



**TERMIS – EU SYMPOSIUM SUBMISSION FORM**

<b>Title:</b>	INJECTABLE SCAFFOLDS	
	<b>Name</b>	<b>Affiliation</b>
<b>Chair:</b>	Dr Wenxin Wang	Network of Excellence in Functional Biomaterials National Centre for Biomedical Engineering Science Department of Mechanical and Biomedical Engineering National University of Ireland, Galway, Ireland Wenxin.wang@nuigalway.ie
<b>Co-Chairs:</b>	Prof Abhay Pandit	Network of Excellence in Functional Biomaterials National Centre for Biomedical Engineering Science Department of Mechanical and Biomedical Engineering National University of Ireland, Galway, Ireland Wenxin.wang@nuigalway.ie
<b>Keynote Speaker *:</b>	Prof Kristi S. Anseth	University of Colorado Department of Chemical and Biological Engineering Howard Hughes Medical Institute
<b>Organizers:</b>	Dr Wenxin Wang	Network of Excellence in Functional Biomaterials National Centre for Biomedical Engineering Science Department of Mechanical and Biomedical Engineering National University of Ireland, Galway, Ireland Wenxin.wang@nuigalway.ie
<b>Synopsis:</b>	Please provide a brief synopsis of the proposed symposium (up to 600 words). Please use allocated space below.	
<p>Injectable scaffolds have attracted more and more attention in tissue engineering and regenerative medicine fields because of their promising advantages over performed scaffolds, which include ease of application, confined delivery for a site-specific action and improved patient compliance and comfort. In addition, injectable scaffolds mixing with cells form a uniform distributed cell/scaffold tissue system in vivo, which provide a rich and complex environment of signals so as to promote tissue regenerate and development.</p> <p>Several types of scaffold have been utilised as injectable scaffolds, which include both natural materials, such as: alginate gel, alginate tricalcium phosphate, <math>\beta</math>-tricalcium phosphate, calcium phosphate, chitosan, collagen, fibrin, fibronectin, gelatine; and synthetic or semi-synthetic materials, such as: poly(D-L-lactic acid) (PLA), poly(glycolide acid) (PGA), poly(D-L-lactide-co-glycolide acid) (PLGA), poly(propylene fumarate), poly(propylene fumarate)-diacrylate (PPF-DA), poly(caprolactone fumarate) (PCLF), poly(D-L-lactic-co-glycolic acid)/poly(ethylene glycol) (PLGA/PEG), and collagen/polymethylmethacrylate etc.</p> <p>However, many challenges in the design and development of injectable scaffold-cell system still remain:</p> <ul style="list-style-type: none"> <li>➤ optimisation of the kinetics of solidification process in-situ;</li> <li>➤ development of injectable scaffold that can withstand the mechanical stresses while maintaining an environment conducive to tissue growth;</li> <li>➤ optimisation of creation of required pore size and formation of inter-connectivity of pores within the solidified scaffold;</li> <li>➤ protection of cell damage and viability during preparation of scaffold and delivery;</li> <li>➤ controlled release of growth factors;</li> <li>➤ understanding of cell-material interaction, "cell-adhesion" and biocompatibility;</li> <li>➤ rate of biodegradation and cytotoxicity;</li> <li>➤ phenotype tissue formation.</li> </ul> <p>As a consequence, a symposium based in this area would fit well with the key theme of the conference. The symposium is aimed at bringing together all aspects of the field, from synthetic chemists interested in developing suitable materials to applied scientists, engineers and clinicians that are interested in the applications of injective scaffolds</p> <p>This symposium will cover following aspects of the state of art studies and developments of injectable scaffolds:</p> <ul style="list-style-type: none"> <li>➤ Design and synthesis of suitable biomaterials for injectable scaffolds including hydrogel and stimuli materials;</li> <li>➤ Functionalization and degradation mechanism studies of polymers for injectable scaffolds;</li> <li>➤ Application and evaluations (in vitro and in vivo) of polymers for injectable scaffolds.</li> </ul>		
<b>Symposium Keywords:</b>	Injectable scaffolds, Hydrogel, Stem cell	

**\*The Keynote Speaker needs to be confirmed at the time of the proposal**