2019 IEEE International Conference on Cyborg and Bionic Systems

September 18-20, 2019
Technical University of Munich
Garching (Munich), Germany
www.cbs2019.com

CBS 2019

Call for Papers

The main purpose of this conference is to discuss frontier research and realistic applications on cyborg- and bionic systems, which are concerned with hybrid fusion techniques for organic and biomechatronic body parts. Of central interest is the integration of artifacts and technologies like biomorphic actuators and sensors into an effective biocybernetic system. CBS 2019 is sponsored by the IEEE-RAS TC on Cyborgs and Bionic Systems. One of the primary goal is to make an organism restored or enhanced beyond its original biological characteristics. With the rapid development of bionic technologies, biomorphic chips and nanotechnology, we think that cyborgs and bionic systems can assist humans to conquer many limitations such as disease, disabilities, speed, strength, dexterity as well as intelligence. In addition, understanding neural principles, spiking circuits as well as brains and modeling of the functionality of artificial brains linked to sensors, actuators and robots and to organic natural bodies are further topic of interest. Biomorphic chips, spiking neural computation and its underlying learning methodologies form the basic IT-substrate for cyborgs. Ethics and human centered AI approaches are to be discussed.

The topics of interest include, but are not limited to the following:

- Micro/nano biomorphic robotics
- Building brains for robots and cognitive skills
- Bio-cell assembly and tissue fabrication
- Micro bio sensor and actuator fabrication
- Prosthesis and exoskeleton robotics
- Biomorphic computation and chips
- Neuromorphic controls and communication
- Advanced materials neuromorphic sensors
- Rehabilitation robotics
- Cyborg intelligence
- Generative learning
- Cyber-physical bio-system
- Biomimetic robotics
- Perception and Cognition
- Learning
- Translation and mapping of biologic brain principles to cyborg control structures
- Neurorobotics
- Wearable robotics
- Medical surgical robotics
- Regenerative medicine
- Neural-machine interfaces
- Adaptive controls
- Artificial brains
- Biosignal processing

Important Dates

Extended Full Paper Submission Date: 14th of June 2019
~~Full Paper Submission Date:~~ ~~1th of June 2019~~
Notification of Acceptance Date: 15th of July 2019
Final Paper Submission Date: 31th of July 2019

Paper submission is handled via Paper Plaza:

http://ras.papercept.net/conferences/

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