# InBinBRAIN 2018

## Special Session on Intelligent Biomarkers of Neurodegenerative Processes in Brain

at the 10th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2018)

Dong Hoi City, Vietnam, March 19-21, 2018

Conference website: http://www.aciids.pwr.edu.pl/

## Special Session Organizers

**Prof. Andrzej Przybyszewski**
Polish-Japanese Academy of Information Technology
Warsaw, Poland
Department of Neurology, UMass Medical School
Worcester, MA, USA
E-mail:  przy@pjwstk.edu.pl; andrzej.przybyszewski@umassmed.edu

## Objectives and topics

We do not understand exactly information processes in the central nervous system, but they seem to be similar to computations in the artificial neural networks (NN). In the last decade, there is an amazing progress in the development and application of NN and machine learning. But still we are not able to build artificial systems comparable in reliability and plastic properties to the brain. However, it seems that these brain advantages have one weakness. After many years of pathological processes in the brain, patient may notice the first disease symptoms; in most cases it is too late for the repair. These pathological processes are related to the lost of brain cells (ND – neurodegenerative diseases) and till today we do know how to cure ND as we do not know how to revive dead cells. As the neurodegeneration is problem related to brain computations, in the InBinBRAIN 2018 Special Session at the 10th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2018) we propose to address classification, prediction, and clustering methods as intelligent biomarkers that potentially might be more sensitive than standard neurological tests.  We want to offer an opportunity for researchers and practitioners to identify new promising research directions as well as to publish recent advances in this area. The scope of the InBinBrain 2018 includes, but is not limited to the following topics:

- Machine learning and data mining methods in brain research
- Machine learning algorithms in objects recognition and their neurological meanings
- Data mining methods to assist in brain surgery (e.g. Deep Brain Stimulation in Parkinson's diseases)
- Machine learning in motor symptom progressions in neurodegenerative diseases
- Data mining in brain imaging: CT, MRI, and fMRI
- Estimation of different therapies efficiencies by means of data mining
- Computer-assisted diagnosis and treatment
- Machine learning in brain mapping
- Data Mining - Rough Sets Theory as a tool to study emotional brain
- Brain plasticity and machine learning algorithms
- Diagnostic data mining emotions classification in music and voice

## Important dates

Submission of papers: **1 October 2017**
Notification of acceptance: **1 November 2017**
Camera-ready papers: **15 November 2017**
Registration & payment: **15 December 2017**
Conference date: **19-21 March 2018**

## Program Committee (to be invited)

Zbigniew Struzik, RIKEN Brain Science Institute, Japan
Zbigniew Ras, University of North Carolina at Charlotte, USA
Konrad Ciecierski, Warsaw University of Technology, Poland
Piotr Habela, Polish-Japanese Academy of Information Technology, Warsaw, Poland
Peter Novak, Brigham and Women's Hospital, Boston, USA
Wieslaw Nowinski, Cardinal Stefan Wyszynski University, Warsaw, Poland
Andrei Barborica, Research & Compliance and Engineering, FHC, Inc., Bowdoin, ME, USA
Alicja Wieczorkowska, Polish-Japanese Academy of Information Technology, Warsaw, Poland
Majaz Moonis, Dept. Neurology, UMass Medical School, Worcester, MA, USA
Krzysztof Marasek, Polish-Japanese Academy of Information Technology, Warsaw, Poland
Mark Kon, Department of Mathematics, Boston University, Boston, USA
Lech Polkowski, Polish-Japanese Academy of Information Technology, Warsaw, Poland
Andrzej Skowron,  Institute of Mathematics, Warsaw University, Poland
Ryszard Gubrynowicz Polish-Japanese Academy of Information Technology, Warsaw, Poland
Dominik, Slezak, Institute of Mathematics, Warsaw University, Poland
Radoslaw Nielek, Polish-Japanese Academy of Information Technology, Warsaw, Poland

## Submission

All contributions should be original and not published elsewhere or intended to be published during the review period. Authors are invited to submit their papers electronically in pdf format, through EasyChair. All the special sessions are centralized as tracks in the same conference management system as the regular papers. Therefore, to submit a paper please activate the following link and select the track: *InBinBrain 2018: Special Session on Intelligent Biomarkers of Neurodegenerative Processes in Brain.*

https://easychair.org/conferences/?conf=aciids2018

Authors are invited to submit original previously unpublished research papers written in English, of up to 10 pages, strictly following the LNCS/LNAI format guidelines. Authors can download the Latex (recommended) or Word templates available at Springer's web site. Submissions not following the format guidelines will be rejected without review. To ensure high quality, all papers will be thoroughly reviewed by the EAML 2018 Program Committee. All accepted papers must be presented by one of the authors who must register for the conference and pay the fee. The conference proceedings will be published by Springer in the prestigious series LNCS/LNAI (indexed by ISI CPCI-S, included in ISI Web of Science, EI, ACM Digital Library, dblp, Google Scholar, Scopus, etc.).