Partner Search Form
Horizon Europe
Health

Date 11 Feb 2022 Deadline … …

CONTACT

Organisation	AO Research Institute Davos	**Department**	Regenerative Orthopaedic Program
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City	Davos	**Website**	https://www.aofoundation.org/what-we-do/research-innovation/research-programs/regenerative-orthopaedics/sound-guided-tissue-regeneration
Country	Switzerland		

Organisation type

Research organisation type	☒ Research Organisation ☐ University ☐ Company ☐ Other	**Is your company a Small and Medium Sized Enterprise (SME*)?** **Number of employees: > 100**	☐ YES ☒ NO

Your enterprise is an SME if:
- it is engaged in **economic activity**
- it has **less than 250 employees**
- it has either an **annual turnover not exceeding €50M**, **or an balance sheet total not exceeding €43M**
- it is **autonomous**

For the definition of SMEs, look at: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Short introduction of key areas of institute's research: AO Research Institute Davos (ARI) is recognized as a research-leader in Switzerland, Europe, and the world. ARI's purpose is advancing patient care through innovative orthopaedic research and development. Its goals are to contribute high-quality applied preclinical research and development focused on clinical applications and solutions, to investigate and improve the performance of surgical procedures, devices, and substances, and to build a close relationship with the AO medical community, academic societies, and universities. Regenerative Orthopaedics Program has established research activities in the field of bone, cartilage, and intervertebral disc, with a major focus on regenerative medicine, biofabrication, cell and gene therapy. The **Sound Guided Tissues Regeneration Group (SGTR)** activities focus on the translation of innovative biofabrication technologies for tissue regeneration and development of cutting-edge 3-D in vitro disease models for drug screening and personalized medicine.

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Former participation in an FP European project?	☒ YES ☐ NO
Project title / Acronym: **Activities performed:**	- PREMUROSA, H2020-MSCA-ITN 2019: "PREcision Medicine for MUsculoskeletal regeneration, prosthetics, and active ageing". Activities: PhD training, with main activities focusing on design, biofabrication and biological assessment of 3D *in vitro* vascularized musculoskeletal tissue models. We also contribute to ethics, dissemination and communication, and exploitation. - FLAMIN-GO, H2020-NMBP-TR-IND-2020: "From pathobioLogy to synoviA on chip: driving rheuMatoId arthritis to the precisioN medicine GOal". Activities: The project goal is to provide an organ-on-chip solution to open up a new avenue towards personalized care in rheumatoid arthritis. This solution will be based on the design and fabrication a multi-compartment microfluidic platform, for 3D culturing and perfusion, of all the disease-relevant joint tissues. Our team is focusing on osteochondral unit (OC) bioprinting as well as supporting the other partners on bioprinting process. We participate at the development of the polymers for seeding the OC-U cells and the biological validation of the OC-unit. We also contribute to ethics, dissemination and communication and exploitation. - RegenMed2.0, EU-Eurostar 2020: Re-Define Regenerative Medicine with a Point-Of-Care Tissue Production Technology. Activities: The team focus on developing novel strategies for contactless biofabrication of soft tissue grafts for intra-operative procedures. - STRATAGEM, Cost Action17104: New diagnostic and therapeutic tools against multidrug resistant tumours. Activities: Within the Cost Action, our focus is on the development of hierarchically shaped 3D in vitro cancer models for drug screening.

Expertise / Commitment offered

Description of your expertise:	Within ARI, the SGTR team uses sound waves for repair, regeneration, and diagnostics. Spatial patterns of cells, organoids, or inorganic particles can be forced on demand using contactless biofabrication technologies. We have developed a technology, named Sound Induced Morphogenesis (SIM), that allows fast and mild culture conditions, for morphologically relevant tissue generation. We use SIM for morphogenesis induction and further explorations in the regenerative medicine and cell therapy fields. Our activities are articulated around the translation of innovative biofabrication technologies for tissue regeneration and development of cutting-edge 3-D *in vitro* disease models for drug screening and personalized medicine.
Keywords specifying your expertise:	*In vitro* model disease, biomaterials, tissue regeneration, tissue repair, diagnostics, bioprinting, biofabrication.
Commitment offered:	☒ Research ☒ Demonstration ☐ Training ☒ Technology ☐ Dissemination ☐ Other:

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Interested in participation in project types:	☒ Research & Innovation Action	☒ Innovation Action	☒ EIC Pathfinder

Work Programme research areas: indicate your interest

Call Staying Healthy
Call Tackling Diseases
Call Tools and technologies for a healthy society

Call topic(s):

1. HORIZON-HLTH-2022-STAYHLTH-02-01 - Personalised blueprint of chronic inflammation in health-to-disease transition (deadline 21 April 2022)
2. HORIZON-HLTH-2022- DISEASE-07-02 Pandemic Preparedness (21 April 2022)
3. HORIZON-HLTH-2022-TOOL-11-01 - Optimising effectiveness in patients of existing prescription drugs for major diseases (except cancer) with the use of biomarkers (21 April 2022)

Do you have other partners for this topic (which partners/country)?	no

Profile of partner sought

Role	☒ technology development	☒ research	☐ training
	☐ dissemination	☒ demonstration	☐ other _____
Country /region	☐ no country preference		
Expertise required	We are looking for partners with expertise in medicine / biology / inflammation who have an interest in advanced biofabrication technologies and engineering complex multicellular systems.		

I agree with the publication of my contact data: ☒ YES ☐ NO