

Prof Karin Hing

CEng, PhD, BSc, MIMMM, FHEA, FRSA, FWES, FZSL

School of Engineering and Materials Science
Queen Mary University of London
Mile End Road
London E1 4NS

tel: +44 (0)20 7882 7804

email: k.a.hing@qmul.ac.uk web: www.sems.qmul.ac.uk/k.a.hing

2023

SSNMR confirms silicate ion substitution in the apatitic structure of 0.8wt% Si hydroxyapatite.

Mafina M-K, Wilson R, Rees G, Gierth P, Sullivan A and Hing K. *Academia Materials Science*.

2022

Photoelectrochemical Detection of Calcium Ions Based on Hematite Nanorod Sensors.

Zhou B, Jiang Y, Guo Q, Das A, Jorge Sobrido A, Hing K, Zayats A and Krause S. *Acs Applied Nano Materials. American Chemical Society*.

2021

Photoelectrochemical imaging system with high spatiotemporal resolution for visualizing dynamic cellular responses.

Zhou B, Das A, Zhong M, Guo Q, Zhang D-W, Hing KA, Sobrido AJ, Titirici M-M and Krause S. *Biosensors and Bioelectronics vol. 180, Elsevier*.

2020

Decellularized porcine xenograft for anterior cruciate ligament reconstruction: A histological study in sheep comparing cross-pin and cortical suspensory femoral fixation.

Hexter AT, Hing KA, Haddad FS and Blunn G. *Bone and Joint Research vol. 9, (6) 293-301. The British Editorial Society of Bone & Joint Surgery*.

2019

Photoelectrochemical Imaging System for the Mapping of Cell Surface Charges.

Wu F, Zhou B, Wang J, Zhong M, Das A, Watkinson M, Hing K, Zhang D-W and Krause S. *Anal Chem*.

2017

Use of a fluorescent probe to monitor the enhanced affinity of rh-BMP-2 to silicated-calcium phosphate synthetic bone graft substitutes under competitive conditions.

Mafina MK, Sullivan AC and Hing KA. *Materials Science and Engineering C vol. 80, 207-212*.

The effect of the incorporation of fluoride into strontium containing bioactive glasses.

Sriranganathan D, Chen X, Hing KA, Kanwal N and Hill RG. *Journal of Non-Crystalline Solids vol. 457, 25-30*.

2016

Porous Bone Graft Substitutes.

Campion C and Hing KA. *Mechanobiology 347-371. Wiley*.

The effect of increased microporosity on bone formation within silicate-substituted scaffolds in an ovine posterolateral spinal fusion model.

Coathup MJ, Blunn GW, Campion C, Ho C-Y and Hing KA. *J Biomed Mater Res B Appl Biomater vol. 105, (4) 805-814*.

2015

Strontium substituted bioactive glasses for tissue engineered scaffolds: the importance of octacalcium phosphate.

Sriranganathan D, Kanwal N, Hing KA and Hill RG. *Journal of Materials Science: Materials in Medicine* vol. 27, (2). Springer Nature.

Efficacy of silicate-substituted calcium phosphate with enhanced strut porosity as a standalone bone graft substitute and autograft extender in an ovine distal femoral critical defect model.

Hutchens SA, Campion C, Assad M, Chagnon M and Hing KA. *J Mater Sci Mater Med* vol. 27, (1) 20-20.

Apatite formation of bioactive glasses is enhanced by low additions of fluoride but delayed in the presence of serum proteins.

Shah FA, Brauer DS, Hill RG and Hing KA. *Materials Letters* vol. 153, 143-147. Elsevier.

2014

Fluoride-containing bioactive glasses and Bioglass 45S5 form apatite in low pH cell culture medium.

Shah FA, Brauer DS, Desai N, Hill RG and Hing KA. *Materials Letters* vol. 119, 96-99.

Influence of cell culture medium composition on in vitro dissolution behavior of a fluoride-containing bioactive glass.

Shah FA, Brauer DS, Wilson RM, Hill RG and Hing KA. *Journal of Biomedical Materials Research - Part A* vol. 102, (3) 647-654.

2013

Microstructure and chemistry affects apatite nucleation on calcium phosphate bone graft substitutes.

Campion CR, Ball SL, Clarke DL and Hing KA. *Journal of Materials Science: Materials in Medicine* vol. 24, (3) 597-610.

Development of novel fluorescent probes for the analysis of protein interactions under physiological conditions with medical devices.

Mafina M-K, Hing KA and Sullivan AC. *Langmuir* vol. 29, (5) 1420-1426.

Antibacterial effect of incorporating silver ions in electrochemically deposited hydroxyapatite coating: An experimental study.

Ghani Y, Coathup MJ, Hing KA and Blunn GW. *Jrsm Short Rep* vol. 4, (9).

Biomimetic bone regeneration.

Hing KA.

8 Biomimetic bone regeneration.

Hing KA. *Biomimetic Biomaterials* 207-237. Elsevier.

Contributor contact details.

Ruys A, Tampieri A, Sprio S, Ehrlich H, Rabiei R, Dastjerdi AK, Mirkhalaf M, Barthelat F, Chnov EM, Rypek F, Boughton P, Ruys A, Roger G, Rohanzadeh R, Mason RS, Boughton E, McLennan SV, Le Bao Ha T, Hing KA, Zhu J, Hu J, Marchant RE and Campbell D. *Biomimetic Biomaterials ix-xi*. Elsevier.

2012

Effect of increased strut porosity of calcium phosphate bone graft substitute biomaterials on osteoinduction.

Coathup MJ, Hing KA, Samizadeh S, Chan O, Fang YS, Campion C, Buckland T and Blunn GW. *Journal of Biomedical Materials Research - Part A* vol. 100 A, (6) 1550-1555.

Development of a hydroxyapatite coating containing silver for the prevention of peri-prosthetic infection.

Ghani Y, Coathup MJ, Hing KA and Blunn GW. *J Orthop Res* vol. 30, (3) 356-363.

The effects of microporosity on osteoinduction of calcium phosphate bone graft substitute biomaterials.

Chan O, Coathup MJ, Nesbitt A, Ho CY, Hing KA, Buckland T, Campion C and Blunn GW. *Acta Biomaterialia* vol. 8, (7) 2788-2794.

Bioactivity And Bone Formation In Silicon-Substituted Hydroxyapatite.

Ozad U, Parish A and Hing KA. *Sakarya University Journal of Science* vol. 16, (3) 170-177. *Lookus Bilisim*.

2011

The osteoinductivity of silicate-substituted calcium phosphate.

Coathup MJ, Samizadeh S, Fang YS, Buckland T, Hing KA and Blunn GW. *J Bone Joint Surg Am* vol. 93, (23) 2219-2226.

Effects of serum protein on ionic exchange between culture medium and microporous hydroxyapatite and silicate-substituted hydroxyapatite.

Guth K, Campion C, Buckland T and Hing KA. *Journal of Materials Science: Materials in Medicine* vol. 22, (10) 2155-2164.

Increasing strut porosity in silicate-substituted calcium-phosphate bone graft substitutes enhances osteogenesis.

Campion CR, Chander C, Buckland T and Hing K. *Journal of Biomedical Materials Research - Part B Applied Biomaterials* vol. 97 B, (2) 245-254.

2010

Surface physiochemistry affects protein adsorption to stoichiometric and silicate-substituted microporous hydroxyapatites.

Guth K, Campion C, Buckland T and Hing KA. *Advanced Engineering Materials* vol. 12, (4).

Effect of silicate-substitution on attachment and early development of human osteoblast-like cells seeded on microporous hydroxyapatite discs.

Guth K, Campion C, Buckland T and Hing KA. *Advanced Engineering Materials* vol. 12, (1-2).

2008

Biomaterials - Where biology, physics, chemistry, engineering and medicine meet.

Hing KA. *Journal of Physics: Conference Series* vol. 105, (1).

Nano-scale manipulation of silicate-substituted apatite chemistry impacts surface charge, hydrophilicity, protein adsorption and cell attachment.

Rashid N, Harding I, Buckland T and HING KA. *International Journal of Nano and Biomaterials* vol. 1, (3) 299-319. Editors: Meenan BJ and Boyd AR.

2007

Comparative performance of three ceramic bone graft substitutes.

Hing KA, Wilson LF and Buckland T. *Spine J* vol. 7, (4) 475-490.

2006

Effect of silicon level on rate, quality and progression of bone healing within silicate-substituted porous hydroxyapatite scaffolds.

Hing KA, Revell PA, Smith N and Buckland T. *Biomaterials* vol. 27, (29) 5014-5026.

2005

Surface charge and the effect of excess calcium ions on the hydroxyapatite surface.

Harding IS, Rashid N and Hing KA. *Biomaterials* vol. 26, (34) 6818-6826.

Hydroxyapatite promotes superior keratocyte adhesion and proliferation in comparison with current keratoprosthesis skirt materials.

Mehta JS, Futter CE, Sandeman SR, Faragher RGAF, Hing KA, Tanner KE and Allan BDS. *Br J Ophthalmol* vol. 89, (10) 1356-1362.

Bioceramic bone graft substitutes: Influence of porosity and chemistry.

Hing KA. *Int J Appl Ceram Tec* vol. 2, (3) 184-199.

2004

Bone repair in the twenty-first century: biology, chemistry or engineering?.

Hing KA. *Philos Trans a Math Phys Eng Sci* vol. 362, (1825) 2821-2850.

An ultrastructural study of cellular response to variation in porosity in phase-pure hydroxyapatite.

Annaz B, Hing KA, Kayser M, Buckland T and Di Silvio L. *J Microsc* vol. 216, (Pt 2) 97-109.

Porosity variation in hydroxyapatite and osteoblast morphology: a scanning electron microscopy study.

Annaz B, Hing KA, Kayser M, Buckland T and Di Silvio L. *J Microsc* vol. 215, (Pt 1) 100-110.

Mediation of bone ingrowth in porous hydroxyapatite bone graft substitutes.

HING KA, Tanner KE, Best SM, Bonfield W and Revell PA. *Journal of Biomedical Materials Research* vol. 68A, 187-200.

Mediation of bone ingrowth in porous hydroxyapatite bone graft substitutes.

Hing KA, Best SM, Tanner KE, Bonfield W and Revell PA. *J Biomed Mater Res A* vol. 68, (1) 187-200.

2003

A preliminary study on the enhancement of the osteointegration of a novel synthetic hydroxyapatite scaffold in vivo.

Damien E, Hing K, Saeed S and Revell PA. *J Biomed Mater Res A* vol. 66, (2) 241-246.

Calcium phosphate coatings obtained by Nd:YAG laser cladding: physicochemical and biologic properties.

Lusquiños F, De Carlos A, Pou J, Arias JL, Boutinguiza M, Len B, Pérez-Amor M, Driessens FCM, Hing K, Gibson I, Best S and Bonfield W. *J Biomed Mater Res A* vol. 64, (4) 630-637.

2002

A comparative study on the in vivo behavior of hydroxyapatite and silicon substituted hydroxyapatite granules.

Patel N, Best SM, Bonfield W, Gibson IR, Hing KA, Damien E and Revell PA. *J Mater Sci Mater Med* vol. 13, (12) 1199-1206.

1999

Quantification of bone ingrowth within bone-derived porous hydroxyapatite implants of varying density.

Hing KA, Best SM, Tanner KE, Bonfield W and Revell PA. *Journal of Materials Science: Materials in Medicine* vol. 10, (10-11) 663-670. *Springer Nature*.

Characterization of porous hydroxyapatite.

Hing KA, Best SM and Bonfield W. *J Mater Sci Mater Med* vol. 10, (3) 135-145.

1998

Histomorphological and biomechanical characterization of calcium phosphates in the osseous environment.

Hing KA, Best SM, Tanner KE, Revell PA and Bonfield W. *Proceedings of The Institution of Mechanical Engineers Part H Journal of Engineering in Medicine* vol. 212, (6) 437-451. *Sage Publications*.

1997

Biomechanical assessment of bone ingrowth in porous hydroxyapatite.

HING KA, BEST SM, TANNER KE, BONFIELD W and REVELL PA. *Journal of Materials Science: Materials in Medicine* vol. 8, (12) 731-736. *Springer Nature*.