

Operations Senior Scientist

At Carbon Engineering, our vision is to lead the world in the large-scale removal of carbon dioxide from the atmosphere and advance our shift to a sustainable carbon-neutral society. Based in the outdoor recreation hub of Squamish, BC, this role will be a great fit for someone who feels passionately about this vision, and who wants to be a part of a fast-paced culture where contributions are noticed.

Position Scope

This is a senior role for a scientist with experience in the chemical, electrochemical or petrochemical process industry. Reporting to the Manager, Plant Operations, you will spearhead the implementation of robust experiment design and data analysis methods as well as identifying and exploiting process optimization opportunities across the company's Direct Air Capture and Fuel Synthesis technologies. The successful candidate will have an opportunity to shape this new role, support CE in becoming a data driven organization and champion best practices in experiment design.

- Reports to the Manager, Plant Operations.
- Implement experiment design and data analysis methods to optimize the output of test campaigns.
- Identify and exploit opportunities for Pilot Plant process optimization.
- Act as chemical process Subject Matter Expert within the operations team.

Responsibilities

- Act as senior process advisor to the Manager, Plant Operations.
- Identify meaningful Pilot Plant KPIs to characterize and validate plant performance and set control limits.
- Identify and assess opportunities for commercial plant CAPEX/OPEX reduction through Pilot Plant KPI optimization.
- Create and communicate best practices and mentor operations team staff in all aspects of experiment design and statistical data analysis to ensure that test campaigns maximise learning opportunities.
- Advise process leads on data gathering requirements for effective process/relationship characterization.
- Develop data management functionality that enhances data output in order to maximize characterization opportunities.
- Participate as a team member in experiment design, planning and review meetings.
- Perform probabilistic and deterministic linkages of data output.

Qualifications

- Education: PhD in Chemical Engineering or Chemistry with substantial research experience.
- Experience: 8+ years of relevant process development and characterization experience.
- Hands-on experience and comfort working in a development environment.
- Proficiency in analyzing data using statistical methods (e.g. regression modeling, time series analysis, inference, Bayesian methods, sampling theory, decision theory, likelihood estimation).

- Strong understanding of experiment design (e.g. multivariate testing, full factorial, fractional-factorial).
- Experience using statistical analysis packages such as Minitab or R.
- Experience analysing and deriving insights from large datasets (10M+ data points/day) is a bonus.
- Ability to balance multiple demands and work both independently and as part of a team.
- Exceptional verbal and written communication skills.
- Can-do attitude and commitment to quality and continuous improvement.
- Creative analytical and problem-solving skills with strong attention to detail.

If this seems like the dream job for you, send your resume to careers@carbonengineering.com and quote "Operations Senior Scientist" in the subject line.