

THANK YOU

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SOCIETY
NEWSLETTER

First Edition

September 2013

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A great many people made the issue possible. A big Thank You to the following people, without whom, this would only be an idea:

Hakim Achterberg
Dr. Polina Golland
Johanne Langford
Joanne Laser
Kristin McLeod
Dr. Kensaku Mori

Dr. Alison Noble
Martin Rajchl
Eileen Sung
Maxime Taquet
Janette Wallace
Jackie Williams

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President's Welcome



I am delighted to welcome you to the first edition of the new MICCAI Society newsletter in my capacity as the MICCAI Society President. The Society, formally established in 2004, exists to promote the Medical Imaging Computing and Computer Assisted Intervention fields principally through the support of the annual international MICCAI conference and the growing number of associated international workshops. It is run by a small professional team supported by a number of senior researchers in the field like myself, who are elected to serve on the society Board for a fixed period, and act in a volunteer capacity to oversee the MICCAI conference series, and to promote the subject and the research community. It is clearly a privilege to take on

such a role, and also a great responsibility. The Board strives to ensure that the field thrives and to ensure that MICCAI events provide THE place to present the best internationally leading research in our field. We also aim to provide the best forums in which to network with like-minded people whatever your career stage, from doctoral research student to senior professional in academia or industrial R&D.

A new MICCAI Society Executive Committee was elected this year (as happens periodically), and we have started discussions about how the Society might grow. We have lots of ideas, which you will hear about in due course, and would also welcome to hear those from the community at large.

Over the last 18 months or so, we have very successfully piloted for the first time, association with external workshops and summer schools. I am particularly pleased to see that the student membership is very keen to play a more active role in the Society. More information about society activities and news will be distributed via future issues of this newsletter over the coming months.

I end by welcoming you all to the MICCAI 2013 conference meeting in Nagoya. I have followed the preparations quite closely and it will be an excellent scientific meeting with of course wonderful Japanese hospitality on top.

Enjoy your stay in Nagoya.

Alison Noble, alison.noble@eng.ox.ac.uk

2013 Conference Highlights

 On the first evening of the conference (Monday, September 23rd), there will be the MICCAI 2013 Futsal (indoor soccer) Tournament. The games will begin at 8pm. Don't be late to cheer on your favorite teams!

 As always, there will be a scrumptious Dinner Gala. This year it will be held on Tuesday, September 24th at the Westin Nagoya Castle. Be sure to bring your camera to capture the breathtaking night scenery of Nagoya Castle!

 To close the Conference, there will be a student day trip to Takayama city on Friday, the 27th of September. Students will visit a preserved Japanese village, as well as a museum.

The MICCAI Student Board

The driving motivation behind the creation of the MICCAI student board was to reinforce connections between MICCAI student participants as well as to encourage interaction between students and researchers in academia and industry. A key element of the MICCAI student board is to organize events that enable students to interact with one another in an informal setting for networking purposes. The MICCAI student board represents student interests within the MICCAI society, and aims to stimulate the involvement of students within the MICCAI community.

The student board currently has intensive email contact and meet online at least once a month for a more formal discussion and to make decisions. Soon, we will start looking for new members, as the first members of the board are expected to resign in the next year. For continuity of the board it is very important to find suitable replacements in time. We will be scouting for active PhD students in the first half of their project (so students can join the board for a longer period).

We hope that the student board will become a respected part of the MICCAI organization, a place where students can give their input into the MICCAI society and a way of making students feel welcome into the society. In the future we could potentially be involved in the organization of additional events focussed on students, e.g. a summer school or a (local) student symposium.

Hakim Achterberg (Erasmus MC)
President, MICCAI Student Board

Maxime Taquet (HMS)
Professional student events officer, MICCAI Student Board

Upcoming Student Activities

The MICCAI Student Career Event

This year the MICCAI Student Board, together with Dr. Shuo Li, have organized an Student Career Event. This event aims to answer students' most pressing questions related to a career in academia or industry. Leaders in the field as will sit at different tables, through which students can circulate in a speed-dating fashion to come and ask them questions. The event will be held directly after the workshops (and before the welcome reception) on September 22 from 5:15pm to 6:45pm.

"Traditional Japan" Day Trip to Takayama

Given the success of the previous two MICCAI day tours, we have organized a "Traditional Japan" tour this year to visit a traditional Japanese village and museum on Friday the 27th of September. Events such as these will be organized for future MICCAI conferences, and we hope to continue to offer further initiatives to facilitate interaction between MICCAI participants. Furthermore, the MICCAI student board is to act as a point of contact between students in the MICCAI community and the MICCAI board.

Kristin McLeod (inria)
Student communications and social events officer, MICCAI Student Board



Introduction to MICCAI 2013 Keynote Speakers

Dr. Atsushi Miyawaki



Dr. Miyawaki is the Laboratory Head of RIKEN Center for Advanced Photonics, Deputy Director at RIKEN Brain Science Institute, and since 2012, he has held the position of Director at the BSI Olympus Collaboration Center. He has received many prestigious awards throughout his career, the most recent ones being the Inouze Prize for Science in 2012 and the Fujiwara Award in 2013.

His talk will be about “Cruising Inside X”. Dr. Miyawaki will discuss the behavior of biochemical molecules moving around in cells.

Teaser: “In a live cell imaging experiment, we label a fluorescent probe on a specific region of a biological molecule and bring it back into a cell. We can then visualize how the biological molecule behaves in response to external stimulation. Since fluorescence is a physical phenomenon, we can extract various kinds of information by making full use of its characteristics. For example, the excited energy of a fluorescent molecule donor transfers to an acceptor relative to the distance and orientation between the two fluorophores. This phenomenon can be used to identify interaction between biological molecules or structural change in biological molecules.”

Dr. Toshio Fukuda



Dr. Fukuda is the Director of the Center for Micro-Nano Mechatronics, as well as a Professor in the Department of Micro-Nano Systems Engineering at Nagoya University. He is the IEEE Region 10 Director for the 2013-2014 year. One of his numerous recent honours include the JSME Medal for Distinguished Engineers/ Outstanding Paper in 2011. In the same year, he also received the IROS Harashima Award for Innovative Technologies. Dr. Fukuda’s talk is entitled, “Simulation Based Medicine for Endovascular Micro Surgery”.

Teaser: “We have been developing an endovascular micro surgery system, along with an evaluation simulation system to determine whether the surgery performance is improved. This simulator, Endovascular Evaluator (EVE) is made by the micro technology using the CT data of patients in the brain and other organs. It has turned out to be very efficient and useful for evaluating the skill of medical doctors and significant in developing different catheter devices, as well as stents and flow diverters. It can also be used for medical applications to make the aneurysm developing process scientifically clear.”

Greetings from MICCAI 2014’s Conference Chair

The 17th MICCAI will take place at the Massachusetts Institute of Technology, bringing the conference back to the place where the first one was held in 1998. MICCAI conference will be 16 years old when it comes back to Boston! Simultaneously, we will be celebrating the 10th anniversary of the MICCAI society since it was formed as a non-profit corporation. We hope for a great number of high quality paper submissions and look forward to welcoming you back to Boston. Following MICCAI tradition, we will change a few things to make the conference even more interesting and fun. Please check the website for updates. Hope to see you in Boston!

Polina Golland
General Chair, MICCAI 2014

Message From the 2013 General Chair

Welcome to MICCAI 2013!

This year’s MICCAI is being held at the Toyoda Auditorium on the campus of Nagoya University. It was built by donation from Toyota group in 1960 and it is registered as Tangible Cultural Properties of Japan by the Japanese government.

MICCAI 2013 is expecting exciting scientific presentations from over the world. Keynote lecturers are Dr. Miyawaki (RIKEN) and Prof. Fukuda (Meijyo University). They will give us brilliant lectures about cell imaging and medical mechanical engineering. We will have 262 scientific papers and 31 workshops, tutorials and challenges. As well, 37 oral presentations are scheduled. Automated poster teasers will be running during the main conference through LCD screens at the poster presentation areas. Furthermore, a teaser slide-show will be played at the back of the auditorium except during the oral presentations.

We have a multitude of student events lined up, such as “Your Career in Industry and Academia”, a “Traditional Japan museum and village tour” and “MICCAI Soccer (Futsal).” In “Your Career in Industry and Academia” event, students will have the opportunity to speak with experienced researchers of industries and academia. The “Traditional Japan” event will take you to the small town on the mountain side of Takayama by a bus. Takayama is located at the north part of Nagoya and the town is called “Small Kyoto”. The town preserves old streets and houses. You will find many souvenir shops including sweets and Sake (rice wine). The MICCAI Futsal game is scheduled on Sep. 23. Please register for these unforgettable events.

Delicious Japanese cuisine is another important reason for hosting MICCAI 2013 in Nagoya, Japan. The banquet, held at The Westin Nagoya Castle will serve many Japanese dishes. Your meal will be complimented by traditional Japanese entertainment as well as mention the beautiful night scenery of Nagoya Castle. Popular sightseeing spots such as Kyoto and Nara are only a day-trip from Nagoya. There are also tiny towns like Takayama or Inuyama which are rich in history for you to build your own authentic Japanese experience. In Nagoya downtown, you can feel the night ambience of the famous movie “Lost in translation.”

If you have any questions or need any assistance about MICCAI 2013, social event or tours, please feel free to ask us. We hope MICCAI 2013 will be an unique opportunity for all of you.

Kensaku Mori, kensaku@is.nagoya-u.ac.jp
General Chair, MICCAI 2013





Oral Presentation Categories

Monday September 23rd, 2013

9:30 – 11:00
Oral Session 1: Physiological Modeling and
Computer Assisted Intervention
Chairs: Hervé Delingette (inria, FR)
Joachim Hornegger (FAU, DE)

16:30 – 18:15
Oral Session 2: Brain Imaging
Chairs: Tianming Liu (UGA, US)
Simon K. Warfield (Harvard Med., US)

Tuesday September 24th, 2013

9:00 – 10:30
Oral Session 3: Registration and Atlas Construction
Chairs: Ben Glocker (Microsoft Research, UK)
Kilian Pohl (UPenn, US)

16:00 – 17:30
Oral Session 4: Microscopy, Histology, and
Computer Aided Diagnosis
Chairs: Anant Madabhushi (Case Western U., US)
Anne Martel (U. Toronto, CA)

Wednesday September 25th, 2013

9:00 – 10:30
Oral Session 5: Image Reconstruction and
Motion Modeling
Chairs: Cristian Lorenz (Philips, DE)
Julia A. Schnabel (Oxford U., UK)

11:00 – 12:30
Oral Session 6: Machine Learning in Medical
Image Computing
Chairs: Alejandro F. Frangi (U. Sheffield, UK)
Akinobu Shimizu (Tokyo U. A & T, JP)

Workshop Information

Following tradition, Workshops, Tutorials, and Challenges, will be held on the first and last day of the conference.

Sunday September 22nd, 2013

Full Day: MLMI'13
CBM8
MFCA'13
CLIP 2013
CDMRI'13
MMBC 2013
ABDI 2013
MBIA 2013
MIAR 2013
VTR 2013 (**Tutorial**)
ASPS-BRATS (**Challenge**)
DTIChallenge (**Challenge**)
Half Day: MICCAI-STENT - PM
M2CAI - AM
SMMIA (**Tutorial**) - PM
IAAMI 2013 (**Tutorial**) - AM
AMIDA13 (**Challenge**) - AM

Thursday September 26th, 2013

Full Day: CSI 2013
MeshMed 2013
SACAI 2013
MCV
STACOM'13
HPC
MCBR-CDS'13
PIA2013
BIA 2013
intelligent MR (**Tutorial**)
MRBrainS13 (**Challenge**)
SATA'13 (**Challenge**)
Half Day: BIV-PCS- AM
RMI (**Tutorial**) - PM
CTK-MICCAI2013 (**Tutorial**) - AM

Lunch is provided for workshops registrants.
Additionally, coffee will be served at 10am and 3pm.

Poster Presentation Sessions

Monday September 23rd, 2013 (14:00 - 16:30) Physiological modeling, simulation, and planning I
Imaging, reconstruction, and enhancement I
Chairs: Daniel Rueckert (ICL, UK)

Registration I
Chairs: Dinggang Shen (UNC, US)

Intraoperative guidance and robotics I
Chairs: Nobuhiko Hata (HMS. BWH, US)

Microscope, optical imaging, and histology I
Chairs: Purang Abolmaesumi (UBC, CA)

Cardiology I
Chairs: Martyn Nash (U. Auckland, NZ)

Vasculatures and tubular structures I
Chairs: Yoshitaka Masutani (U. Tokyo, JP)

Brain imaging and basic techniques
Chairs: Mert Rory Sabuncu (HMS., MGH. US)

Diffusion MRI I
Chairs: Kaleem Siddiqi (McGill U., CA)

Brain segmentation and atlases I
Chairs: Martin A. Styner (UNC, US)

Machine learning, statistical modeling, atlases I
Chairs: Mads Nielsen (U. Copenhagen, DK)

Computer aided diagnosis and imaging biomarkers I
Chairs: Bram van Ginneken (Radboud U., NL.)

Tuesday 24 September 2013 (13:30 - 16:00)
Motion modeling and compensation
Chairs: Ziv Yaniv (Children's Nat. Med. Ct, US)

Segmentation I
Chairs: Christian Wachinger (MIT, US)

Machine learning, statistical modeling, and atlases II
Chairs: Tobias Heimann (Siemens, DE)

Computer aided diagnosis and imaging biomarkers II
Chairs: Nico Karssemeijer (Radboud U., NL)

Microscope, optical imaging, and histology II
Chairs: James Gee (UPenn, US)

Cardiology II
Chairs: Alistair Young (U. Auckland, NZ)

Vasculatures and tubular structures II
Chairs: Leo Grady (Heart Flow, US)

Brain segmentation and atlases II
Chairs: Koen Van Leemput (HMS. MGH. US)

Functional MRI and neuroscience applications I
Chairs: Bertrand Thirion (INRIA, FR)

Wednesday 25 September 2013 (14:00 - 16:30)
Imaging, reconstruction, and enhancement II
Chairs: Philip Eddie Edwards (ICL, UK)

Registration II
Chairs: Guoyan Zheng (U. Berm, CH)

Segmentation II
Chairs: Marleen de Bruijne (Erasmus MC & U., DE)

Physiological modeling, simulation, and planning II
Chairs: Poul Nielsen (U. Auckland, NZ)

Intraoperative guidance and robotics II
Chairs: Randy Ellis (Queen's U., CA)

Microscope, optical imaging, and histology III
Chairs: Marius George Linguraru (Children's Nat. Med. Ct. US)

Diffusion MRI II
Chairs: Yogesh Rathi (HMS. BWH, US)

Brain segmentation and atlases III
Chairs: P. Thomas Fletcher (U. Utah, US)

Functional MRI and neuroscience applications II
Chairs: Pierre Jannin (Inserm, FR)