

Shaqed Carasso

Geva-Zatorsky Lab, The Ruth and Bruce Rappaport Faculty of Medicine
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RESEARCH INTERESTS

Bioinformatics, Gut microbiome, Bacterial genomics, Microbial-host interactions, Phage-bacteria dynamics

ACADEMIC DEGREES

- 2021- March **Ph.D., Bioinformatics** • Technion – Israel Institute of Technology
2025 *Thesis:* Phase Variations of the Bacteroides Genus.
Main Advisor: Associate Professor Naama Geva-Zatorsky.
Associate Advisor: Dr. Itai Sharon (MIGAL Galilee Research Institute).
GPA: 88.9
- 2018-2021 **M.Sc., Medical Sciences** • Technion – Israel Institute of Technology
Cum Laude
Thesis: Fecal Microbiota Transplantation and Phage Therapy to Eradicate Antibiotic Resistant Bacteria.
Advisor: Associate Professor Naama Geva-Zatorsky.
GPA: 91.1, Thesis grade: 99
- 2014-2018 **B.Sc., Biology** • Technion – Israel Institute of Technology
GPA: 86.1, Ranked 2nd in class

TEACHING & MENTORING EXPERIENCE

- 2021 – present Teaching Assistant, Medical Bacteriology Lab (Undergraduate Course, Technion – Israel Institute of Technology)
- 2021,2022 Mentored final research projects for two biotechnology bachelor students from Hadassah Academic College in Jerusalem

FELLOWSHIPS, AWARDS & HONORS

- 2024 Jacobs Award for an Excellent Publication • Technion award for best publication
- 2024 Best Poster Award – The Technion's Faculty of Medicine graduate research day
- 2023 Gutwirth Excellence Scholarship
- 2022 Teva's BioInnovation Student Fellowship & Mentorship Program
- 2020-2024 The Faculty of Medicine Excellence Scholarship for graduate students • five semesters
- 2017 Outstanding bachelor student in the Faculty of Biology award
- 2017-2018 Faculty of Biology Dean's list • three semesters

PUBLICATIONS

Refereed papers in professional journals:

1. #Bar-Yoseph H, #**Carasso S**, Shklar S, Korytny A, Even Dar R, Daoud H, Nassar R, Maharshak N, Hussein K, Geffen Y, Chowder Y, Geva-Zatorsky N, Paul M. Oral capsulized fecal microbiota transplantation for eradication of carbapenemase-producing Enterobacteriaceae colonization with a metagenomic perspective, *Clinical Infectious Diseases*, 2020. # **Equal Contribution**.
2. Ben-Assa N, Coyne MJ, Fomenkov A, Livny J, Robins WP, Muniesa M, Carey V, **Carasso S**, Gefen T, Jofre J, Roberts RJ, Comstock LE, Geva-Zatorsky N, Analysis of a phase-variable restriction modification system of the human gut symbiont *Bacteroides fragilis*, *Nucleic Acids Research*, 2020.
3. Berkowitz E, Kopelman Y, Kadosh D, **Carasso S**, Tiosano B, Kesler A, Geva-Zatorsky N, “More Guts than Brains?”–The Role of Gut Microbiota in Idiopathic Intracranial Hypertension, *Journal of Neuro-Ophthalmology*, 2021.

4. **Carasso S**, Fishman B, Lask LS, Shochat T, Geva-Zatorsky N, Tauber E, Metagenomic analysis reveals the signature of gut microbiota associated with human chronotypes. *FASEB J.*, 2021.
5. Marai I, Carasso D, **Carasso S**, Carasso S. The Mechanical Cost of Decreasing Conduction Velocity: A Mathematical Model of Pacing-Induced Lower Strain. *J Atr Fibrillation*, 2021.
6. #Hadar Mudrik-Zohar H, **#Carasso S**, Gefen T, Zalmanovich A, Katzir M, Cohen Y, Paitan Y, Geva-Zatorsky N, Chowers M, Microbiome Characterization of Infected Diabetic Foot Ulcers in Association with Clinical Outcomes: Traditional Cultures versus Molecular Sequencing Methods. *Front. Cell. Infect. Microbiol.* 2022.
Equal Contribution.
7. Mandelbaum N, Zhang L, **Carasso S**, Ziv T, Lifshiz-Simon S, Davidovich I, Luz I, Berinstein E, Gefen T, Cooks T, Talmon Y, Balskus E. P., Geva-Zatorsky N, Extracellular vesicles of the Gram-positive gut symbiont *Bifidobacterium longum* induce immune-modulatory, anti-inflammatory effects, *npj Biofilms and Microbiomes*. 2023.
8. #Naddaf R, **#Carasso S**, Reznick-Levi G, Hasnis E, Qarawani A, Maza I, Gefen T, Half E. E., Geva-Zatorsky N, Gut microbial signatures are associated with Lynch syndrome (LS) and cancer history in Druze communities in Israel, *Scientific Reports*. 2023. **# Equal Contribution.**
9. **#Carasso S**, #Zaatry R, #Hajjo H, #Kadosh-Kariti D, Ben-Assa N, Naddaf N, Mandelbaum N, Pressman S, Chowers Y, Gefen T, Jeffrey K.L., Jofre J, Coyne M.J., Comstock L.E., Sharon I, Geva-Zatorsky N, Inflammation and bacteriophages affect DNA inversion states and functionality of the gut microbiota, *Cell Host & Microbe*. 2024. **# Equal Contribution.**

Patents:

10. (*pending*) Geva-Zatorsky N, **Carasso S**, Gefen T, Keshet R, Hajjo H, Zaatry R, Sharon I, Reversible bacterial phase-variations and uses thereof in diagnostic and therapeutic applications, WO2024176230A1. World Intellectual Property Organization; 2024.
11. (*pending*) Geva-Zatorsky N, Gefen T, Kariti D, Ben-Assa N, Abboud R, **Carasso S**, Zaatry R, Bacteriophages as a tool to manipulate gut commensal immune-modulation activity, WO2024194876A1. World Intellectual Property Organization; 2024.

Preview articles:

12. **Carasso S**, Hajjo H, Geva-Zatorsky N, Phage-Bacteria Associations: Analyze. Match. Develop Therapies. *Cell Host & Microbe*, 2020.

CONFERENCES

Invited talks

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|----------------|---|
| February 2023 | “Gut <i>Bacteroides</i> exhibit genomic phase variations under inflammatory conditions”, ILANIT FISEB Experimental Biology Conference • Eilat, Israel |
| September 2023 | “Bacterial DNA inversions and functional plasticity during inflammation and encounter with bacteriophages”, EMBL Symposium The human microbiome • Heidelberg, Germany |

Posters

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| June 2023 | “Inflammation and bacteriophages affect DNA inversion states and functionality of the gut microbiota”, 10 th Annual Broad-ISF Symposium • Jerusalem, Israel |
| June 2024 | “Bacterial DNA inversions and functional plasticity during inflammation and encounter with bacteriophages”, Jacobs Graduate Research Day • Technion, Haifa, Israel |
| June 2024 | “Long-term impact: bacteriophage-driven DNA inversions shape <i>Bacteroides fragilis</i> functionality”, 10 th International Human Microbiome Consortium Congress (IHMC) • Rome, Italy |
| September 2024 | “Bacterial DNA inversions and functional plasticity during inflammation and encounter with bacteriophages”, Israel Society for Microbiology 2024 Annual Meeting • Bar Ilan University, Ramat Gan, Israel |