



Sant'Anna

Scuola Universitaria Superiore Pisa

PhD Programme in Agrobiodiversity

Towards distributed global manufacturing using synthetic biology

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3 PM

Aula 6

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Scuola Superiore Sant'Anna

Abstract

Biology is the future of sustainable manufacturing for many materials, including critically important proteins and enzymes. The biomanufacturing sector therefore has great potential for growth and yet both bio-innovation and bio-production are currently confined to limited geographies. By distributing biomanufacturing capabilities globally and fostering an inclusive innovation ecosystem that includes developing and emerging economies, the sector could also follow other trends in manufacturing such as developing “circular economies” of resources; shortening supply chains by moving production close to both material and markets; and adopting agile, just-in-time production. This talk will introduce approaches from synthetic biology and biological engineering that could accelerate this transition, using the local production of diagnostics in Africa and Latin America as a case study and looking ahead to future application including plant gene editing and protein engineering.

Jenny Molloy

Department of Chemical Engineering and Biotechnology
Cambridge University

Dr. Molloy studies the role and impact of open approaches to Intellectual Property for a Sustainable and Equitable Bioeconomy. Her work focuses on better understanding problems facing researchers accessing biological research tools in low-resource contexts, particularly Latin America and Africa.

Dr. Molloy's team develops innovative technologies for local, distributed manufacturing of enzymes to improve access and build capacity for biological research. The broader aim of her research is to contextualize “open source” approaches to biotechnology within current narratives of innovation and the bioeconomy policy agenda.



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