Innovative Modelling for Pharmacological Advances through Collaborative Training (IMPACT)

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FP7 Marie Curie Actions: Initial Training Network-European Industrial Doctorates (ITN-EIDs)

The Project
IMPACT is an interdisciplinary collaborative partnership between AstraZeneca (AZ, SE) and the University of Warwick (UoW, UK) to train Early Stage Researchers (ESRs) in systems modelling tools and techniques enabling them to work at the forefront of international pharmacokinetic (PK) and pharmacodynamics (PD) analysis. This project will build upon extremely strong research and training links already formed between UoW and AZ (UK) in PK/PD modelling and will support the clearly identified need within AZ worldwide to train more personnel with high-level skills in systems modelling for future drug development.

The development of the most effective drugs requires researchers to be able to quantify, translate and simulate from the test tube to the patient. To do this, researchers have to be able to model biological pathways, quantify relationships between dose/exposure, target engagement, efficacy and safety in pre-clinical tests in humans and to utilise all relevant information efficiently and quantitatively. The development and application of innovative modelling techniques to tackle current problems in drug development, allied to the training of researchers with skills to perform these tasks, are key drivers for the partners.

A unique blend of multidisciplinary training will be offered to the ESRs by both partners through well-established, extensive and innovative programmes at their sites. The ESRs will be registered for PhDs at the UoW and their projects will be based on research problems and data generated at AZ. The outcomes of the projects will not only maintain the positions of AZ and the UoW at the forefront of international research in PK/PD analysis, but also greatly enhance the EU’s standing in this area, whilst enhancing the future job prospects of those trained within the AZ group worldwide.

Other Participants
AstraZeneca AB (Sweden)

Dr Michael Chappell’s Views on the Importance of EU Funding
“The Marie Curie ITN-EID scheme made the collaboration between the UoW and AZ (SE) possible as well as the participation of Associate Partners Fraunhofer Chalmers Centre, Uppsala University and The Swedish University of Agricultural Sciences. No sources of funding available within the UK or elsewhere would have supported this collaboration.

The Marie Curie ITN-EID scheme is unique to the EU. The focus is to train students to PhD level so that they have the skills required to support the relevant industrial sector in the EU. This has clearly been the outcome for the IMPACT project with 3 of the 5 ESRs (so far) employed by AZ in Europe.

In addition, the ITN-EID requires ESRs to spend 50% of their time based with the Industrial partner and still to receive PhD supervision during their placements. As a multi-national company, AZ was easily able to provide the necessary training, support, expertise and skills.”