

News Release

**16 December 2015**

**Media Information: Saskia Angenent +44 (0)1904 323918**

### **Two EU-funded York projects reach conclusion**

Two EU-funded four year Marie Curie ITN (Initial Training Network) projects based at the University of York, set up to train young biotechnologists and immunologists from across Europe, will conclude this month.

The first project, P4FIFTY, featured ten partners from academia and industry, drawn from seven European countries, with the aim of training junior scientists in the industrial application of enzymes known as cytochrome P450 monooxygenases (P450s).

P450s are found in numerous organisms and are important catalysts for many of the chemical reactions that take place inside all living things. The enzymes have the potential for adaptation and use as an efficient and green way of making useful chemicals for industry.

Researchers collaborated to undertake protein engineering techniques and molecular modelling to change the shape of P450 enzymes, or build novel versions of them so they could function more efficiently. Other work included identifying new P450s in plants and microbes and investigating how to scale-up some of the improved reactions to commercially relevant volumes.

In addition to improving the efficiency and environmental impact of industrial processes, P4FIFTY research will help areas as diverse as plant breeding, where P450s are involved in flavour development in grape varieties, and decontamination of polluted land, where plants with altered P450s could be used to remove and degrade toxic chemicals.

The work has led to the publication of at least 16 peer-reviewed articles in scientific journals. Most importantly, 12 Early Stage Researchers (PhDs) and three Experienced Researchers (Post-docs) have received world-class tutorship from leading experts and gained experience in cutting edge biotechnology techniques.

The second project, STROMA ITN, received €4.3 million under the European Commission's 7th Framework Programme for research, employing 14 Early Stage Researchers and three Experienced Researchers across Europe.

Investigating stromal cells, the infrastructure of the immune system, researchers collaborated with industrial partners to find out their role in cancer, auto-immune diseases and infections. The advancement of therapeutic tools and diagnostics which results from stromal research is a niche field in immunology and is likely to have an important impact on public health.

Research training weeks took place in York and in St Gallen (Switzerland). Industrial partners such as MedImmune (Cambridge), ProBioGen (Berlin) and Miltenyi Biotec (Cologne) offered researchers industrial secondments, where they had opportunities to acquire insights into industry and use facilities for their PhD experiments.

The STROMA ITN network held four annual meetings in Rennes (France), Cambridge, Lisbon and Strasbourg where researchers could present their projects to senior Principal Investigators and receive feedback and input on the progress of their research.

Professor Neil Bruce, P4FIFTY Project Coordinator and Chair of Biotechnology at the Centre for Novel Agricultural Products (CNAP) in York's Department of Biology, said: "It has been a pleasure to work with such a talented cohort of young scientists. Through the P4FIFTY network, we have successfully addressed some of the major challenges in the use of P450s for green chemistry.

"At the same time, we have trained our junior researchers in key techniques, which will help them to further their careers in modern Industrial Biotechnology."

Professor Paul Kaye, STROMA ITN Project Co-ordinator and Professor of Immunology and Director of York's Centre for Immunology and Infection (CII), said: "The STROMA ITN has been a fantastic opportunity for students to work together on a common project."

Professor Burkhard Ludewig, STROMA ITN Project Partner and Head of the Institute of Immunobiology at Kantonsspital St Gallen, Switzerland, said: "STROMA ITN has been vital in raising awareness and putting stromal cell functions at the centre of immunology, and this research will translate into the development of new diagnostic and therapeutic tools for cancer, autoimmune diseases and infections."

Ana Isabel Pinto, a University of York PhD student funded by STROMA ITN, said: "STROMA ITN was a truly life changing opportunity for me! I had the chance to come into contact with an extraordinary group of researchers from whom I have learned so much."

Both P4FIFTY and STROMA ITN were Marie Curie Initial Training Network projects, funded under the EU's Seventh Framework Programme.

## **ENDS**

Notes to editors:

- For further details about the P4FIFTY project, contact the P4FIFTY Project Manager Margaret Cafferky at [Margaret.cafferky@york.ac.uk](mailto:Margaret.cafferky@york.ac.uk), or visit the project website: [www.p4fifty.eu](http://www.p4fifty.eu)
- For more information about the STROMA ITN project, please contact the STROMA ITN Administrator Marianna Ventouratou-Morys at [marianna.ventouratoumorys@york.ac.uk](mailto:marianna.ventouratoumorys@york.ac.uk), or visit the project website at [www.stromal.org](http://www.stromal.org).
- York's STROMA ITN's partner institutions were: Universite Rennes (France), ERASMUS Medical Centre (The Netherlands), MedImmune LLC (Cambridge), University of Twente and University of Maastricht (The Netherlands), Kantonsspital St Gallen (Switzerland), Instituto de Medicina Molecular (IMM) Lisbon (Portugal), ProBioGen AG (Germany), Miltenyi Biotec GmbH (Germany), CNRS Strasbourg (France), Institute for Science and Technology Vienna (Austria).
- For more information about CNAP, visit: <http://www.york.ac.uk/biology/centrefornovelagriculturalproducts/>
- For further information about the University of York's Centre for Immunology and Infection, visit: <https://www.york.ac.uk/cii/>