

Synthetic Biology – Fostering Responsible Research and Innovation

KIT Coordinates Project for Open Exchange between Science and Society – European Union Provides Funding in the Amount of EUR 4 Million

Synthetic biology – the design and construction of artificial biological systems – offers potential for applications in the areas of energy, health, and the environment. At the same time, it entails social, political, and ethical challenges. The SYNENERGENE project, funded by the EU with EUR 4 million, aims at initiating an open discussion of opportunities and risks. The Institute for Technology Assessment and Systems Analysis (ITAS) of KIT coordinates the consortium of more than 25 national and international partners.

At the interface of biology and engineering, synthetic biology brings together disciplines such as molecular biology, nanobiotechnology, organic chemistry, engineering sciences, and information technology. Customized artificial biological systems may be applied in energy production, or new raw materials or used in drug manufacturing. Potential undesired impacts on e.g. health or the environment, however, are still unclear. “Synthetic biology is an emerging field of science and technology, the contours of which are not yet clear,” says Christopher Coenen, ITAS, who manages the project. “We aim to involve citizens and a wide variety of stakeholders at an early stage in the process and to stimulate discussions between them.” According to Coenen, SYNENERGENE is aimed at combining public participation with expert and stakeholder dialogs, scientific analyses, and artistic reflections. It will foster mutual learning, support society in shaping the new scientific area and in developing sustainable agendas. “This will contribute to responsible research and innovation in synthetic biology and beyond.”

For this purpose, the consortium has developed an action plan (Mobilisation and Mutual Learning Action Plan, MMLAP) that includes more than 100 events, such as theater performances and arts projects. “In line with the dynamics of the field, we will remain flexible and always be open for cooperation with other initiatives and organizations,” Coenen says. Apart from the KIT, more than 25 other partners from Europe and North America are involved in the project. Within the next four years, the EU will fund SYNENERGENE with

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EUR 4 million. The project is part of the activities in the area of “Science in Society” of the EU: Responsible research and innovation (RRI) is of crucial importance in the new EU framework programme. Various groups of society, citizens, representatives of science, industry, education, and the arts are to cooperate in all phases of research and innovation in order to bring natural sciences and engineering in line with the society’s values, needs, and expectations.

Website of the project: www.synenergene.eu

Discussion and Art Exhibition on Synthetic Biology

One of the first events to be organized by the project is the podium discussion “Konstruiertes Leben – Synthetisch, nützlich, ...gut?” (Constructed Life – Synthetic, useful, ... good?) organized by ITAS together with the Forschungsstätte der Evangelischen Studiengemeinschaft (FEST, Research Facility of the Protestant Studies Association), Heidelberg, and other partners. The event will take place on Monday, December 09, 2013, 18.30 hrs at Heidelberg University in the context of the “International Symposium on Synthetic Biology” (BioQuant, Im Neuenheimer Feld 267, 69210 Heidelberg). The participants in the discussion will be Wolf-Michael Catenhusen, German Ethics Council; Ursula Damm, Bauhaus-Universität Weimar; Thorsten Moos, FEST Evangelische Studiengemeinschaft Heidelberg e. V.; Markus Schmidt, Biofaction KG, Vienna; and Petra Schwille, Max Planck Institute of Biochemistry, Martinsried.

Subsequently, the art exhibition “not invented by nature” will be opened. It comprises works by Howard Boland, Joanna Hoffmann-Dietrich, Ji Hyun Park, and Miguel Santos. The exhibition will be open to the public until January 31, 2014 at Bioquant (Opening times: <http://www.synbio-symposium.de/sb2013/index.php/bioarts>).

Poster: http://www.itas.kit.edu/downloads/takalender_20131209_podiumsdiskussion.pdf

International Symposium

The public evening event is part of the international symposium “Synthetic Biology – from understanding to application” of the Helmholtz Synthetic Biology Initiative that will take place at the German Cancer Research Center in Heidelberg (DKFZ) from December 9 to 11, 2013. The KIT is partner of the initiative: www.helmholtz.de/index.php?id=3759.

Detailed information: www.synbio-symposium.de

Karlsruhe Institute of Technology (KIT) is a public corporation according to the legislation of the state of Baden-Württemberg. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. Research activities focus on energy, the natural and built environment as well as on society and technology and cover the whole range extending from fundamental aspects to application. With about 9000 employees, including nearly 6000 staff members in the science and education sector, and 24000 students, KIT is one of the biggest research and education institutions in Europe. Work of KIT is based on the knowledge triangle of research, teaching, and innovation.

This press release is available on the internet at www.kit.edu.