



Process Analytical Technology (PAT) Internship

Job Description Summary

Today, Lonza is a global leader in life sciences operating across three continents. While we work in science, there's no magic formula to how we do it. Our greatest scientific solution is talented people working together, devising ideas that help businesses to help people. In exchange, we let our people own their careers. Their ideas, big and small, genuinely improve the world. And that's the kind of work we want to be part of.

As a trainee in the PAT area, you will work in a dynamic and interesting environment at the Visp site Switzerland and get the chance to develop yourself and gain insights into various topics related to PAT. This is a unique opportunity for a young student to gain experience in supporting innovation at Lonza in a process-engineering group that works closely with development and production areas.

This internship is designed for junior passionate about spectroscopy and multivariate analysis on physicochemical data. As part of our team, you will focus on applying and developing novel PAT techniques such as Raman handheld, process IR spectrometers, online NMR, and computer vision to improve chemical process monitoring and optimization. You will utilize multivariate analysis to extract and interpret complex data from these advanced methods.

In general, the student will support the following main activities of the PAT laboratory in the Lonza Pharma Biotech and Nutrition Sector for approximately 6 months.

Your Tasks:

Development and optimization of PAT technology for use from the lab to the manufacturing area. You will support the integration of PAT method via data analysis with process optimization efforts, working closely with development chemists.

Key Responsibilities:

- Collaborate with the PAT team to apply spectroscopic methods for on-line/in-line/at-line analysis, monitoring and optimization of chemical processes
- Conduct development on novel spectroscopic methods, such as Raman handheld devices, process IR spectrometers, and online NMR, to enhance process analysis capabilities.
- Innovate and develop computer vision applications for real-time monitoring of chemical processes.
- Apply multivariate statistical techniques to interpret data from innovative methods, contributing to deeper process insights and optimization.
- Engage in hands-on experimentation and data collection in a laboratory setting
- Engage in cross-functional projects, contributing to the development and optimization of PAT applications for enhanced process understanding.
- Be a proactive team player with a high degree of dedication and the ability to inspire and contribute to a positive working environment.

Key Requirements:

- Demonstrate enthusiasm for laboratory work, spectroscopy, chemometrics, and data analysis.
- Currently pursuing or recently completed a degree in Chemistry, Chemical Engineering, or a related field, with a strong interest in PAT and data analytics.
- Strong theoretical and practical knowledge of various spectroscopic techniques, including but not limited to Raman, IR spectroscopy, and NMR suitable for on-line/in-line/at-line measurements.
- Familiarity with data analysis, chemometrics, and their application in process optimization.
- Coding skills with Python, Matlab, or equivalent platforms, with a keen interest in applying these skills would be consider as a plus.
- Ability to thrive in a fast-paced environment and manage multiple tasks simultaneously.
- Creative thinker with a proven ability to innovate and approach problems from new angles.
- Strong communication skills, capable of working effectively in a team and presenting findings to technical audience. Professional proficiency in English is required; knowledge of German is beneficial.

Lonza

Every day, Lonza's products and services have a positive impact on millions of people. For us, this is not only a great privilege, but also a great responsibility. How we achieve our business results is just as important as the achievements themselves. At Lonza, we respect and protect our people and our environment. Any success we achieve is no success at all if not achieved ethically.

People come to Lonza for the challenge and creativity of solving complex problems and developing new ideas in life sciences. In return, we offer the satisfaction that comes with improving lives all around the world. The satisfaction that comes with making a meaningful difference.