AO Foundation

A **PhD** position is available at the **Polymers Focus Area** focus area of **Musculoskeletal Regeneration Program** of the AO Research Institute Davos (ARI).
Topic: Bioink for delivery of gene therapy. The candidate will design, synthesize and characterize a biomaterial ink for the fabrication of advance gene activated printable bone matrix. To achieve this goal, composite biopolymer/ceramic inks that can be loaded with nanosize system for delivery of chemically modified RNA will be designed and produced. Assessment of delivery and release of functional RNA as well as printability in relation to a purposely built 3D printer will be performed. This PhD project is part of a H2020 consortium project called cmRNAbone on 3D Printed-matrix assisted chemically modified RNAs bone regenerative therapy for trauma and osteoporotic patients.
The successful candidate will be hired at ARI and enrolled at in the PhD program of a partner university in Europe.

Requirements: the ideal candidate holds or is next to a University degree in Biomedical Engineering, Health Sciences and Technology, Materials Science, Chemistry or similar disciplines. Basic laboratory skills are a must, whereas previous experience with scientific literature search, 3D (bio)printing, biopolymers, rheology, mechanical testing is a plus. The candidate must be very self-motivated and have a strong interest in biomaterials research.
Eligibility to apply and obtain a Visa for temporary residence is Switzerland is essential.
We require good English language skills, computer literacy in a Microsoft Office environment and a work ethic suitable to the challenges we plan to offer. Familiarity with a cross-cultural/interdisciplinary environment is an advantage.

What we offer: Training at the forefront of biomaterials research in the context of a world-renewed musculoskeletal research institute; a challenging and rewarding research and educational program within a unique global organization based in Davos that offers urban flair in a pristine natural environment; a wide international network with the best scientists in the field, support searching for accommodation.

About the workplace
ARI's **Polymers Focus Area** is committed to designing advanced biomaterials and the development of manufacturing technologies for improved musculoskeletal disorders therapies.
We create polymeric biomaterials that react to environmental stimuli, that interact with cells and tissues and that are amenable to cutting-edge biofabrication technologies.
By enhancing our knowledge of the biomaterials design and processing, and their interactions with cells, tissues and organs, we aim to develop the next generation of biomaterials.
The **AO Foundation**'s mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

In its work to further the AO Foundation's mission, the **AO Research Institute Davos'** (ARIs) purpose is to advance patient care through innovative orthopedic research and development concerning musculoskeletal, spine and cranio-maxillo-facial trauma, degenerative musculoskeletal diseases, infections, and congenital disorders.
ARI is a very **international environment**, with people from all around the globe.
Location
ARI is in Davos, a renowned Swiss mountain resort which is a paradise for winter and summer mountain sports: https://www.davos.ch/en/
Besides ARI, Davos is home to other important Scientific Research Institutions: https://www.sciencecity.ch/

The preferred **starting date** is the first quarter of 2020. For more information please do not hesitate to contact Dr David Eglin david.eglin@aofoundation.org. The application consisting of motivation letter and CV can be sent to the same email addresses

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