OP-45

DOI: 10.14232/syrptbrs.2021.op45

The 3D (Printing) Center of the University of Szeged: opportunities and challenges

Martin Cseh, Zsolt Geretovszky, Zoltán Veréb, Ferenc Bari

3D Printing Center of the University of Szeged, Szeged, Hungary

Personalized medicine is about to become the most efficient and sustainable way of practice both in prevention and treatment. A key enabling technology of personalized medicine is 3D printing, or Additive Manufacturing (AM) as more commonly known, nowadays. The conceptually simple, but radically new approach of AM roots in building objects additively, i.e. layer-upon-layer from a digital blueprint. The material of the object could either be plastic, metallic or even certain human tissue, depending on the AM technology used.

The 3D Printing Center of the University of Szeged (3DC) has been recently launched to merge and increase the knowledge of relevant research teams within the University and open up opportunities to those who are new to resolving the potential of AM.

The main emphasis of the 3DC is on life science and is equipped with high-end imaging and 3D printing instrumentation. Our metal printer is capable to print in an extensive portfolio of high-tech materials but can also be run with medical-grade titanium and stainless-steel alloys, appropriate for implants and medical instruments. We have two professional, high-resolution resin 3D printers capable to print even biocompatible materials. The 3DC is addressing bioprinting with a mechanical and a pneumatic printer, while teaching is assisted by several of our desktop printers of SLA and FDM technology. Last, but not least a metrological 3D scanner is also available, along with several other auxiliary instruments, such as a 3D optical microscope, a dynamic mechanical tester, to mention but a few.