

Personal information form for Fellow members of EAMBES

Personal Info



Name: K. Elizabeth (Liz) Tanner

Gender: Female

Year and place of birth: 1957; Farnham UK

Present affiliations and functions: Professor of Biomedical Materials, School of Engineering, University of Glasgow, UK; Adjunct Professor, Department of Orthopaedics, Lund University, Sweden

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Webpage address: <http://www.gla.ac.uk/schools/engineering/staff/ktanner/>

<http://www.researcherid.com/rid/E-9242-2010>

Short CV

1. Education/training:

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| 1979 | B.A. in Engineering Science (M.A. November 1985) Department of Engineering Science and Lady Margaret Hall, University of Oxford |
| 1985 | D.Phil. in Engineering Science Oxford Orthopaedic Engineering Centre, Department of Engineering Science and Lady Margaret Hall, University of Oxford |

2. Professional affiliations

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| 1983-1988 | SERC funded Research Assistant, Department of Materials, Queen Mary College, University of London |
| 1988 -1993 | Science and Engineering Research Council Advanced Research Fellow at Queen Mary and Westfield College, University of London |

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| 1993 - 1995 | Lecturer, Department of Materials and IRC in Biomedical Materials, Queen Mary and Westfield College, University of London |
| 1995 - 1998 | Reader in Biomaterials and Biomechanics, Department of Materials and IRC in Biomedical Materials, Queen Mary and Westfield College, University of London |
| 1998 - 2007 | Professor of Biomedical Materials, Department of Materials and IRC in Biomedical Materials, Queen Mary, University of London |
| Since 1998 | Adjunct Professor, Department of Orthopaedics, Lund University, Sweden |
| Since 2007 | Professor of Biomedical Materials, University of Glasgow, Glasgow, UK |

3. Other experience and major activities

- (Co)advisor of 31 current and past PhD projects (London, Lund and Glasgow).
- Acting Head of IRC in Biomedical Materials (2000)
- Dean of Engineering, Queen Mary and Westfield College, University of London (1999-2000)
- Co-Head of the Biomechanics Laboratory, Department of Orthopaedics, Lund University, (1998-2001)
- Founder Member UK Society for Biomaterials and First President (2000) on Council (2000-2004)
- Organiser European Society for Biomaterials Congress London (September 2001)
- Executive Council of European Society for Biomaterials (2001- 2009, Secretary 2005-2009)
- Royal Academy of Engineering Global Research Awards Committee, (member 2007-2011, Chairman 2009-2011)
- Royal Academy of Engineering Membership Committee (2013-)
- Chairman of the Division of Societies of EAMBES (2007-2009)
- Professional memberships
 - Fellow Institution of Mechanical Engineers (1994-)
 - Fellow Institute of Materials, Minerals and Mining (1997-)
 - Fellow Institution of Physics and Engineering in Medicine (2009-)
 - Member European Society of Biomechanics
 - Member European Society for Biomaterials
- Associate Editor Proceedings of the Institution of Mechanical Engineers, Part H: Engineering in Medicine (2014-), member of various other Editorial Boards
- Developed and lead first undergraduate degree (BEng & MEng) in Biomedical Engineering in Scotland (2010-2015)

4. Major scientific interest

Liz Tanner develops materials that actively interact with the human body in particular for bone replacement. Her work has resulted in the production of ceramic-polymer composite materials for bone replacement and augmentation. The work has been complemented by studies of the mechanical behaviour of bone around orthopaedic implants. The aim has been to produce a more physiological mechanical environment for the bone supporting implant, thus encouraging normal bone turnover and minimising remodelling. Liz also contributes to improving the interface both between the biomaterials and biomechanics fields and between engineers and clinicians. She has applied mechanical testing to

the measurement of the interfaces developed between implant materials and natural tissue to complement the histological analysis of the interface. She also has interests in the engineering education of clinicians and the biomedical education of engineers.

Fields of research interest

- Bone replacement materials, especially bioactive mechanically strong composites based on ceramic reinforced polymers
- Bone biomechanics including the effects of pathologies
- Implant development and testing

5. Bibliographical Data

Number of publications: 129; Total citations: 2237 (without self citations: 2170); H-index: 28

Patents: 3

6. Four references to papers you find most important and relevant

1. C. Huesa, M.C. Yadav, M.A.J. Finnilä, S.R. Goodyear, S.P. Robins, K.E. Tanner, R.M. Aspden, J.L. Millán and C. Farquharson, PHOSPHO1 is Essential for Mechanically Competent Mineralization and the Avoidance of Spontaneous Fractures, *Bone*, 48(5), 1066-1074. 2011
2. A. Gloria, R. De Santis, L. Ambrosio, F. Causa and K.E. Tanner, A Multi-component Fiber-reinforced PHEMA-based Hydrogel/HAPEX™ Device for Customized Intervertebral Disc Prosthesis, *Journal of Biomaterials Applications*, 25(8), 795-810. 2011
3. Y. Zhang, L. Hao, M.M. Savalani, R.A. Harris, L. Di Silvio and K.E. Tanner, *In vitro* Biocompatibility of Hydroxyapatite Reinforced Polymeric Composites Manufactured by Selective Laser Sintering, *Journal of Biomedical Materials Research A*, 91A(4), 1018-1027. 2009
4. N.C. Bleach, S.N. Nazhat, K.E. Tanner, M. Kellomäki and P. Törmälä, Effect of Filler Content on Mechanical and Dynamic Mechanical Properties of Particulate Biphasic Calcium Phosphate Poly(lactide) Composites, *Biomaterials*, 23(7), 1579-1585. 2002

Recognitions:

Honors and awards

- 1996 Gisela Sturm Prize for Innovation in Artificial Joint Replacement, awarded by European Federation of National Associations in Orthopaedics and Traumatology (EFORT).
- 1999 Göran Selvik Prize for the best scientific paper involving radiographic imaging techniques, awarded by European Orthopaedic Research Society (EORS).
- 2000 Elected Fellow Biomaterials Science and Engineering (FBSE) awarded by International Union of Societies in Biomaterials Science and Engineering (IUS-BSE)
- 2006 Elected Fellow of the Royal Academy of Engineering (FREng)
- 2009 President's Prize UK Society for Biomaterials
- 2015 Elected Fellow European Alliance for Medical and Biological Engineering & Science (FEAMBES)
- 2015 Elected Fellow Royal Society of Edinburgh (FRSE)


