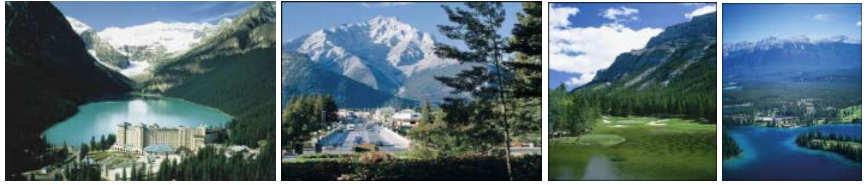


# SMC 2017

WORKSHOP ON BRAIN-MACHINE INTERFACES

IEEE INTERNATIONAL CONFERENCE ON  
SYSTEMS, MAN, AND CYBERNETICS

OCTOBER 5-8, 2017



## CALL FOR PAPERS



### BMI WORKSHOP PROGRAM COMMITTEE

Michael H. Smith, Chair, UC Berkeley, USA

Ljiljana Trajković, Technical Program Chair, Simon Fraser University, Canada

Ricardo Chavarriaga, Technical Program Co-Chair, Tutorial Chair, and Webmaster, EPFL, Switzerland

Vinod Prasad, Technical Program Co-Chair, NTU, Singapore

Jose L. Contreras-Vidal, Special Sessions Chair, University of Houston, USA

Jose M. Azorin, Special Sessions Co-Chair, Miguel Hernández University of Elche, Spain

Reinhold Scherer, Special Sessions Co-Chair, Graz University of Technology, Austria

Stuart Mason Dambrot, Publicity Chair and Secretary, BMI Consortium, USA

Tim Mullen, Brain Hackathon Chair, Qusp, USA

Tiago H. Falk, Brain Hackathon Co-Chair, INRS-EMT, Canada

Christoph Guger, Brain Hackathon Co-Chair, g.tec, Switzerland

Margaret Thompson, Brain Hackathon Student Competition Chair

### INVITED SPEAKERS

Paul Sajda, Chair, IEEE Brain Initiative

Christoph Guger, Co-founder, g.tec

### PANELS

Important Topics in Designing and Building Real World BMI Systems: What is New?

How Research and Methodologies in Systems, Human-Machine Systems, and Cybernetics can be applied to BMI

What Have We Learned, Where Do We Go From Here?

### TUTORIALS

BMI Systems - State of the Art

New Applications in BMI Systems

### BRAIN HACKATHON

### CONTACTS

Regular Session Papers:

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Special Session Papers:

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[jlcontr2@central.uh.edu](mailto:jlcontr2@central.uh.edu)

[http://go.epfl.ch/smc2017\\_bmi](http://go.epfl.ch/smc2017_bmi)

<http://www.smc2017.org>

## 2017 Workshop on Brain-Machine Interface Systems

The **IEEE SMC 2017 7th Workshop on Brain-Machine Interface Systems (BMI)** will be held on October 5-8, 2017 at the Banff Center, Banff, Canada as part of the program of SMC 2017 – the flagship annual conference of the IEEE Systems, Man, and Cybernetics Society. The goal of the workshop is to provide a forum for researchers to present research results, facilitate the interaction and intellectual exchange between all researchers, developers and consumers of BMI technology. We invite contributions reporting the latest advances, innovations and applications in the field of BMI.

The workshop is organized by the **IEEE SMC Technical Committee on Brain-Machine Interfaces Systems** and is technically co-sponsored by the **IEEE Brain Initiative**, **IEEE Consumer Electronic Society**, **IEEE Computational Intelligence Society**, **IEEE Magnetics Society**, and the **IEEE Systems Council**. Participation is free to all registered SMC 2017 attendees. The theme of this year's workshop is:

### *From Lab to Life: BMI Systems in the Coming Decade*

In the future, the range and sophistication of BMI Systems will achieve what seems impossible today: Intelligent neuromimetic prosthetics that function as a seamless extension of the brain; biocompatible nanotechnology that reside within the brain to read and write neural states without requiring a power supply; sensorimotor and cognitive BMI Systems that restore lost or compromised vision, hearing, memory, and mobility; and artificially intelligent cloud-based systems that seamlessly augment our cognitive capabilities. In the coming decade, we will see progress being made towards these goals.

## Call for Papers

The goal of the workshop is to provide a forum for researchers to present research results, facilitate the interaction and intellectual exchange between researchers, developers, and consumers of BMI technology. We invite contributions reporting the latest advances, innovations, and applications in the field of BMI. Also of interest will be the report and evaluation of complete systems considering aspects such as multidimensional performance metrics reflecting decoding accuracy, task performance, human factors, decoding algorithms, and feedback. These and other topics represent both challenges to the field and a tremendous opportunity for collaborative and multidisciplinary research, involving not only peers with expertise in the field of BMI, but also those with expertise in systems engineering, human-machine systems, cybernetics, and/or other disciplines. The four-day workshop will feature **tutorials**, **panels**, a **brain hackathon**, a number of prominent **invited speakers** from industry and academia, and **presentations of contributed papers**.

## Brain Computer Interface Hackathon

Hackathons are two-day brainstorming and collaborative marathons that create an environment supporting the rapid production of working prototypes. Anyone—SMC2017 attendees and non-SMC2017 attendees alike—who is interested in BCI/BMI and related technologies can register at the [2017 IEEE SMC Brain Hackathon website](http://2017.ieee-smc-brain-hackathon-website) to compete for cash prizes. (High school students and undergraduates can participate through the [student competition](#).)

## Important Dates

May 30, 2017 Deadline for submission of contributions for BMI Workshop

June 15, 2017 Acceptance notification for all categories of BMI papers

July 9, 2017 Final camera-ready papers due for BMI papers

August 5, 2017 Deadline for early registration

October 5-8, 2017 Conference dates

October 7-8, 2017 Brain Hackathon

**Papers:** Prospective authors are invited to submit full-length papers electronically through the conference website. Papers should be concise, but contain sufficient detail and references to allow critical review.

**Note:** Accepted papers that are not physically presented at SMC 2017 will be excluded from the IEEE proceedings.