Guest Editorial

Mini Symposium: A Controversy between Geneticists and Biologists

This section introduces a mini-symposium on a scientific controversy; several areas of sciences are thereby covered, among them, medical imaging, integrative genomics, genetics and biology; a list of scientists, pioneers in different types of research approaches have been reviewed and a first case study has been presented at the Medetel conference in Luxembourg in April 2014. The main objective was to raise awareness of limitations in fast adoption of new scientific knowledge due to controversies between scientific approaches, especially between geneticists and biologists, at a time where personalized treatment can benefit from genetic profiling.

The first paper by Prof C. Huttin discusses the case of corticosteroids for asthma predictive modeling; the advances of epigenetics with studies on interactions of individual genes with environmental modifiers is challenged by teams of geneticists promoting holistic (epistasis) approach with multiple gene-gene interactions in pharmacogenomics of drug therapy and evaluation of pharmacogenetic tests. The effects of such scientific controversies can limit fast adoption of “Omics” technologies in Telecare and M-healthcare solutions to increase access to care. The second paper by Dr M. Liebman and Dr S. Molinaro presents a holistic approach, but contrary to the epigenetics/epistasis controversy, it shows how translational research can use science to help adjustments of the healthcare ecosystem. The authors underline in particular the importance of seven issues in order to translate scientific evidence to meet unmet clinical needs of patients: 1. Emphasis on disease process and not only on disease state, 2. Importance of accuracy, staging and velocity as priority criteria for evaluation of diagnosis, 3. Role of genomics on risk evaluation, 4. More clinical data to complement trial data, 5. Limits of biomarkers in diagnostic, 6. Polypharmacy and Comorbidities, 7. Compliance and adherence.

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