

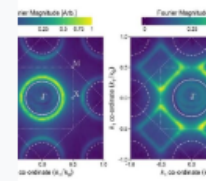
Healthy Living

Olly Duncan

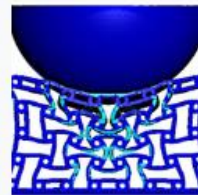
Challenge Areas



Special Interest Groups (SIGs)



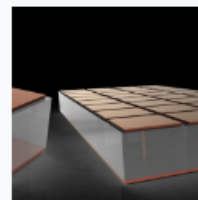
Acoustic Metamaterials



Mechanical Metamaterials



Photonic Metamaterials



Wireless and Microwave Metamaterials



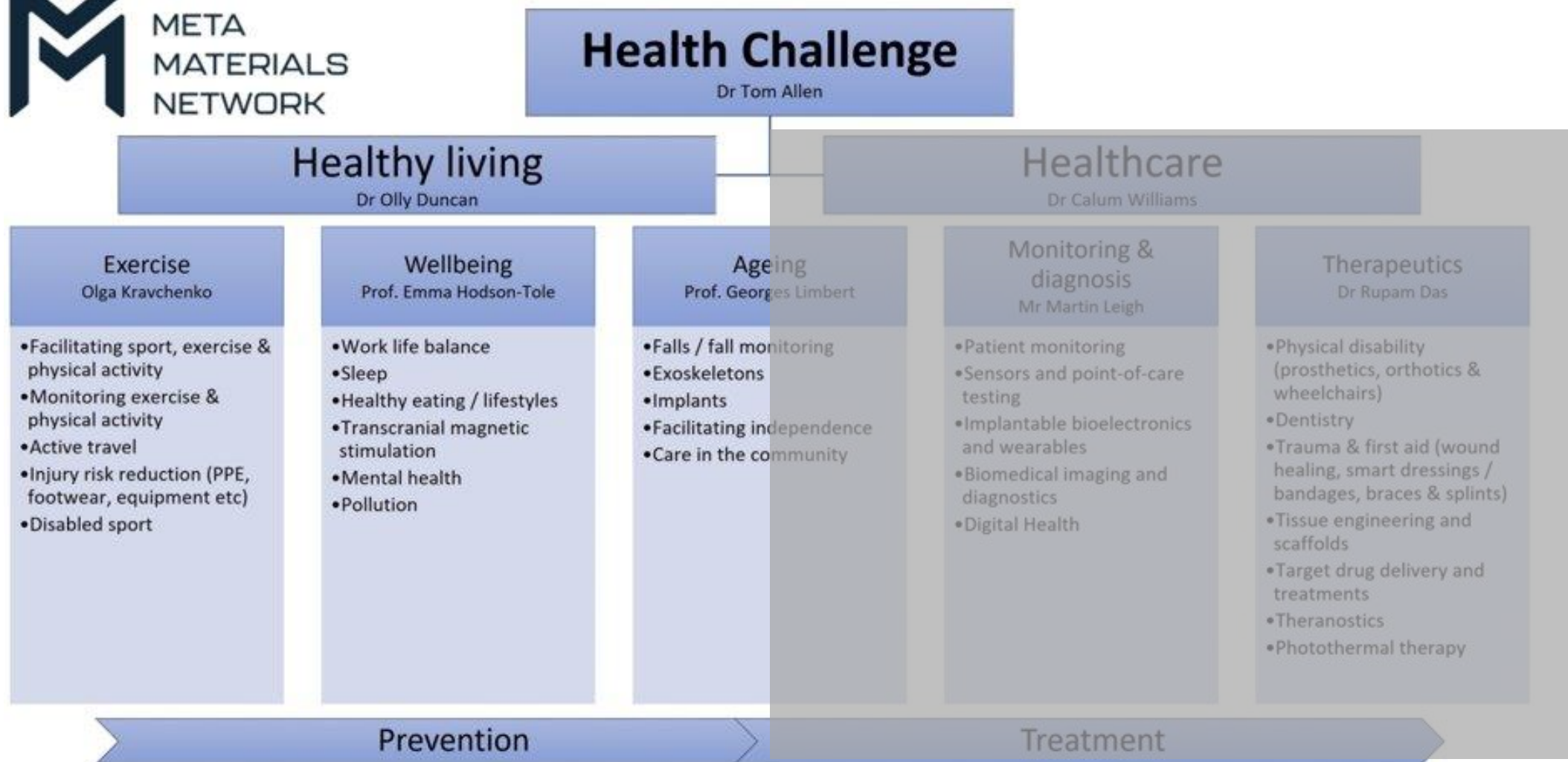
Manufacturing and Scale Up



Modelling and AI-Design



Active Metamaterials



Exercise

GOV.UK

Home > Transport > Driving and road transport > Cycling and walking

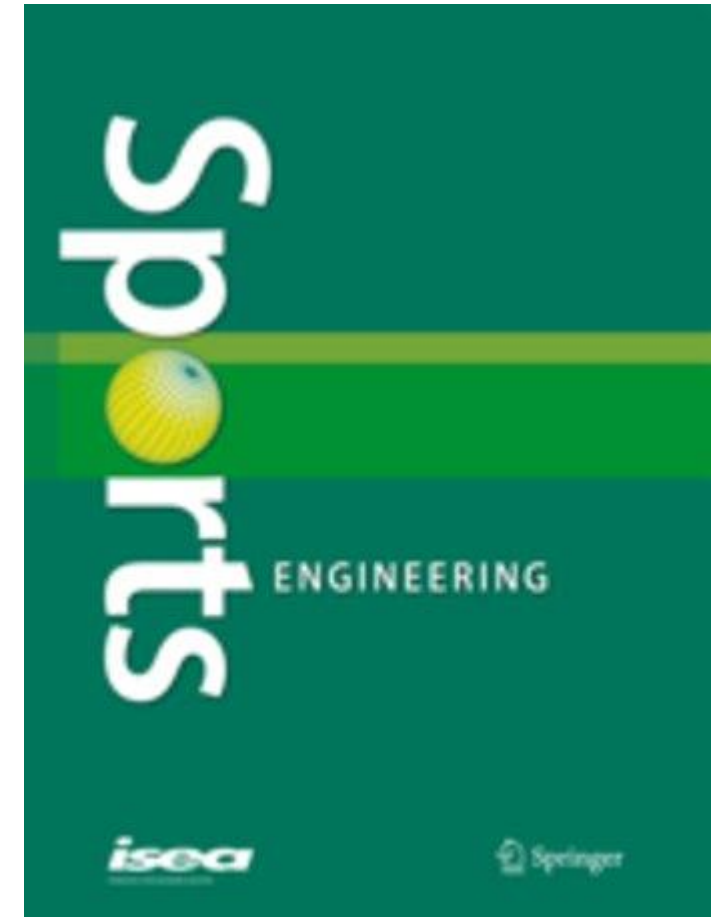
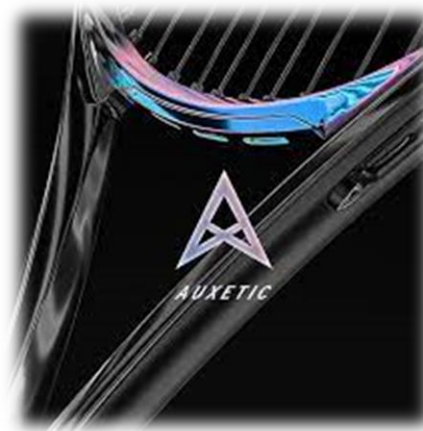
News story

Healthy, cost-effective travel for millions as walking and cycling projects get the green light

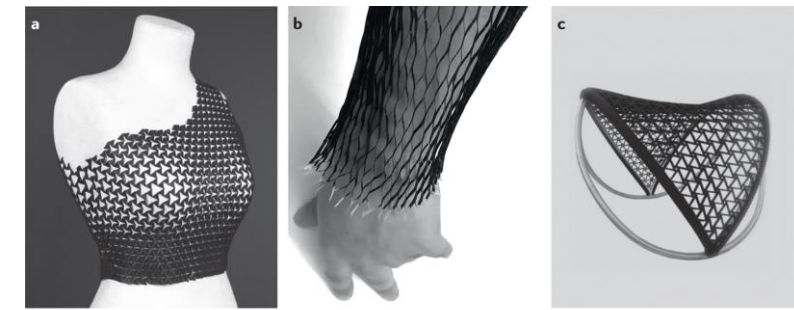
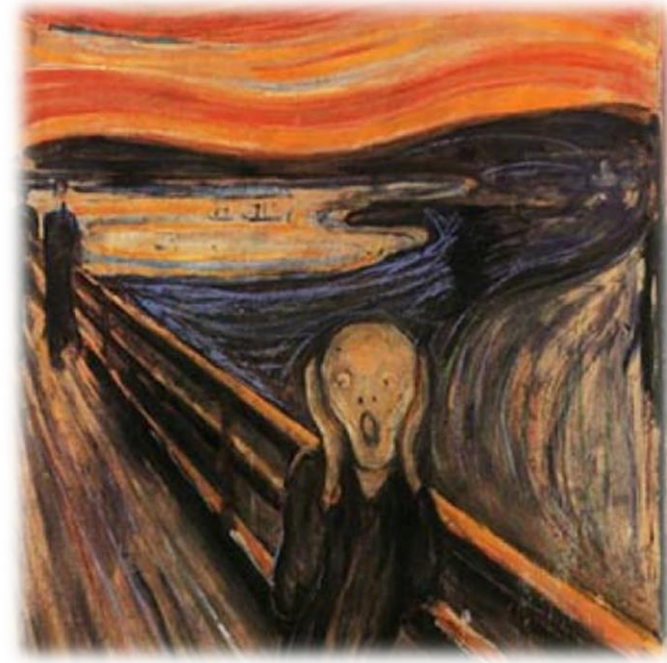


Call for Papers: Topical Collection on Metamaterials in Sport

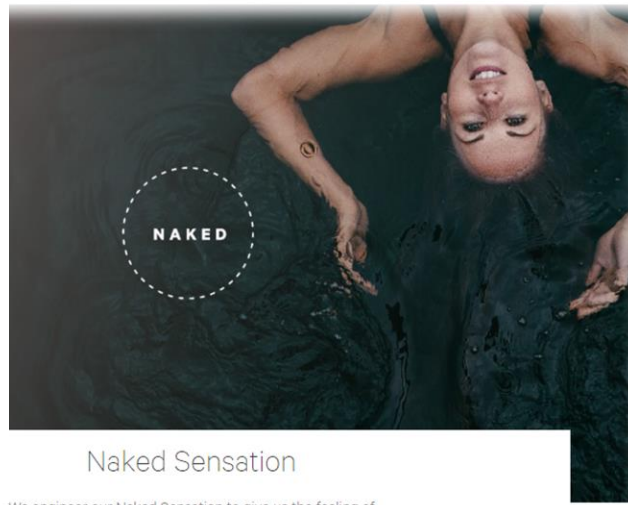
- Mechanical metamaterials
- Active metamaterials
- Acoustic metamaterials and metasurfaces
- Augmented reality
- Electromagnetic metamaterials for biosensors







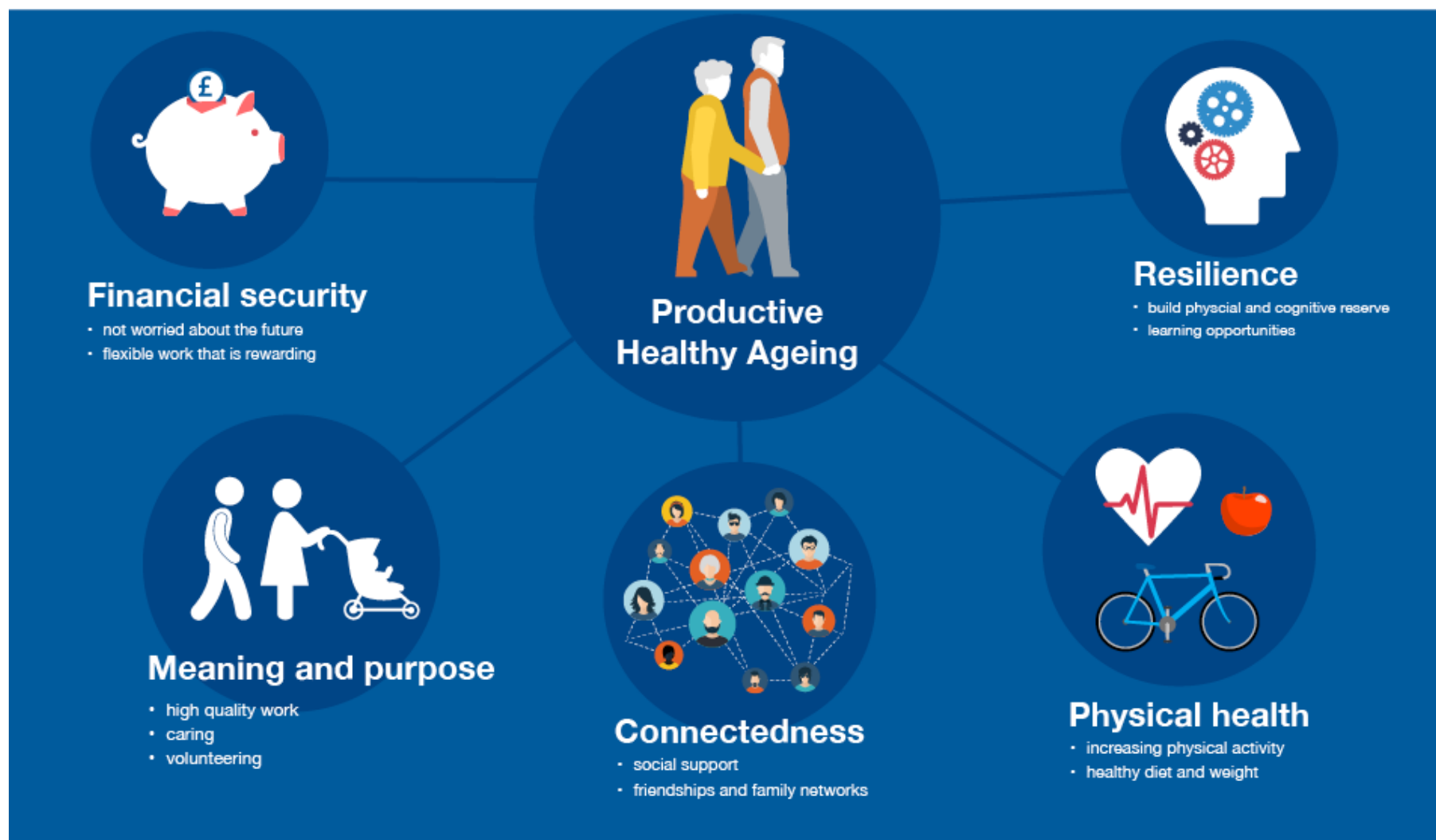
Nature Reviews | Materials



Naked Sensation

We engineer our Naked Sensation to give us the feeling of wearing nothing with all the coverage we need when we're moving from Down Dog to Forward Fold. This sensation is all thanks to you—we heard your feedback, loud and clear, that you wanted close-to-body styles that would give you the unrestricted movement of a tight with only gentle compression. Mission accomplished!





Mechanical Metamaterials

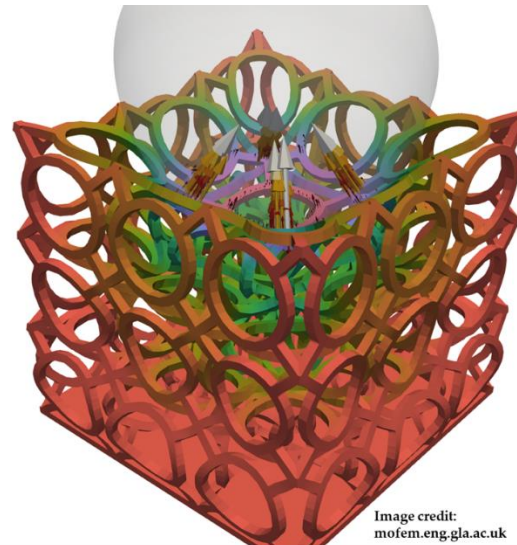


Image credit:
mofem.eng.gla.ac.uk



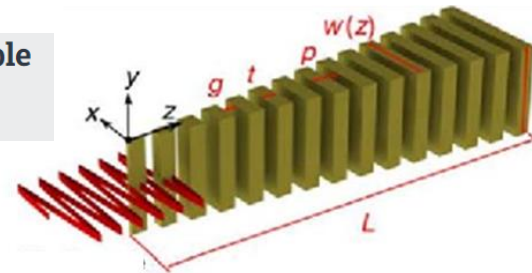
Acoustic Metamaterials & Metasurfaces



Sound is the strongest correlator with perception of feel

An Acoustic Metamaterial-Based Sensor Capable of Multiband Filtering and Amplification

Huang Xinjing, Yan Yutian, +2 authors, Rui Xiaobo • Published 15 April 2020 • Physics • IEEE Sensors Journal



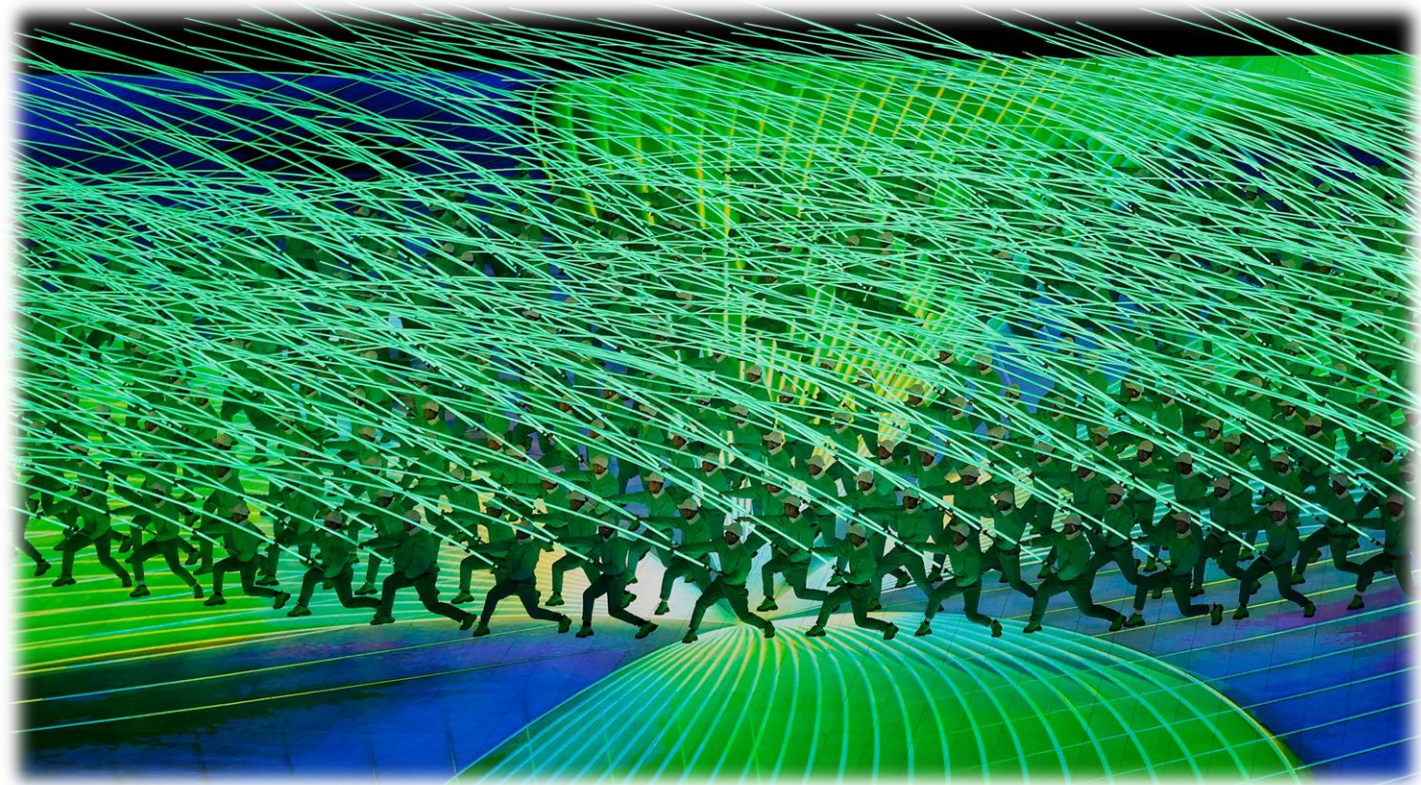
Sorry what did you say?

Augmented Reality

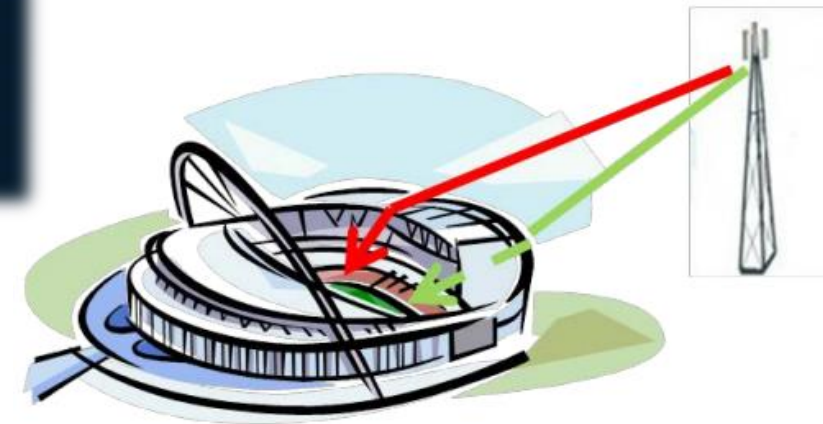
Navigation, or monitoring fitness apps




CGI in the Olympic opening ceremony –better on a screen?



Electromagnetic metamaterials



Original research

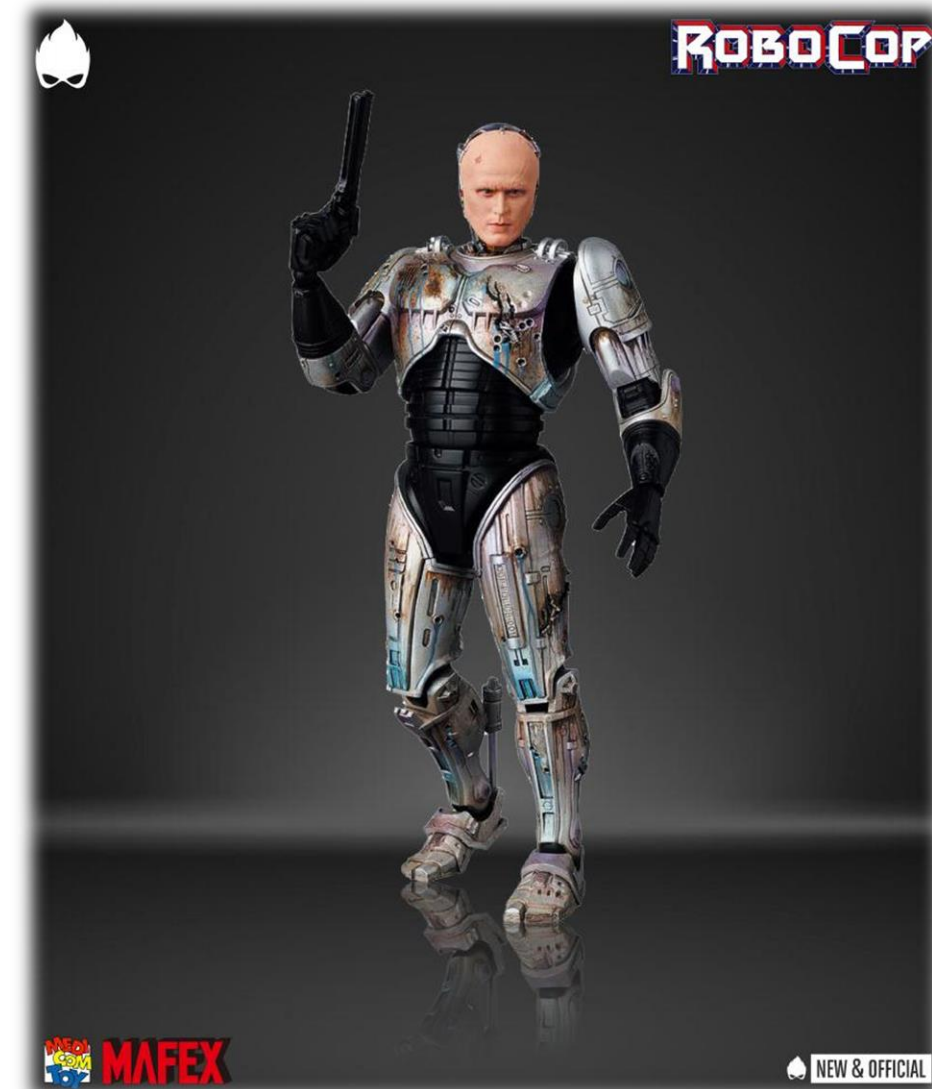
Unique diagnostic signatures of concussion in the saliva of male athletes: the Study of Concussion in Rugby Union through MicroRNAs (SCRUM) 

 Valentina Di Pietro^{1, 2, 3}, Patrick O'Halloran^{1, 3}, Callum N Watson¹, Ghazala Begum³, Animesh Acharjee^{2, 4, 5}, 

The Spider Man Slide

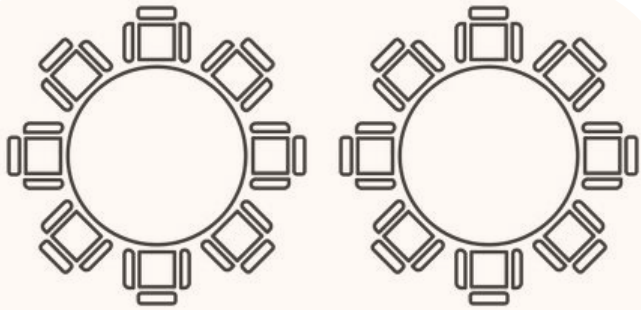


PS4 Pro and 4K display device required for 4K feature.

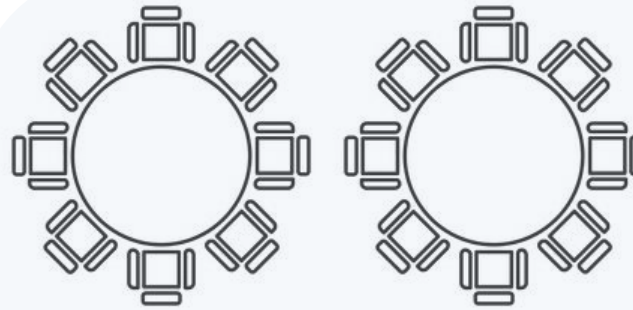


Opportunities for metamaterials in healthy living: questions, ideas, projects

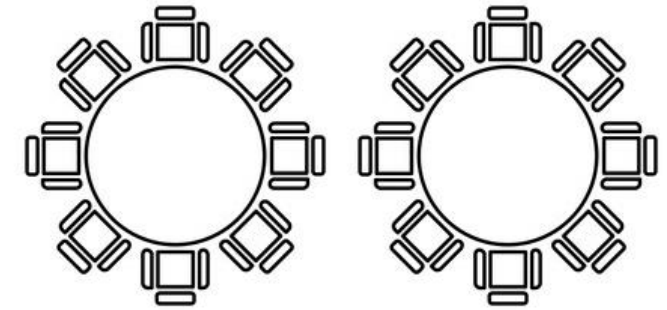
Ageing



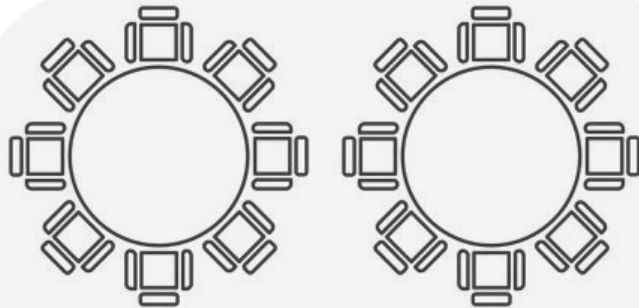
Exercise



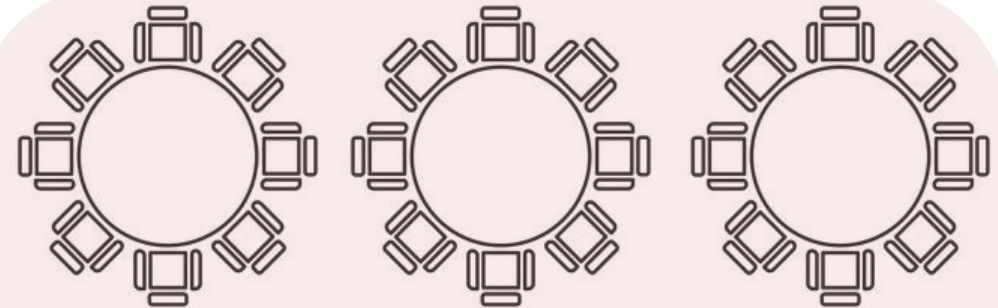
Wellbeing



Keynote: Healthy Living



Wildcard



TOPIC

Big research
questions

Challenges

How could
metamaterials
help?



Proof of concept
/ demonstrators

Longer research
projects