

## Curriculum Vitae - Associate Prof. Dr. Aleksandr Ovsianikov

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Major Research Interests: (1) Additive manufacturing / laser-induced photochemistry; (2) Photografting / Biofunctionalization; (3) Biocompatible/biodegradable photopolymers; (4) Scaffold based tissue engineering; (5) Three-dimensional tissue models.

Aleksandr Ovsianikov is currently an Associate Professor at the Vienna University of Technology (TU Wien, Austria). His research is dealing with the use of additive manufacturing technologies for tissue engineering and regenerative medicine. Dr. Ovsianikov has background in laser physics and material processing with femtosecond lasers. A particular focus his current research is establishing multiphoton lithography in the domain of biofabrication for engineering of biomimetic 3D cell culture matrices and realization of novel tissue engineering scaffolds. Dr. Ovsianikov 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. His research interests include high-resolution 3D printing, laser-induced photo-chemistry, development of biomaterials for additive manufacturing and bioprinting. Since 2004, Dr. Ovsianikov contributed to over 70 publications in peer-reviewed journals and 5 book chapters. He have also served as a co-editor of two books: “Multiphoton Lithography: Techniques, Materials, and Applications” (Wiley) and “3D Printing and Biofabrication” (Springer). The latter is a unique updateable book project and a part of the Springer series in biomedical engineering, published in close cooperation with the Tissue Engineering and Regenerative Medicine International Society (TERMIS):

<https://link.springer.com/referencework/10.1007%2F978-3-319-40498-1>

## Statement – Application for a Board position of the International Society for Biofabrication

It is a great honor for me to be invited to apply for a board position of the International Society for Biofabrication (ISBF). Already as a student, I have become fascinated by the emergence and the development of the biofabrication research and community. Shortly after defending my PhD thesis, I had a possibility to attend the International Conference on Bioprinting and Biofabrication in Bordeaux (3B'09) and meet some of the pioneers in this area. Our research article “Laser printing of cells into 3D scaffolds”, published in the journal of Biofabrication in connection to this conference, was listed as the Nr1 highlight of the year 2010. Also our more recent review “Bioink properties before, during and after 3D bioprinting”, published in cooperation with scientists from Belgium and USA, is currently listed as the most read and

most cited article by the journal of Biofabrication. Throughout the years, I have actively involved myself in research on biomaterials and biofabrication. My lab is currently working on the development and application of hydrogel 3D printing for realization of biomimetic cell culture matrices aimed at *in vitro* tissue models. A particular focus of our current research is establishing of laser-based high-resolution 3D printing in the domain of biofabrication. We also explore the combination of these methods with microfluidic technology in order to develop organ-on-a-chip platforms.

I am the Austrian Representative of the Young Scientist Forum (YSF) of the European Society of Biomaterials (ESB) and served as a global ambassador of the World Biomaterial Congress 2016 in Montreal (Canada). I am also actively promoting the field of biofabrication among the young scientists. I have been teaching a course on this topic in the framework of the Tissue Engineering and Regenerative Medicine master's degree program at the FH-Techikum Wien (Vienna, Austria) for over four years now. In addition, I am regularly invited to deliver guest lectures at the workshops and summers schools. Furthermore, in 2016, in collaboration with Prof. Vozzi, Prof. Swieszkowski and Prof. Alblas, I have organized a highly successfully "3D Printing and Biofabrication" session at the TERMIS European Chapter meeting in Uppsala (Sweden). Together with Prof. Nakayama, Prof. Namakura and Prof. Moroni I have organized a session "Biofabrication: from new technologies to clinical applications" for the upcoming TERMIS world congress meeting in Kyoto (Japan). Herewith, my background fits well the ISBF aims to promote advances in Biofabrication research, as well as the interaction between different disciplines, scientific organizations and communities.

I am confident that my scientific enthusiasm and organizational skills would be a valuable asset for the ISBF. In case my application is successful, I will be happy to join one of the ISBF committees or assume another responsible position. By becoming the member of the ISBF board I am hoping to actively contribute to the further success of this organization and the biofabrication community as a whole.