European Forum for Industrial Biotechnology 2009 – Interview with Lene Lange, Aalborg University

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Lene Lange, a prominant academic and panelist at EFIB 2009 discusses some of the key themes for this year's panel.

What is 'the promise' of biotechnology?

Biotechnology is the basic technology for development of alternative biological solutions to important problems. Biological solutions can be developed for a wide range of products, processes and materials in almost all segments of our industrial society. The potential of biotechnology is to be substituting (or partially substituting) the spectrum of products, process ingredients, and materials, which we currently get from fossil resources (oil and natural gas). This includes not only bioenergy, which basically is a bulk and low value product. It also includes biochemicals, bio-medicin, bio-fertilizer, biopesticides, bioplastics etc

What do you see as the current barriers to delivering on this?

Basically market forces are the only drivers in Europe. And market forces are not sufficient to drive introduction of new technologies with sufficient pace in the initial phase in a situation where the framework conditions for the current technologies provides a more favorable position for just continuing using the conventional techniques, building on fossil resources. Thus, the most serious barrier in Europe is the shortcoming of: clear political goal setting, introduction of incentive structures favoring sustainable solutions, and establishment of a focused knowledge loop, linking academia, industrial R&D, regulatory bodies, and end users.

What technical breakthroughs are required to create mass adoption in industry?

This question cannot be answered with a general one-liner. The most crucial technological break throughs are different from sector to sector. However, development of efficient technologies for biorefineries are essential (such as improved biomass conversion and microbial production organisms; as well as synthetic biology, making possible in an industrial setting microbial processes which have not been developed under natural evolutionary conditions).

How can academia and industry collaborate more closely to achieve this?

Firstly, academia must be able to collaborate better between the different disciplines (plant biotech, microbial biotech, molecular biotech and not the least biochemistry, physics and nanotechnology). Further the basic natural science approach must collaborate closely with the research groups having an engineering approach to their research. Secondly, academia should make it more prestigious to make excellent and innovative research, contributing with new knowledge which can provide basis for new solutions!

Thirdly, the public funding structure must underpin and support collaboration between academia and industry. The model of DOE in US is exemplary in this respect. Also the approach of starting several groups working on the same problem, but letting them compete for the best solutions is very important to get reduced to practice also in Europe.

The demand for new and more sustainable solutions is so vast that we will need many solutions within each segment (to be applied in the different industrial settings, such as stand alone plants, add on plants, remotely located plants etc).

About EFIB

Taking place in Lisbon, Portugal, between 20-22 October 2009, EFIB 2009 will be a 3 day event comprising a strong advisory board, workshops, an exhibition, focused plenary sessions and three dedicated programme tracks focusing on feedstock for the bio-based economy, policies and regulations, and innovation.

Discount registration fee of 600EUR for EuropaBio members

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