Objective

Osteoarthritis (OA) is a degenerative joint disease, typified by a loss of quality of cartilage and changes in bone at the interface of a joint, resulting in pain, stiffness and reduced mobility. BAMOS project particularly addresses the challenges in OA treatment by providing novel cost effective osteochondral scaffold technology for early intervention of OA to delay or avoid the joint replacement operations. This project has the potential to relieve pain in patients with OA improving their quality of life by keeping people active. It fits with the scope of EU Societal Challenges to encourage the provision of improved clinical care for patients in the field of healthcare, especially for elderly patients.

In the course of developing this new treatment for mid- to late stage OA, BAMOS aims to establish and embed a new collaboration between six internationally leading research organisations (four universities, one healthcare provider and one manufacturer with expertise in additive manufacturing). The partners propose an
The partners propose an integrated programme of research activities and the development of a collaborative graduate training scheme. The dissemination of research will result in at least 15 high profile joint research publications, and the consortium will organise two international scientific conferences (one in the EU, one in China) and 3 workshops. BAMOS will develop new materials and manufacturing technologies for the fabrication of custom-tailored osteochondral scaffolds. Novel biopolymeric composites, processed by additive manufacturing, will be characterized and tested as well as coatings on titanium scaffolds. Also, thermal welding technique will be used to join the cartilage component with the bone component to form an osteochondral unit. The new technologies will undergo full pre-clinical evaluation in order that the scaffolds are able to enter clinical trial after the project.

**Field of science**

/engineering and technology/materials engineering/composites
/engineering and technology/materials engineering/coating and films
/natural sciences/chemical sciences/inorganic chemistry/inorganic compounds
/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing
/engineering and technology/industrial biotechnology/biomaterials

**Programme(s)**

**Topic(s)**

**Call for proposal**

H2020-MSCA-RISE-2016

**Funding Scheme**

MSCA-RISE - Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE)

**Coordinator**

**UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA**

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<td>Higher or Secondary</td>
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<td>Education Establishments</td>
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Participants (3)

UNIVERSITY COLLEGE LONDON

United Kingdom
EU contribution
€ 180 000
Address
Gower Street
WC1E 6BT London

Activity type
Higher or Secondary Education Establishments

UNIVERSIDADE DO MINHO

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EU contribution
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Website
Contact the organisation

Activity type
Higher or Secondary Education Establishments

THE ROYAL NATIONAL ORTHOPAEDIC HOSPITAL NATIONAL HEALTH SERVICE TRUST

United Kingdom
EU contribution
€ 67 500
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Activity type
Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

Partners (3)
XI'AN JIAOTONG UNIVERSITY

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Activity type
Higher or Secondary Education Establishments

Website
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SHAANXI HENGTONG INTELLIGENT MACHINE CO LTD

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Activity type
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310027 Hangzhou

Activity type
Higher or Secondary Education Establishments

Website
Contact the organisation

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