Dr Annalisa Tirella is Tenured Assistant Professor in Bioengineering at the Department of Industrial Engineering / BIOtech research Center at the University of Trento (Italy) and Honorary Senior Lecturer in Pharmaceutics at the Division of Pharmacy and Optometry, Faculty of Biology Medicine and Health Sciences (FBMH) at The University of Manchester (UoM, UK).

Dr Annalisa Tirella obtained her BSc (highest hons.) in Biomedical Engineering at University of Pisa (Italy), and her MSc (highest hons.) in Biomedical Engineering at University of Pisa (Italy). She was awarded a PhD in Materials for Environment and Energy from the University of Rome Tor Vergata (Italy), receiving the GNB Patron PhD thesis award from the Italian Group of Bioengineering (GNB, Italy).

Next, she started her postdoctoral experience, first as Postdoctoral Research Associate at the Department of Chemical Engineering at the University of Pisa (Italy). She accepted a temporary Lecturer position in Bioengineering at the University of Cagliari (Italy), before being appointed as Research Fellow at the Institute of Clinical Physiology, National Research Council (CNR, Italy) where she had the opportunity to establish herself as independent researcher. During this period, Dr Annalisa Tirella was a visiting researcher at the National University of Kaohsiung (Taiwan) and awarded the International Collaborative Project CNR/NSC. In this period, she supervised > 10 research students for BSc and MSc research projects, as well as co-supervised PhD students.

At UoM, Dr Annalisa Tirella established the BioEngineered System group (Tirella's group) with principal research interest focus on manufacturing multi/functional advanced materials, controlled delivery of therapeutic agents and characterize cell-material interaction for regenerative medicine applications.

By combining emerging manufacturing technologies and advanced functional bio/materials, she successfully developed several 3D *in vitro* cancer models to detect early metastatic onsets, as well as new nanotechnologies for the controlled and sustained release of therapeutics (from small cytotixic molecules to nucleic acids). Moreover, the combination of 3D *in vitro* models and microfluidics is used to build organ-on-chip technologies as new tools for understanding biological processes (e.g. inflammation, tumour microenvironment), as well as test efficacy of therapies.

At UoM, she co/supervised 15 PhD students (5 to completion as primary supervisory) and more than 40 UG/PG students with programs on Tissue Engineering and Regenerative Medicine; Advanced Manufacturing Technology and Mechanical Engineering design; Polymer Material Science and Engineering; Translational Medicine; and Pharmacy PIAT Industrial Pharmacy programme.

The relevance of her research and expertise have been further recognised through the participation as invited speaker at international conferences, as well as invited referee for national and international grant applications. At the University of Trento, she is involved in Italian and EU-projects as co-I and PI at the University of Trento managing research and funds on the manufacturing of natural-derived polymers as technologies for health, spanning from regenerative medicine to the manufacturing of therapeutic-loaded edible technologies. She is also involved in translational and commercialization aspects of research products.

Dr Annalisa Tirella has been always involved in many outreach activities (typically > 2 activities/year) to disseminate and effectively communicate scientific findings to the public. Typical themes covered are: "How nanomedicines are engineered to reach the tumour?"; "How different materials are used to prepare medicines?"; "Use of Bioplastics and Natural materials towards Sustainable developmental goals"; and "3D printed personalize gel technologies tailored for a healthy lifestyle".