

Press Release

Engineering moss for biopolymer and biofuel production

An international research team emerges as a FRIAS/USIAS partnership in Freiburg and Strasbourg.

A new joint project has recently been initiated to determine how moss paves the way to lignification and how it can be used as a model for the production of biopolymers and biofuels. To colonize terrestrial ecosystems, plants evolved adaptive mechanisms to cope with new challenging environmental constraints such as UV radiations and drought. Moss, as one of the first land plants to appear, brings up a glimpse at ancestral metabolic innovations that allowed land colonization. Phenolic metabolism was instrumental for plant adaptation to land by providing antioxidants and UV screens. It also provided the precursors of the lignin biopolymer (wood) for upright growth and long-distance water transport. Moss is devoid of lignin, but already forms the phenolic building blocks required for lignin synthesis. The team formed around the biologists Prof. Dr. **Ralf Reski** from the University of Freiburg, Germany, and Dr. **Danièle Werck-Reichhart** from CNRS and University of Strasbourg, France, has started to investigate how moss can be used as a source of valuable phenolic precursors, to synthesize biopolymers, and as a model for improving woody plant for the production of biofuels. Their project with the acronym METABEVO is jointly supported by the Freiburg Institute for Advanced Studies FRIAS and the University of Strasbourg Institute for Advanced Study USIAS in their attempts to strengthen the ties between both institutions.

The binational team is organizing a joint Plant Metabolomics workshop-in-motion to share the expertise of the two research groups. The Workshop will be held on 12-13 February 2014 in Strasbourg (February 12: Maison InterUniversitaire des Sciences de l'Homme, 5 allée du Général Rouvillois) and Freiburg (February 13: ZBSA, Center for Biological Systems Analysis, Habsburgerstr. 49). Attendance of the workshop is free.

Programme and registration (required) available at: www.frias.uni-freiburg.de/metabevo

Professor Reski heads the Chair of Plant Biotechnology in Freiburg and is founding member of the Trinational Institute for Plant Research TIP, the European MOSSclone Research Consortium, the Center for Biological Signalling Studies BIOSS and the Spemann Graduate School of Biology and Medicine SGBM. He is Senior Fellow at FRIAS as well as at USIAS, the French Institute for Advanced Study at the University of Strasbourg.

Dr. Werck-Reichhart heads the Plant Metabolic Networks Department of the CNRS Institute of Plant Molecular Biology. She is fellow at USIAS as well at FRIAS, the German Freiburg Institute for Advanced Studies at the University of Freiburg.

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