Call for Applications

PhD Program in Medical AI – Technion-Rambam Initiative in Medical AI (TERA)

The Technion-Rambam Initiative in Medical AI (TERA) is pleased to announce a call for applications to a Technion PhD Program in collaboration with Rambam Health Care Campus (RHCC). TERA aims to foster the next generation of researchers working at the intersection of artificial intelligence (AI), healthcare and biomedical sciences. This program offers a unique opportunity to work with leading principal investigators from both Technion – Israel Institute of Technology and Rambam Health Care Campus.

About TERA

Launched in March 2022, TERA is a joint initiative between Technion and Rambam Health Care Campus, combining clinical expertise, basic science, and engineering to address pressing medical challenges using AI and large medical datasets. The initiative aims to bridge the gap between research discoveries and their clinical applications, ultimately improving patient care and health outcomes. See TERA's website for more information about the initiative.

Program Overview

The PhD Program in Medical AI offers a multidisciplinary research environment where students collaborate closely with Technion scientists and Rambam clinicians and researchers to develop AI-based solutions and advance their clinical implementation. Students will have access to large-scale medical and omics datasets, state-of-the-art research facilities, and expert mentorship from both institutions. A key pillar of the program is the meaningful and proactive collaboration of Technion and Rambam principal investigators (PIs), who will jointly supervise each graduate student to provide a holistic and integrated research experience.

Awards and Scholarships

For this round, **two awards** will be granted to the top applicants. Each winning application will receive **two scholarship portions** for a period of **24 months** and **50 hours or support** from Rambam IT and epidemiology unit. This financial support together with the faculty regular support will ensure the **full time** sponsoring of the PhD scholarship for a period of two years. This funding is designed to enable students to fully dedicate themselves to their research within TERA's collaborative ecosystem. After the two years of funding the PIs commit to continue funding the student at the same level of scholarship as in these initial two years.

Research Areas

The program invites applications in the following key areas:

- **AI-Driven Diagnostics and Predictive Modeling:** Leveraging machine learning to enhance early diagnosis, predict disease trajectories, and improve patient outcomes.
- **Clinical Decision Support Systems:** Developing AI algorithms to assist clinicians in making accurate and personalized treatment decisions.
- **Medical Imaging and Signal Processing:** Applying AI to analyze medical images (e.g., MRI, CT) and physiological signals (e.g., ECG, PPG) to extract clinically relevant information.
- ***Omics* and Personalized Medicine:** Integrating *omics* data (genomics, proteomics, metabolomics) with clinical information to advance precision medicine and therapeutic strategies.
- **Ethical AI and Data Privacy:** Ensuring robust and transparent AI systems while addressing challenges in data security and patient privacy.

Program Highlights

- **Dual Mentorship:** Students will receive dedicated guidance from Technion and Rambam principal investigators, fostering an integrated research approach. The PIs' collaboration will ensure alignment of AI innovations with clinical needs and real-world applications.
- **Access to TERA Research Space:** Winners will have access to the TERA research space—a dedicated area for collaborative research in medical AI between the Technion and Rambam, designed to bring together researchers, clinicians, and students for meaningful interactions and innovative projects.
- **Access to Unique Resources:** Access to Rambam's clinical expertise and patient data, Rambam IT and epidemiology team support combined with Technion's cutting-edge AI research capabilities.
- **Real-World Impact:** Opportunities to translate research insights into clinical studies and real-world healthcare applications.

Selection Criteria

A particular emphasis in the selection process will be given to the following criteria:

- Excellence of the research.
- Complementary and commitment of the Technion and Rambam PIs to supervise the graduate student. The primary supervisor should be an active Technion PI. The graduate will be co-supervised by a Rambam or Technion-Rambam PI.

- Deployment of the developed AI system at Rambam as part of the research plan.
- The PhD candidate should be before the candidacy examination.
- The PhD candidate should start the degree within 6-month of the award.

Application Process

Interested PIs are invited to submit:

1. **A two-page application** describing the proposed research, the intended mode of collaboration between the Technion and Rambam PIs and the graduate student, and the specific datasets or medical data that will be utilized.
2. A one pager CV for each PI with a list of graduates supervised within the past three years and mention in what function (primary supervisor, co-supervisor or collaborator/advisor).
3. If the PhD candidate is identified at the time of the application:
    1. A personal statement (1 page) outlining the candidate's motivation for pursuing a PhD in Medical AI, research interests, and career goals.
    2. A letter of recommendation from each co-supervisor.
    3. Copies of academic transcripts.
4. Candidates who will be approved for the program will need to submit an official application to the Graduate School and their final acceptance is conditioned upon approval of the Graduate School. Appointment of the Rambam PI is conditioned upon approval of the Graduate School.

All the documents should be submitted **as a single PDF**. Applications with missing information or format will not be evaluated.

Application will be reviewed by a dedicated TERA committee and selected based on Excellence and Value the collaboration brings to both institutions. The awardees will follow the regular recruitment process at the intended home faculty for the student.

Submission Deadline: 30-01-2025

Submit your application to: tera@technion.ac.il

Enquiries: email Dr. Joachim Behar (jbehar@technion.ac.il)

We look forward to receiving your application and welcoming you to the TERA community!

Sincerely,
The TERA Initiative Team