

PERSONAL INFORMATION

Sameh Othman



📍 Kopernikusstr 33, Jülich, Germany

☎ +49 1634 781157

✉ Sameh.othman@hotmail.com

🔗 <https://ssothman.github.io/>

🌐 <https://linkedin.com/in/ssothman/>

🆔 ORCID [0000-0002-6492-403X](https://orcid.org/0000-0002-6492-403X)

WORK EXPERIENCE

- Mar 2024 – Present **Carpentry Instructor** [The Carpentries](#)
Taught foundational coding and data science skills in multiple courses on Git, Bash, Python, and Python libraries as a solo instructor, co-instructor to researchers worldwide.
- Feb 2024 – Present **Steering committee member** [Scientist For Palestine](#)
Co-manage a community of international scientists aim to support Palestinians around the world, through different initiatives, like mentorship programs, talk series.
- Jul 2021 – Present **PhD Researcher** [Forschungszentrum Jülich, Germany](#)
Designed, run, and analyze molecular dynamic simulations of active matter with alignment field using LAMMPS and Python. Investigated phase diagrams, critical points, universality classes, flow in channels, mixture of ABPs.
– Co-supervised two Bachelor students and three high school students on different projects.
- Oct 2020 – May 2021 **Research Internship** [Max Planck Institute for Intelligent Systems, Germany](#)
Enhanced a generative machine learning algorithm, a Bayesian community detection framework by modeling non-exposure to address sampling bias, improving graph reconstruction and maintaining community recovery performance. Introduced probabilistic estimation for node exposure, advancing machine learning applications in network analysis. [published](#)
- Feb 2016 – Jun 2017
Oct 2018 – Jun 2020 **Observatory Operator/ Manager** [Birzeit University, Palestine](#)
Managed the university observatory, the largest in Palestine, organizing educational events for up to 1,500 visitors. Taught astronomy basics and telescope operation to students. Supervised the astronomy club, coordinating activities and hosting international speakers.

EDUCATION

- 2021 – present **PhD in Statistical Physics** [University of Cologne, Germany](#)
PhD - Thesis Title: "Active Brownian Particles in Alignment Field"
- 2016 – 2020 **Master's Degree in Physics** [Birzeit University, Palestine](#)
Oct 2017 – Sep 2018 Research visit at FZJ for master thesis project.
- 2010 – 2016 **Bachelor's Degree in Physics/ Minor Computer Science** [Birzeit University, Palestine](#)

OTHER ACTIVITIES

- 2020 – Present **Member of Code/Astro** [Code/Astro](#)
Taught participants fundamental software engineering skills and best practices for building sustainable open-source astronomy packages, and assisted students in developing software packages from scratch during the week-long workshop to enhance their hands-on experience.
- 2018 – Present **Schools committee member** [Scientist For Palestine](#)
Co-organized schools aimed at providing advanced undergraduate and master's students with insights into recent developments in modern physics not typically included in standard curricula. Responsibilities included coordinating internationally recognized lecturers, organizing collaborative problem-solving sessions and discussion groups.
- 2018 – Present **Founding member of NOVA for Astronomy and Space Science** [Palestine](#)
Co-created a non-profit society to fill a gap in the society and education system for astronomy. We organize public, private, and school events and visits to teach and promote astronomy through lectures, activities, workshops, trainings and observations.
- 2020 – 2021 **Founder Institute**
As a participant in the Founder Institute accelerator program, I founded a startup aiming to develop an augmented and virtual reality app to create interactive environments that facilitate student learning. Through the program, I gained entrepreneurial skills, received mentorship from top entrepreneurs, and leveraged a structured process to build and grow the startup.

AWARDS AND HONORS

- Aug 2022 Awarded the best master thesis in Palestine in science at [The Seventh Palestinian Conference on Modern Trends in Mathematics and Physics](#).
- Jul 2021 – Dec 2024 Awarded a fellowship through the [Palestinian-German Science Bridge](#) to conduct my Ph.D. research at the Institute for Advanced Simulation (IAS-2), FZJ, Juelich, Germany.
- Oct 2017 – Sep 2018 Received funding for a 12 months master thesis research visit at FZJ, Juelich, Germany through the [Palestinian-German Science Bridge](#).
- Feb 2016 – May 2020 Received work and study scholarship throughout my master studies at Birzeit University.

ARTICLES

- Feb 2024 **S. Othman**, J. Midya, T. Auth, G. Gompper. Phase Behavior and Dynamics of Active Brownian Particles in an Alignment Field. DOI: [10.48550/arXiv.2403.02947](#). [Under Review](#)
- Jul 2022 **S. Othman**, J. Schulz, M. Baity-Jesi, C. De Bacco. Modeling Node Exposure for Community Detection in Networks. DOI: [10.1007/978-3-031-21131-7_18](#).
- Mar 2018 Q. Yu, **S. Othman**, S. Dasgupta, T. Auth, G. Gompper. Nanoparticle wrapping at small non-spherical vesicles: curvatures at play. DOI: [10.1039/C7NR08856F](#).
- May 2017 H. Abusara, Shakeb Ahmad, **S. Othman**. Triaxiality softness and shape coexistence in Mo and Ru isotopes. DOI: [10.1103/PhysRevC.95.054302](#).
- May 2020 **S. Othman**, A. Sayyed-Ahmad, T. Auth. Nanoparticle-Membrane Interactions a systematic study of the electric charge contribution to the wrapping process. DOI: [10.13140/RG.2.2.29501.08164](#).

CONFERENCES

- May 2024 Annual Meeting SoftComp, Lyon, France. Poster.
- May 2023 Annual Meeting SoftComp, Ancona, Italy. Talk.
- May 2023 Invited talk, University of Burgundy, Dijon, France. Talk.
- Sep 2022 NIC Symposium , FZJ, Juelich, Germany. Poster.
- Jul 2019 Jordanian School of Space Sciences II, Amman, Jordan.
- Sep 2018 The current and future observing facilities, Belgrade, Serbia.
- Jan 2018 Filaments, Membranes, Cells and their Interactions, FZJ, Juelich, Germany. Poster.
- Nov 2014 Jülich Soft Matter Days 2014, Bonn, Germany.

PERSONAL SKILLS

Languages Arabic (Mother tongue), English (B2), German (A2)

Communication skills

- Team work: I have collaborated with diverse teams, including international research groups, university clubs, and national teams.
- Mediating skills: I have worked with different levels of employees and students at Birzeit university to manage and operate the university observatory to become well-known around Palestine. I taught Python and astronomy to learners of all ages, young children to seniors.
- Intercultural skills: I am experienced at working in an international and youth camps in Palestine and abroad.

Organisational / managerial skills

- As a member of the school committee at Scientist4Palestine, I co-organized and managed four summer schools for graduate students from all Palestinian universities. Still working on future schools.
- As a co-founder of NOVA for astronomy and space science society in Palestine, I co-organized, and managed the society to be a successful community in astronomy in Palestine.
- Creative and willing to learn new skills.

Computer skills

- Programming languages: Python (daily use), Bash, C/C++ (Master's thesis), Java, SQL, Visual Basic.
- Tools: Git, LAMMPS, HPC systems, Google Cloud, Parallel programming.
- Competent with most Microsoft Office programmes, wordpress.

Other skills Photography and astrophotography. Enjoy adventures and seeking discomfort. I enjoy traveling and experiencing different cultures.

REFERENCES

- Dr. Thorsten Auth, Scientific Staff “Institute for Advanced Simulation” at Forschungszentrum, Jülich, Germany. Email: t.auth@fz-juelich.de. PhD daily supervisor.
- Dr. Caterina De Bacco, Cyber Valley research group leader, Max-Planck Institute for Intelligent Systems, Tübingen, Germany, Email: caterina.debacco@tuebingen.mpg.de. Research Internship supervisor.
- Dr. Wafaa Khater, Physics department, dean of science at Birzeit University, Palestine. Email: wkhater@birzeit.edu. Birzeit University supervisor.