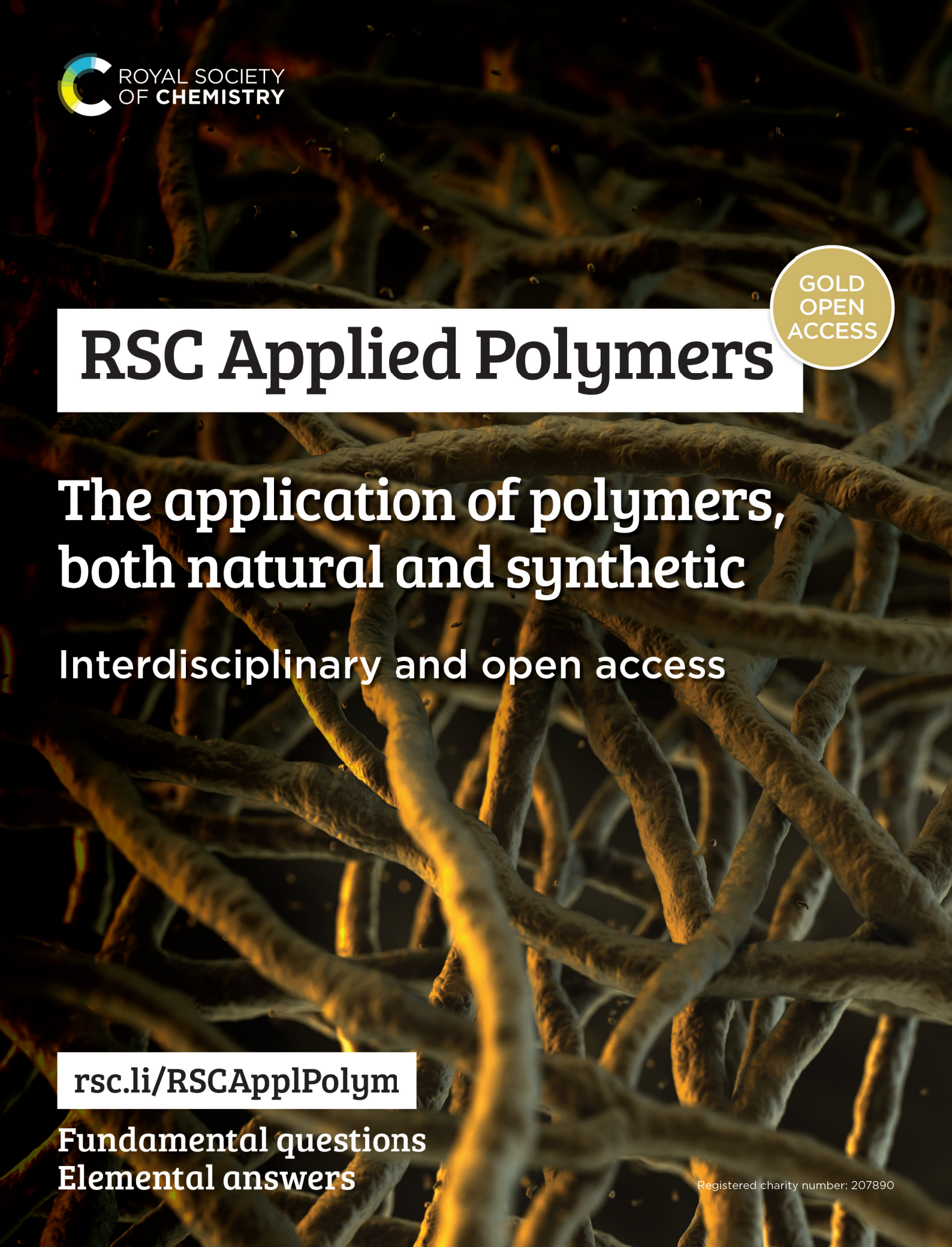
ROYAL SOCIETY
OF CHEMISTRY
GOLD
OPEN
ACCESS
RSC Applied Polymers
The application of polymers, both natural and synthetic
Interdisciplinary and open access
rsc.li/RSCApplPolym
Fundamental questions
Elemental answers
Registered charity number: 207890

Showcasing the research from Dr Kumeria's team at the Porous Materials Lab, School of Materials Science and Engineering, University of New South Wales-Sydney, Australia.

Osteoimmune-modulating and BMP-2-eluting anodised 3D printed titanium for accelerated bone regeneration

Engineering of anodised 3D printed Titanium (Ti) implants with immune modulatory and sustained protein growth factor elution capabilities. This study explored the effects of nano- and micro-rough features anodised Titania nanotubes (TiNTs) 3D Ti implants on activation of macrophages. The research showed the behaviour of macrophages can be precisely controlled by tuning the morphology of TiNTs. The work also demonstrated that an excipient strategy can preserve the activity of BMP-2 and enable its sustained release for up to 3 weeks from TiNTs, ensuring an improved bone regeneration and integration.

As featured in:

See Qingsong Ye, Chun Xu, Tushar Kumeria *et al.*, *J. Mater. Chem. B*, 2024, **12**, 97.

ROYAL SOCIETY OF CHEMISTRY

rsc.li/materials-b

Registered charity number: 207890