

Special Fellows Session: Important Biomaterials Science Controversies - Fellows Debate

Tuesday, September 5, 2017
12:00-13:30 | Voudouri Hall

The "Special Fellows Session" is organized by the International College of Fellows of Biomaterials Science and Engineering (ICF-BSE). Fellows of Biomaterials Science and Engineering (FBSE) are elected in a worldwide competition every four years and are among the most accomplished in the field of biomaterials.

This session will feature brief talks by 5 Fellows. Each talk is based around a different current controversy in the field of biomaterials and is designed to raise questions and spark debate. To this end, there will be time reserved at the end of the session for Q&A and audience participation. This engaging session will be unique among those at ESB and we highly encourage you to attend.

Session Chair
and Moderator: **Joachim Kohn, PhD, FBSE – Rutgers** | The State University of New Jersey (USA)

Speakers: **Buddy Ratner, PhD, FBSE** | University of Washington (USA)
Patients are dying today while biomaterials experts play nano-games with low probability of future impact

Themes dominating biomaterials meetings in the 1970's were tightly focused on immediate patient needs. Now we find the research sessions largely populated by talks on molecular biology, nanotechnology, and cell biology. Yet, in the hospital, patients are dying from our medical devices. We need sharpened focus on today's pressing clinical problems tempered by the realization that clever new ideas have little probability to move into the future, and even if they make it to the clinic they will not impact patients for at least 20 years.

Maria Vallet-Regí, PhD, FBSE | Universidad Complutense de Madrid (Spain)
Current issues regarding the use of nanocarriers for drug delivery

Research on nanoparticles for drug delivery has widely expanded in the last few decades, although no more than 50 nanomedicines are out in the market. Why is the translation from the lab to the clinic taking so long? Is it worth it to continue funding this research area?

Thomas Webster, PhD, FBSE | Northeastern University (USA)
Industry Does Not Believe Academic/Clinical Research

A recent survey highlighted that up to 70% of industry does not believe results from academic or clinical labs which severely impacts translation of biomaterials research. Is this skepticism well-founded? Is it healthy? Where does it originate and where do we go from here?

Elizabeth Tanner OBE, FRSE, FEng, FBSE, MA, DPhil, PhD(Hon Caus) | University of Glasgow (UK)
Biomechanical properties of biomaterials are essential for clinical success

The development of past generations of biomaterials was driven by the biomechanical demands and the concern over mechanical implant failure and fracture. The design of the current generation of biomaterials is now driven by our growing knowledge of biomolecules and signal proteins however the question remains - do we still need to consider the biomechanics of the resultant material and if so for how long?

Dietmar Huttmacher, PhD, FBSE | Queensland University of Technology (Australia)
Bioprintonomics – Can we in fact print tissue and organs or did we neglect genuinely that biology matters?

Significant translational research efforts are essential to expedite the transformation from random bioprinting to additive biomanufacturing. We need to change the current paradigm by changing the question from "what can we do with this fabrication method?" to "how can we change this fabrication process to achieve what we need". It is this shift in perspective that will be the key driving force behind the translational research driven innovation of the field of additive biomanufacturing in the years to come.