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9TH EUROPEAN IMMUNOLOGY CONFERENCE ASSOCIATED WITH ANTIBODY ENGINEERING MEETING

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Novel therapeutics in translational research of inflammatory and degenerative diseases

My talk is an overview of our interests in translational outcomes research in inflammation immunobiology and regenerative medicine and includes: novel format nano antibodies are engineered to develop diagnostic reagents; nano-particles are synthesized to act as vehicles in drug discovery studies; nano- polymers are designed to act as bio-scaffolds for homing of tissue engineered pluripotent cells into degenerate leshions and; nano-conjugates in multi-purpose applications in acute and chronic inflammation. 1. Camelid antibodies - We have successfully generated proof-of-concept of a platform technology and functionally active viable anti-alkaline phosphatase and alpha amylase antibodies. Under-development are anti-OVA-specific IgE antibodies for treatment of allergic asthma. 2. Mesoporous carbon nanoparticles are a library of nanomaterials useful as bioimaging probe and as drug delivery carriers. 3. Nano-compounds and nano-scaffold matrices were developed from *Cyamopsis tetragonoloba*, an edible polysaccharide with a galactomannan component. Carboxymethyl guar gum was synthesized in homogeneous phase and macroporous 3D scaffolds designed for tissue engineering. 4. Multi-purpose application in biotechnology of guar gum (GG) - applications tested successfully with guar-nano, guar-peptide, guar-quarcetin as anti-inflammatory compounds are: bio imaging, biomolecular interaction, and cellular endocytosis studies. Our lab mandate is translation from bench to bedside, from lab to field. Translational studies encompassing cross-disciplinary collaborations and constant technology upgradation and relevance remains our constant endeavor. A number of processes and products have been patented and plans are on for their direct application for improvement of human and veterinary health and disease.

Biography

Ena Ray Banerjee has completed her PhD from IICB under Jadavpur University with a CSIR fellowship. She is the first lady DSc in a 100 years in Department of Zoology, University of Calcutta where her lab works on Immunobiology and Regenerative Medicine under Translational Outcomes Research. She has published more than 50 papers in reputed journals and serving as an Editorial Board Member of repute. She is a Founder-Director of BioConsort Consulting and Research LLP, and founder member of Consortium for Life working on poverty alleviation through conservation and sustainable bioprospecting.

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