

Postdoc Bioprocess Modelling & New Technologies

Job ID
REQ-10051964
May 15, 2025
Switzerland

Summary

As a Postdoc in bioprocess modelling and new technologies, you will be a key enabler for our aspirations to advance on the field of model-based development and optimization, as well as contribute to our innovation strategy. You will function as subject matter expert on in-silico modelling, data, and digital initiatives in close collaboration with experts within the Biologics community.

About the Role

Preferred start date : August 2025

Duration: 2 years

Location: Campus Basel

Your Responsibilities:

Your responsibilities include, but are not limited to:

- Develop mathematical models (mechanistic, data-driven, hybrid) to characterize the production system (cellular, USP or DSP units, etc.) and its dynamic including uncertainty modeling.
- Design experiments in the context of model-based experimental learning to support the model development activities.
- Perform model verification and validation activities including historical and new data and convert model outcomes into practical relevant information for the purpose of process optimization/characterization.
- Identify and influence model-based and data driven initiatives.
- Contribute and function as a subject matter expert to the establishment of in-silico models in accordance with our data & digital strategy.
- Be proactively identifying challenges, proposing solutions, and communicating key issues to internal customers and partners.
- Align and collaborate with external vendors (if needed) to establish and implement innovative model-based solutions.

What you will bring to the role:

- A PhD in relevant fields such as bio-chemical engineering, bioprocess technology, applied data science or similar with a strong background on process modelling (mechanistic, statistic and hybrid models) and optimization.
- Demonstrated programming skills (Python, R, and/or MATLAB), and knowledge of Machine Learning

algorithms.

- Knowledge of USP/DSP (continuous/connected) processes, with the interest and ability to work on either field.
- Excellent ability to build collaborative relationships and a can-do mindset.
- Effective communication and presentation skills
- Proven ability to manage and prioritize multiple tasks.
- Agility to adjust to a fast-changing working environment.
- Proficiency in oral and written English

Desirable requirements:

- Curious mindset with a strong interest in new technologies
- Attitude to resolve challenges with the ability to accurately balance between efforts, risks, and benefits.

Why Novartis: Helping people with disease and their families takes more than innovative science. It takes a community of smart, passionate people like you. Collaborating, supporting and inspiring each other.

Combining to achieve breakthroughs that change patients' lives. Ready to create a brighter future together?

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Division

Development

Business Unit

Universal Hierarchy Node

Location

Switzerland

Site

Basel (City)

Company / Legal Entity

C028 (FCRS = CH028) Novartis Pharma AG

Functional Area

Others

Job Type

Full time

Employment Type

Early Career (Fixed Term)

Shift Work

No

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