Call for Papers: IEEE ALIFE 2013

The 2013 IEEE Symposium on Artificial Life

April 15-19, 2013
Grand Copthorne Waterfront Hotel, Singapore

At the IEEE Symposium Series on Computational Intelligence 2013
Hosted by IEEE CIS Task Force on Artificial Life and Complex Adaptive Systems

http://bingweb.binghamton.edu/~sayama/ieee-alife2013/

IEEE ALIFE 2013 brings together researchers working on the emerging areas of Artificial Life and Complex Adaptive Systems, aiming to understand and synthesize life-like systems and applying bio-inspired synthetic methods to other science/engineering disciplines, including Biology, Robotics, Social Sciences, among others.

Artificial Life is the study of the simulation and synthesis of living systems. In particular, this science of generalized living and life-like systems provides engineering with billions of years of design expertise to learn from and exploit through the example of the evolution of organic life on earth. Increased understanding of the massively successful design diversity, complexity, and adaptability of life is rapidly making inroads into all areas of engineering and the Sciences of the Artificial. Numerous applications of ideas from nature and their generalizations from life-as-we-know-it to life-as-it-could-be continually find their way into engineering and science.

We invite submissions of high-quality contributions on a wide variety of topics relevant to the wide research areas of Artificial Life.

Important Dates:

Paper submission due: **November 23, 2012**
Notification to authors: **January 5, 2013**
Camera-ready papers due: **February 5, 2013**
Early registration due: **February 5, 2013**
Symposium dates: **April 15-19, 2013**

More information about paper formatting and submission instructions will be available at the IEEE SSCI website: http://www.ieee-ssci.org/

Best Paper / Best Student Paper Awards:

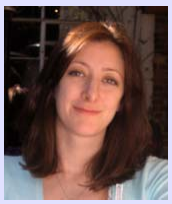
Prizes will be kindly offered by Wolfram Research, Inc.

Best Paper Award -- Prize: Wolfram Research Mathematica complimentary one-year licenses to all authors of the paper

Best Student Paper Award -- Prize: Wolfram Research Mathematica student license to the lead student authors of the paper

Keynote / Tutorial Speakers (tentative):

Mikhail Prokopenko (CSIRO, Australia)
Katie Bentley (Cancer Research UK)
Chrystopher Nehaniv (University of Hertfordshire, UK)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Topics:

* Systems Biology, Astrobiology, Origins of Replicators and Life
* Major Evolutionary Transitions
* Applications in Nanotechnology, Compilable Matter, or Medicine
* Genetic Regulatory Systems
* Predictive Methods for Complex Adaptive Systems
* Self-reproduction, Self-Repair, and Morphogenesis
* Robotic and Embodiment: Minimal, Adaptive, Ontogenetic and/or Social Robotics
* Human-Robot Interaction
* Constructive Dynamical Systems and Complexity
* Evolvability, Heritability, and Multicellularity
* Information-Theoretic Methods in Life-like Systems
* Sensor and Actuator Evolution and Adaptation
* Wet and Dry Artificial Life (e.g. artificial cells; non-carbon based life)
* Non-Traditional Computational Media
* Emergence and Complexity
* Multiscale Robustness and Plasticity
* Phenotypic Plasticity and Adaptability in Scalable, Robust Growing Systems
* Predictive Methods for Complex Adaptive Systems and Life-like Systems
* Automata Networks and Cellular Automata
* Ethics and Philosophy of Artificial Life
* Co-evolution and Symbiogenesis
* Simulation and Visualization Tools for Artificial Life
* Replicator and Interaction Dynamics
* Network Theory in Biology and Artificial Life
* Synchronization and Biological Clocks
* Methods and Applications of Evolutionary Developmental Systems (e.g. developmental genetic-regulatory networks (DGRNs), multicellularity)
* Games and Generalized Biology
* Self-organization, Swarms and Multicellular Systems
* Emergence of Signaling and Communication
* Applications in Sociology, Economics and Behavioral Sciences

Symposium Co-Chairs:

Chrystopher Nehaniv, University of Hertfordshire, UK
Terry Bossomaier, Charles Sturt University, Australia
Hiroki Sayama, Binghamton University, USA

Program Committee:

Hussein Abbass, University of New South Wales, Australia
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Christian Jacob, University of Calgary, Canada
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Jason Teo Tze Wi, Universiti Malaysia Sabah, Malaysia
Janet Wiles, University of Queensland, Australia
Hector Zenil, University of Sheffield and Wolfram Research, UK