

INVITATION



ISRACAS'2009



The 12th Israeli Symposium on Computer-Aided Surgery,
Medical Robotics and Medical Imaging
Thursday May 7, 2009

Joan and Jaime Constantiner Auditorium
Tel-Aviv Sourasky Medical Center (Ichilov)



Endorsed by
International Society of Computer Aided Surgery
Israeli Society for Medical and Biological Engineering
Israel Life Science Industry



Sponsored by
Tel Aviv Sourasky Medical Center
Technion - Israel Institute of Technology
Minerva Leibniz Center for Research in Computer Science
The Hebrew University of Jerusalem
NDI - Northern Digital Inc

Goal

The goal of the Symposium is to convene in Israel clinicians, scientists, and engineers actively interested in medical imaging, computer science, and robotics, and their application to the planning, monitoring, and execution of medical surgeries. The symposium is the sequel of eleven ISRACAS symposia, held in May since 1998 in Jerusalem, Haifa, and Tel-Aviv. Each was attended by over 150 participants including clinicians, industry and engineering academia. The one-day events included invited speakers, 17 oral presentations of refereed papers, industrial exhibits and system demonstrations.

Symposium format

This year we will continue with the one-day symposium consisting of two invited talks by internationally recognized experts and oral presentations of original peer-reviewed papers

Symposium Organizers

D. Ben Bashat PhD Brain Imaging Center Tel Aviv Sourasky Medical Center
L. Joskowicz PhD The Hebrew University of Jerusalem
M. Shoham DSc Technion, Israel Institute of Technology

Local Program Committee

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R.H. Taylor PhD Johns Hopkins U., USA
M. Vannier MD University of Iowa, USA

Registration

Participants are required to register and pay a nominal fee which entitles them to 1 copy of the Symposium proceedings on CD, lunch, and Coffee break refreshments.

FEE -Early registration by May 1, 2009

IS 300 (US \$80) ,
IS 150 (US \$40) for students.

FEE-On-site registration:
IS 350 (US \$100) IS 200 (US \$50)
For students.

For early registration until May 1, 2009:

Please e-mail the following information:
Early Registration for ISRACAS 2009
First Name, Last Name, Title,
Company/Institute, E-mail, Phone
To: mestern@technion.ac.il
Or by fax to: 04-8228931

Then, please send a check payable to **Technion** to:
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Web site:

<http://www.cs.huji.ac.il/~josko/isracas2009.html>

Program Schedule

08:00	Registration
08:45	Welcome and Introductory Remarks M. Shoham and L. Joskowicz Technion, Haifa and The Hebrew Univ. of Jerusalem, ISRAEL.
09:00 -10:45	Papers Session 1 : Orthopedics
09:00	Quantitative comparative patient-specific evaluation of femoral fracture fixations: a clinical study Eran Peleg, Leo Joskowicz, Amit Gefen, Meir Liebergall, Rami Mosheiff The Hebrew Univ. of Jerusalem, ISRAEL. Hadassah University Medical Center, Jerusalem, ISRAEL Tel Aviv University, Tel Aviv, ISRAEL
09:15	Mechanical analysis of micro-scaffold-based implants for bone tissue engineering Yaron Holdstein, Lev Podshivalov, Anath Fischer, Pinhas Bar-Yoseph Technion - Israel Institute of Technology, Haifa, ISRAEL.
09:30	Patellofemoral joint reconstruction from CT/MRI images Alexander Miropolsky, Victor Chernishev, Anath Fischer Technion - Israel Institute of Technology, Haifa, ISRAEL
09:45	Use of smart cutting-guides in computer- assisted total knee arthroplasty Padhraig F. O'Loughlin, Dimitrios Koulalis, Christopher Plaskos, Daniel Kendoff, Andrew D. Pearle Hospital for Special Surgery, New York, USA Praxim Inc. New York, NY, USA
10:00	Robotic uni-compartmental total knee replacement Andrew D. Pearle, Padhraig O'Loughlin, Michael Conditt Hospital for Special Surgery, New York, USA Mako Surgical Corporation, Florida, USA
10:15	The role of hip motion simulations to improve navigation systems Bob Thornberry Talahasee, Florida, USA
10:30	Haptic control system for a robotic medical system with applications to surface acquisition for joint arthroplasty Yoel Shapiro and Alon Wolf Technion - Israel Institute of Technology, Haifa, ISRAEL
10:45 – 11:15	Coffee Break
11:15 - 12:15	Papers Session 2 : Maxillofacial, Spine, Neurosurgery
11:15	Mandibular reconstruction using 3D-printing modeling technology Avi Cohen, Jawad Abu-Tair, Adir Cohen Objet Geometries Ltd., ISRAEL Hadassah Hospital Jerusalem, ISRAEL
11:30	Miniature robotic spine surgery - a surgical toy or a break-through? Y. Barzilay, M. Liebergall, J.E. Schroeder, L. Kaplan Hadassah Hebrew-University Medical Center, Jerusalem, ISRAEL
11:45	ROBOCAST: development of robotic system for neurosurgery Ilya Dyagliev and Moshe Shoham Technion - Israel Institute of Technology, Haifa, ISRAEL.
12:00	Worst-case analysis of target localization errors in fiducial-based rigid body registration Reuben R. Shamir, Leo Joskowicz The Hebrew University, Jerusalem, ISRAEL

12:15-13:00	Invited Lecture 1 Image-guided neurosurgery: from established standards to future trends Prof. Dr. Bernhard Meyer Director, Neurosurgery Clinic, Technical University of Munich, GERMANY
13:00	Lunch Break
14:15 -15:00	Invited Lecture 2 Advances in neuroradiology and neurosurgery Prof. Zvi Ram, Head, Dept of Neurosurgery, Tel-Aviv Sourasky Medical Center, ISRAEL
15:00-15:30	Coffee Break
15:30-17:15	Papers Session 3 : Medical image processing
15:30	A supervised framework for the registration and segmentation of white matter fiber tracts with application to the optic radiation tract Arnaldo Mayer, Gali Zimmerman-Moreno, Ran Shadmi, Amit Batikoff and Hayit Greenspan Dept. of Biomedical Engineering, Tel-Aviv University, ISRAEL.
15:45	Segmentation of vascular segments for minimally invasive neurosurgery Luca Antiga, Roberto Foroni, A Nicolato, A. DeSimone, M. Longhi, F. Lupidi, A. Sboarina, F. Gerosa, K Ricciardi. Neuroscience Inst. and Dept. of Neurosurgery, Univ. Hospital, Verona, ITALY
16:00	Volumetric segmentation of Multiple Basal Ganglia Structures Mustafa Uzunba, Octavian Soldea, Mujdat Cetin, Gozde Unal, Aytul Ercil, Ahmet Ekin, Devrim Unay, Zeynep Firat Yeditepe University Hospital, Istambul, TURKEY Sabanci University, Istanbul, TURKEY Philips Research, THE NETHERLANDS
16:15	New Interactive Methods for Tubular Structure Segmentation on Medical Images F. Benmansour , L.D. Cohen, E.E Davilla Serrano, P.C. Douek, M. Orkisz , M.A. Zuluaga CEREMADE, Univ. Paris Dauphine and Univ. de Lyon, FRANCE.
16:30	Automated and interactive segmentation of lesion regions in uterine cervix Images Amir Alush, Hayit Greenspan, Jacob Goldberger Dept. of Biomedical Engineering, Tel-Aviv University, ISRAEL. Engineering School, Bar-Ilan University, ISRAEL
16:45	Patient-specific modeling of the carotid arteries for surgical simulation Miriam Natanzon, Noah Broide, Moti Freiman, Einav Namer, Lior Weizman, Ofek Shilon, Leo Joskowicz, Jacob Sosna The Hebrew Univ. of Jerusalem ISRAEL. Hadassah Hebrew University Medical Center, ISRAEL. Symbionix Ltd, ISRAEL.
17:15	Closing Remarks L. Joskowicz and M. Shoham, The Hebrew U. and Technion ISRAEL.