Partner Search Form
Horizon Europe
Health

Date | | Deadline … …

CONTACT

Organisation	IBM Research - Israel	**Department**	Department of Artificial Intelligence for Accelerated Healthcare & Life Sciences Discovery
Contact person	Simona Rabinovici-Cohen	**Email**	simona@il.ibm.com
City	Haifa	**Website**	
Country	Israel		

Organisation type

Research organisation type	☐ Research Organisation ☐ University ☒ Company ☐ Other	**Is your company a Small and Medium Sized Enterprise (SME*)?** **Number of employees:**	☐ YES ☒ NO

Your enterprise is an SME if:
- it is engaged in **economic activity**
- it has **less than 250 employees**
- it has either an **annual turnover not exceeding €50M**, **or an balance sheet total not exceeding €43M**
- it is **autonomous**

For the definition of SMEs, look at: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Short introduction of key areas of institute's research:

Healthcare and Lifesciences Research at IBM has a portfolio of activities and cutting-edge AI technologies for accelerated discoveries of molecules and composite biomarkers. Example technologies: https://research.ibm.com/haifa/dept/vst/analytics.shtml#Overview
We encourage open science, and we release some of our technologies in BiomedSciAI git organization. Our Open-source technologies - https://github.com/BiomedSciAI
We can offer foundation models on patients' data that can be fine-tuned for different downstream tasks related to biomarker findings and clinical trial design.

Former participation in an FP European project?	☒ YES ☐ NO
Project title / Acronym: **Activities performed:**	See selected EU projects at: https://research.ibm.com/haifa/dept/vst/HI-EUProjects.shtml

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Expertise / Commitment offered

Description of your expertise:

Our team in IBM Research is expert in Multimodal AI performed on multiple data sources such as electronic health records, molecules data and medical imaging of multiple modalities including XRay, CT, MRI. We use state of the art methods in deep learning, foundation models, and machine learning to accelerate the discovery of composite biomarkers and therapeutic medications. We open source some of our technologies in GitHub BiomedSciAI organization. We can also offer HCLS foundation models trained on large datasets such as UK Biobank and Marketscan, that can then be used for downstream tasks with small datasets.

Some recent papers built with BiomedSciAI/FuseMedML open-source:

1. A Golts, A., Raboh, M., Shoshan, Y., Polaczek, S., Rabinovici-Cohen, S., Hexter, E. FuseMedML: a framework for accelerated discovery in machine learning based biomedicine. Journal of Open Source Software 8 (81), 2023
2. Barros, V., Tlusty, T., Barkan, E., Hexter, E., Gruen, D., Guindy, M., and Rosen-Zvi, M. Virtual biopsy derived using AI-based multimodal modeling of binational breast mammography data. Radiology, accepted, 2022.
3. Rabinovici-Cohen, S., Fernandez, X., Rabinovici-Cohen, S., Fernández, X. M., Grandal Rejo, B., Hexter, E., Hijano Cubelos, O., Pajula, J., Pölönen, H., Reyal, F., and Rosen-Zvi, M. Multimodal Prediction of Five-Year Breast Cancer Recurrence in Women Who Receive Neoadjuvant Chemotherapy. Cancers, 2022
4. Raboh, M. Levanony, D., Dufort, P. and Siteket, A. Context in medical imaging: the case of focal liver lesion classification. SPIE Medical Imaging, 2022
5. Rabinovici-Cohen, S., Tlusty, T., Fernández, X. M., and Grandal Rejo, B. Early prediction of metastasis in women with locally advanced breast cancer. SPIE Medical Imaging, 2022
6. Jubran I., Raboh, M., Perek, S., Gruen, D., and Hexter, E. A Glimpse into the Future: Disease Progression Simulation for Breast Cancer in Mammograms. MICCAI- SASHIM, 2021
7. Tlusty, T., Ozery-Flato, M., Barros, V., Barkan, E., Amit, M., Gruen, D., Guindy, M., Arazi, T., Rozin, M., Rosen-Zvi, M., and Hexter E. Pre-biopsy Multi-class Classification of Breast Lesion Pathology in Mammograms Contrastive Representations for Continual Learning of Fine-Grained Histology. MICCAI-MLMI, 2021
8. Golts, A., Khapun, D., Shats, D., Shoshan, Y., and Gilboa-Solomon, F. An Ensemble of 3D U-Net Based Models for Segmentation of Kidney and Masses in CT Scans. MICCAI KiT Challenge, 2021

Keywords specifying your expertise:

AI for healthcare, machine learning, deep learning, foundation models, multimodal AI, BiomedSciAI open-source tools

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Commitment offered:	☒ Research ☐ Demonstration ☐ Training ☐ Technology ☐ Dissemination ☐ Other:

Interested in participation in project types:	☒ Research & Innovation Action	☒ Innovation Action	☒ EIC Pathfinder

Work Programme research areas: indicate your interest

Health

Call topic(s):

- HORIZON-HLTH-2023-DISEASE-03-07: Relationship between infections and noncommunicable diseases
- HORIZON-HLTH-2023-TOOL-05-03: Integrated, multi-scale computational models of patient patho-physiology ('virtual twins') for personalized disease management
- HORIZON-HLTH-2023-TOOL-05-04: Better integration and use of health-related real-world and research data, including genomics, for improved clinical outcomes
- ORIZON-MISS-2023-CANCER-01-03: Pragmatic clinical trials on minimally invasive diagnostics
- HORIZON-HLTH-2023-DISEASE-03-04: Pandemic preparedness and response: Broad spectrum anti-viral therapeutics for infectious diseases with epidemic potential
- HORIZON-HLTH-2023-DISEASE-03-18: Pandemic preparedness and response: Immunogenicity of viral proteins of viruses with epidemic and pandemic potential
- HORIZON-HLTH-2023-TOOL-05-01: Clinical trials of combined Advanced Therapy Medicinal Products (ATMPs)

Do you have other partners for this topic (which partners/country)?	

Profile of partner sought

Role	☒ technology development	☒ research	☐ training
	☐ dissemination	☐ demonstration	☐ other _____
Country /region	☐		

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Expertise required	

I agree with the publication of my contact data: ☒ YES ☐ NO