The traditional "one treatment fits all" paradigm disregards the heterogeneity between patients, and within a particular disease, thus limit the success of common treatments. Moreover, current treatment lacks specificity and therefore most of the drugs induce some adverse effects. Personalized medicine aims to individualize therapeutic interventions, based on the growing knowledge of the human multiple 'oms' (e.g. genome, epigenome, transcriptome, proteome and metabolome), which has led to the discovery of various biomarkers that can be used to detect for example, early stage cancers and predict tumor progression, drug response, and clinical outcome. Nanomedicine, the application of nanotechnology to healthcare, holds great promise for revolutionizing disease management such as drug delivery, molecular imaging, reduced adverse effects and the ability to contain both therapeutic and diagnostic modalities simultaneously termed theranostics. Personalized nanomedicine has the power of combining nanomedicine with clinical and molecular biomarkers ("OMICS" data) achieving improve prognosis and disease management as well as individualized drug selection and dosage profiling to ensure maximal efficacy and safety. In this presentation I will discuss the immense potential of combining the best of these two worlds, nanomedicine and high throughput OMICS technologies to pave the way towards personalized medicine. Examples will be given from the fields of Oncology (Brain tumors, Ovarian Cancer and Blood cancers) and Inflammation (inflammatory bowel diseases)