"Small Things and Big Data: controversies and challenges in digital healthcare"

Recent advances in information and communication technologies (ICT) have acted as catalysts for significant developments in the sector of health care, affecting strongly medical diagnosis, patient and healthcare management, treatment and health education. Small wearable, disposable sensors or medical devices as well as elementary services are featured as keys for monitoring health and facilitating well-being. The Internet of "small" Things (IoT) is at its infancy, and it will slowly but surely play a pivotal role in the monitoring of health, in early diagnosis/prognosis, in prompt design of interventions, and their precise personalisation. IoT is incrementally feeding a pool of Big Data and additional research is needed on knowledge discovery, data representation and innovative algorithms to extract meaningful information to foster the personalisation of Digital Medical Systems. As lots of new Big Data from various sources become available on top of existing biomedical data sets there is a need for harmonizing the datasets to gain more especially when aligned with (disparate) IoT data. Moreover, acceptability of such advancements in biomedical and health informatics is only feasible by training the experts and increasing awareness in public through cost effective solutions with the role of Massive Online Education, although it remains questionable how a personalised approach to fulfil individuals' knowledge gaps can be met. The proposed special issue aims at attracting contributions on the aforementioned research areas and technologies, focusing on how they can be applied to personalising Digital Medical Systems.

The goal of this special issue is to publish the latest research advances on the research and application of Internet of small Things; knowledge discovery and knowledge representation for the analysis of Big Data and the role of Massive Open Education on acceptance towards personalising Digital Medical Systems. **Only articles from contributors to the recent 30th IEEE International Symposium on Computer Based Medical Systems (IEEE-CBMS2017) will be considered.**

Topics include but are not limited to:

- Data Analysis and Knowledge Discovery
- Knowledge Representation
- Decision Support and Recommendation Systems
- Big Data and Everywhere Data Management
- Systems Integration and Security for Internet of small Things
- Biomedical Signal and Image Processing and Machine Vision as part of Internet of small Things
- Multimodal Biomedical Big Data Harmonization
- Personal Learning Networks for Health
- Digital literacy for biomedical engineers, health Informaticians and service users
- Robotics, Intelligent Medical Devices and Smart Technologies enabled by IoT and Big Data

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