

Pfizer Inc.

Senior Chemical Engineer for Continuous API Development and Manufacturing

We are seeking a highly collaborative chemical engineer with continuous processing knowledge to join Chemical Research and Development (CRD) in Groton. The successful candidate will support the development of Pfizer's strategy to deliver continuous development and manufacturing approaches to active pharmaceutical ingredient (API) candidates in our portfolio. They will collaborate and partner with others to help us establish a suite of continuous technologies with proven application to enhance speed, quality and flexibility in API development and manufacturing from early candidate selection through to commercial application.

CRD, as part of Worldwide R&D in Pharmaceutical Sciences, is responsible for the development of process technology for the production of API. CRD scientists engage in all facets of development from small scale synthesis in support of medicinal chemistry programs, to the development of the commercial synthetic route. CRD scientists partner with manufacturing specialists for API synthesis in kilo-lab and pilot plant facilities, as well as provide support for technology transfer to Pfizer manufacturing sites and third party facilities.

The successful candidate will join the Technology API group as a laboratory-based experimentalist. They will provide chemical engineering expertise for the development of continuous API platforms, workflows and processes. They will partner with chemists, analysts, mechanical engineers and chemical engineers from across Pfizer R&D and manufacturing organizations to assess existing continuous API platforms and design novel continuous API platforms for selected unit operations. They will prototype continuous API platforms through laboratory and plant application and progress successful platforms to modular and industry standardized units for manufacturing implementation. They will support the development of platforms and workflows to enable the delivery of integrated continuous unit operations for API development and manufacture, ensuring strong partnership with experts in PAT, automation and control. The ability to work on multi-disciplinary teams involving chemists, analysts, engineers, and technologists, and to represent CRD on cross-functional teams is essential.

ROLE RESPONSIBILITIES

- Bring prior knowledge of the concepts of API continuous development and manufacturing to develop continuous API platforms, workflows and processes.
- Connect, co-operate and partner with chemists, analysts, mechanical engineers and chemical engineers from across Pfizer R&D and manufacturing organizations to assess existing continuous API platforms and design novel continuous API platforms for selected unit operations.
- Prototype continuous API platforms in the laboratory and Kilo Laboratory in Groton and enable for Pilot Plant and commercial manufacturing through the development of modular and industry standardized units.

- Apply chemical engineering principles and models (reaction kinetics, thermodynamics, heat and mass transfer, and mixing effects) to evaluate and develop scalable and robust processes for the manufacture of API using continuous technologies.
- Partner with experts in process analytical technology, automation and control to enable the delivery of integrated continuous unit operations for API development and manufacture.
- Working in a modern automated laboratory, performs laboratory experiments to develop process understanding using a One Factor at a Time (OFAT) and/or a Design of Experiments (DoE) methodology as appropriate.
- Performs experiments to understand reaction mechanisms and kinetics, stability, solvent exchange, etc.
- Support technology transfer of API processes to internal Pfizer API manufacturing facilities and external suppliers.
- May spend significant time at the PGS launch site supporting process validation and Pre-Approval Inspection (PAI) activities.
- Applies chemical engineering skills and specific process knowledge to understand and resolve scale-up issues during transfer.
- Contributes to the preparation of the New Drug Application.
- Participates in data verification, Pre-Approval Inspection preparedness, and post submission query response.
- Remains current with the process engineering and chemistry literature. Collaborates and prepares internal research reports and technical presentations.
- May collaborate and author external publications and present research at external conferences.

QUALIFICATIONS

Required Education/Experience

- BS/MS Chemical Engineering with a minimum of 5 years relevant chemical or pharmaceutical continuous platform and process development experience or PhD in Chemical Engineering.
- For a BS or MS engineer, the following experience is preferred; developing, scaling and transferring flow technologies; working in a fine chemical or API manufacturing facility with a good knowledge of continuous unit operations, and developing and applying modelling tools.

Required Technical Skills

- A good understanding of organic chemistry and chemical engineering principles.
- A good understanding of fundamental principles of continuous processing from a laboratory and manufacturing perspective.
- Familiarity with in-situ analytical tools (e.g FTIR, FBRM, and UV/Vis) and common analytical chemistry instrumentation including UPLC, HPLC, and MS.

Preferred Technical Skills

- A working knowledge of organic and/or physical organic chemistry and chemical engineering principles.
- A working knowledge of reaction modeling, material property prediction, and simulation using computational tools including: DynoChem, gPROMS, Visimix, Aspen, Fluent, and Cosmotherm.

- Working knowledge of application of in-situ analysis tools to process understanding including: FTIR, FBRM, and UV/Vis.
- Working knowledge of UPLC, MS, and NMR spectroscopy.
- Experience with tools such as MatLab or LabVIEW and development of automation platforms.

PHYSICAL/MENTAL REQUIREMENTS

- Ability to work in a laboratory environment performing experiments in a laboratory fume hood.
- Ability to perform complex data analysis.

NON-STANDARD WORK SCHEDULE, TRAVEL OR ENVIRONMENT REQUIREMENTS

- Will be required to occasionally travel internationally (0-10%) to support technology development and/or clinical manufacturing activities as well as technology transfer to commercial manufacturing.

Other Job Details:

- Eligible for Relocation Package: YES
- Eligible for Employee Referral Bonus: YES

INTERESTED CANDIDATES PLEASE APPLY AT:

https://pfizer.wd1.myworkdayjobs.com/PfizerCareers/job/United-States---Connecticut---Groton/Senior-Chemical-Engineer-for-Continuous-API-Development-and-Manufacture_4800777-2