

Artificial Life and R

The 2019 International Conference on



USA Shrine (Before BC era three goddesses "Shikitusima-himemikoto, Hasizu-himemikoto, Tag iri-himemikoto descended on the earth of Usa from heaven.) The shrine is called Total Motomiya Hachiman Shrine Usa located in Oita Prefecture.

The 2019 International Conference on Artificial Life and Robotics

January 10 to 13, 2019, B-Con Plaza, Beppu, Oita, JAPAN

The 2019 International Conference on Artificial Life and Robotics (ICAROB2019) will be held at B-Con Plaza, Beppu, Oita, JAPAN, from January 10 to 13, 2019. A series of Proceedings of ICAROB are included in both CPCI-Web of Science and Scopus. This Conference will provide new development of modern technologies concerning Robotics, Networking and Artificial Life (this journal is included in ESCI) associated with computer simulations, hardware designs, and networking of state-of-the-art technologies to researchers, and to share findings on how advancements in robotics, networking, complexity and artificial life technologies that relate to interdisciplinary approach to the field such as artificial intelligence, virtual reality, and computer science are creating the basis for exciting new research and applications in various fields listed in the following topics. Please submit papers to ICAROB2019 Web Site from http://alife-robotics.co.jp/.

Topics of interest include, but are not limited to

Analysis of randomized algorithms

- Artificial nervous systems for robots
- **Artificial living** Bipedal robot

- Evolutionary computations Intelligent control
- Medical surgical robot
- Nano-robotics

- Neuromorphic systems
- Reinforcement learning system & genetic programing
- Foundation of computation and its application
- Unmanned aerial systems technologies

- Artificial sciences
- Brain science and computing
- Artificial intelligence & complexity
- adaptive behavior and metaboli
- Fuzzy contro
- an-welfare robotics
- Multi-agent system Networking

- **Environment navigation and localization**
- Facial expression analysis, music recommendation gmented reality
- Unmanned aero vehicles
- Unmanned aerial systems designing, controls and

- Intelligence in biological systems
- Agent-based software Chaos
- Computer graphics
- DNA computing
 Genetic algorithms
- Image processing
- Management of technology
- Neural circuits
- Unmanned under
- Quantum computing
- Visualization

- Empirical research on network and MOT (Others etc.)

Important Dates



OS,GS,PS,IS,TS abstract proposal submission due date Final early bird registration due date

October 25 (extended to Nov. 10), 2018 October 25, 2018 (extended to Nov. 13)

Letter of acceptance due date

November 20, 2018 (we don't accept papers after due date) Final paper submission due date

OS: Organized Session. GS: General Session. PS: Poster Session. IS: Invited Session. TS: Tutorial Session

Publication

Accepted papers will be published in the Proceedings of the ICAROB Series that was included in Scopus and CPCI-Web of Science. Extended versions of the selected papers will be published in the international journal: Robotics, Networking and Artificial Life (JRNAL became ESCI journal) published by Atlantis Press.



Advisory Committee Chair Moshe Kam (Former IEEE President)

General Chair Masanori Sugisaka

Co-General Chairs Yingmin Jia Takao Ito Ju-Jang Lee

Vice General Chairs John L. Casti Jangmyung Lee **Henrik Hautop Lund** Luigi Pagliarini

Program Chair Makoto Sakamoto

Sub Program Chair Marion Oswald

Conference Site



http://www.b-conplaza.jp

ICAROB Office Mobile: +81-80-8565-8256

email: icarob@alife-robotics.co.jp web:

http://alife-robotics.co.jp/



Fukuoka Section





http://www.japanguide.com/e/e4700.html

Registration Fee

Registration fee ¥55,000 (¥50,000 for early birds) and ¥30,000 for Students (¥25,000 for early birds):

Organized by

International Steering Committee of International Conference on Artificial Life and Robotics (ICAROB)

Supported by

IEEE Fukuoka Section (Japan)

Co-Organized by

Chinese Association for Artificial Intelligence (CAAI, P. R. China)

Sponsored by

Robot Artificial Life Society (Approved number 6-3200-0500-9552 by Japanese Government)

Advisory Committee Chair

Moshe Kam (New Jersey Institute of Technology, Former IEEE President, USA)

General Chair

Masanori Sugisaka (ALife Robotics Co., Ltd., Japan)

Co- General Chairs

Yingmin Jia (Beihang University, P.R.China) Takao Ito (Hiroshima University, Japan) Ju-Jang Lee (KAIST, Korea)

Vice General Chairs

John L. Casti (International Institute for Applied Systems Analysis, Austria)

(<u>The company X-Event Dynamics</u> - (Co-founder), Austria) Jangmyung Lee (Pusan National University, Korea)

Henrik Hautop Lund (Technical University of Denmark, Denmark) Luigi Pagliarini (Academy of Fine Arts of Macerata, Italy)

Advisory Committee

Bruce Eisenstein (Drexel University, Former IEEE President, USA) Hidenori Kimura (RIKEN, Japan)

Jeffrey Johnson (The Open University, UK) Jerzy Świątek (Wrocław University of Technology, Poland) Joshua M. Epstein (The Johns Hopkins University, USA)

Ken-ichi Tanaka (Executive Fellow, Mitsubishi Electric Corporation, Japan)

Program Chair

Makoto Sakamoto (The University of Miyazaki, Japan)

Co-Program Chair

Marion Oswald (The Vienna University of Technology, Austria)

International Organizing Committee

Akira Fukuda (Kyushu University, Japan)

Akira Nakamura (AIST, Japan) Andrew Gadsden (University of Guelph, Canada)

Caoli Wang (University of Shanghai for Science and Technology, P. R. China)

Chan Gook Park (Seoul National University, Korea) Eiji Hayashi (Kyushu Institute of Technology, Japan)

Evgeni Magid (Kazan Federal University, Russia)
Fengzhi Dai ((Tianjin University of Science and Technology, P.R. China)

Fuzhong Wang (Henan Polytechnic University, P. R. China) Hazry Desa (University of Malaysia, Perlis, Malaysia) Hidehiko Yamamoto (Gifu University, Japan) Hiroki Tamura (The University of Miyazaki, Japan) Hiroshi Kage (Mitsubishi Electric Corporation, Japan) Hiroshi Matsuno (Yamaguchi University, Japan)

Jiwu Wang (Beijing Jiaotong University, Japan)
Junping Du (Beijing Jiaotong University P. R. China)
Junping Du (Beijing University of Posts and Telecommunications, P. R. China)
Katsunori Shimohara (Doshisha University, Japan)
Kazuo Ishii (Kyushu Institute of Technology, Japan) Kevin Voges (Canterbury University, New Zealand)

Kuo-Hsien Hsia (Far East University, Taiwan)
Kuo-Lan Su (National Yunlin University of Science and Technology, Taiwan)

Kyungho Park (U.S. ARMY, Japan and USA)

International Program Committee

Abdul Rahman bin Dullah (Universiti Teknikal Malaysia Melaka, Malaysia)

Akinori Abe (Chiba University, Japan) Akira Utsumi (The University of Electro-Communications, Japan) Akihiro Yamaguchi (Fukuoka Institute of Technology, Japan)

Akihito Kanai (Hosei University, Japan) Ali Selamat (University of Technology of Malaysia, Malaysia)

Aminurafiuddin bin Zulkifli (Multimedia University, Malaysia)

Amornphun Phunopas (King Mongkut's University of Technology, North Bankok, Thailand) Andre Rosendo (ShanghaiTech University, P. R. China)

Anne Jeannin-Girardon (University of Strasbourg, France)
Anton Shiriaev (Norwegian University of Science and Technology, Norway)

Artur Sagitov (Kazan Federal University, Russia) Ashi Gautam (The University of Tokyo, Japan) Atsuya Tange (The University of Tokyo, Japan) Ayumu Tominaga (Kyushu Institute of Technology, Japan) Barlian Henryranu Prasetio (University of Miyazaki, Japan)

Bin Zhang (Beijing University of Posts and Telecommunications, P. R. China) Cecilia Zanni-Merk (INSA-Rouen, France)

Chaoli Wang (University of Shanghai for Science and Technology, P. R. China)

Chia-Nan Ko (Nan kai University of Technology, Taiwan)
Chung-Wen Hung (National Yunlin University of Science & Technology, Taiwan)
Congdao Han (Shanghai Institute of Technology, P. R. China)

Cui Zhang (Beihang University, P. R. China) Cynthia Matuszek (University of Maryland, USA) Donglian Qi (Zhejiang University, P. R. China)
Dongmei Ai (Universty of Science and Technology Beijing, P. R. China)

Duangiai Jitkongchuen (Dhurakij Pundit University, Thailand) Dunwei Gong (China University of Mining and Technology, P. R. China) Jiao Jia (Beihang University, P. R. China)

Junping Du (Beijing University of Posts and Telecommunications, P. R. China)

Endra Joelianto (Bandung Institute of Technology, Indonesia)
Fabio Guigou (University of Strasbourg, France)

Fei Hao (Beihang University, P. R. China) Fenghua Shan (Northwestern Polytechnical University, P.R. China)

Fuzhong Wang (Henan Polytechnic University, P. R. China)

Haibo Li (Royal Institute of Technology, Sweden)
Haisheng Li (Beijing Technology and Business University, P. R. China)

Haruhisa Okuda (Mitsubishi Electric Corporation, Japan) Haruka Tsuboi (The University of Miyazaki, Japan) Haruna Matsushita (Kagawa University, Japan) Heeje Kim (Pusan National University, Korea)

Masato Nakagawa (Executive Fellow, DENSO CORPORATION, Visiting Professor of Hiroshima University, Japan)

Moshe Kam (New Jersey Institute of Technology, Former IEEE President, USA)

Paul Kalata (Drexel University, USA) Paul Oh (Drexel University, USA) Peter Herczfeld (Drexel University, USA)

Masao Kubo (National Defense Academy of Japan, Japan) Masanao Obayashi (Yamaguchi University, Japan) Maxim Sokolov (Innopolis University, Russia)

Mehta Rajiv (New Jersey Institute of Technology, USA) Peter Sapaty (Ukrainian Academy of Science, Ukraine Pierre Parrend (University of Strasbourg, France)

Qiang Cai (Beijing Technology and Business University, P. R. China) Shin Jisun (Pusan National University, Korea)

Takashi Kohno (The University of Tokyo, Japan) Takashi Ogata (Iwate Prefectural University)
Teruhisa Hochin (Kyoto Prefectural University, Japan) Tetsuro Hattori (Kagawa University, Japan)
Thi Thi Zin (University of Miyazaki, Japan)
Thomas S. Ray (University of Oklahoma, USA)

Toru Yamamoto (Hiroshima University, Japan) Victor Berdonosov (Komsomolsk-on-Amur State University of

Technology, Russia)

Yasunari Yoshitomi (Kyoto Prefectural University, Japan) Yi Chai (Chongqing University, P. R. China)

Yoshifumi Morita (Nagoya Institute of Technology, Japan) Yoshiro Imai (Kagawa University, Japan) Zengqiang Chen (Nankai University, P. R. China)

Stephen Wilkerson (York College of Pennsylvania, USA) Masayoshi Tabuse (Kyoto Prefectural University, Japan) Masaomi Hatakeyama (university of Zurich, Switzerland) Max Talanov (Kazan Federal University, Russia)

Meng Duan (Beihang University, P. R. China) Moeko Tominaga (Kyushu Institute of Technology, Japan)

Mohammad Al-Shabi (University of Sharjah, United Arab Emirates)

Mohammad Biglarbegian (University of Guelph, Canada) Mou Chen (Nanjing University of Aeronautics and Astronautics, P. R. China)

Nan Xiao (Northeastern University at Qinhuangdao, P. R. China) Nicolas Monmarché (university of Tours, France) Noriaki Kuwahara (Kyoto Prefectural University, Japan) Noritaka Sato (Nagoya Institute of Technology, Japan)

Norrima Mokhtar (University of Malaya, Malaysia)
Palakorn Tantrakool (King Mongkut's Institute of Technology, North Bankok, Thailand)

Ping Wang (North China Electric Power University, P. R. China) Pierre David (University of Strasbourg, France) Pierre Willaume (University of Strasbourg, France)

Rizauddin bin Ramli (Universiti Kebangsaan Malaysia, Malaysia) Roman Lavrenov (Kazan Federal University, Russia)

Ruztamreen bin Jenal (Universiti Teknikal Malaysia Melaka, Malaysia) Ryohei Anshi (Kyushu Institute of Technology, Japan)

R.K.P.S. Ranaweera (University of Moratuwa, Sri Lanka)

R.P.C. Janaka Rajapakse (Tainan National University of the Arts, Taiwan) Satoshi Ikeda (The University of Miyazaki, Japan)

Sanjay S. Joshi (University of California, USA)

Seong-lk Han (Dongguk University, Korea) Shahriman Abu Bakar (Universiti Malaysia Perlis, Malaysia)

Shanbi Wei (Chongqing University, P. R. China) Shihao Sun (Beihang University, P. R. China)

Singo Mabu (Yamaguchi University, Japan)

Shin-ichi Asakawa (Tokyo Woman's Christian University, Japan) Shin Wakitani (Hiroshima University) Shumin Fei (Southeast University, P. R. China) Takashi Kuremoto (Yamaguchi University, Japan) Takayoshi Yamada (Gifu University, Japan) Takuya Fuginaga (Kyushu Institute of Technology, Japan) Takuya Nanami (The University of Tokyo. Japan) Taishiro Kishimoto (Keio University, Japan)
Taisuke Akimoto (Kyushu Institute of Technology, Japan)

Takashi Iwamoto (Mitsubishi Electric Corporation, Japan)

Hidetsugu Suto (Muroran Institute of Technology, Japan)

Hiroyuki Iizuka (Osaka University, Japan)

Hong Niu (Tianjin University of Science and Technology, P.R. China)

Hongbo Li (Tsinghua University, P. R. China)

Hongji Ma (Shandong University of Science and Technology, P. R. China)

Hongjiu Yang (Yanshan University, P. R. China)

Hongpeng Yin (Chongqing University, P. R. China)

Hussein Abbass (University of New South Wales, and ADFA, Australia) I-Hsien Liu (National Cheng Kung Univrsiity, Taiwan)

Ilya Afanasyev (Innopolis University, Russia)

Istvan Harmati (Budapest Institute of Technology and Economics, Hungary)

Ivan Tanev (Doshisha University, Japan)

Jiandong Zhao (Beijing Jiaotong University, P. R. China) JJ Merelo (University of Granada, Spain)

Joono Cheong (Korea University, Korea)

Julio Navarro Lara (University of Strasbourg, France) Jun Kobayashi (Kyushu Institute of Technology, Japan)

Jung-Shian Li (National Cheng Kung University, Taiwan) Junping Du (Beijing University of Posts and Telecommunications, P. R. China)

Keiji Kamei (Nishinippon Institute of Technology, Japan)

Keiko Sakurai (University of Miyazaki, Japan) Keisuke Watanabe (Tokai University, Japan) Keita Honda (Gifu university, Japan) Ke Zhang (Chongqing University, P. R. China)

Ken-ichi Tanaka (Meiji University, Japan)

Kensuke Ogata (Osaka City University Japan) Khairul Salleh bin Mohamed Sahari (Universiti Tenaga Nasional, Malaysia)

Khoyratee Farad (The University of Tokyo, Japan) Kouichi Takeuchi (Okayama University, Japan)

Konstantin Yakovlev (Russian Academy of Sciences, Higher School of Economics, Russia)

Kui Xiang (Wuhan University of Technology, P. R. China) Kunikazu Kobayashi (Aichi Prefectural University, Japan)

Leonid Freidovich (Umea University, Sweden) Levi Timothéeé (The University of Tokyo, Japan) Liming Chen (Beihang University, P. R. China)

Lin Li (University of Shanghai for Science and Technology, P. R. China) Lin Zhao (Qingdao University, P. R. China)

Mamoru Yoshimura (The University of Miyazaki, Japan)

Manabu Yamada (Nagoya Institute of Technology, Japan) Masahide Ito (Aichi Prefectural University, Japan)

Masahiro Ushio (Kyushu Institute of Technology, Japan) Masahiro Yokomichi (The University of Miyazaki, Japan) Masamichi Hori (The University of Miyazaki, Japan)

Masanori Takahashi (Tokai University, Japan) Masayoshi Kano (Chukyou University, Japan)

Shyi-Ming Chen (National Taichung University of Education, Taiwan)

Local Arrangement Committee

Makoto Sakamoto (The University of Miyazaki, Japan)

Masanori Sugisaka (Open University, UK, ALife Robotics Corporation Ltd., Japan) Takao Ito (Hiroshima University, Japan)

Tarik bin Abd Latef (Universiti Malaya, Malaysia)

Taro Shibanoki (Ibaraki University, Japan)

Taro Takagi (National Institute of Technology, Maizuru College, Japan) Teruhisa Hochin (Kyoto Prefectural University, Japan)

Tetsuro Katayama (The University of Miyazaki, Japan) Thomas Noel (University of Strasbourg, France) Thunyaseth Sethaput (Thammasat University, Thailand)

Tianping Zhang (Yangzhou University, P. R. China) Tomohiko Takagi (Kagawa University, Japan)

Toshihiro Inukai (DENSO Wave Incorporated, Japan)

Toshinori Nawata (Kumamoto National College of Technology, Japan) Tsunehiro Yoshinaga (Tokuyama National College of Technology, Japan)

Ussath Martin (The University of Potsdam, Germany) Wan Khairunizam Wan Ahmad (Universiti Malaysia Perlis, Malaysia)

Weicun Zhang (University of Science and Technology Beijing, P. R. China)

Weiwei Yu (Northwestern Polytechnical University, P.R. China) Wenhao Zheng (Beihang University, P. R. China)

Wenlin Li (Beihang University, P. R. China)
Wisanu Jiviriya (King Mongkut's University of Technology North Bankok, Thailand)

Xiaocan Wang (Northwestern Polytechnical University, P. R. China)

Xiaofeng Su (Beijing Institute of Astronautical Systems Engineering, P. R. China) Xiaoyan Chen (Tianjin University of Science and Technology, P. R. China)

Xiaoyan Fu (Capital Normal University, P. R. China)

Xuemei Ren (Beijing Institute of Technology, P. R. China) Xuhui Lu (Beihang University, P. R. China)

Yan Cui (Shanxi Normal University, P. R. China) Yasunori Takemura (Nishinippon Institute of Technology, Japan)

Yongqiang Qi (China University of Mining and Technology, P. R. China)

Yoshihiro Kita (Tokyo Institute of Technology, Japan) Youji Kawamura (Kindai University, Japan)

Yu-an Zhang (Qinghai University, P. R. China) Yuanlin Wang (Northwestern Polytechnical University, P. R. China)

Yue Lin (Beijing Institute of Control Engineering, P.R. China)

Yueqian Liang (China Academy of Elecronics and Information Technology, P. R. China) Yuji Minami (National Institute of Technology, Ube College, Japan)

Yujie Yan (Tianjin University of Science and Technology, P.R. China)

Yunju Chen ((Shiga University, Japan) Yuxing Quyang ((Tianjin University of Science and Technology, P.R. China)

Yunzhong Song (Henan Polytechnic University, P. R. China)

Zacharie Mbaitiga (National Institute of Technology, Okinawa College, Japan)

Zakri bin Ghazali (Universiti Malaysia Pahang, Malaysia)

Zengqiang Chen (Nankai University, P. R. China)

Zhao Peng (Huazhong University of Science and Technology, P. R. China)

Zhengquan Yang (Civil Aviation University of China, P. R. China)

Zhongxin Liu (Nankai University, P. R. China)

Zuradzman bin Mohamad Razlan (Universiti Malaysia Perlis, Malaysia)