

## **Integration of Genomic and Clinical Information – a Key to Realizing Personalized Medicine**

Since the end of the Human Genome Project in 2003, rapid technological advances in DNA sequencing have resulted in a remarkable increase in sequencing throughput. The limitation of efficient knowledge discovery in genomics is no longer generation of data, but rather computational challenges around integration of genomic and clinical data. The increasing number of data types generated for patients in health care and clinical trials, together with the inadequate use of standards to support mapping across disparate data sources, vastly limits the utilization of data. Consequently, information integration has become one of the top priorities to be solved by the research community as it constitutes the basis from which further scientific discoveries can be made. In general, analyzing clinical data in combination with genomic data has the potential to reveal the genetic basis of cancer, infectious diseases and drug response, leading ultimately to improved health care and preventative measures for individual patients.

In the presentation we will discuss opportunities to accelerate the progress in biomedicine through the use of integrated patient data in medical research and challenges that have to be overcome before this can become a reality, fully realizing the promise of personalized medicine.