

Call for Contributions

Inform the Chair: with the Title of your Contribution

Submission URL:

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=BIOTECHNO+2017+Special>

Please select Track Preference as **MLPM**

Special track

MLPM: Machine Learning Approaches to Precision Medicine

Chair and Coordinator:

Alexandru Floares, Md, PhD, President of SAIA Institute - Cluj, Romania

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Co-Chair:

Dr. Andrea Bracciali, SICSA Lecturer, University of Stirling, UK

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along with

BIOTECHNO 2017, May 21 - 25, 2017 - Barcelona, Spain

The Ninth International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies

<http://www.iaria.org/conferences2017/BIOTECHNO17.html>

The common biomedical community conception is that Precision Medicine's goals can be reached only by increasing the accuracy of wet lab measurements. The results of biological experiments enter more and more into the realm of Big Data. Big Data do not talk themselves. Data should be preprocessed and analyzed. Moreover, identifying differentially expressed genes should not be the final result of the bioinformatic analysis, being an incomplete response to a potentially significant biomedical question. This is why we will not often see studies reporting the results of a t-test or similar algorithms, for a classification problem, in other fields than biomedical research. Most of them end with a classifier, developed using machine learning techniques.

So, accurate measurements of informative classes of biomedical variables, either molecules or extracted from medical images, combined with adequate machine learning methods, could lead to Precision Medicine. These can be used to develop highly accurate, robust (generalizing well to new cases) and transparent (easy to understand) predictive models. However, biological systems are highly redundant, and this is related to their amazing robustness. The usual machine learning approach, exclusively focused on identifying the minimal subset of relevant variables, while perfectly justified, preclude redundancy understanding and exploiting. Thus, new machine learning methods or adapting the existing ones is needed.

The special session opens to everybody as well as industrial partners to make contributions in this area.

Topics for this session include but are not limited to:

- Predictive models for diagnosis, prognosis and response to treatment
- Biomedical image processing and analysis
- Analysis of high-throughput biotechnology data
- Machine learning integration with Electronic Health Records
- Machine learning approaches to liquid biopsy
- Machine learning approaches to redundancy understanding and exploiting

- Evaluation and use of information technology in healthcare
- Industrial challenges in bioinformatics
- Future directions and challenges in bioinformatics

Important Datelines

- Inform the Chair: As soon as you decided to contribute
- Submission: ~~February 3~~ **April 13**
- Notification with comments for camera-ready: ~~March 3~~ **April 20**
- Registration: ~~March 18~~ **April 29**
- Camera ready: ~~April 9~~ **April 29**

Contribution Types

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaria.org]
- Presentations: slide only [slide-deck posted on www.iaria.org]
- Demos: two pages [posted on www.iaria.org]

Paper Format

- See: <http://www.iaria.org/format.html>
- Before submission, please check and comply with the editorial rules: <http://www.iaria.org/editorialrules.html>

Publications

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iariajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the free access ThinkMind Digital Library: <http://www.thinkmind.org>

Paper Submission

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Registration

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.iaria.org/registration.html>

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