

Islam Hamama

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Last updated: Mar. 2026

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Professional Experience

- Sep 2023–Sep 2024 **Postdoctoral Research Associate**, *National Center for Physical Acoustics, The University of Mississippi, USA.*
- Apr 2022–Apr 2023 **Postdoctoral Researcher**, *School of Systems Engineering, Kochi University of Technology, Japan.*
- Mar 2013–Present **Researcher**, *Egyptian National Data Center, National Research Institute of Astronomy and Geophysics (NRIAG), Cairo, Egypt.*

Education

- Apr 2019–Apr 2022 **PhD in Engineering**, *School of Systems Engineering, Kochi University of Technology, Japan.*
Thesis: Investigation of Infrasound Propagation Modeling for Natural and Man-Made Sources.
Supervisor: Prof. Masa-yuki Yamamoto.
- Sep 2013–Jul 2017 **MSc in Geophysics**, *Mansoura University, Mansoura, Egypt.*
Thesis: Analysis of the International Monitoring System (IMS) Infrasound Data for Source Verification.
- Sep 2008–May 2011 **BSc in Geophysics**, *Mansoura University, Mansoura, Egypt.*
Grade: Very good with honors (82.75%). Ranked 3rd student in the Geophysics department.

Awards and Fellowships

- International travel support for field and laboratory experiments for students and early-career scientists (**ISEE, Nagoya University, Japan**) for the research project: “Seismo-acoustic and optical observations of meteors over Perth, Australia” (2022), where I designed and built an remote infrasound monitoring system for detecting fireballs integrated with Desert Fireball Network (DFN) cameras; the system remains operational to date.
- Egypt-Japan Education Partnership “**EJEP-3**” Full Ph.D. Scholarship (2019–2022).
- Outstanding presentation of **ISFT 2019**, Thailand, on the talk entitled: "Source Classification of Natural and Man-made Infrasound Events, Thailand, August 2019".

Society Memberships

- Japan Geoscience Union (JpGU).
- American Geophysical Union (AGU).
- European Geosciences Union (EGU).
- Young Professional Network (YPN).

Supervision and Mentorship

- April 2023 - now **Internal Ph. D. Supervisor**, *Kochi University of Technology, Japan.*
- Apr 2022–Apr 2023 **Guiding master students**, *Kochi University of Technology, Japan.*
- Sep 2020–present **IT Advisor**, (*Al Amal Program*), volunteering program for fresh Geoscience graduates of Egypt.
Implemented a virtualized environment enabling fresh graduates to work remotely on virtual machines, driving the digital transformation of the entire program.

Skills

- Computer skills:
 - Operating systems: Linux.
 - Programming: Python, Bash, MATLAB, and C++.
 - GIS and mapping: QGIS, GMT.
 - Networking and Server Administration.
 - LATEX writing skills
- Language skills:
 - Arabic: Mother tongue.
 - English: V. Good writing and speaking skills.

Workshops and Conferences

- Science and Technology Conference 2025 (SnT 2025), Hofburg Palace in Vienna, Austria, September 2025.
- Infrasound Technology Workshop 2024, CTBTO, VIC, Vienna (Virtual)
- 19th Annual Meeting of the Asia Oceania Geosciences Society (AOGS), August 2022. **(Oral)**
- 33rd International Symposium of Space Technology and Science (ISTS), March 2022. **(Oral)**
- Infrasound Investigation on HTV Launches from Tanegashima Space Center, Japan, American Geoscience Union (AGU 2021).**(Oral)**
- Infrasound consortium meeting, November 2021.**(Oral)**
- HTV Infrasound Phase Identification in Near and Far Field Records, Japan Geoscience Union (JpGU 2021).**(Oral)**
- Evaluation of the Chemical Explosions Impact using Infrasound and InSAR Analysis, European Geosciences Union (EGU 2021).**(Oral)**
- Detection of Infrasound Sources in KUT Sensor Network during 2019 & 2020, Sensing forum, September 2020.**(Oral)**
- Japan Geoscience Unions (JpGU 2020), July 2020.(E-Poster)
- BOSAI Forum, Sendai Japan November 2019(Exhibition & Attendee)
- Source Classification of Natural and Man-made Infrasound Events, ISFT 2019, Thailand, August 2019.**(Oral)**
- Japan Geoscience Union (JpGU 2019, May 2019. **(Attendee)**
- Infrasound Technology Workshop 2018, CTBTO, VIC, Vienna.**(Oral)**
- Infrasound Technology Workshop 2017, 23 - 27 October, 2017, Tromso, Norway.
- Infrasound Technology Workshop 2016, 7 - 11 November , 2016, Quito, Ecuador.
- The Fifth Arab Conference On Astronomy and Geophysics (ACAG-5), 17 - 20 October 2016, NRIAG, Cairo, Egypt.
- First Assembly of African Seismological Commission (AFSC,2016), 4 - 7 April 2016, Egypt.**(Oral)**
- The Annual Meeting of the Egyptian Geophysical Society, 22 March 2016, Cairo, Egypt.
- Infrasound Technology Workshop, 12 - 15 October 2015, CTBTO, VIC, Vienna.
- The Fourth Arab Conference On Astronomy and Geophysics (ACAG-4), NRIAG, Cairo, Egypt.
- NDC Development Workshop in Africa on the Use of IMS Data and IDC Products with Emphasis on Radionuclide Observations, 12 - 16 December 2013, Ouagadougou, Burkina Faso.
- Infrasound Technology Workshop, 7 - 11 October 2013, CTBTO, VIC, Vienna.

Trainings & Short visits

- Visiting Researcher, 11/9/2022 - 22/9/2022, **Curtin University, Australia.**
- Global Seismology Course, 17/1/2015 – 14/3/2015, **Building Research Institute, Tsukuba, Japan.**
- Infrasound Analysis during visiting Earth Science Department, 10 – 24/6/2014, **Firenze University, Italy.**
- Advanced Linux course in Networking, 16-20/2/2014, **Egyptian Scientific Academy, Cairo, Egypt.**

Participation as a Co-author in Conferences

- Infrasound observations for 3 SRC reentries as well as multiple configuration experiments with MOMO sounding rockets and STRATOVISION balloons (Yamamoto et al.,2025)
- Perth array results and future plan (Elbehiri et al.,2025)

- Discussion of infrasonic detection of tornadoes in the Southeastern United States." *The Journal of the Acoustical Society of America*. (Waxler et al., 2024)
- Listening for Fireballs: A Trial of Seismo-Acoustic and Optical Observations of Meteors Over Perth, Australia, 54th Lunar and Planetary Science Conference, 2023. (Sansom et al., 2023)
- The Infrasound signals excited by a bolide on 29th November 2020 (Iwakuni et al., 2021)
- A prompt report of multiple-site infrasound observation by the nation-wide infrasound observation consortium for M 7.3 Fukushima offshore earthquake on Feb. 13, 2021 (Yamamoto et al., 2021)
- Infrasound and seismic multiple-site observation of shock waves induced by hypersonic reentry of HAYABUSA-2 sample return capsule on Dec. 6, 2020 . (Yamamoto et al., 2021)
- IMS Infrasound Detections from Meteor Events in 2019 (Elbehiri et al., 2020)

Other Activities

- Building a prototype logger for electromagnetic sensor with a micro-controller ESP32.
- Establishing a 4G full remote-monitoring infrasound system at Helwan, Egypt.
- Establishing a 4G full remote-monitoring infrasound system at Perth, Australia.
- Participation as organizer in conferences :
 - The Fifth Arab Conference on Astronomy and Geophysics (ACAG-5), NRIAG, Cairo, Egypt.
 - First Assembly of African Seismological Commission 2016 (AFSC, 2016).
 - The Fourth Arab Conference on Astronomy and Geophysics (ACAG-4), NRIAG, Cairo, Egypt
 - International Workshop of Earthquake for Reducing Earthquake Disasters, Cairo.

List of publications

Peer-reviewed articles:

1. Yasuhiro Nishikawa, **Islam Hamama**, Hany S Elbehiri, Yuta Hasumi, Eleonor K Sansom, Hadrien Devillepoix, Masa-yuki Yamamoto, Elizabeth A Silber, Optimizing infrasound observations for sample return capsule re-entry: Insights from OSIRIS-REx and Hayabusa2, *Publications of the Astronomical Society of Japan*, 2026;, psaf156, <https://doi.org/10.1093/pasj/psaf156>.
2. Elbehiri, H.S., Hara, T., **Hamama, I.** et al. Seismoacoustic monitoring of eastern mediterranean earthquakes toward a tsunami early warning system for Egypt. *Sci Rep* 15, 37158 (2025). <https://doi.org/10.1038/s41598-025-22494-1>
3. **Hamama, I.**, Elkhoully, S.H., Gaber, H. et al. Mysterious seismoacoustic signals of eastern Helwan quarry blasts 2022. *Sci Rep* 15, 18527 (2025). <https://doi.org/10.1038/s41598-025-98694-6>.
4. Mario Batubara, Masa-yuki Yamamoto, **Islam Hamama**, Musthofa Lathif, Ibnu Fathrio. Measurement and characterization of infrasound waves from the March 25, 2023 thunderstorm at the near equatorial[J]. *AIMS Geosciences*, 2023, 9(4): 652-671. <https://www.aimspress.com/article/doi/10.3934/geosci.2023035>
5. Hany M Hassan, Mohamed A Sayed, Marco Fasan, Fabio Romanelli, Claudio Amadio, Ayman Hamed, Mohamed ElGabry, **Islam Hamama**. Seismic Assessment of a Cultural Heritage Minaret in Cairo. In: El-Qady, G.M., Margottini, C. Sustainable Conservation of UNESCO and Other Heritage Sites Through Proactive Geosciences. Springer Geology. Springer, Cham. https://doi.org/10.1007/978-3-031-13810-2_28
6. Nishikawa, Y., Yamamoto, My., Nakajima, K. et al. Observation and simulation of atmospheric gravity waves exciting subsequent tsunami along the coastline of Japan after Tonga explosion event. *Sci Rep* 12, 22354 (2022). <https://doi.org/10.1038/s41598-022-25854-3>
7. **Hamama, I.**, Yamamoto, M., Elgabry, M. N., Ismail, N., Saber, H., Othman, A. S., Abdelazim, M., et al., 2022. Investigation of Near-Surface Chemical Explosions Effects using Seismo-acoustic and InSAR Analysis. *The Journal of the Acoustical Society of America*, <https://doi.org/10.1121/10.0009406>.
8. Yasuhiro Nishikawa, Masa-yuki Yamamoto, Eleanor K Sansom, Hadrien A R Devillepoix, Martin C Towner, Yoshihiro Hiramatsu, Taichi Kawamura, Kazuhisa Fujita, Makoto Yoshikawa, Yoshiaki Ishihara, **Islam Hamama**, Norihisa Segawa, Yoshihiro Kakinami, Hiroshi Katao, Yuichiro Inoue, Philip A Bland, 2022. Modeling of 3D trajectory of Hayabusa2 re-entry based on acoustic observations, *Publications of the Astronomical Society of Japan*, <https://doi.org/10.1093/pasj/psab126>.
9. Eleanor K Sansom, Hadrien A R Devillepoix, Masa-yuki Yamamoto, Shinsuke Abe, Satoshi Nozawa, Martin

C Towner, Martin Cupak, Yoshihiro Hiramatsu, Taichi Kawamura, Kazuhisa Fujita, Makoto Yoshikawa, Yoshiaki Ishihara, **Islam Hamama**, Norihisa Segawa, Yoshihiro Kakinami, Muneyoshi Furumoto, Hiroshi Katao, Yuichiro Inoue, Andrew Cool, Geoffrey Bonning, Robert M Howie, Phil A Bland, 2022. The scientific observation campaign of the Hayabusa-2 capsule re-entry, *Publications of the Astronomical Society of Japan*, <https://doi.org/10.1093/pasj/psab126>.

10. **Hamama, I.**, and Yamamoto, M. Y., 2021. Infrasonic Earthquake Detectability Investigated in Southern Part of Japan, 2019. *Sensors*, **21**(3), 894, <https://doi.org/10.3390/s21030894>.
11. Gaber, H., Elkholy, S., Abdelazim, M., **Hamama, I. H.**, and Othman, A. S., 2017. Seismological investigation of September 09 2016, North Korea underground nuclear test. *NRIAG Journal of Astronomy and Geophysics*, <https://doi.org/10.1016/j.nrjag.2017.09.002>.
12. ElGabry, M. N., Korrat, I. M., Hussein, H. M., and **Hamama, I. H.**, 2017. Infrasound detection of meteors. *NRIAG Journal of Astronomy and Geophysics*, <https://doi.org/10.1016/j.nrjag.2017.04.004>.

Teaching Experience

- **Lecturer, April 2022- December 2022:** Python Programming including PyGMT module for mapping in weekly English seminar.
- **Trainer, 2015-2019 and Jan. 2026,** National Research Institute of Astronomy and Geophysics, Egypt.
 - Seiscomp System (Automatic Earthquake Detection System).
 - Fundamentals of Linux Operating System.
 - Introduction to Seismology and Infrasound (Acoustics) Technologies.

Service and Outreach

Journal Manuscript Review

- Reviewer at Bulletin of the Seismological Society of America
- Reviewer at Earth and Space Science
- Reviewer at Pure and Applied Geophysics
- Reviewer at Seismological Research Letter

References

- **Prof. Masa-yuki Yamamoto** Email: yamamoto.masa-yuki@kochi-tech.ac.jp
PhD advisor and supervisor employer between 2019-2023 at Kochi University of Technology, Japan.
- **Dr. Eleonor K. Sansom** Email: Eleanor.sansom@curtin.edu.au
Senior Research Fellow, Curtin University and director of Global Fireball Observatory.
- **Prof. Saito Hiroaki** Email: saito.hiroaki@me.com
Junior Associate Professor at Hakodate Otani College, Japan.
- **Prof. Roger Waxler** Email: rwax@olemiss.edu
Principal Scientist-Research Associate Professor at National Center for Physical Acoustics, Mississippi University, USA.