NUMTA 2023 Special Session on
Bioinformatics and Health Informatics: Methods and Applications

Special Session Organizers:

- Mario Cannataro – University "Magna Graecia" of Catanzaro, Italy
- Marianna Milano – University "Magna Graecia" of Catanzaro, Italy

Submission notes: The authors are kindly invited to contact one of the organizers of the special session (Mario Cannataro: cannataro(at)unicz.it or Marianna Milano: m.milano(at)unicz.it) before submitting their abstract (please include "BHIMA – NUMTA 2023 abstract submission" in the subject).

Abstract: Bioinformatics and Healthcare Informatics are gaining an increasing interest in the scientific community due to the availability of application of novel computational tools and techniques to model, processing, and analysis biological and health data. In particular, Bioinformatics and Healthcare Informatics applications focus on aspects of: computational biology, computational genomics, bioinformatics algorithmic, clinical-health information systems and databases, warehouses and data mining.

The aim of BHIMA Special Session within the NUMTA 2023 International Conference and Summer School is to bring together scientists in the fields of bioinformatics, biomedicine, medical informatics, as well as scientists working in biology and medicine, to discuss emerging and future directions in topics related to key bioinformatics and healthcare informatics techniques: novel technologies, architectures and models in Health Informatics, novel high-performance and/or parallel applications for biological and omics data processing and analysis.

Manuscript discussing applications of bioinformatics and healthcare are also welcome.

The session intent is to offer an opportunity to express and confront views on trends, challenges, and state-of-the art in diverse application fields, such as engineering, physics, chemistry, biology, geology, hydrology, medicine, ecology, traffic control, economy, etc.

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

- Artificial intelligence in Healthcare
- Non-conventional architectures (e.g., GPUs, FPGAs) for bioinformatics analysis
- High-throughput comprehensive bioinformatics pipelines
- Computing environments for large scale collaboration
- Scientific workflows in bioinformatics and biomedicine
- Parallel processing of bio-signals and bio-images
- Cloud computing for bioinformatics and biomedicine
- Cloud computing for health systems
- Privacy issues for cloud-based biomedical applications
- Services for bioinformatics and biomedicine
- Large scale biological and biomedical databases
- Integration and analysis of molecular and clinical data
- Ontologies in biology and medicine
- P4 (predictive, preventive, personalized and participatory) medicine
- Parallel bioinformatics algorithms
- Parallel preprocessing of omics and clinical data
- Parallel visualization and exploration of omics and clinical data
- Bioinformatics methods for network-based analysis and visualization