Multifunctional Hybrid Nanocomposites for the Separation of Toxic and Microbial **Contaminants from Water**

www.nanowateratuclan.org



Challenges







Nuclear radioactive contaminants in North West of UK and Cumbria due to nuclear decommissioning Sellafield. (http://www.heraldscotland.co

om/news/14157272.Scottish shellfish are contaminated by radioactive waste from Sellafield/)

Each year 45,000 tonnes of batteries are used in UK of which only 3% of them are recycled and the remaining 97% goes into landfill waste. Batteries are made from a number of materials acid, lead, including nickel, lithium, cadmium, mercury. The leaking of such toxic materials through landfill waste is a major problem in UK and other European countries as they contaminate the soil / water and accumulate in wildlife and humans





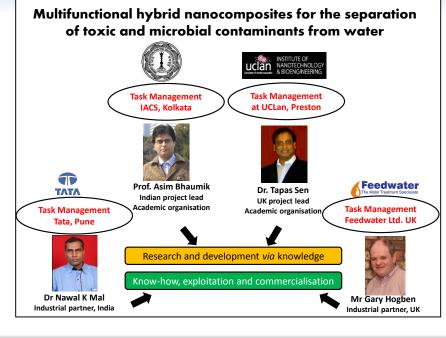


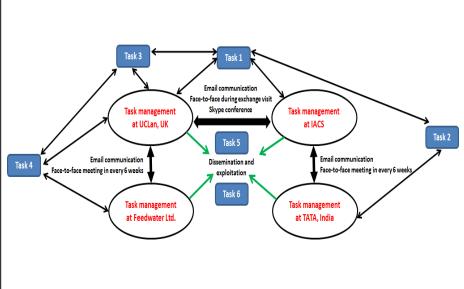
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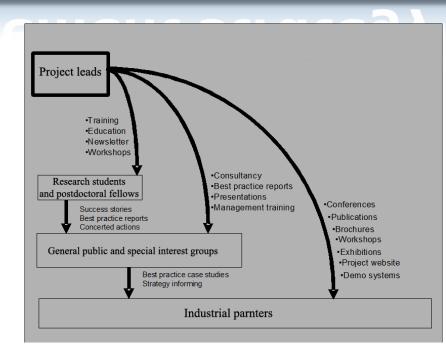
Project objectives

- □ Development of multifunctional hybrid nanocomposites for the removal of toxic (arsenic) and using the recently developed novel surface chemistry (Sen et al, Scientific Reports 2: 10.1038/srep00564,2012, Nature publishing Group) to tackle the bacterial contaminants such as Legionella, E-Coli (E-Coli O157 and O104) and Salmonella from water.
- Exploitation of such nanocomposites by industrial partners as the end users

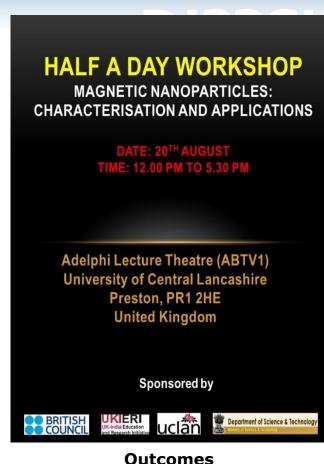
Project consortium and management strategy







Dissemination and outreach activity



Outcomes 100 pages conference proceedings containing scientific abstracts from around the world Special issues: Nanomedicine Journal by Future Medicine and Materials Today Proceedings by Elsevier

Peer review journals publications Journal of Molecular Catalysis A: Chemical 415, 17-26, 2016 Journal of Materials Chemistry A (Under review) Water Research (under submission) Journal of Materials Chemistry B (under submission)





1ST INTERNATIONAL CONFERENCE





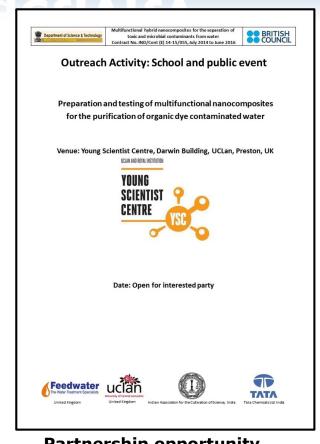
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Future :



Partnership opportunity

Looking for partnership of new project proposals under CleanTech (Thematic area: Nano-water Technology and Looking for new partnership of our 2nd International "Functional Nanomaterials in Industrial Applications: Academic- Industry Meet" scheduled to be in Looking for Industrial visitors to visit UCLan with new research proposal by August 2016 with an offer of local hospitality Looking for school outreach event by August 2016 with an

For more information, contact us:

Dr Tapas Sen, PhD, FRSC, FHEA

Project coordinator (<u>www.nanowateratuclan.orq</u>)

Tel: +44 (0) 1772894371, Email: tsen@uclan.ac.uk, Skype: tapas.sen4,

Facebook: https://www.facebook.com/nanobiouk/, Twitter: https://twitter.com/tsenatuclan



Funding agencies





