

Daugiafonē litografija biomedicīnas reikmēm

Multiphoton Lithography for Biomedical Applications

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Prof. Aleksandr Ovsianikov is a head of the research group 3D Printing and Biofabrication at the TU Wien (Vienna, Austria). He is a member of the Austrian Cluster for Tissue Regeneration and the board of directors of the international society of biofabrication. His research is dealing with the use of additive manufacturing technologies and bioprinting for tissue engineering and regeneration.

Main research interests:

- Lithography-based Additive Manufacturing Technologies
- Microfabrication, laser induced photochemistry
- Bio-compatible / degradable photopolymers
- Scaffold based tissue engineering
- Bioprinting / Biofabrication

Dr. Ovsianikov has background in laser physics and material processing with femtosecond lasers. A particular focus of his current research is the development of multiphoton lithography technologies for engineering of biomimetic 3D cell culture matrices, realization of novel tissue engineering scaffolds and microfluidic applications. He was awarded a prestigious Starting Grant in 2012 and a Consolidator Grant in 2017 from the European Research Council (ERC) for projects aimed at these topics.

Since 2004 Dr. Ovsianikov delivered multiple invited and keynote lectures, and has contributed to almost 100 publications. Together with Prof. Mironov and Prof. Yoo he is an editor of a living book project “3D Printing and Biofabrication” published by Springer in cooperation with Tissue Engineering and Regenerative Medicine International Society (TERMIS).

Dr. Ovsianikov is also a co-founder and a head of research of a TU Wien spin-off UpNano GbmH, aimed a commercialization of high-resolution 3D printing and Bioprinting, which received multiple awards, including the Austrian Startup of the year 2019.