The Eighth Computational Motor Control Workshop at Ben-Gurion University of the Negev
June 4-6, 2012, W. A. Minkoff Senate Hall, BGU
Marcus Family Campus, Beer-Sheva, Israel
Website: http://www.bgu.ac.il/cmcw

Department of Biomedical Engineering and the Zlotowski Center for Neuroscience at Ben-Gurion University of the Negev

Program:

Monday, June 4

☐ Desert hike, and Festive Dinner
Guide – Eitan Krokovski

Tuesday, June 5

☐ 8:30-8:50 Registration, poster placement and coffee

☐ 8:50-8:55 Greetings **Opher Donchin**, Head of the organizing committee, Ben Gurion University of the Negev, Israel

☐ 8:55-9:00 Opening Remarks **Alon Fridman**, Chair, Zlotowski Center for Neuroscience, Ben-Gurion University

☐ of the Negev.

*Focusing the eyes: **Ehud Ahissar***

☐ 9:00-9:30 **Maarten Frens** - Erasmus MC, The Netherlands - "The role of Cerebellum in Human Saccadic Learning"

☐ 9:30-10:00 **Brian Corneil** - University of Western Ontario in London, Canada.
"An animal model for TMS of the frontal eye fields"

☐ 10:00-10:10 Discussion

☐ 10:10-11:00 Coffee Break & Posters

*Machines and Reward: **Armin Biess***

☐ 11:00-11:30 **Daniel Braun -** Max Planck Institute for Biological Cybernetics in Tübingen, Germany –
"Risk-sensitivity in sensorimotor control".

☐ 11:30-12:00 **Jan Peters** - University of Darmstadt, Germany - "Towards Motor Skill Learning for Robotics."

☐ 12:00-12:30 **Sethu Vijayakumar** - University of Edinburgh, UK - "Explaining and Exploiting Impedance Modulation in Motor Control"

☐ 12:30-12:40 Discussion

☐ 12:40-14:30 Lunch & Posters

*Coordination: **Maarten Frens***

☐ 14:30-15:00 **Esther Adi-Japha** - Bar-Ilan University, Israel - "Motor learning in developmental disabilities."

☐ 15:00-15:30 **John Rothwell** -
University College London, UK -
"The importance of movement variability during skill learning"

☐ 15:30-15:40 Discussion

☐ 15:40-15:50 Poster awards
Sensegraphics, NanInsturments, AlphaOmega

☐ 15:50-16:20 coffee break & Posters

*Limb movement's: **Avi Karni***

☐ 16:20-16:50 **Sandro Mussa-Ivaldi** -
Northwestern University, USA -
"Optimal control, motor learning and the degrees of freedom problem: Is reaching targets all that matters?"

☐ 16:50-17:20 **Amir Karniel** –
Ben Gurion University of the Negev, Israel -
"The Turing-like Handshake test and the Active Sensing Principle"

☐ 17:20-17:50 **Marco Davare** –
University College London, UK -
"Effect of visuo-haptic conflicts on grasping movements"

☐ 17:50-18:00 Discussion

☐ 20:00-22:00 Dinner

Wednesday, June 6:
Alon Building Numb' 37, auditorium 202.

☐ 9:00-12:00 Lab Visits

*Rehabilitation Robotics: **Amir Karniel***

☐ 14:00-14:10 - Opening Remarks

☐ 14:10-14:50 BME Seminar:
Sethu Vijayakumar –University of Edinburgh, UK -
"Machine Learning for Robotics and Sensorimotor Control".

☐ 14:50-15:40 Panel about "Robotics for rehabilitation"
Miriam Zacksenhouse – Technion, Haifa. Panelists: Gabi Zeilig, Sheba Medical Center. Zeev Meiner, Hadassah University Hospital. Dario Liebermann, Tel-Aviv University, Sandro Mussa-Ivaldi, Northewestern U & Rehabilitation Institute of Chicago. John Rothwell, University College London,

☐ 15:40-16:10 Coffee break

☐ 16:10-17:00 - Zlotowski Seminar:
John Rothwell - University College London, UK - "Is theoretical motor learning important for practical rehabilitation therapy?"

☐ 17:00 – Pizza

<p style="text-align:center">Invitation Letter and Call for Posters CMCW June 4-6, 2012
Extended deadline for abstract submission - May 15</p>

Dear Colleagues,

In what has now become a tradition, we wish to invite you to participate in the eighth annual Ben-Gurion University Workshop on Computational Motor Control on June 5th 2012, in the W. A. Minkoff Senate Hall at Ben-Gurion University of the Negev, Beer-Sheva, Israel. The following information is also available on our website: http://www.bgu.ac.il/cmcw

Thank you for your attention,
 Opher Donchin and Amir Karniel
donchin@bgu.ac.il; akarniel@bgu.ac.il

Overview: The nervous system analyses sensory information and orchestrates motor commands. In so doing, it faces challenges that it shares with many artificially engineered systems. In the spirit of the classic field of cybernetics, the field of computational motor control makes scientific and technological progress simultaneously by exploring the differences between artificial control theory and biological motor control.Computational motor control is a multidisciplinary research program in which mathematics, engineering, biology, medicine and the cognitive neurosciences all play important roles. This workshop will bring together world leaders in the field of computational motor control including Israeli researchers and distinguished guests. The goal will be to learn about the current state of the field and to identify the directions that will provide the medical and scientific breakthroughs of the next decades.

Call for Posters: The posters will be available throughout the day near the lecture hall to facilitate fruitful discussions.Please submit a one-page abstract of up to 400 words by May 1 through the website or by email to cmcw@bgu.ac.il with the subject heading "CMCW registration form". An email should clearly contain your name and affiliation. Notification of acceptance and abstract books will be mailed out on May 20. In addition, all accepted abstracts will appear on our website prior to the conference. Poster's should have a maximum width of 90 cm and a maximum height of 120 cm.

Best Poster Award:The award committee will choose the best poster(s) which will be announced at the end of the day. The Best Poster Award Committee will be chaired by Amir Karniel, Ben-Gurion University.
To be considered for the best poster award, authors must submit a file with their poster to the Best Poster Award Committee by June 1, 2012. The poster can be submitted in PDF, TIFF, or Power Point formats by e-mail to cmcw@bgu.ac.il. Please use the subject heading "CMCW best poster submission" and include in the text of the message the name of the main author.
The Best Poster Award Committee members: Amir Karniel, Ronnen Segev and Sandro Mussa-Ivaldi.

The Best Poster Award Sponsors:

- Alpha Omega

- SenseGraphics

- NanInsturments

- Geomagic/SensAble Group

Travel Award: In special cases we will also consider a travel award to partially cover the expenses of international researchers/students. The criteria for the travel award will be: (i) The scientific quality of the proposed poster and its relevance to the topic of the workshop (ii) An interest in pursuing a PhD, post doc or faculty position at Ben-Gurion University. Those interested in receiving a travel award should submit an abstract for the poster they will submit and a short description of their circumstances by May 1 by e-mail to cmcw@bgu.ac.il with the subject heading "CMCW travel award."

Dinners: We will have a festive welcome dinner on the evening of June 4, before the workshop.Speakers and chairmen will be guests of the workshop at the dinner. For others wishing to join us, the dinner will be subsidized and will cost no more than 90 NIS per person. We will also have a more modest dinner and discussion in the evening following the workshop. Subsidized cost (other than speakers and chairmen) will be no more than 50 NIS per person.

Tour to the Negev: On monday, June 4th , we plan a trip to the Negev. Cost per-person will be no more than 150 NIS (approx. $40), registration and payment (cash only) to the trip will be done during the morning of June 4th at the workshop registration desk. Price includes the cost of lunch.

Registration: Please register before May 20. Registration is mandatory but free. Space may be limited, so please register early.Please register on our website or by email to cmcw@bgu.ac.il with the subject heading "CMCW registration form". Please indicate in your registration whether you are interested in particpating in the welcome dinner, the discussion dinner or the desert hike.

Sponsors:
- The President, Ben-Gurion University
- The Zlotowski Center for Neuroscience, BGU
- The Dean of the Faculty of Health Sciences
- The Dean of the Faculty of Engineering