



## 22 months Ph.D. student research position in Emotions and Human Motion

Department of Industrial Engineering and Management  
Agricultural, Biological, Cognitive Robotics Initiative  
Ben-Gurion University of the Negev, Israel

### Research topic: Effects of people's emotional state on their body motion

This research project aims to examine the effects of people's emotional state on their body motion. Based on data generated in lab experiments using a Motion Capture System, we will investigate the relation between people's emotional state and their body motion and will develop models and algorithms for emotion recognition based on human motion. Such models may be used to develop robots that express emotion in their motion and/or devices that can recognize people's emotional state by monitoring their motions. The project combines data acquisition of motion data, theoretical work, and implementation work.

This is an interdisciplinary project conducted in collaboration among researchers from engineering and from behavioral sciences. The research team is led by Dr. Raziel Riemer who specializes in research in biomechanics, and Hila Riemer who specializes in research on emotions across cultures.

### Requirements

The applicant for this position must have completed a M.Sc. or M.A. in Engineering, Computer Sciences, Psychology, Biomechanics, or Cognitive Sciences. The applicant must be skilled in both oral and written communication in English, can work independently as well as in collaboration with others. We are looking for candidates with strong technical and programming skills. Experience in traditional biomechanics and motor control research techniques, such as motion capture, force measurement, electromyography, programming (MATLAB/C++/python), and statistics are merits. Candidates should have interest in understanding human behavior (although should not necessarily have background in such topics) and be passionate about learning and developing knowledge in a novel and exciting area.

### Ben-Gurion University of the Negev

Ben-Gurion University (BGU) is an internationally recognized research university that attracts outstanding faculty and researchers from around the world with over 19,000 students. Advance innovative multidisciplinary robotics research at BGU is conducted under the auspices of the ABC Robotics Initiative ([www.bgu.ac.il/abc-robotics](http://www.bgu.ac.il/abc-robotics)).

### SOCRATES

The recruitment is done as part of SOCRATES (SOcial Cognitive Robotic Agents in The European Society), a Marie Skłodowska-Curie European Training Network (ETN) comprising 7 universities/research institutes: Umeå University and Örebro University in Sweden, Universität Hamburg and Fraunhofer IPA, Stuttgart in Germany, CSIC Barcelona in Spain, University West of England, and Ben-Gurion University of the Negev in Israel. Additional non-academic partners are: Pal Robotics, Adele Robots, Alfred Nobel Science Park, Center for Digital Innovation, UMINOVA, Asea Brown Boveri, and S.A, Fundació ACE.

In total 15 Early Stage Researchers (ESRs) were recruited as PhD students for research on various aspects of social robotics aiming at eldercare. The wide range of projects covers a spectrum from technical design of hardware and interaction methodology, to personalization, user studies, and robot ethics. The researchers receive training in both academic and entrepreneurial spirit and expertise, well suited for a career in both academy and industry. The training includes working on a research project related to older adults' interaction with robots, as well as courses, seminars, and workshops suited for the students' academic interests and progress. As part of the research project and time dependent, secondments at Universität Hamburg and/or at Fraunhofer IPA, Stuttgart in Germany might be planned.

An overview of the SOCRATES project can be found at [www.socrates-project.eu](http://www.socrates-project.eu)

## About the position

The successful applicant will devote full time for research and will receive a competitive salary for a maximum period of 22 months (exact period depends on recruit date). No teaching is expected. The salary will be based on the standard Marie Skłodowska-Curie Early-Stage Researcher living and mobility allowances.

**Expected starting date: asap in early 2019.**

## Who can apply?

1. Excellent MSc students, who already graduated their studies and interested in exploring the new and exciting field of Human-Robot Interaction.
2. PhD students, who have not yet graduated and interested in extending their work by including a component on emotions in older adults. In this case, the students will still be formally registered in their current university, and the time spent at BGU will be considered as student exchange.
3. Excellent MSc students who already graduated and are interested in pursuing a Phd at BGU. The student must have completed a MSc or MA thesis to be able to apply for a PhD at BGU.

The student must obtain a visa and working permit according to the Ministry of Interior requirements.

If applying for a Phd program, once approved by BGU's SOCRATES graduate committee, the student must be accepted to BGU's graduate school ([http://in.bgu.ac.il/en/kreitman\\_school/Pages/admission.aspx](http://in.bgu.ac.il/en/kreitman_school/Pages/admission.aspx)). If the student will apply for a Phd program the candidate must submit a research proposal and go through a Qualification Exam within one year of studies on his/her research proposal. A PhD at BGU is usually 4 years; for funding in the following years the student can apply for BGU scholarships and awards [http://in.bgu.ac.il/en/kreitman\\_school/Pages/Scholarships-and-Awards.aspx](http://in.bgu.ac.il/en/kreitman_school/Pages/Scholarships-and-Awards.aspx)

To promote mobility, the following rule applies: At the time of recruitment, the applicants must not have resided or carried out their main activity in Israel for more than 12 months during the last 3 years as holidays are not taken into account. Compulsory national service, work in international organizations, and short stays such as holidays are not taken into account. The applicants must not, at the time of recruitment, have spent more than 4 years doing research, and must not have been awarded a doctoral degree.

## Application

**A complete application should contain the following documents:**

- A cover letter including a description of your research interests, your goals in applying for the position (how would this position fit with your goals), and your contact information.
- A curriculum vitae.
- Copies of degree certificates, including documentation of completed academic courses and obtained grades.
- Copy of completed MSc or MA thesis and other original research publications.
- Contact information of three people willing to serve as references (including your Msc/MA thesis advisor).
- Documentation of programming skills and software development experience.

**Applications should be submitted electronically by email no later than December 24, 2018, to the following address: [socrates@post.bgu.ac.il](mailto:socrates@post.bgu.ac.il).**

For more information about the project and position please contact [socrates@post.bgu.ac.il](mailto:socrates@post.bgu.ac.il)

**For additional information about the position, please contact: Dr. Raziel Riemer –**

[rriemer@bgu.ac.il](mailto:rriemer@bgu.ac.il)

**Dr. Hila Riemer –**

[HRiemer@som.bgu.ac.il](mailto:HRiemer@som.bgu.ac.il)

For general information about the SOCRATES project, please contact Prof. **Thomas Hellström –**

[thomash@cs.umu.se](mailto:thomash@cs.umu.se)

[www.socrates-project.eu](http://www.socrates-project.eu)

[www.bgu.ac.il](http://www.bgu.ac.il)

[www.bgu.ac.il/abc-robotics](http://www.bgu.ac.il/abc-robotics)

<http://www.bgu.ac.il/~rriemer/>

**Applications will be accepted until the position is filled.**