אוניברסיטת בן-גוריון בנגב
Ben-Gurion University of the Negev

**Agricultural Biological Cognitive Robotics Initiative**

***ABC Robotics - CMRA (Center of Multidisciplinary Research on Ageing)***
***call for research proposals in the field of***
***"Robotics in Geriatrics and Gerontology"***

BGU is happy to announce a new call of the ABC Robotics Initiative

The initiative aims to advance collaborative and applicative/translational robotics research in the field of Geriatrics and Gerontology, a joint venture of BGU and the Center of Multidisciplinary Research on Aging (CMRA). This joint call of ABC Robotics and the CMRA initiative focuses on: (i) utilization of robotic technologies to prevent decline in physical and cognitive function in older adults. (ii) obtaining physical and cognitive signals from older persons for early detection of motor and cognitive impairments and modify /prevent these impairments and improve the quality of life. (iii) developing closed loop systems that includes sensors, actuators and algorithms. (iv) research and development of systems, including sensors and machine learning methods for improving the physical, cognitive and emotional function in older adults.

The CMRA aims to improve research on ageing from basic science to gerontology and geriatric medicine and with the aim of including robotic technology and applications to improve quality of life of old persons.
The goal of ABC Robotics is to advance innovative multidisciplinary robotics research at BGU in the domains of agricultural, biological and cognitive robotics. The ABC Robotics Initiative is driven by a vision and a commitment to collaboration and interdisciplinary research. By bringing together researchers from different disciplines, we aim to spark new ideas and research directions.

This call will support translational/applied robotics research and development for aging. Translational research refers to the "translation" of basic scientific findings in a lab setting into potential robotics technology or application. The ideas/technologies developed under this initiative must be able to be validated in the lab/relevant environment (corresponding to TRL levels 3-4 of Horizon2020 framework; Appendix 1).

This joint initiative will fund 3-4 proposals up to a total amount of $120,000 (each project should apply for budget of 10,000-15000$ per year for 3 years). The projects will be funded for one year and will be granted extension after proof of project feasibility and student recruitment.

During the program, the RDP will be required to submit annual reports which will be reviewed. Researchers and students will be expected to actively participate in the ABC Robotics monthly seminars and in the annual ABC Robotics conference, present work at international conferences (ABC robotics initiative will financially assist in supporting student participation in international robotics conferences), submit publications to leading robotics journals, host lab visits, update the website and leverage the research to attract additional funds.

**Researchers are required to present/publish in robotics related avenues (leading conferences and journals) and ensure the leveraging of funds**.

The RDP will be reviewed by both external and internal reviewers.
Winning projects will be announced at the beginning of the upcoming academic year.

**This specific call is open to PI's from the CMRA.**
**Proposals can be submitted and led by any full time BGU Faculty Member***
**Deadline for submission:** July 30, 2021

Please submit a 3-year research proposal** in English which details the following:

- Research innovation – contribution beyond State of the Art
- Research objectives
- Compliance with the domains listed above of Cognitive Robotics for Geriatrics and Gerontology and the focus on translational/applied research
- Three-year detailed research plan, indicating timetable, tasks, milestones and responsibilities.
- List of participating researchers, indicating specifically the contribution and involvement of the Principal Investigator and each researcher.
- Previous success of researchers (collaborations, research funds, publications).
- Achievements of previous RDP (if relevant).
- Tasks for each of the graduate students and funding sources.
- Potential for industrial application (IP) if exists.
- Support letter from stakeholders if relevant.
- International collaborations if exist and matching funds/expertise provided.
- Budget details and justification.
- Specific plans and timetable to submit the proposal to other competitive funding agencies (specify fund name/s, e.g., MOST/BSF/GIF/DFG/EU/Innovation Authority) and/or specific international funded collaborations (including cooperative research students).
- Optional matching funds.

*each researcher can submit one proposal as PI, however he/she can also collaborate in other proposals.
**up to 4 single spaced pages, Font 12.

Additionally, each PI should submit a brief CV including description of main expertise/lab activities (4-5 lines) and robotics publications and research grants in last 10 years. One page of preliminary results can be added if needed. Preference will be given to proposals received from new BGU faculty, those involving an international collaboration, and projects supported by industry or other stakeholders (support letter must be added to the proposal). Please contact Danny Shtaier of BGU Negev for industry support dshtaier@bgu.ac.il.

All submissions and enquiries should be sent to: cmra@bgu.ac.il

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**Yael Edan**
**Director, ABC Robotics Initiative**

**Itshak Melzer**
**Chairman of CMRA**

Appendix 1: Technology Readiness Levels (TRL)

TRL 1 – basic principles observed
TRL 2 – technology concept formulated
**TRL 3 – experimental proof of concept**
**TRL 4 – technology validated in lab**
TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
TRL 7 – system prototype demonstration in operational environment
TRL 8 – system complete and qualified
TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)