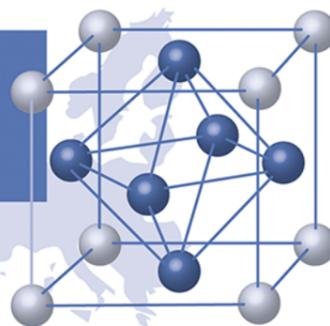


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## “Engineered nanomaterial interactions with ecological exudates - potential for impact on complex ecosystem signalling pathways”

Nanoparticles (NPs) have a high surface energy that they seek to lower by binding to available biomolecules from their surroundings such as components of product formulations, proteins or lipids in living systems, natural organic matter (NOM) components of water or soil or potentially exuded and secreted biomolecules in complex ecosystems. Formation of a protein corona around NPs is a ubiquitous phenomenon that occurs instantaneously upon contact with available macromolecules. Most research to date has focussed on the interactions of NPs with blood proteins (human or animal sera) or lung surfactant proteins, to correlate corona composition with NP uptake and impacts on living systems. Environmental interactions research has focussed on NP-NOM interactions, assessing the impact of the humic substances on particle stability / bioavailability. Much less work has investigated the potential for NPs to bind the exuded biomolecules central to much of the plant and microorganism world, where secretion of biomolecules can be a defensive response to repel insect attack, or an offensive habit to repel other incompatible or competitive species.

**Dr. Iseult Lynch**

**University of Birmingham**

Senior Lecturer in Environmental Nanosciences (University of Birmingham). She has a very broad overview of all aspects of nanomaterials safety assessment and the dissemination requirements of different stakeholders, having served as theme editor for the Materials and classification section of the NanoSafety Cluster Vision 2015-2025 research roadmap (published June 2013). Prior to University of Birmingham, she was strategic research manager at the Centre for BioNano Interactions in University College Dublin, where she was instrumental in the development and implementation of the QualityNano research infrastructure.

**Aula Romeros – Universidad de Burgos**

**29 de Enero de 2016**

**11:30 horas**

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