POSTDOCTORAL FELLOW IN SYNTHETIC BIOLOGY

JOB DESCRIPTION

The postdoctoral position is opened in the framework of a TWB (Toulouse White Biotechnology)-funded project. This project aims at applying Synthetic Biology principles to cell factory development in order to harness methanol for biotechnological production of value-added chemicals. The objective of the postdoctoral project will be to design and implement synthetic metabolic pathways in a non methylotrophic host to generate synthetic bacteria that can efficiently utilize methanol as a resource for the production of fine and bulk chemicals. The successful applicant will be in charge of the design of the methanol utilisation pathway (MUT) and of the optimisation of the strain expressing the MUT pathway by rational and evolutionary engineering. She/He will be in charge of the detailed investigation of metabolism in the engineered and evolved strains. She/he will take care of the integration of wet lab data into in silico models to understand the design principles of methanol assimilation in the host and to identify the most promising strategies to improve methanol conversion into biomass. In silico modelling will be carried out with genome-scale metabolic models to optimize both the metabolic modules alone or in combination and the host metabolism. Experimental system levels investigations of the synthetic strains will be performed using state-of-the-art metabolomics and fluxomics approaches (LC-MS, NMR, automated cultivation devices, 13C labelling experiment).

LABORATORY & RESEARCH TEAM

The position is opened in the Systems Biology and Process engineering laboratory (LISBP, www.lisbp.fr), located at Toulouse (South of France) which is a Joined Research Centre between the National Institute for Applied Sciences of Toulouse (INSAT), the French National Centre for Scientific Research (CNRS) and the Institute for Agricultural Research (INRA). Successful candidate will work in the research team Metasys, headed by Jean Charles Portais (http://www.lisbp.fr/en/research/integrated-metabolism-and-dynamics-of-metabolic-systems.html) as well as in the TWB R & D Centre of Excellence in Toulouse (http://www.toulouse-white-biotechnology.com/)

QUALIFICATION

The successful candidate should have a Ph.D in Molecular Biology or Microbiology or Biochemistry or Biochemical engineering or Synthetic Biology or related field. Experience in strain engineering and/or metabolic and/or biochemistry and/or microbial physiology and/or computational biology would be a plus. Strong communication and organizational skills and enjoy working in a team-oriented environment. Good English skills are required and notions of French would be a plus. Strong written and oral communication skills are essential.

CONDITIONS

The postdoc position is available ASAP for 24 months. Competitive salary that can be negotiated based on experience and skills. Closing date for candidature: September 30th 2016

CONTACT

To apply, please email: Stephanie Heux (stephanie.heux@insa-toulouse.fr); attach CV, cover letter, summary of previous research, and contact information for referees.