Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University, Emerging strategies in nanotechnology to treat microbial infections Grade: 4.9/5
- **Guest Lecturer,** The Robert H. Smith Faculty of Agriculture, Food, and Environment, The Hebrew University of Jerusalem, Bacterial Physiology and Molecular Biology (2020, 2022)
- **Lecturer** and **Course Manager** of "Molecular Principles of Beneficial and Pathogenic Microbial Interactions", an advanced course at the Feinberg Graduate School, Weizmann Institute of Science, Israel (starting 2017) Grade: 4/5
- Recurring guest lecturer in "Advanced Class in Microbiology", The Hebrew University of Jerusalem, Israel (Starting 2014)
- Guest Lecturer in "Behavior at the Molecular Level: From Bacteria to Human". Grade: 4.42/5

MSc and PhD committee:

- The Hebrew University: Igor Kviatkovski (Yael Helman lab), Ronghi Yang (Saul Burdman lab)

- The Technion: Nir Salinas (Meytal Landau lab)
- Ben Gurion University: Mikhal Blaschkauer (Edo Bar Zeev lab), Talia Gabay (Osnat Gillor lab)
- Weizmann Institute of Science: Zohar Erez, Gal Ofir, Amikam Yoav (Rotem Sorek lab), Evgeny Tatirovsky, Niv Zmora, Jotham Suez (Eran Elinav lab), Itamar Francoise (Yitzhak Pilpel lab), Noa Barak (Assaf Vardi lab)
- SASTRA University-India: Chandra Mohan (R. Chandramouli lab)

Supervised Students:

BSc (Interns)

Athanasios Tsagkadouras (Current: Oxford University, UK)

Rebecca Townsley (Current: University of California, Davis, USA)

Jenny Nathans (Current: Washington University, USA)

Simcha Plotkin (Current: Vanderbilt University, USA)

Andrey Petropavlovskiy (Current: Guelf University, Canada)

Joshua Schreck (Current: Arizona State University, USA)

Peninnah Green (Current: Bar-Ilan University)

Tal Hassanov (Current: The Hebrew University)

Shir Ely (Current: Getter Group, LTD)

Yael Hadas, (HIT)

Benny Morris, (HIT)

Yohanan Asulin, (HIT)

MSc

Eliane Hadas Yardeni (grad. 2015, current - Weizmann Institute of Science)

Dan Pollack (grad. 2016, current - New York University, USA)

Natalia Kemper (grad. 2017, current - Maccabi Health Services)

Gili Rosenberg (grad. 2017, current - Weizmann Institute of Science)

Rotem Hadar (started 2018, current, Sheba Tel Hashomer)

Ronit Suissa (grad. 2018, current PhD in the lab)

Rela Oved (2019-2021)

Shatha Safadi (2019-2021, In collaboration with Tel Aviv University)

Current: Avihai Nahimi (St. Oct 2023)

PhD

Nitai Steinberg (grad. 2018, current - University of Toronto, Canada)

Tabitha Bucher (grad. 2018, current - Johnson Company, Switzerland)

Harsh Maan (grad. 2022)

Omri Gilhar (grad. 2023)

Current: Ronit Suissa (Proposal submitted 2019), with Prof. Michael Meijler and Prof. Omri Koren

Post-doctoral fellows

Dr. Yaara Oppenheimer-Shaanan (2013-2016, current - Weizmann Institute of Science)

Dr. Zohar Bloom-Ackermnan (2014-2016, current - Broad Institute, USA)

Dr. Hadas Ganin (2013-2016, current - Head of research, Recipharm Israel, LTD)

Dr. Rakesh Jain (2017, current - Tokyo University, Japan)

Dr. Ariel Ogran-Nachman (2017-2019, current – Weizmann Institute of Science)

Dr. Qihui Hui (2017-2020, Current: Hong Kong University)

Dr. Tatyana Povolotsky (2019-2021, Currently: Frie University Berlin)

Current: Dr. Talal Salti (St. March 2024)

Current: Dr. Prem Anand Murgan (St. July 2024)

Contribution to the Scientific Community

Conferences Organization:

- **Organizing Committee Member,** annual meeting of the Israel Society for Synthetic Biology (2024)
- **Organizer**, annual meeting of the Israel Society for Microbiology (2019)
- **Organizer**, annual fall workshop of the Israel Society for Microbiology (2017)
- **Organizer**, Bi-institutional Microbe Club (with Bar-Ilan University), Weizmann Institute of Science (2014-2016)

Selected Outreach Activities:

- Coordinator, educational project for advancing Arabic high-school students with the Hebrew University of Jerusalem, Atid-Lod (starting 2022)
- Microbiology literacy knowledge framework led by Prof. Kenneth Timmis and the Society for Applied Microiology [SfAM](Outline submitted June 2020)
- Co-director and volunteering teacher, educational project for advancing Arabic high-school students, Lod-Amal and Lod-Ort (starting 2019)
- Mentor, "Ilan Ramon" Israeli spacelab project (2019)
- Mentor, "Advancing Women in Science" Program, Weizmann Institute of Science (starting 2016)
- Volunteer, outreach project I-scientist, for high-school students living in Israel's periphery, Davidson Institute (starting 2017)
- Volunteering teaching assistant, Lod Arabic Amal High-School (2018-2019)
- The IKG lab was a participant at Architecture Biennale Venice (2016), and in a subsequent art exhibition in Tel Aviv University Natural History Museum (current)
- Co-director and volunteering teacher, educational project for advancing Arabic high-school students, Lod-Ort (2016-2017)
- Volunteering teaching assistant, Oncology Department, Hadassah En-Keren children's hospital (2004-2009)
- Volunteering teaching assistant, Oncology Department, Schneider Children's' hospital (2002-2003)

Editor and committee member:

- **Judging Committee member,** *Human Frontiers Science Program*, Post Doctoral Fellowships (2023-2024)
- **Topic Editor,** *Frontiers in Microbiology,* Springer-Nature, Women in Microbial Physiology and Metabolism: 2023.
- **Editorial Board Member**, *Frontiers in Cellular and Infection Microbiology*, Springer-Nature
- **Reviewer**, *KU Leuven*, Netherlands, Internal grants
- **Editor**, *Microorganisms*, Special Issue, "Host–Biofilm Interaction 2.0" (Ongoing)
- **Diversity and Inclusion working group member,** *Microbiology Spectrum (IF=9),* ASM (American Society for Microbiology)
- **Editor,** *Microbiology Spectrum (IF=9),* ASM (American Society for Microbiology)
- **Executive Editor,** *Biotechnology Design***,** Cambridge University Press, https://www.cambridge.org/core/journals/research-directions-biotechnology-design

- **Reviewing Jury,** Natural Sciences and Engineering Research Council of Canada, Discovery grants
- **Guest Editor**, *Microorganisms*, Special Issue, "Host–Biofilm Interaction" (Sep. 2021)
- **Reviewing Editor**, *Cells* (ISSN 2073-4409, IF 5.656) (Starting 2020)
- **External Jury,** President's Science Award (PSTA) 2020, Academy of Science, Singapore
- **Advisory Board Member**. The Hub for Biotechnology in the Built Environment (HBBE). Cooperation with Newcastle and North Umbria Universities http://bbe.ac.uk/ (Starting 2020)
- **Executive Board Member** (website secretary), Microbial Physiology Section, European Federation of Biotechnology (2018-2020, due to sections reorganization of the EFB)
- **Co-treasurer**, Israel Society for Microbiology (starting 2019)
- **Editorial Board Member**, *npj Biofilms and Microbiomes*, Nature press (starting 2018) (IF=8.5, ranked 5th/139 journals in Applied Microbiology and Biotechnology)
- **Elected Executive Board Member** and **Integration Committee Member**, Israel Society for Microbiology (starting 2017)
- **Reviewing Editor** and **Editorial Board Member**, Marine Microbiology (Mineralogy), Symbiosis, *Frontiers in Microbiology* (starting 2016)
- **Associate Editor**, Microbial Physiology and Metabolism, *Frontiers in Microbiology* (starting 2018)
- **Peer Reviewer** (selected): *Science Advances, Nature Reviews in Microbiology*, *EMBO, Nature Chemical Biology, Nature Microbiology, Nature Communications, npj Biofilms and Microbiomes, Biotechnology Advances, Chemistry of Materials, ACS applied materials & interphases, ACS Chemical Biology, ACS Omega, Soft Matter, Environmental Microbiology, Trends in Microbiology, Microbial Biotechnology, BMC biology, BMC genomics, Journal of Structural Biology, Virulence, Frontiers in Education*

Selected International Talks (accepted only):

2024 Eurobiofilms2024, Copenhagen, Denmark (Selected Speaker)

2024 Génétique Moléculaire, Génomique et Microbiologie, Institut de physiologie et de chimie biologique (IPCB), Strassburg University, Strassburg, France (Invited Speaker)

2023 Microbialites: Formation-Evolution-Diagenesis, Leysin, Switzerland (Invited Speaker)

2023 BioFutures Symposium, Northumbria University, Newcastle upon Tyne, United Kingdom (Plenary Speaker)

2023 16th Symposium on Bacterial Genetics and Ecology (BAGECO), Copenhagen, Denmark (Invited Speaker)

2022 Department of Life and Environmental Sciences, Southampton University, United Kingdom (Invited Speaker)

2023 The European Association of Science Editors (EASE), Istanbul, Turkey (Invited Speaker)

2023 *Cells* 2023 conference (held online), *MDPI* (Selected speaker)

2022 Department of Microbiology, Utrecht University, Netherlands (Invited Speaker)

2022 HBBE – Biotechnology in the Built Environment, Newcastle University, United Kingdom (Invited Speaker)

2022 Eighth international conference on Drylands, Deserts and Desertification (DDD2022), Sede Boqer, Israel (Selected Speaker)

2022 Antimicrobial Resistance Seminars, University of Tübingen, Germany, (Invited Speaker)

2022 International Union of Microbiological Societies, Annual conference (held online), (Selected Speaker)

2020 5th Conference on Microbial Stress, European Federation of Biotechnology, (Selected Speaker). Conference held on line.

2019 Frontiers in Cell biology and Immunology, Manchester University, Manchester, United Kingdom (Invited Speaker)

2019 International Conference on Biotechnology and Bioengineering (9th ICBB), Poznan, Poland (Invited speaker)

2019 3rd International Conference on Pollutant Toxic Ions and Molecules, Royal Society of Chemistry, Lisbon, Portugal (Invited speaker)

2019 Gordon Research Conference for Microbial Adhesion and Signal Transduction, Newport, Rod-Island, USA (Short talk)

2019 15th Symposium on Bacterial Genetics and Ecology (BAGECO), Lisbon, Portugal (short talk)

2019 Annual conference of the Association for General and Applied Microbiology (VAAM), Mainz, Germany (Short talk)

2018 University of Michigan-Weizmann-Technion Conference (Invited Speaker)

2018 German Federal Research Centre for Cultivated Plants, Julius Kühn Institute, Germany (Plenary speaker)

2018 ISME symposium, International Society for Microbial Ecology, Leipzig, Germany (Short talk)

2018 Lead International Meeting for the Study of Cystic Fibrosis, Jerusalem, Israel (Invited speaker)

2018 Annual Congress of European Federation of Biotechnology, Geneva, Switzerland (Invited speaker)

2018 Microbial Stress Response: from Molecules to Systems, FEMS conference, Kinsale, Ireland (Invited Speaker, referenced at (Dorey et al., 2018)

2018 Joint symposium of Israel and Denmark on Host-Pathogen Communication, Rehovot, Israel (Plenary speaker)

2018 Elucidating Beneficial and Detrimental Plant-Microbe Interactions Towards Sustainable Agriculture, The Hebrew University, Israel (Plenary speaker)

2017 Collective Migration Workshop, University of Konstanz-Tel Aviv University (Invited speaker)

2017 III-ISPROF 2017, Royal Society of Chemistry Conference, Lisbon, Portugal (Invited speaker)

2017 Annual Conference of the General Society of Microbiology, Edinburgh, UK (Invited speaker)

2017 "Masters of Change" workshop, Max-Planck Institute for Terrestrial Ecology, Marburg, Germany (Plenary speaker)

2016 ISME symposium, International Society for Microbial Ecology, Montreal, Canada (Short talk)

2016 Next Generation Plant Biotechnology, Rehovot, Israel (Invited speaker)

2016 Collective Motility Symposium, Sde-Boker, Israel (Invited speaker)

2016 Next Generation Immunology, *Cell conference,* Rehovot, Israel (Short talk)

2016 NIH Symposium Programming Initiative on Antimicrobial Resistance (JPIAMR), the Swedish Research Council (VR) and the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health, Stockholm, Sweden (Invited speaker)

2015 VI International Conference on Environmental, Industrial and Applied Microbiology, Barcelona, Spain (Invited speaker)

2014 Pasteur-Weizmann Conference, Paris (Invited speaker)

2013 Workshop on developmental biology of microbial biofilms, Singapore (Invited speaker)

2013 Infectious disease week, San Francisco, USA (Invited speaker)

Selected National Talks (Invited speaker):

2024 Zero eMission Buildings Conference, Tel Aviv, Expo Center

2023 Biox Conference, Biotechnology and Entrepreneurship Conference, Ben-Gurion University

2023 Department of *Environmental Sciences*, Tel Aviv University (Departmental seminar)

2023 10th Congress of the Federation of the Israel Societies for Experimental Biology (ILANIT)

2023 Khavat Ahronson, Haifa Chemicals, Introducing Microbial Consortia into fertilizers

2022 Environmental Sciences and Engineering Department, Technion

2022 Intelligent Materials across Scales, ERC-organized workshop, Technion

2022 Israel oceanographic & limnological research (Institutional seminar)

2020 Department of Pediatric Medicine, Shaarey Zedek University Hospital

2020 9th Congress of the Federation of the Israel Societies for Experimental Biology (ILANIT)

2020 Student Microbial Ecology Conference, Weizmann Institute of Science

2019 Kaplan Hospital (Departmental seminar)

2019 Department of Respiratory Infections, Dana Hospital for Kids, Ichilov, (Departmental seminar)

2019 Pediatric Department, Soroka Hospital

2018 Department of Life Science, Ben-Gurion University (Departmental seminar)

2018 Department of Life Science, Technion (Departmental seminar)

2018 The Annual Cystic Fibrosis Israel Society Meeting, Netanya, Israel

2017 8th Congress of the Federation of the Israel Societies for Experimental Biology (ILANIT)

2016 Department of Chemistry, Ben-Gurion University (Departmental seminar)

2016 Department of Plant Pathology and Microbiology, The Hebrew University (Department seminar)

2016 Department of Marine Biology, University of Haifa (Departmental seminar)

2015 Israel Society for Microbiology Annual Meeting (Session chair and invited speaker)

2014 7th Congress of the Federation of the Israel Societies (ILANIT) for Experimental Biology

2013 Israel Society for Microbiology Annual Meeting

2013 Faculty of Life Science, Bar-Ilan University (Faculty seminar)

2013 Faculty of Biochemistry, The Hebrew University (Faculty seminar)

Research Grants (in NIS):

2022 1E Therapeutics grant with the Faculty of Medicine, TAU (aimed to develop therapies for complex oral infections), 320,000

2020 Angel Faivovich fund for ecological research: 240,000

2019 Israel Science Foundation, ISF-JSPS grant for collaborations with Japan: 38,000

2019-2021 Noah Ark Award for Innovation in Agriculture: 660,000

2019-2022 Israel Ministry of Science, Technology & Space, Resistant Infections-Tashtiot grant 1,500,000

2019 Israel Ministry of Health, Novel Biotherapies: 200,000

2018-2020 Bi-institutional Kamin grant, Research Innovation Authority: 1,200,000

2017 University of Michigan-Weizmann-Technion Research grants: 200,000

2016-2021 Israel Science Foundation (ISF): 1,500,000

2016-2017 France-Israel Cooperation - Maimonide-Israel Research Program: 640,000

2016 Israel Ministry of Health grant for alternative research methods: 200,000

2015-2016 Ilse Katz Institute for Materials Sciences and Magnetic Resonance Research grant: 320,000

2015-2017 Kamin grant, Research Innovation Authority (extended 2016): 600,000

2015 Yeda-Sela Award for Basic Research: 200,000

2014 Angel Faivovich fund for ecological research: 240,000

2013-2018 ISF I-CORE [Israeli centre of research excellence] Solar Fuels: 1,500,000

Awards

2017 Wilt Fellow, Michigan-Technion-Weizmann Fellows Program

2015 Rowland and Sylvia Career Development Chair

2013 Alon fellowship for outstanding young researcher

2010 HFSP postdoctoral fellowship

2009 National Postdoctoral Program for Advancing Women in Science award for outstanding achievements in studies and research

2009 Katzir Award of the Hebrew University for best PhD thesis in Empirical Science

2009 *Summa cum laude* PhD in Microbiology

2009 EMBO postdoctoral fellowship

Publication list

Personal H-index 29, i10=48, i100=12, i1000=2, 7100 citations

* Indicates Q1 in Microbiology

** Indicates Q1 in Life/Chemical Sciences

$ Corresponding Author

Key publications are indicated in bold.

Selected Research Articles as a trainee (PhD and Post-Doctoral Fellowship)

1. **Kolodkin-Gal I., Hazan R., Gaathon A., Carmeli S. and Engelberg-Kulka H. A linear pentapeptide is a quorum-sensing factor required for *mazEF*-mediated cell death in Escherichia coli. *Science*** (318):652-655, doi:10.1126/science.1147248 (2007). (302 citations)**

✓ Reviewed as a Research Highlight in Molecular Cell, Science

2. Amitai S., Kolodkin-Gal I., Hananya-Meltabashi M., Sacher A. and Engelberg-Kulka H. Escherichia coli MazF leads to the simultaneous selective synthesis of both "death proteins" and "survival proteins". *PLoS Genetics*** (5):e1000390, doi:10.1371/journal.pgen.1000390 (2009). (186 citations)

3. **Kolodkin-Gal I. Romero, D., Cao S., Kolter R., and Losick R. D-amino acids trigger biofilm disassembly. *Science*** (328):627-629, doi:10.1126/science.1188628 (2010). (1026 citations)**

✓ Reviewed as a Research Highlight in Nature

4. Kolodkin-Gal I., Alexander Helholz, Kolter R., and Losick R. Respiration control of multicellularity in Bacillus subtilis by a complex of the cytochrome chain with a membrane-embedded histidine kinase. *Genes & Development*** (27):887-899, doi:10.1101/gad.215244.113 (2013). (156 citations)

Selected Research Articles (Independent PI)

5. Suez J., Korem T., Zeevi D., Zilberman-Schapira G., Thaiss CA., Maza O., **Kolodkin-Gal I**., Shapiro H., Halpern Z., Segal E. and Elinav E. Artificial sweeteners induce glucose intolerance by altering the gut microbiota. *Nature* **(514):181-6, doi:10.1038/nature13793 (2014). (2302 citations)

6. Bucher T., Oppenheimer-Shaanan Y., Savidor A., Bloom-Ackermann Z. and **Kolodkin-Gal I$.** Disturbance of the bacterial cell wall specifically interferes with biofilm formation. *Environmental Microbiology Reports** 7(6):990-1004, doi:10.1111/1758-2229.12346 (2015). (98 citations)

7. Rosenberg G., Oppenheimer-Shaanan Y., Steinberg N., Olender T., Doron S., Sirota-Madi A., Bloom-Ackermann Z. and **Kolodkin-Gal I$.** Not so simple, not so subtle: The interspecies competition between *Bacillus simplex* and *Bacillus subtilis* biofilms and its impact on the evolution of bacterial social behaviour. *Npj Biofilms and Microbiomes** (2):15027, doi:10.1038/npjbiofilms.2015.27 (2016). (74 citations)

8. **Oppenheimer-Shaanan Y., Sibony-Nevo O., Bloom-Ackermann Z., Suissa R., Steinberg N., Kartvelishvily E., Brumfeld V. and Kolodkin-Gal I$. Spatio-temporal Dynamics of the Assembly of Functional Minerals within Biofilms. *Npj Biofilms and Microbiomes** (2):15031, doi:10.1038/npjbiofilms.2015.31 (2016). (97 citations)**

9. Rosen E., Tsesis I., Storzi N. and **Kolodkin-Gal, I$.** Eradication of *Enterococcus faecalis* biofilms on human dentin. *Frontiers in Microbiology** (7):2055, doi:10.3389/fmicb.2016.02055 (2016). (69 citations)

10. Kumar S., **Kolodkin-Gal I.** Vesper O., Alam N., Schueler-Furman, Moll I., and Engelberg-Kulka, H.Escherichia coli Quorum-Sensing EDF, A Peptide Generated by Novel Multiple Distinct Mechanisms and Regulated by trans-Translation. *mBio* doi: 10.1128/mBio.02034-15*. (2016) (15 citations)

11. Bloom-Ackerman Z., Steinberg N., Rosenberg G., Oppenheimer-Shaanan Y., Pollack D., Levy A. and **Kolodkin-Gal, I$.** Toxin-Antitoxin systems eliminate defective cells from *Bacillus subtilis* biofilms. *Environmental Microbiology** 18(12):5032-5047, doi:10.1111/1462-2920.13471 (2016). (37 citations)

12. Bucher T. and **Kolodkin-Gal I$.** Methodologies to study *B. subtilis* biofilms as models for characterizing small molecule biofilm inhibitors. *Journal of Visual Experiments* (116) doi:10.3791/54612 (2016). (22 citations)

13. Zelber-Sagi S., Salomone F., **Kolodkin-Gal, I[$],** Erez N., Buch A., Yeshua, H., Webb M., Halpern Z., Shibolet O. Protective role of soluble receptor for advanced glycation end-products in patients with non-alcoholic fatty liver disease. *Digestive Liver Diseases* 49(5):523-529, doi:10.1016/j.dld.2017.01.148 (2017). (14 citations)

14. **Noda-García L., Romero ML., Longo L., Kolodkin-Gal I., and Tawfik D. Coevolution of transcriptional and protein regulation underlies the divergence of Bacilli glutamate dehydrogenases. *EMBO reports*** 18(7):1139-1149, doi:10.15252/embr.201743990 (2017). (20 citations)**

15. Steinberg N., Rosenberg G., Keren-Paz A. and **Kolodkin-Gal I[$].** A role for collective vortex-like movement in the generation of floating *B. subtilis* mats. *Frontiers in Microbiology** (9):590, doi:10.3389/fmicb.2018.00590 (2018). (10 citations)

16. Hassanov T., Iris Karukner-Hazan I., Steinberg N., Erez A. and **Kolodkin-Gal I[$].** Novel antibiofilm chemotherapies target nitrogen from glutamate and glutamine. *Scientific Reports* 8(1):7097, doi:10.1038/s41598-018-25401-z (2018). (30 citations)

17. **Keren-Paz A., Brumfeld V., Oppenheimer-Shaanan Y. and Kolodkin-Gal, I[$]. Micro-CT X-ray Imaging Exposes Structured Diffusion Barriers within Biofilms. *Npj Biofilms and Microbiomes** (4):8, doi:10.1038/s41522-018-0051-8 (2018). (32 citations)**

18. Bucher T., Hausser J., Olender T., Cytryn E., and **Kolodkin-Gal I[$].** An active β-lactamase is a part of an orchestrated cell wall stress resistance network of *Bacillus* rhizosphere species. *Environmental Microbiology** 21(3):1068-1085, doi:10.1111/1462-2920 (2019) (22 citations)

✓ A Special Issue on Pathogen and Antibiotic Resistance Ecology

19. Ganin H, Keren-Paz A., Kemper N., Meijler MM., Malitsky M., Aharoni A., Kolodkin-Gal I[$]. Indole derivatives maintain the status quo between beneficial biofilms and their plant hosts. *Molecular Plant Microbe Interaction** doi: 10.1094/MPMI-12-18-0327-R (16 citations)

20. **Ogran A., Yardeni EH., Keren-Paz A., Bucher T., Jain R., and Kolodkin-Gal I[$]. The Plant Host Induces Antibiotic Production To Select the Most-Beneficial Colonizers. *Applied and Enviornmental Microbiology** doi:10.1128/AEM.00512-19 (29 citations)**

21. **Steinberg N[#,] Keren-Paz A[#], Hou Q., Doron S., Yanuka-Golub K., Olender T., Hadar R., Rosenberg G., Jain R., , Cámara-Almirón J., , Romero d., Van Teefelen S., and Kolodkin-Gal I[$]. An extracellular matrix protein serves as a developmental cue to maintain a motile subpopulation within biofilms. *Science Signaling*.* (2020) doi: 10.1126/scisignal.aaw8905 (39 citation)**

22. Hou Q., Keren-Paz A., Malitsy, S. and Kolodkin-Gal I[$]. Weaponing volatiles by Microbial Biofilms. *Npj Biofilms and Microbiomes** (2021) https://www.nature.com/articles/s41522-020-00174-4 (15 citation)

23. Liu N., Wang J., Yun Y., Wang J., Xu C., Wu S., Xu L., Li B**., Kolodkin-Gal I.,** Dawood HD., Zhao y., Ma y., Chen y. The NDR kinase-MOB complex FgCot1-Mob2 regulates polarity and lipid metabolism in *Fusarium graminearum. Enviornmental Microbiology** (2021) https://doi.org/10.1111/1462-2920.15698 (1 citation)

24. Maan H., Gilhar O. Porat, Z[$]. and **Kolodkin-Gal I[$]**. *Bacillus subtilis* Colonization of Arabidopsis thaliana Roots Induces Multiple Biosynthetic Clusters for Antibiotic Production. *Frontiers in Cellular and Infection Microbiology*.* (4 citation) (2021) DOI: 10.3389/fcimb.2021.722778 (4 citation)

25. Maan H., Povolotsky T., Porat Z. and **Kolodkin-Gal I[$]**. Imaging Flow Cytometry reveals a dual role for exopolysaccharides in biofilms: To promote self-adhesion while repelling non-self-community members. *Computational and Structural Biotechnology*** 20, 15-25 (2021) doi: 10.1016/j.csbj.2021.11.043 (4 citations)

26. **Maan H., Maxin Itkin, Sergey Malitsky, Friedman J. and Kolodkin-Gal I[$]. Resolving the conflict between antibiotic production and rapid growth by recognition of peptidoglycan of susceptible competitors.** Nature Communications 431 (2022) https://www.nature.com/articles/s41467-021-27904-2 (21 citations)

27. Safadi, S., Maan, H., **Kolodkin-Gal I[$#],** Tsesis 1 [$#], Rosen E. [$#] ([#] Equal Contribution). The Products of Probiotic Bacteria Effectively Treat Persistent *Enterococcus faecalis* Biofilms. *Pharmaceutics*** (2022) DOI: 10.3390/pharmaceutics14040751 (8 citations)

28. Cohen-Cymberknoh M., Kolodkin-Gal D., Keren-Paz A., Kapishnikov S., Green-Zelinger P., Shteinberg m., Zamir G., Kerem E[$] and Kolodkin-Gal I[$] Calcium carbonate mineralization is essential for biofilm formation and lung colonization. *iScience*** (2022) (10 citation)

29. **Keren-Paz A., Maan, H., Karunker, I., Kapishnikov S., Gal, A., Graumann, P. and Kolodkin-Gal I$^{\$}$. The intracellular and extracellular roles of calcium in *B. subtilis* biofilms. *iScience***** (2022). https://doi.org/10.1016/j.isci.2022.104308 (12 citations)

30. Suissa R., Oved R., Hadad, U, Maan, H., Gilhar, O., Hadad, U., Koren O, Meijler, M., and Kolodkin-Gal I$^{\$}$. Context-dependent differences in the functional responses of Lactobacillaecea strains to fermentable sugars *Frontiers in Microbiology**. (2022). http://doi: 10.3389/fmicb.2022.949932 (2 citations)

31. Forman, M., **Kolodkin-Gal I.,** and Barkan, D. A pivotal role for mycobactin/mbtE in growth and adaptation of *Mycobacterium abscessus*. *Microbiology Spectrum** (2022). https://doi.org/10.1128/spectrum.02623-22 (4 citations)

32. Suissa R., Olender, T., Malitsky, S. Golani, O., Turjeman S., Meiler, M$^{\$}$., Koren O$^{\$}$, **Kolodkin-Gal I$^{\$}$.** Metabolic inputs in the probiotic bacterium Lacticaseibacillus rhamnosus contribute to cell-wall remodeling and increased fitness. *Npj Biofilms and Microbiomes** (2023) http://*doi: 10.1038/s41522-023-00431-2 (1 citation)*

33. **Zanditenas, E., Trebicz-Geffen M., Romero, D., Chapman MR, D. Kolodkin-Gal I$^{\$}$ and Ankri S$^{\$}$., Digestive exophagy of Bacterial Biofilms by an Amoeba Predator and its impact on stress tolerance and virulence** *Npj Biofilms and Microbiomes** (2023) https://doi.org/10.1038/s41522-023-00444-x (2 citations)

34. Suissa R., Hadad U, Meijler, M., and **Kolodkin-Gal I$^{\$}$.** Image stream flow cytometry to characterize adhesion and aggregation. *Journal of Visual Experiments In press*

Selected Review, Opinions, and Impact Articles (Independent PI)

35. Openheimer-Shaanan Y., Steinberg N. ,**Kolodkin-Gal I**$^{\$}$. Small molecules are natural triggers for the disassembly of biofilms. *Trends in Microbiology** (21):594-601 doi:10.1016/j.tim.2013.08.005 (2013). (98 citations)

36. **Steinberg N. and Kolodkin-Gal, I$^{\$}$. The Matrix Reloaded: Probing the Extracellular Matrix Synchronizes Bacterial Communities. *Journal of Bacteriology** (197):2092–2103, doi:10.1128/JB.02516-14 (2015). (112 citations)**

37. Erez A. and Kolodkin-Gal I$^{\$}$. From Prokaryotes to Cancer: Glutamine Flux in Multicellular Units. *Trends in Endocrinology and Metabolism*** (9):637-644, doi:10.1016/j.tem.2017.05.007 (2017). (16 citations)

38. **Dade-Robertson M., Keren-Paz A., Zheng M. and Kolodkin-Gal I$^{\$}$. Architects of nature: growing buildings with bacterial biofilms. *Microbial Biotechnology** 10(5):1157-1163, doi:10.1111/1751-7915.12833 (2017). (20 citations)**

Special Issue: The contribution of microbial biotechnology to sustainable development goals

39. Harris K. and **Kolodkin-Gal I$^{\$}$.** Applying the handicap principle to biofilms: condition-dependent signaling in *Bacillus subtilis* microbial communities. *Environmental Microbiology** 21(2):531-540, doi: 10.1111/1462-2920.14497 (2019). (7 citations)

40. **Keren-Paz A and Kolodkin-Gal I.$^{\$}$, A brick in the wall: discovering the mineral component of the extracellular matrix. *New Biotechnology**. (2020). *https://doi.org/10.1016/j.nbt.2019.11.002* (36 citations)**

41. Qihou Hou, and Kolodkin-Gal I$^{\$}$. Harvesting the complex pathways of antibiotic production and resistance of soil bacilli for optimizing plant microbiome. *FEMS Microbiology Ecology** 96 (9), (2020) DOI: 10.1093/femsec/fiaa142 (24 citations)

42. Povolsky T., Salinas N., Landau M. and Kolodkin-Gal I$^{\$}$. Beyond Scaffolds: Emerging roles of functional amyloids in gene regulation, toxicity and Immunomodulation. Microbiology and Molecular Biology Reviews*, 85 (1), e00062-20 (2020) DOI: 10.1128/MMBR.00062-20 (37 citations).

43. **Povolsky T., Keren-Paz A., and Kolodkin-Gal I$^{\$}$. The Metabolic Microenvironment Drives Microbial Differentiation and Antibiotic Resistance. *Trends in Genetics*** (2022) DOI: 10.1016/j.tig.2020.10.007 (21 citations).**

A special issue on "Microbial Stress"

44. Annabi N., Baker M., Boettiger A., Chakraborty D., Chen Y., Corbett KS., Correia B., Dahlman J., de Oliveira T., Ertuerk A., Fatih YM., Henaff E., Huch M., Iliev DI, Jacob T., Junca H., Keung A., **Kolodkin-Gal I.,** Krishnaswamy S., Lancaster M., Macosko E., Martínez-Núñez MA, Miura K., Molloy J., Cruz

AO, Platt RJ,. Posey AD Jr., Shao H., Simunovic M. (Alphabetical order**).** Voices of Biotech Research ***Nature Biotechnology**** *39 (3), 281-286* https://www.nature.com/articles/s41587-021-00847-1 (2021) (4 citations)

Collection of researchers performing outstainging research in Biotechnology and Bioengineering for *Nature Biotechnology* Anniversery issue

45. Antibodies Against Biofilms: Mechanisms and Applications. Watson, A. Maan, H., **Kolodkin-Gal I.,** and Freund, N. (2022). Antibiofilm Strategies: Current and Future Applications to Prevent, Control and Eradicate Biofilm. Springer-Nature publications
46. Suissa R., Oved R., Koren O[$], Kolodkin-Gal I[$]. Molecular Genetics for Probiotic Engineering: How Dissecting the Molecular Mechanisms Promoting the Adaptations of Beneficial LAB bacteria Can Yield Medical Applications. *Trends in Microbiology**.* (2021), DOI: 10.1016/j.tim.2021.07.007 (38 citations)
47. **Kolodkin-Gal I[$]**., Cohen- Cymberknoh, M., Zamir, G., Tsesis, I[$]. and Rosen, E[$]. Targeting Persistent Biofilm Infections: Reconsidering the topography of the infection site during model selections. (2022) *Microorganisms* (3 citations)
48. Parker, B. and, **Kolodkin-Gal I[$].** and Martyn Dade-Robertson. What role do aesthetics play in biotechnology design? *Editorial. Research Directions: Biotechnology Design* (2023)*, E4. doi:10.1017/btd.2022.6*
49. Kolodkin-Gal I[$]. Underexplored Outcomes of Learning Disabilities and Neurodivergence in STEM graduate and post-graduate research. *Frontiers in Education.* (2023) https://doi.org/10.3389/feduc.2022.1047489
50. **Kolodkin-Gal I[$]. Patruchan, M. and Parsek, MR[$]. The roles of Calcium Signaling and Calcium Deposition in Microbial Multicellularity. *Trends in Microbiology**** **(2023) (4 citations)** DOI: 10.1016/j.tim.2023.06.005
51. **Dorfan Y[$], Shohat, B., Morris, Y., and Kolodkin-Gal I[$]. Sustainable building construction: Can we grow built-environment microbiomes with functional behavior? *Research Directions Biotechnology Design*** *In press.*
52. **Kolodkin-Gal I[$],** Dash, O and Rak, R[$]. and Probiotic Cultivated Meat: The potential Bacterial Based Scaffolds and Products to Improve Cultivated Meat. *Trends in Biotechnology*. *In press*

Under review/Revision

53. Dorfan, Y., Nahimi, A., Shohat, B**., and Kolodkin-Gal I[$]**. *The utilization of the probiotic Bacillus subtilis strain to design environmentally friendly paints with anti-mold properties.*
54. Gilhar, O, Rahamim Ben-Navi, L., Olender, T., Friedman, J, Aharoni, A **and Kolodkin-Gal I[$]**. *Multigenerational Inheritance Drives Symbiotic Interactions of the Bacterium Bacillus subtilis with Its Plant Host.*

In preparation

55. Lang-Yona, N[$]., Rahamim Ben-Navi, Tsalti, T., **and Kolodkin-Gal I[$]**. *Biofilm Formation and Niche Adaptation Play Fundamental Role in Storm Dust Microbiome Assembly*

Selected Published and Submitted Patents:

1. Ido Bachelet, Almogit Horowitz, Ilana Kolodkin-Gal, Anastasia Shapiro, Roni Oshri, Alexander rosenberg and Adva Levi Zamir. oligonucleotides and nucleic acid constructs targreting the microbial cell wall and uses thereof in treating or preventing antibiotic infections. Provisional patent application, 2021

2. Keren-Paz A., Kerem E., Zamir G. and Ilana Kolodkin-Gal . Methods of disrupting a biofilm and/or preventing formation of same. Joint application with Hadasit 2018-007, Patent WO2019186570A8. International application published with correction to the front page.