### Petra Perner (Ed.)

# **Advances in Mass Data Analysis of Images and Signals**

with Applications in Medicine, r/g/b Biotechnology, Food Industries and Dietetics, Biometry and Security, Agriculture, Drug Discover, and System Biology

14th International Conference, MDA 2019 New York, USA, July 13-16, 2019

## **Proceedings**



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#### **Preface**

The 14th International Conference on Mass Data Analysis of Signals and Images with Applications in Medicine, r/g/b Biotechnology, Food Industries and Dietetics, Biometry and Security, and Agriculture MDA 2019 held in July in Newark USA showed once more that the event is a must for all specialists from research and industry alike who like to stay informed about hot new topics in mass data analysis of signals and images. MDA 2019 had two invited talks, regular sessions, and invited sessions on specific very important topics. Altogether sixteen talks have been given.

The topics range of MDA from Case-Based Reasoning and Data Mining for 1-,2-,3-Signals, Time Series Analysis, Aspects of Mass Data Analysis, Telemedicine, and Spectrometer Signal Analysis. Full research work and work in progress has been presented.

The first invited talk was on "Fuzzy Recurrence Analysis of Complex Systems Dynamics" given by Prof. Dr. Tuan D. Pham from the Department of Biomedical Engineering of the Linkoping University in Sweden. The second invited talk was on "Intelligent Pattern Recognition (IPR) and Applications" given by Prof. Dr. Patrick S.P. Wang, Fellow IAPR, ISIBM, WASE&IETI and IEEE ISIBM outstanding achievement awardee from the Northeastern University in Boston, USA.

The discussion made the conference very inspiring and influencing. A lot of ideas were exchanged that will help to progress in further work.

The social program gave a great opportunity to network, interact among each other, and exchange ideas about certain research aspects. All together it was a very inspiring and successful conference.

Five full papers have been selected for publishing in the proceedings "Advances in Advances in Mass Data Analysis of Images and Signals" (ISBN 978-3-942952-64-4) by ibai-publishing house (ibai-publishing.org).

Selected revised papers of this conference as well as contributed papers will be published in the October issue of the International Journal Transaction on Mass Data Analysis of Signals and Images (www.ibai-publishing.org).

We are happy to see that new automatic systems for the analysis of signals and images have been presented at MDA and that a lot of researchers followed our mission to bring new signal and image analysis methods into real applications that introduce a new quality level to various real life applications. We decided to bring aware MDA to a broader audience. Therefore, we changed the title of MDA to Mass Data Analysis of Signals and Images in Artificial Intelligence and Pattern Recognition MDA-AI&PR that should attract more people to the mission of MDA.

The 15th conference will be held in 2020 in New York (www.mda-signals.de) under the auspices of the World Congress Frontiers on Intelligent Data Analysis DSA 2020 (www.worldcongressdsa.com) and it is now named MDA-AI&PR 2020.

We would like to invite you to contribute to this conference. Please come and join us.

July, 2019

Prof. Dr. Petra Perner Chair of the Conference MDA

### 14th International Conference on Mass Data Analysis of Images and Signals in Artificial Intelligence and Pattern Recognition, MDA 2019

with Applications in Medicine, r/g/b Biotechnology, Food Industries and Dietetics, Biometry and Security, Agriculture, Drug Discover, and System Biology

July 14 - 15, 2019, New York, USA

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#### Petra Perner

Institute of Computer Vision and Applied Computer Sciences, IBaI, Germany

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