

4th World Congress on Cell Science & Stem Cell Research June 24-26, 2014 Valencia Conference Centre, Valencia, Spain

Rapidly growing trend towards the use of smartphones and tablets for mobile healthcare and bioanalytical sciences

Sandeep Kumar Vashist

HSG-IMIT - Institut für Mikro- und Informationstechnik, Germany

There is a rapidly growing trend towards the use of smartphones and tablets for mobile healthcare and bioanalytical sciences as they are packed with advanced features, such as high resolution camera, powerful processor, high internal memory, wireless connectivity, GPRS, cloud computing and text alerts. Therefore, they are ideal point-of-care platforms for mobile healthcare and bioanalytical sciences. During 2012-2013, several prospective smartphone-based devices and smart applications for general healthcare monitoring have been approved by FDA and commercialized by several companies, such as AliveCor, iHealth, Runtastic, and Holomic. These smart devices and applications are already being used by millions of persons worldwide. Moreover, smartphone and tablets have been used for a wide range of applications in mobile healthcare and bioanalytical sciences. Our group has developed several low-cost smartphone and tablet-based low-cost colorimetric readers for in vitro diagnostic (IVD) and biochemical assays. These portable readers will obviate the use of expensive and bulky microtiter plate readers, as they have the same sensitivity but many-fold decreased cost. Being highly affordable (100 euros prototype cost), they can be used by each laboratory and will be ideal for POC applications in remote settings, homes or developing countries. We have also developed highly simplified diagnostic platforms and IVD procedures for rapid, cost-effective and highly sensitive immunoassays. The coming years will witness the commercialization of many of these smart devices, which will have huge market size taking into account ~7 billion cellphone users worldwide.

Biography

Sandeep K Vashist completed his PhD from Central Scientific Instruments Organisation, India in 2006. He was a Scientist at Bristol-Myers Squibb Company, Ireland (2006-2009), Team Leader at NUS, Singapore (2009-2012) and presently, the Head of Immunodiagnostics at HSG-IMIT, Germany. He has 60 publications in prestigious journals, 70 conference publications and 5 patents. He did numerous technology transfers and received renowned fellowships and awards for scientific excellence. He is Executive Editor of J Basic Appl Sci and J Pharma Bioanal Sci; Editorial Board member of J Nanomed Nanotechol and J Nanomat Mol Nanotechnol, and reviewer for many journals and funding agencies.

sandeep.kumar.vashist@hsg-imit.de