IEEE IECON 2013 – 39th Annual Conference of the IEEE Industrial Electronics Society

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Special Session on

Biomimetics and Bionics Robotics

This session is organized by:

Prof. Maki K. Habib
Professor of Robotics and Mechatronics
School of Sciences and Engineering
The American University in Cairo, Egypt.
E-mail: maki@ieee.org and maki@aucegypt.edu

Prof. Ju-Jang Lee
Korean Advanced Institute of Science and
Technology (KAIST),
Daejeon, Korea.
Email: jjlee@ee.kaist.ac.kr

Prof. Keigo Watanabe
Okayama University
Okayama, Japan
watanabe@sys.okayama-u.ac.jp

Prof. Fusaomi Nagata
Tokyo University of Science,
Yamaguchi, Japan.
nagata@rs.tus.ac.jp

CALL FOR PAPERS

The special session aims to bring researchers in the quickly emerging field of Bioinspiration and Robotics.

Making biologically inspired intelligent robots requires understanding the biological models as well as advancements in different interdisciplinary areas of research. Biomimetics and Bioinic research approaches incorporate materials and techniques drawn from naturally made substances, and resemble biological systems in structure and/or function as necessary. The evolving of such emerging, interdisciplinary field of Bioinspired Robots focuses on making nature as a model of inspiration that would immensely: Help conscious abstraction of new principles and ideas; Foster innovative design collections; Find out new techniques and functionalities; Seek new paradigms and intelligent & efficient methods; Develop new materials and actuators at nature's scale; Design new streams of intelligent machines, robots, systems, devices, algorithms, etc.

Prof. Dr. Maki K Habib

The session enables researchers in the field to present their new findings and contribute to latest developments.

Topics of interest include, but are not limited to:

- ✓ Biomechatronics and Robotics
- ✓ Bioinspiration and Smart Sensors
- ✓ Bioinspiration: learning techniques and computational intelligence
- ✓ Bioinpiration and Actuators
- ✓ Bioinpiration and Smart MEM/NEM Materials for Robots
- ✓ Bionics robots
- ✓ Bionic human and artificial muscles
- ✓ Mind controlled Bionic Limbs

All the instructions for paper submission are included on the conference website:

http://www.iecon2013.org/

Biography of the organizer:

Prof Maki K. Habib obtained his PhD Eng in Intelligent Robotics from the University of Tsukuba, Japan. He was a selected research scientist at RIKEN, Japan, and senior researcher at RISO-Laboratories, Japan, and visiting researcher at EPFL-Lausanne, Switzerland. He was a visiting expert under Asian Development Bank (ADB), Associate Professor at UTM, Malaysia, and a Senior Manager at MCRIA, Malaysia. Then, he was a senior research scientist with GMD, Japan, leading Telecooperation group, Associate Professor with Monash University and leading the Mechatronics Engineering Programme. He was appointed as a full Professor of Robotics and Mechatronics at Swinburne University. Then, he was an invited Professor at KAIST, Korea, Visiting Professor at Saga University, Japan, and since Sept. 2007 he is a full Professor at AUC. Prof. Habib edited six books, published 15 book chapters and more than 230 papers at international journals and conferences. His main area of research are focusing on human adaptive and friendly Mechatronics, autonomous navigation, service robots and humanitarian demining, biomimetic robots, telecooperation, distributed teleoperation and collaborative control, wireless sensor networks and ambient intelligence. Prof. Habib organized successful many special issue at international journals and special sessions at international conferences including IEEE IECON.

Prof Ju-Jang Lee obtained his ph D Eng in Electrical Engineering from the University of Wisconsin, U.S.A. Research engineer at the Korean Electric Research & Testing Institute in Korea, G.T.E Design and Processing Engineer at Automatic Electric Co., U.S.A., Visiting professor at the Robotics Laboratory of Imperial College in London, Visiting scientist at the Robotics Institute of Carnegie-Mellon University in Pittsburgh, U.S.A. He is a full Professor at KAIST Korea. Heis IEEE Fellow. Prof. Lee's research interests include: Artificial life super assistant/companion robot systems, Space robotics, Robust control, Intelligent control of mobile robot, Chaotic control system, Intelligent transportation system (ITS), Evolutionary Emotional

Robot, Power system stabilizer, Smart grid, Electrical vehicle. He has wide range of publication in well recognized international journals and conferences. He did organize many international conferences along with special issues in international journals and special sessions at international conferences

A list of potential authors and their affiliation (But not limited)

1	Prof Keigo Watanabe	Japan	watanabe@sys.okayama-u.ac.jp
2	Prof. Ju-Jang Lee	South Korea	jjlee@ee.kaist.ac.kr
3	Assoc. Prof. Naoyuki Kubota	Japan	kubota@tmu.ac.jp
4	Prof. Aaron Hoover	USA	aaron.hoover@olin.edu
5	Prof. Ronald S. Fearing	USA	ronf@ eecs.berkeley .edu
6	Prof. Mark Cutkosky	USA	cutkosky@cdr.stanford.edu
7	Prof. Tom Kenny	USA	kenny@cdr.stanford.edu
8	Prof. Robert Full	USA	rjfull@garnet.berkeley.edu
9	Prof. Robert Howe	USA	howe@deas.harvard.edu
10	Assoc. Prof. Sanjay S. Joshi	USA	maejoshi@ucdavis.edu
11	Assoc. Prof. Alexandra H. Techet	USA	e.ahtechet@mit.edu
12	Prof. Sangyoon Lee	South Korea	slee@konkuk.ac.kr
13	Assoc. Prof. kiyotaka Izumi	Japan	izumi@me.saga-u.ac.jp
14	Prof. Joseph Ayers	USA	lobster@neu.edu
15	Prof. Frank W Grasso	USA	FGrasso @ brooklyn.cuny.edu
16	Prof. Paolo Dario	Italy	dario@sssup.it
17	Carlo Menon	Italy	menoncarlo@stargatenet.it
18	Metin Sitti	USA	sitti@cmu.edu
19	Junzhi Yu	China	jzyu@compsys.ia.ac.cn
20	Prof. Dick Simons	Netherland	d.g.simons@tudelft.nl
21	Weiting Liu	China	liuwt@zju.edu.cn
22	Xin Fu	China	xfu@zju.edu.cn
23	Fei Li	China	li_fei@zju.edu.cn
24	William C. Regli	USA	regli@drexel.edu
25	Gonzalez-de-Santos	Spain	pablo.gonzalez@csic.es
26	Prof. Andy Russell	Australia	andy.russell@eng.monash.edu.au
27	Katharina Mu¨lling	Germany	muelling@tuebingen.mpg.de
28	Prof. Heikki Koivo	Finalnd	Heikki.Koivo@tkk.fi
29	Joel Davis	USA	davisjl@onr.navy.mil
30	Alan Rudolph	USA	arudolph@darpa.mil
31	Robert Ambrose	USA	rambrose@ems.jsc.nasa.gov
32	Jerry Pratt	USA	jpratt@yobotics.com
33	Prof. Ronald S. Fearing	USA	ronf@eecs.berkeley.edu
34	Nicolas Marchand	France	nicolas.marchand@inpg.fr
35	Mathieu Porez	France	mathieu.porez@irccyn.ec-

Prof. Dr. Maki K Habib

nantes.fr

36	Prof. Joao Ferreira	Portugal	jfilipe@isr.uc.pt
37	Prof. Low Kin-huat	Singapore/NTU	MKHLOW@ntu.edu.sg
	Dr. Ken Saito	Japan	kensaito@eme.cst.nihon-u.ac.jp

A list of potential reviewers and their affiliations (But not limited to)

Prof. Maki K Habib	Egypt/AUC	maki@auceypt.edu
Prof. Ju-Jang Lee	Korea/KAIST	jjlee@ee.kaist.ac.kr
Assoc. Prof. Naoyuki Kubota	Japan/TMU	kubota@tmu.ac.jp
Prof. Low Kin-huat	Singapore/NTU South	MKHLOW@ntu.edu.sg
Prof. Jang Myung Lee	Korea/Pusan U.	jmlee@pusan.ac.kr
Prof. Jong-Hwan Kim	Korea/KAIST	johkim@rit.kaist.ac.kr
Prof Richard Everson	UK/U. of Exeter	R.M.Everson@exeter.ac.uk
Prof. Annelise E. Barron	USA/Stanford	bear1499@stanford.edu
Professor H. Kazerooni	USA/Berkeley	kazerooni@berkeley.edu
Dr. Ken Saito	Japan/Nihon University	kensaito@eme.cst.nihon-u.ac.jp
Dr. Shinya Aoi	Japan/Kyoto U.	shinya_aoi@kuaero.kyoto-u.ac.jp