Scientist (R2) CHE005366

The Analytical Research & Development department of Merck Research Laboratories is seeking applicants for an analytical chemist at the Scientist level. The position is available at Merck’s Rahway, New Jersey research facility. The position is a laboratory-based scientific role tasked with solving complex analytical problems at the interface of chemistry and engineering disciplines to enable development of active pharmaceutical ingredients (APIs). The successful candidate must function well and be able to collaborate in a fast-paced, integrated, multidisciplinary team environment.

Academic and or research experience should demonstrate successful application of state-of-the-art analytical techniques to solve chemistry problems, such as: chiral / achiral separations (HPLC / SFC/ GC / CE / IC), spectroscopic techniques (NMR, MS, UV-VIS / IR / Fluorescence / Raman), solid-state analysis (X-ray diffraction, DVS, DSC, TGA and microscopy), and classical wet chemistry techniques. Additional experience in synthetic / physical organic chemistry, mechanistic / kinetic studies of chemical reactions, continuous monitoring using process analytical tools, or lab automation / informatics is considered a plus. Applicants must have effective organizational, multi-tasking, oral / written communications skills, show scientific leadership, and a desire to work in the laboratory setting.

**Required:** M.S. in analytical chemistry or related field or B.S. with a minimum of 3 years of experience in the Pharmaceutical Industry
**Senior Scientist (R3) CHE005344**

The Analytical Research & Development department of Merck Research Laboratories is seeking applicants for an Senior Scientist position available at its Rahway, New Jersey research facility. The Senior Scientist is a laboratory-based scientific role tasked with solving complex analytical problems at the interface of chemistry, engineering, and lab informatics disciplines to enable development of active pharmaceutical ingredients (APIs).

The successful candidate must function well and be able to collaborate in a fast-paced, integrated, multidisciplinary team environment. Research experience should demonstrate successful application of state-of-the-art analytical techniques to solve chemistry problems, such as: chiral / achiral separations (HPLC / SFC/ GC / CE / IC), spectroscopic techniques (NMR, MS, UV-VIS / IR / Fluorescence / Raman), solid-state analysis (X-ray diffraction, DVS, DSC, TGA and microscopy), and classical wet chemistry techniques. Additional experience in synthetic / physical organic chemistry, mechanistic / kinetic studies of chemical reactions, continuous monitoring using process analytical tools, or lab automation / informatics is considered a plus.

Applicants must have effective organizational, multi-tasking, oral / written communications skills, show scientific leadership, and a desire to conduct research and publish. In addition, experience leading small groups of technical personnel and analytical projects will aid in distinguishing candidates.

**Required:** A Ph.D. within chemistry, analytical chemistry or related field, OR M.S. with at least 5 years experience in the Pharmaceutical Industry
Senior Scientist (R3) CHE005375 MMC

This position is for a senior scientist to be a key member of a team responsible for the physicochemical characterization of pharmaceutical materials, including small molecule active pharmaceutical ingredients (API), process, and in some cases drug-product intermediates. Responsibilities include characterization of amorphous and crystalline phases and solutions as well as performing crystallizations using focused manual experiments and/or screening platforms for identification of phases in the support of the discovery and development of pharmaceuticals. Additional responsibilities will include the design and execution of PAT based experiments to enable unique process analyses targeting mechanistic understanding to inform process development.

The ideal candidate will be expected to play a leading role in the development of novel techniques for the physicochemical characterization of the surface and bulk of pharmaceutical materials in areas such as advanced spectroscopy, microscopy, scattering and diffraction and to identify and contribute to efforts for adopting new technologies and approaches related to PAT. While the majority of materials will be small molecules, there will be opportunities to perform biophysical characterization of complex molecules such as synthetic peptides, bioconjugates and small proteins.

**Required:** BS/MS/PhD in Physical Chemistry, Physical Organic Chemistry, Materials Science, Pharmaceutics, Chemical Engineering, Chemistry or related fields (BS with 10 years experience, MS with 5 years experience, or Ph.D. with experience in the pharmaceutical industry). Knowledge of physicochemical characterization of organic and/or inorganic materials

**Preferred:** Knowledge of Process Analytical Technology method/model development, including chemometrics and multivariate data analysis (MVDA); strong mathematical skills and experience with mathematical programming; experience in biophysical characterization; experience with powder properties and surface characterization tools (such as particle size, surface area, porosity, surface energetics, wettability, etc.); experience in characterization of solids and/or liquids using analytical techniques such as powder X-ray diffraction, thermal analysis (DSC, TGA, and solution), spectroscopic methods (Raman, IR, and NMR), microscopy (light and electron) and/or dynamic vapor sorption desirable.