Gideon (Gidi) Yoffe

gidi.yoffe@weizmann.ac.il — +972 58 6812214 — yoffeg.space — YoffeG
16 Eliezer Ben Yehuda St., Rehovot, Israel

Higher Education

Open University of Israel **2014–2017**
B.Sc. in Natural Sciences (Physics) *GPA: 86/100 (with honors)*

- Advised by Dr. Nurit Goldman and Dr. Yael Sagy
- Thesis: "Seismic and well-log data analysis to identify the southern margin of the Judea graben."

Weizmann Institute of Science **2017–2019**
M.Sc. in Planetary Science *GPA: 88.5/100*

- Advised by Prof. Oded Aharonson
- Thesis: "A Photodynamical Model for Uniform and Precise Planetary Parameters Determination in *Kepler* Systems."
- Internship at the Harvard-Smithsonian Center for Astrophysics (advised by Dr. Sagi Ben-Ami)
- Internship Title: "Modeling FIOS: A Fabry-Perot Instrument for Oxygen Searches."

Hebrew University of Jerusalem **2021–2025**
Ph.D. in Statistics and Data Science

- Advised by Dr. Barak Sober and Prof. Israel Finkelstein
- Thesis: "Unsupervised Pattern Recognition in High-Dimensional Sequential Data."

Academic Appointments

Max Planck Institute for Astronomy, Heidelberg, Germany **2019–2021**
International Max Planck Research School (IMPRS) Fellow

- Department of Star and Planet Formation (Ph.D. in astrophysics, willingly discontinued; COVID-19-related)
- Advised by Prof. Dr. Thomas Henning and Dr. Roy van Boekel

Heidelberg University, Germany **2020**
Teaching Assistant

- School of Physics and Astronomy

Hebrew University of Jerusalem, Israel **2021–2023**
Teaching Assistant and Course Coordinator

- Department of Statistics and Data Science

Hebrew University of Jerusalem, Israel **2023–2024**
Junior Lecturer

- Department of Statistics and Data Science

Weizmann Institute of Science, Israel **2024–2025**
Space Mission Scientist

- Department of Earth and Planetary Sciences
- Summary: In Prof. Yohai Kaspi's group, I lead a scientific feasibility study to assess the potential to probe fluorescent biomolecules embedded in Europa's near-surface ice with a low-cost flyby mission setup.

Weizmann Institute of Science, Israel **2025–2026**
Postdoctoral Fellow

– Hosted by Prof. Yohai Kaspi

California Institute of Technology, CA, USA **2026–**
Postdoctoral Fellow
– Hosted by Prof. Jonathan Lunine

Teaching at Academic Institutions

Heidelberg University, Germany **2020**
Teaching Assistant, School of Physics and Astronomy
– Astronomical Techniques I (graduate level); Tutor

Hebrew University of Jerusalem, Israel **2021–2023**
Teaching Assistant and Course Coordinator, Department of Statistics and Data Science
– Regression and Statistical Models (undergraduate level); Tutor
– Statistical Learning and Data Analysis (undergraduate level); Tutor, Course Coordinator

Hebrew University of Jerusalem, Israel **2023–2024**
Junior Lecturer, Department of Statistics and Data Science
– Introduction to Programming (undergraduate level); Lecturer

Non-Academic Employment

The Geophysical Institute of Israel **2014–2017**
Seismic Observer and Data Interpreter
– Summary: I took part in an array of seismic data-acquisition surveys for oil and gas exploration and research purposes in Israel and Africa. I developed technical and troubleshooting proficiency with a wide array of geophysical and industrial, electronic and mechanical equipment.
– In addition, I engaged in seismic data processing and interpretation, well-log analysis, and data-acquisition QC post-production and in-situ.

Weizmann Institute of Science, Rehovot, Israel **2017**
Research Assistant, Prof. Oded Aharonson's Simulated Planetary Ices and Environments Laboratory

Collaborations

Geant4-DNA **2025–**
– Formal collaborator and principal investigator of the Geant4-IcyMoons extension.

Honors and Awards

Fulbright Postdoctoral Fellowship **2026**
– Awarded by the Fulbright Program.

Schmidt Science Fellows Finalist **2026**
Sir Charles Clore Postdoctoral Fellowship **2025**
– Awarded by the Weizmann School of Science.

Best Poster Award **2025**
– Awarded by The Israeli Society for Astrobiology and the Origin of Life (ILASOL) for the poster titled: "*Fluorescent Biomolecules Detectable in Near-Surface Ice on Europa*".

Faculty Postdoctoral Excellence Fellowship **2025**
– Awarded by the Weizmann Institute of Science.

Dean's Postdoctoral Fellowship **2025**
– Awarded by the Dean of the Faculty of Chemistry at the Weizmann Institute of Science.

The Biennial Joseph Trink Endowment Fund Prize for an Outstanding PhD Student in the Humanities and Social Sciences **2024**

– Awarded by The Joseph Trink Endowment Fund in the Humanities and Social Sciences.

Council for Higher Education Scholarship for Outstanding PhD Students in Data Science **2023**

– Awarded by The Israeli Council for Higher Education (CHE), Israel.

Outstanding Junior Lecturer at the Faculty of Social Sciences **2022**

– Awarded by The Hebrew University of Jerusalem, Israel.

Presidential Doctoral Scholarship of Excellence **2022**

– Awarded by The Hebrew University of Jerusalem, Israel.

CIDR Grant for Interdisciplinary Data Science Research **2021**

– Awarded by The Hebrew University of Jerusalem, Israel.

"Atid" Grant for Excellent Beginning Doctoral Students **2021**

– Awarded by The Hebrew University of Jerusalem, Israel.

B.Sc. Completion: With Honors **2017**

– Awarded by The Open University of Israel, Israel.

Presentations in Academic Conferences

– Oral Presentation **Yoffe, G.** and Shahaf, S., *Spectral Decomposition Reveals Surface Processes on Europa*, Lunar and Planetary Science Conference (LPSC), 16–20 March, The Woodlands, Texas, USA.

– Poster Presentation **Yoffe, G.**, Klenner, F., Sober, B., Kaspi, Y., and Halevy, I., *Distinguishing between Biotic and Abiotic Organic Assemblages Using Diversity Statistics*, Lunar and Planetary Science Conference (LPSC), 16–20 March, The Woodlands, Texas, USA.

– Poster Presentation **Yoffe, G.**, Duer-Milner, K., Nordheim, T. A., Halevy, I., and Kaspi, Y., *Fluorescent Biomolecules Detectable in Near-Surface Ice on Europa*, Winter School at Les Houches: The exploration of Jupiter and its moons by ESA's JUICE mission, 25–30 January 2026, Les Houches, France.

– Oral Presentation **Yoffe, G.** and Shahaf, S., *Spectral Decomposition Reveals Surface Processes on Europa*, ESA Workshop: Jovian Icy Moons' Surface Interactions With Their Environment, 3–7 November, Madrid, Spain.

– Oral Presentation **Yoffe, G.** and Shahaf, S., *Spectral Decomposition Reveals Surface Processes on Europa*, EPSC-DPS Joint Meeting 2025, 7–12 September, Helsinki, Finland.

– Oral Presentation **Yoffe, G.** and Shahaf, S., *Spectral Decomposition Reveals Surface Processes on Europa*, IPS-2025, 70th Annual Meeting of the Israeli Physical Society, 15 July, Haifa, Israel.

– Poster Presentation **Yoffe, G.**, Duer-Milner, K., Nordheim, T. A., Halevy, I., and Kaspi, Y., *Fluorescent Biomolecules Detectable in Near-Surface Ice on Europa*, The 38th Annual Meeting of the Israeli Society for Astrobiology and the Origin of Life (ILASOL), 22 May 2025, Be'er-Sheva, Israel.

– Poster Presentation **Yoffe, G.**, Duer-Milner, K., Nordheim, T. A., Halevy, I., and Kaspi, Y., *Fluorescent Biomolecules Detectable in Near-Surface Ice on Europa*, EGU General Assembly, 27 April–2 May 2025, Vienna, Austria.

– Poster Presentation **Yoffe, G.**, Duer-Milner, K., Nordheim, T. A., Halevy, I., and Kaspi, Y., *The Feasibility of Detecting Fluorescing Amino Acids in Near-Surface Ice on Europa Using Laser-induced UV Spectroscopy from Orbit*, The 20th Ilan Ramon International Space Conference, 27 January 2025, Tel Aviv, Israel.

- eLightning Presentation **Yoffe, G.**, Duer-Milner, K., Nordheim, T. A., Halevy, I., and Kaspi, Y., *The Feasibility of Detecting Fluorescing Amino Acids in Near-Surface Ice on Europa Using Laser-induced UV Spectroscopy from Orbit*, AGU Annual Meeting, 9–13 December 2024, Washington, D.C., USA.
- Oral Presentation (invited speaker) **Yoffe, G.** and Segev, Y., *A Computational Examination of the layering and distinction of Priestly Texts in Leviticus and Numbers*, Priestly Texts and Traditions: Thirty Years After Israel Knohl's *The Sanctuary of Silence*, 8–9 July 2024, Jerusalem, Israel.
- Online Poster Presentation **Yoffe, G.**, Bühler, A., Dershowitz, N., Römer, Th., Piasetzky, E., Finkelstein, I., and Sober, B., *A Statistical Exploration of Text Partition Into Constituents: The Case of the Priestly Source in the Books of Genesis and Exodus*, Annual Meeting of the Association of Computational Linguistics [ACL], 10–14 July 2023, Toronto, Canada.
- Oral Presentation **Yoffe, G.**, Bühler, A., Dershowitz, N., Römer, Th., Piasetzky, E., Finkelstein, I., and Sober, B., *An Independent Unsupervised Examination of the Distinction Between Texts of Priestly and Non-priestly Origins in the Books of Genesis and Exodus*, Digital Humanities [DH], 10–14 July 2023, Graz, Austria.
- Oral Presentation **Yoffe, G.**, Bühler, A., Dershowitz, N., Römer, Th., Piasetzky, E., Finkelstein, I., and Sober, B., *An Independent Unsupervised Examination of the Distinction Between Texts of Priestly and Non-priestly Origins in the Books of Genesis and Exodus*, European Association of Biblical Studies [EABS] Graduate Symposium, March 2023, Jerusalem, Israel.
- Oral Presentation **Yoffe, G.**, Bühler, A., Dershowitz, N., Römer, Th., Piasetzky, E., Finkelstein, I., and Sober, B., *An Independent Unsupervised Examination of the Distinction Between Texts of Priestly and Non-priestly Origins in the Books of Genesis and Exodus*, Digital Ancient Near Eastern [DANES], February 2023, Tel-Aviv, Israel.
- Oral Presentation **Yoffe, G.**, van Boekel, R. and Henning, Th., *Longslit spectroscopy of Herbig Ae disks with VISIR-NEAR at the VLT*, ESO: Ground-based thermal infrared astronomy – past, present, and future, 12–16 October 2020, online.
- Poster Presentation **Yoffe, G.**, Aharonson, O. and Ofir, A., *Uniform and Precise Mass Determination for TTV-bearing Kepler planets*, EPSC-DPS Joint Meeting, 15–20 September 2019, Geneva, Switzerland.
- Oral Presentation **Yoffe, G.**, Aharonson, O. and Ofir, A., *Uniform and Precise Mass Determination for TTV-bearing Kepler planets*, Niels Bohr Institute Summer School on Protoplanetary Disks and Planet Formation, 5–9 August 2019, Copenhagen, Denmark.
- Oral Presentation **Yoffe, G.**, Aharonson, O. and Ofir, A., *Inferring masses of small exoplanets using transit timing variations*, IPS-2018, 64th Annual Meeting of the Israeli Physical Society, 9 December 2018, Jerusalem, Israel.

Publications

Papers where my contribution was equal to the first author are marked with *.

Articles

- * (accepted) **G. Yoffe**, F. Klenner, B. Sober, Y. Kaspi, I. Halevy, *Molecular diversity as a biosignature*, Nature Astronomy. Preprint.
- * (accepted) **G. Yoffe**, S. Shahaf, *Spectral decomposition reveals surface processes on Europa*, The Astrophysical Journal. Impact factor: 5.4. Q1. Preprint

- * **G. Yoffe**, K. Duer-Milner, T. A. Nordheim, I. Halevy, Y. Kaspi, *Fluorescent Biomolecules Detectable in Near-Surface Ice on Europa*, Astrobiology, 25(5), 359–366 (2025). Impact factor: 3.5. Q1.
- *G. Yoffe, Y. Segev, B. Sober, *An Unsupervised Information-Theoretic Approach to Identifying Formulaic Clusters in Textual Data*, Computational Humanities Research, 1:e9 (2025).
- * **G. Yoffe**, N. Dershowitz, A. Vishne, B. Sober, *Estimating the Influence of Sequentially Correlated Literary Properties in Textual Classification: A Data-Centric Hypothesis-Testing Approach*, Journal of Quantitative Linguistics, 32(4), 313–345 (2025). Impact factor: 1.7. Q1.
- * **G. Yoffe**, A. Bühler, N. Dershowitz, E. Piasetzky, Th. Römer, I. Finkelstein, B. Sober, *A Statistical Exploration of Text Partition Into Constituents: The Case of the Priestly Source in the Books of Genesis and Exodus*, Findings of the Association for Computational Linguistics, 2023. Impact factor: NA ("Findings" is a new publication venue of the ACL, whose impact score is 14.27). Q1.
- * **G. Yoffe**, R. van Boekel, A. Li, L. B. F. M. Waters, K. Maaskant, R. Siebenmorgen, M. van den Ancker, D. J. M. Petit dit de la Roche, B. Lopez, A. Matter, J. Varga, M. R. Hogerheijde, G. Weigelt, R. D. Oudmaijer, E. Pantin, M. R. Meyer, J.-C. Augereau, Th. Henning, *Spatially resolving polycyclic aromatic hydrocarbons in Herbig Ae disks with VISIR-NEAR at the VLT*, Astronomy & Astrophysics, 674 (2023) A57. Impact factor: 6.24. Q1.
- * A. Bühler, **G. Yoffe**, N. Dershowitz, E. Piasetzky, Th. Römer, I. Finkelstein, B. Sober, *Exploring the Stylistic Uniqueness of the Priestly Source in Genesis and Exodus Through a Statistical/Computational Lens*, Zeitschrift für die alttestamentliche Wissenschaft. Impact factor: 0.3. Q1.
- * **G. Yoffe**, A. Ofir, and O. Aharonson, *A Simplified Photodynamical Model for Planetary Mass Determination in Low-eccentricity Multitransiting Systems*, The Astrophysical Journal 908.1 (2021): 114. Impact factor: 5.521. Q1.
- A. Ofir, **G. Yoffe**, O. Aharonson, *Planetary Mass Determinations from a Simplified Photodynamical Model - Application To The Complete Kepler Dataset*, The Astronomical Journal. Impact factor: 5.521. Q1.
- Violeta Gámez Rosas et al., *Thermal imaging of dust hiding the black hole in NGC 1068*, Nature 602.7897 (2022): 403–407. Impact factor: 69.504. Q1.
- J. Drevon et al., *Locating dust and molecules in the inner circumstellar environment of R Sculptoris with MATISSE*, Astronomy & Astrophysics 665 (2022): A32. Impact factor: 6.24.
- B. Lopez et al., *MATISSE, the VLTI mid-infrared imaging spectro-interferometer*, Astronomy & Astrophysics 659 (2022): A192. Impact factor: 6.24. Q1.
- K.-H. Hofmann et al., *VLTI-MATISSE L- and N-band aperture-synthesis imaging of the unclassified B [e] star FS Canis Majoris*, Astronomy & Astrophysics 658 (2022): A81. Impact factor: 6.24. Q1.
- J. Varga et al., *The asymmetric inner disk of the Herbig Ae star HD 163296 in the eyes of VLTI/MATISSE: evidence for a vortex?*, Astronomy & Astrophysics 647 (2021): A56. Impact factor: 6.24. Q1.
- A. Chiavassa et al., *The extended atmosphere and circumstellar environment of the cool evolved star VX Sagittarii as seen by MATISSE*, Astronomy & Astrophysics 658 (2022): A185. Impact factor: 6.24. Q1.
- E. Kokoulina et al., *First MATISSE L-band observations of HD 179218 — Is the inner 10 au region rich in carbon dust particles?*, Astronomy & Astrophysics 652 (2021): A61. Impact factor: 6.24. Q1.
- V. Hocdé et al., *Mid-infrared circumstellar emission of the long-period Cepheid l Carinae resolved with VLTI/MATISSE*, Astronomy & Astrophysics 651 (2021): A92. Impact factor: 6.24. Q1.
- G. Weigelt et al., *VLTI-MATISSE chromatic aperture-synthesis imaging of η Carinae's stellar wind across the Brα line — Periastron passage observations in February 2020*, Astronomy & Astrophysics 652 (2021): A140. Impact factor: 6.24. Q1.

Articles in Preparation

- * **G. Yoffe**, J. Pienaar, D. Emfietzoglou, I. Kyriakou, H. N. Tran, S. Incerti, Y. Kaspi, *Geant4-IcyMoons: A Simulation Toolkit for Irradiated Astrophysical Ices — I. Electron Interaction Physics*, The Astrophysical Journal Supplement Series.
- * **G. Yoffe**, E. Galanti, Q. Ma, Y. Kaspi, *A Juno-Era Model of the Jovian Radiation Belts*

Accepted Astronomical Observation Proposals as Principal Investigator

Title: *Gaps in the Inner Few AU of Group II Herbig Ae Star Disks: From Substructure to Planet Formation*. **Instrument**: VLTI/MATISSE, Unit Telescope configuration. **Allocated time**: 11h. **Observation Period**: p108 (2021).