

# IN CONVERSATION WITH ANGELIKA FUCHS

Head Large Molecule Discovery Informatics, Pharma Research and Early Development Informatics, Roche Innovation Center Munich

## Please describe your current role in your organisation

I am leading a team of scientists and digitalization ambassadors in Roche Pharma Research and Early Development (pRED) called 'Large Molecule Discovery Informatics'. Our mission is to accelerate data driven drug discovery through the development and operation of innovative digital solutions for scientists and associates in our Large Molecule Research labs.

## We hear that you are actively involved in implementing automation in a laboratory. Briefly outline the future opportunities that you think this involves

Drug discovery in general faces the fundamental challenge that costs of developing a new molecule have constantly increased over the last years and decades. We are therefore under pressure to increase productivity and efficiency in our labs while at the same time still enabling innovation and flexibility which is needed in a creative research environment. We believe lab automation and digitalization are key success factors to overcome this challenge as we standardize processes and eliminate manual and tedious work wherever possible. With this we gain bandwidth to test more molecules in parallel but also free our scientists to focus on science and innovation.

## Are there any challenges that you & your team are trying to overcome in this area?

Over the last years we have seen that investment in robotics and lab automation devices alone is not solving our problems. Without seamless integration of the lab hardware with our system landscape our associates and scientists struggle with the amount of data produced and still lose a lot of time in manual file and data transfer between lab devices and various systems. A big focus of our work is hence to establish direct device integration with our systems and automate the data flow as much as possible which is challenging as we are working with many different device vendors and our lab workflows are subject to a lot of change.

Beyond the mere technical challenges of implementing automation in research laboratories I believe the most important part of our work is to ensure we engage all lab users and scientists on our journey towards more digitalization and automation. For many of our users this means a lot of change in the way they are working and naturally this can be the cause of fears and concerns. We therefore think it is

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Dr. Angelika Fuchs leads the Biologics Workflows team in Roche Pharma Research and Early Development Informatics which aims to bring innovative and efficient lab workflow and decision support systems to scientists in Large Molecule Research and Oncology units. With a multidisciplinary background in Molecular Biotechnology, Computer Science and Bioinformatics she joined Roche in 2000 where she had the chance to follow her passion in advancing science through digital means. For several years, she led an initiative establishing an integrated system landscape for digital pathology which showcased the transformative power of digitalization. Her current main interest is on advancing lab automation in biologics research by introducing instrument and data standards as well as workflow orchestration engines.

extremely important to design and implement our solutions in a user-centric and agile way with a focus on building trust and change management to ensure we can really impact the way we do research today.

## What in your view are the most important factors behind a successful lab automation strategy?

We believe a successful lab automation and digitalization strategy needs a clear and joint vision that is shared by both the impacted business functions and the implementing IT organization. The vision needs to clearly explain why lab automation and digitalization is important for (in our case) Large Molecule Research and should be accompanied by a roadmap that helps everyone in the organization understand what is coming and how he or she will be impacted.

During implementation of this roadmap a key success factor in my view is also to build and empower cross-functional teams that cover a wide variety of expertises and are able to bring together hardware, software and user perspective as all these pieces are needed in a truly automated lab.

## What you would like to achieve at the SmartLabs & Laboratory Informatics Congress in London?

The SmartLabs & Laboratory Informatics Congress is a great opportunity for me to connect with colleagues across the industry working on the same or similar challenges. Especially in the area of instrument connectivity and data standards I believe we can truly benefit from a cross-industry collaboration as many of us are interested to achieve the same goals and there is a huge opportunity in working together.