IS2M | Institut de Science des Matériaux de Mulhouse

UNIVERSITÉ HAUTE-ALSACE

Letter of application for ESB Council

Dear Colleagues,

It is with great motivation that I am applying today to become a member of the ESB Council.

Cell biologist by training, I gained interested into biomaterial science early on, during my master degree studies. Since, my career has been focused on the bioactivity of biomaterials for both soft and bone tissues with a special interest for fundamental questions regarding the cell response to biomaterial topographies.

My scientific contribution is mainly recognized for my work on cell/surface interactions, especially the role of surface roughness on cell adhesion and migration. I have also been developing surface modification strategies for bone biomaterials as well as ceramics with controlled porosity for bone tissue engineering applications. I have published several review articles on the subject that are among the most cited papers in the field.

Since my integration into the Mulhouse Institute of Materials Science (IS2M), I have been focusing on more fundamental questions related to cellular mechanobiology thanks to structured materials. Those include the mechanisms driving cancer cell deformation and cell response to cell-scale curvature.

I have been a member of the ESB since 1991 and have regularly attended its meetings, where I presented my work and chaired sessions. I have not yet taken any responsibilities within the ESB but I am very motivated to be part of its council.

I am convinced that my scientific experience at the local, national and international levels (group leader, scientific direction of IS2M, VP at BIOMAT, member of CNRS and ANR scientific committees, advisory board of CSIC in Madrid, University of Freiburg and BOKU in Vienna) will allow me to fully fulfill my duties as a member of the ESB Council. I have been also collaborating for several years with groups at European and International level (e.g.: invited professor at Brazil...). Finally, I was a member of the editorial board of Biomaterials during many years and I am now board member at the Biointerphases journal.

Finally, if you support my candidacy, I assure you that I am ready to assume any of the functions associated with the ESB Council membership.

Yours sincerely,

Dr Karine ANSELME

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Fields of Interest
Biomaterials, Tissue engineering
Cell/material interactions, Mechanobiology

University training and degree
1986 - 1989 PhD thesis in Cell Biology, University of Lyon (France)
2000 Habilitation thesis, University of Littoral Côte d'Opale (Boulogne sur mer, France)

Postgraduate professional career
2010 - pres. CNRS DR1 (principal investigator) at IS2M, 'Biomaterials - Biointerfaces' team leader.
2003 - 2010 CNRS researcher at IS2M, 'Surfaces-Living matter interactions' team.
1990 - 2003 Researcher at the Research Laboratory on Biomaterials and Biotechnologies, Littoral Côte d'Opale University, Berck/ mer, 'Cell/materials Interactions' team leader.

Track record 130 publications in ISI Web (10/02/2019); 6291citations; h index = 36

Mentoring experience 19 supervised / co-supervised PhD, 20 Master students, 6 post-doc researchers

Responsibilities and memberships
2019: member of the scientific committee of BOKU Doctoral center, Austria
2018-now: IS2M executive assistant charged with scientific animation
2017-now: member of the Editorial board of 'Biointerphases' journal
2016-now: member of the steering committee of FIT, Freiburg University, Germany
2016-now: member of Haute-Alsace University directorate
2012- 2018: vice-president of the French Society for Biomaterials (BIOMAT)
2012-2016: member of National Committee for Scientific Research (coCNRS) (section 11 "Supra and macromolecular systems and materials: elaboration, properties, functions " and CID54 "Experimental methods, concepts and instrumentation in material science and bioengineering")
2012-2016: member of the Haute-Alsace University scientific advisory board
2011-2012: vice-president of an evaluation committee of the French research funding agency (ANR): "Physics and chemistry of life, innovation in biotechnology"
2009: member of the advisory committee of CSIC for materials institutes, Spain
2002-2011: member of the Editorial board of 'Biomaterials' journal
1991- now: member of European Society for Biomaterials (ESB)

Selected publications
[1] L. Pieuchot, …and **K. Anselme***, Curvotaxis directs cell migration through cell-scale curvature landscapes (2018)* Nature Communications*, 9:3995* (**Cit. 1**).
[2] I. Brigaud,….and **K. Anselme**, *Synergistic effects of BMP-2, BMP-6 or BMP-7 with human plasma fibronectin onto hydroxyapatite coatings,* Acta Biomaterialia (2017) 55, 481-492 (**Cit. 8**).
[3] F. Badique, …and **K. Anselme**, *Directing nuclear deformation on micropillared surfaces by substrate geometry and cytoskeleton organization*, Biomaterials, (2013) 34(12), 2991-3001 (**Cit. 54**)
[4] **K.Anselme** et al., *The interaction of cells and bacteria with surfaces structured at the nanometer scale* , Acta Biomaterialia, 6(10), 3824-3846 (2010) (**Cit. 398**).
[5] P. M. Davidson, …and **K. Anselme**, *Micro-structured surfaces cause deformation of the cell nucleus without killing cells*. Advanced Materials (2009) 21 (35), 3586-3590 (**Cit.74**)
[6] O. Zinger, **K. Anselme**, et al. *Time-dependent morphology and adhesion of osteoblastic cells on titanium model surfaces featuring scale-dependent topography*. Biomaterials (2004) 25(14) 2695-2712 (**Cit. 232**)
[7] **K. Anselme**, *Osteoblast adhesion on biomaterial*. Biomaterials (2000) 21;667-681 (**Cit. 1745**)