Gideon Yoffe - Curriculum Vitae

Personal Details

Date of Birth	December 9, 1990
Country of Birth	Israel
Nationality	Israeli
Marital Status	Married

Email	gidi.yoffe@weizmann.ac.il
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Address	16 Eliezer Ben Yehuda St., Rehovot, Israel.

Research Interests

Planetary Science and Astronomy, Icy Satellites, Astrobiology, Statistical Learning, Computational Humanities

Higher Education

2014-2017 **B.Sc. in Natural Sciences**
Open University of Israel, Israel
Graduated with honors
GPA: 86/100
Approval Date: October 2017

2017-2019 **M.Sc. in Planetary Science**
Weizmann Institute of Science, Israel
Advised by Prof. Oded Aharonson
Thesis Title: "A Photodynamical Model for Uniform and Precise >
> Planetary Parameters Determination in Kepler Systems"
Course GPA: 88.5/100
Approval Date: October 2019
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"

2021-2025 **Ph.D. in Statistics and Data Science**
Hebrew University of Jerusalem, Israel
Advised by Dr. Barak Sober
and Prof. Israel Finkelstein
Thesis Title: "Unsupervised Pattern Recognition in High-Dimensional Sequential Data"

Academic Appointments

2019-2021 **International Max Planck Research School (IMPRS) Fellow**
Department of Star and Planet Formation (Ph.D. in Astrophysics willingly discontinued)
Max Planck Institute for Astronomy, Heidelberg, Germany
Advised by Prof. Dr. Thomas Henning and Dr. Roy van Boekel
Summary: As a Research Associate in the Department of Star and Planet Formation, I conducted research on exoplanets and planet formation, focusing on young stellar systems. Using the VLT's mid-Infrared instruments VISIR and MATISSE, I investigated the geometry and substructures of protoplanetary disks to explore their links to giant planet formation, including on-site observations at the Paranal Observatory in Chile. As part of MATISSE's guaranteed-time-

observation (GTO) team, I managed observation proposals for ESO and conducted observations as principal- and co-investigator. Additionally, I contributed to Project EDEN, utilizing the Calar Alto 3.5m telescope to search for and characterize potentially habitable nearby exoplanets.

2020-2020 **Teaching Assistant**
School of Physics and Astronomy
Heidelberg University, Germany

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
Hebrew University of Jerusalem, Israel

2024-2025 **Space Mission Scientist**
Department of Earth and Planetary Sciences
Weizmann Institute of Science, Israel
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.

2025-ongoing **Postdoctoral Fellow**
Weizmann Institute of Science, Israel
Hosted by Prof. Yohai Kaspi

Teaching at Academic Institutions

Courses Taught:

Heidelberg University	Astronomical Techniques I (graduate level); Tutor
HUJI	Regression and Statistical Models (undergraduate level); Tutor
HUJI	Statistical Learning and Data Analysis (undergraduate level); Tutor, Course Coordinator
HUJI	Introduction to Programming (undergraduate level); Lecturer

Non-Academic Employment

2014-2017 **Seismic Observer and Data Interpreter**
The Geophysical Institute of Israel
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.

2017-2017 **Research Assistant**
Prof. Oded Aharonson's Simulated Planetary Ices and Environments Laboratory (Weizmann Institute of Science)
Summary: In Prof. Oded Aharonson's Simulated Planetary Ices & Environments Laboratory, I wrote the software (coupling electronic hardware, PID loops, data logging, and analysis) designed for experiments reproducing Martian surface conditions and probing the existence of liquid water thereupon.

Publications

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

Articles

[1] * **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

[2] * **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. Impact factor: 1.7. Q1

[3] * **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

[4] * **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

[5] * 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

[6] * **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

[7] A. Ofir, **G. Yoffe**, O. Aharonson, *Planetary Mass Determinations from a Simplified Photodynamical Model - Application To The Complete Kepler Dataset*, The Astrophysical Journal. Impact factor: 5.521. Q1

[8] 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

[9] 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

[10] B. Lopez et al., *MATISSE, the VLTI mid-infrared imaging spectro-interferometer*, Astronomy & Astrophysics 659 (2022): A192. Impact factor: 6.24. Q1

[11] 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

[12] 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

[13] 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

[14] 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

[15] 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

[16] 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

[17] * (accepted) **G. Yoffe**, Y. Segev, B. Sober *An Unsupervised Information-Theoretic Approach to Identifying Formulaic Clusters in Textual Data*
Computational Humanities Research
https://arxiv.org/abs/2503.07303

[18] * (under review) **G. Yoffe**, S. Shahaf *Spectral decomposition reveals surface processes on Europa*
Science Advances. Impact factor: 13.6. Q1

[19] * (submitted) **G. Yoffe**, F. Klenner, B. Sober, Y. Kaspi, I. Halevy *Molecular diversity as a biosignature*

[20] * **G. Yoffe**, J. Pienaar, S. Incerti, H. N. Tran, Y. Kaspi *GEANT4-IcyMoons I: Simulating Electron-Driven Radiolysis in Planetary Ices*

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).

Honors and Awards

2025 **Best Poster Award**
The 38th Annual Meeting of the Israeli Society for Astrobiology and the Origin of Life (ILASOL) awarded for the poster titled: "*Fluorescent Biomolecules Detectable in Near-Surface Ice on Europa*"

2025 **Faculty Postdoctoral Excellence Fellowship**
Weizmann Institute of Science

2025 **Dean's Postdoctoral Fellowship**
The Dean of the Faculty of Chemistry at the Weizmann Institute of Science

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

2023 **Council for Higher Education Program for Outstanding PhD Students in Data Science Scholarship**
The Israeli Council for Higher Education (CHE), Israel

2022 **Outstanding Junior Lecturer at the Faculty of Social Sciences**
The Hebrew University of Jerusalem, Israel

2022 **Presidential Doctoral Scholarship of Excellence ("Milgat Nassi")**
The Hebrew University of Jerusalem, Israel

2021 **CIDR Grant for Interdisciplinary Data Science Research**
The Hebrew University of Jerusalem, Israel

2021 **"Atid" Grant for Excellent Beginning Doctoral Students**
The Hebrew University of Jerusalem, Israel

2017 **B.Sc. Completion: With Honors**
The Open University of Israel, Israel

Presentations in Academic Conferences

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

[2] 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

[3] 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

[4] 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

[5] 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

[6] 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

[7] 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

[8] 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

[9] 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

[10] 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

[11] 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

[12] 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

[13] Poster Presentation: **Yoffe, G.**, Aharonson, O. and Ofir, A., *Uniform and Precise Mass Determination for TTV-bearing Kepler planets*, EPSC-DPS Joint Meeting 2019, 15-20 September, Geneva, Switzerland

[14] 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

[15] 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, Jerusalem, Israel