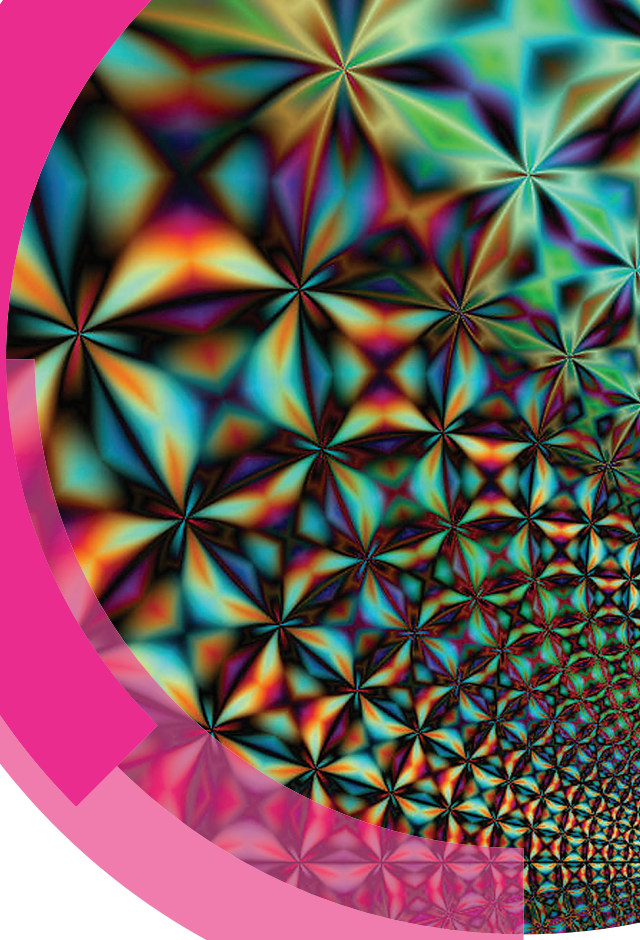
ROYAL SOCIETY OF CHEMISTRY



RSC Advances

At the heart of open access for the global chemistry community

Editor-in-chief

Russell J Cox
Leibniz Universität Hannover, Germany

We stand for:

Breadth We publish work in all areas of chemistry and reach a global readership

Affordability Low APCs, discounts and waivers make publishing open access achievable and sustainable

Quality Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal

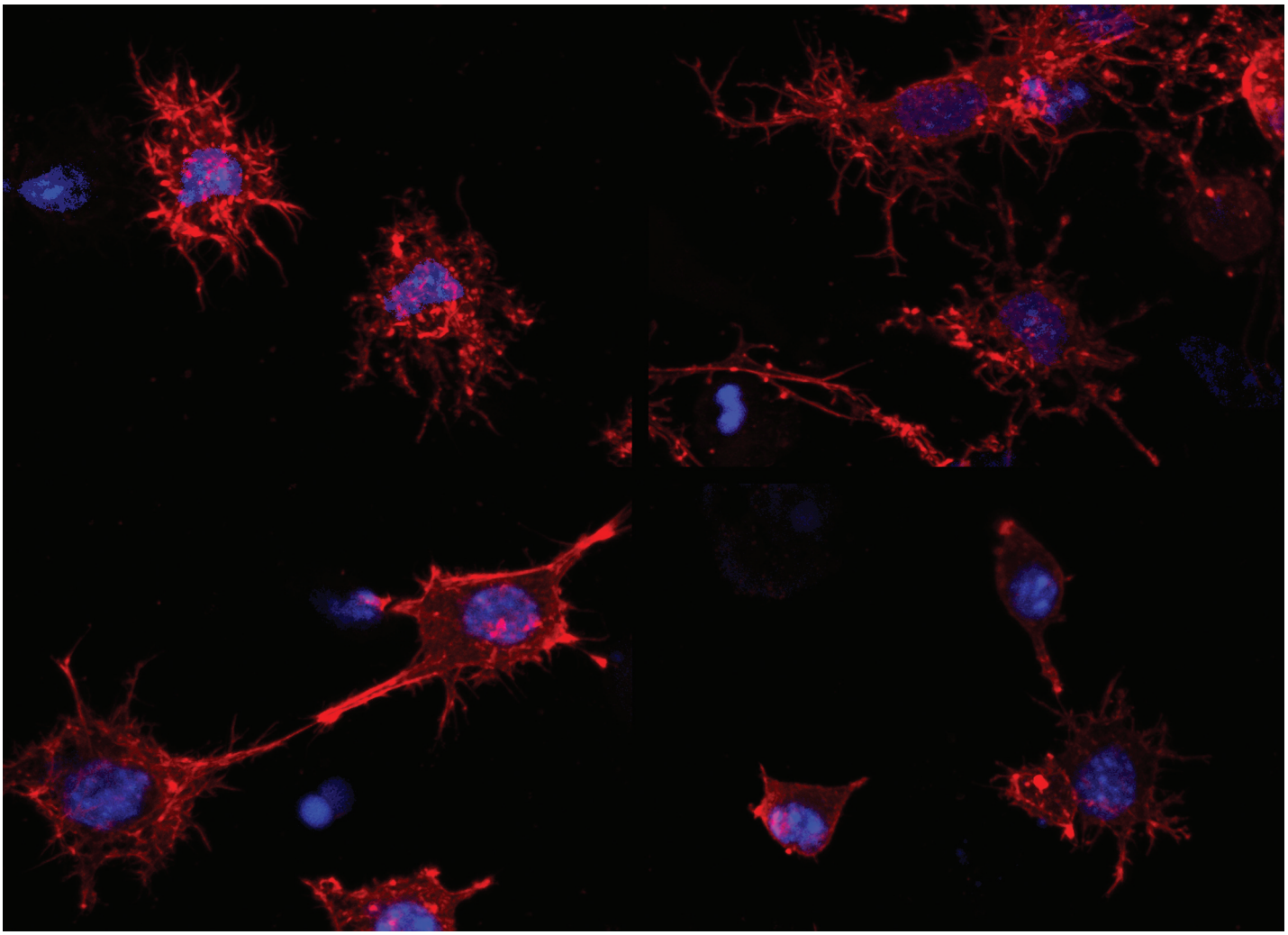
Community Led by active researchers, we publish quality work from scientists at every career stage, and all countries

Submit your work now

rsc.li/rsc-advances

@RSC_Adv

Registered charity number: 207890

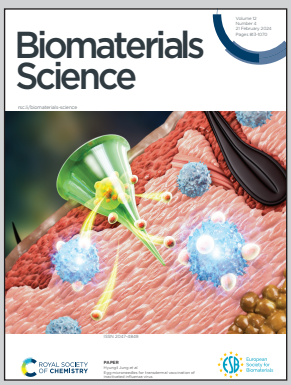


Showcasing research from Professor Xiao-Hua Qin's Biomaterials Engineering Laboratory, Institute for Biomechanics, ETH Zurich, Zurich, Switzerland.

Interpenetrating network hydrogels for studying the role of matrix viscoelasticity in 3D osteocyte morphogenesis

Interpenetrating alginate–collagen hydrogels of different stress relaxation speeds enable mechanobiological investigations of 3D cell cultures. Here, these hydrogels were used to mimic the osteoid tissue during early bone development. Murine IDG-SW3 osteocytes were cultured in fast- and slow-relaxing compositions for 14 days. Fast-relaxing hydrogels promoted early cell spreading and morphogenesis in 3D, whereas slow-relaxing hydrogels favored osteogenic differentiation over time, highlighting the sensitivity of osteocytes to matrix mechanics during *in vitro* bone development.

As featured in:



See Xiao-Hua Qin *et al.*, *Biomater. Sci.*, 2024, **12**, 919.

ROYAL SOCIETY OF CHEMISTRY

rsc.li/biomaterials-science

Registered charity number: 207890