Fall 2020 GSK Chemistry Job Descriptions

Investigator Roles

Why GSK

GlaxoSmithKline is a world leading research-based pharmaceutical company that combines both individual talent and technical resources to create a platform for the delivery of strong growth in a rapidly changing healthcare market. GlaxoSmithKline is recognized internationally for its innovative approach to drug discovery and development. Our success is built on the collaboration of multi-disciplinary teams of scientists sharing their ideas and expertise. We are seeking proactive chemists to join us in our mission to improve the quality of human life by enabling people to do more, feel better, and live longer.

Who We Are

GSK’s Chemistry Community is a large international community broadly encompassing Medicinal Chemistry, Process Chemistry, Computational Chemistry, Chemical Biology, Biocatalysis, and DNA-Encoded Library Chemistry Technologies. GSK Chemistry Research and Development is located at four major research sites around the world: Upper Providence, Pennsylvania (Hub), Stevenage, England (Hub), Cambridge, Massachusetts, and Tres Cantos, Spain. Collectively, we strive to deliver a portfolio of first in class, transformational medicines underpinned by innovative and cutting-edge technologies designed to drive efficiency and success in all our programs at all stages. Representing a variety of diverse cultures, backgrounds, interests, and expertise, GSK Chemistry is actively recruiting passionate, high-energy chemists looking to grow their career, contribute to a variety of programs and help drive our success in delivering world class medicines to patients.

Subject to approval of reasonable request, GSK is a modern employer and offers flexible working hours and conditions.

Where We Are

GSK’s US R&D Hub is located in Upper Providence, PA in the Philadelphia suburbs. Just 35 miles from Philadelphia International Airport, the Upper Providence site is home to over 3,000 of our R&D staff. With the concentration of such a large number of scientists you will find a culture that inspires innovation and collaboration, emphasizes professional development, and maintains a strong focus on the patients that are at the end of everything we do. Our location benefits from excellent facilities on site and in the surrounding area as well as shuttle services that make the campus accessible via public transportation via SEPTA. GSK enjoys the proximity to renowned educational and medical research institutions in Philadelphia, recently dubbed “Cellicon Valley” for the emergence in the medical research and biotech sector with the city and surrounding areas. Recognized in 2019 by National Geographic as one of America’s Top Cities, Philadelphia offers a revolutionary opportunity for you to live, work, and play within a short commute from GSK.

GSK also has a site in Cambridge, Massachusetts which is home to approximately 85 R&D staff, including 25 chemists in our DNA-Encoded Library Technology Group. The focused nature of the group, coupled with the small size of the site, offers chemists at this location the feel of a biotech company with the resources that come with being part of a larger organization. Conveniently located on the MBTA Red line, the Cambridge site finds itself in close proximity to 8 research universities, numerous colleges and hospitals, and over 1000 biotechnology companies ranging from start-ups to big pharma. Described as the “Center of the Nation’s
Biotechnology Industry”, Cambridge provides countless opportunities to attend lectures and interact with external colleagues, fuelling an exciting atmosphere of scientific discovery and collaboration.

**Why You**

Success in GSK thrives on strong interpersonal skills and practical chemistry skills combined with a curious, inquisitive nature and a passion for science. You are equally passionate about developing yourself, developing new scientific methodologies, pushing the limits of innovation, and learning something new every day. You are an excellent team player, able to work with others either in the lab or in the office as well as within cross-functional teams. You are independent and able to plan and execute your own workload and deliver results. Your science is conducted with integrity, safety, and the highest standards. You pride yourself in your chemistry and enjoy science as much as we do.

**Important Information**

All applicants are asked to provide at minimum a CV and research summary to be considered for a virtual recruitment interview with GSK. Final interview time slots will be communicated with due time to make changes; information on how to address those exceptions will be communicated when schedules are announced. During your time slot, please come prepared with a summary presentation of your research of approximately 15 minutes. Successful summaries will highlight not only accomplishments but also feature particular challenges and problem-solving situations.

GSK does not support the use of Zoom. Your interviewer will communicate ahead of time the use of Webex or Microsoft Teams for the day, both downloadable or usable in a web-based format. We look forward to meeting you!

**Contact**
For questions about these descriptions or general information about GSK or its chemistry departments, please reach out to
Nicole Goodwin, Ph.D. (Nikki, she/her)
Director, Medicinal Chemistry and Discovery High-Throughput Chemistry
nicole.c.goodwin@gsk.com
Investigator, Medicinal Chemistry (Upper Providence, PA)

We are currently looking for highly motivated organic chemists to join our Medicinal Chemistry team in suburban Philadelphia. Our group partners with program teams across GSK’s research units to deliver high quality small molecules, from hit generation through late stage lead optimization. The successful applicant will become fluent in these areas of medicinal chemistry while working as part of a highly productive team to design and synthesize developable drug molecules. The role involves, to differing degrees, medicinal chemistry data analytics, designing compounds to test medicinal chemistry hypotheses, synthetic organic chemistry to support both medicinal chemistry and/or candidate selection and championing technological advances.

Basic qualifications

Scientific

- Ph.D. in Organic Chemistry, Synthetic Methodology Development, Synthetic Organic Chemistry or Medicinal Chemistry
- Expertise in synthetic chemistry; knowledgeable in the application of new synthetic methodology and execution of multi-step syntheses
- Highly organized with strong attention to detail and a focus on quality results
- Excellent oral and written communication skills

Values and Expectations

- Proactive and self-motivated
- Strong interpersonal skills
- Excellent written and oral communication skills
- High learning agility

Preferred qualifications (in addition to basic qualifications)

Scientific

- Postdoctoral experience and/or 1-5 years industrial experience
- Expertise in both synthetic methodology development and total synthesis
- Data analytics and chem-informatics experience
- High-throughput experimentation
- Track record of working effectively in a team environment

Values and Expectations

- Self-aware; seeks ways to improve personal and scientific skills
- An ability to work with other scientific disciplines to drive results.
- Strong record of peer-reviewed publications, patents, or presentations
Key responsibilities may include

- The individual will be fully dedicated to organic chemistry and synthesis within the Med Chem organization, demonstrating scale-up capabilities and/or deep expertise in modern synthetic technologies and/or methodologies.
- The individual applies the principles of medicinal chemistry to enable drug discovery.
- Job holders are able to react to emerging data and to independently propose a modification of plans for the area of science they are responsible for.
- Job holders use innovative synthetic chemistry to solve problems. In particular, they are expected to be regular exponents of high throughput chemistry technology to solve chemistry issues.
- Job holders support patents and publications write-ups when appropriate.
Investigator, Chemistry, Encoded Library Technologies (Upper Providence, PA)

GSK is currently seeking an organic chemist to sit across the DNA-Encoded Library Technologies (ELT) and Medicinal Chemistry’s Discovery High-Throughput Chemistry (DHTC) groups. The successful individual will serve as a key technical resource to support ELT hit follow-up efforts and on-DNA reaction development. By working with other group members, and collaborating closely with colleagues across GSK, the successful individual will develop and optimize efficient, user-friendly next-generation chemical technologies and embed them in library synthesis workflows.

**Basic qualifications**

- Ph.D. in Organic Chemistry, Synthetic Methodology Development, Synthetic Organic Chemistry or Medicinal Chemistry
- Expertise in synthetic chemistry; knowledgeable in the application of new synthetic methodology
- Highly organized with strong attention to detail and a focus on quality results
- Excellent oral and written communication skills

**Preferred qualifications (in addition to basic qualifications)**

- Postdoctoral experience and/or 1-5 years industrial experience
- Working knowledge of contemporary parallel synthesis and/or high-throughput experimentation technologies
- Familiarity of on-DNA synthesis, on-DNA reaction analysis and encoded library synthesis methods
- Working knowledge designing high-throughput experimental arrays and/or library synthesis arrays using Pipeline Pilot, Library Studio, or other design software
- Working knowledge of contemporary lab automation, including microfluidics-based technologies
- An understanding of contemporary synthetic methodologies (catalysis, biocatalysis, C-H activation/functionalization) in the context library-based synthesis applications.
- An ability to work with other scientific disciplines to drive results.
- Strong record of peer-reviewed publications, patents, or presentations.

**Key responsibilities may include**

- Responsible for delivering arrays of DEL hit compounds in a high-throughput manner off-DNA and within program timelines, to enable rapid hit confirmation and SAR generation necessary to progress chemical series through the discovery pipeline
- Work with group members across DHTC, ELT Chemistry, and other key stakeholders to define the library synthesis triaging strategies that will ensure access to more complete focused libraries
- Collaborate with ELT chemists in Cambridge, as well as various academic groups, to translate traditional and cutting-edge reactions into DNA-compatible variants and enable their use in the high-throughput platform
- Seek out technologies that fundamentally challenge library synthesis paradigms and result in simplified processes that need not compromise the effectiveness and/or complexity of the synthetic methodologies employed.
Investigator Roles

- Independently author peer review scientific papers, internal / external presentations and technical reports. Represents GlaxoSmithKline at external scientific meetings and presents research internally to stakeholders and management.
- Maintain a safe working environment for his- or herself and their co-workers.
- Maintain accurate records as required by GlaxoSmithKline policies and ensure that GSK Intellectual Property is protected.

For further information see the following references:


Investigator, Chemical Development (Upper Providence, PA)

GSK is seeking a proactive chemist to join Chemical Development at our US R&D Hub located in Upper Providence, PA. Our Chemical Development group supports the small molecule portfolio in GSK Pharma R&D with an interdisciplinary team of process chemists, chemical engineers, and materials science experts by developing the synthetic routes and associated manufacturing processes that turn those molecules into medicines. Through our network of 86 manufacturing sites, each year we produce nearly 4 billion packs of medicine and we are committed to widening access to our products so that more people may benefit. A successful applicant will have an excellent practical and theoretical understanding of synthetic organic chemistry or a relevant technology and can design and execute high quality, thoughtful experimentation, while making significant contributions both independently and as a member of a team.

Basic qualifications

Scientific:

- Ph.D. in Chemistry or equivalent industrial experience
- Expertise in state-of-the-art synthetic organic chemistry
- Excellent problem-solving skills
- Scientific record demonstrating excellence in chemistry (e.g. publications, patents, or presentations)
- Experience in independent planning and execution of experiments
- Experience in independent interpretation of data from experiments and using it to make meaningful conclusions/decisions regarding the direction of future experimentation

Values and Expectations:

- Has the courage to take on ambitious goals and move forward at pace.
- Takes accountability by holding self and others to the commitments that have been made.
- Ability to learn and grow through challenging work and is willing to give and receive constructive feedback as part of an effort to continuously improve.

Preferred qualifications (in addition to basic qualifications):

- Experience in multistep synthesis of complex organic molecules
- Experience with high throughput experimentation for reaction optimization and process development activities is a plus, but not required.
- Experience with Design of Experiments (DoE) is a plus, but not a requirement.
- Experience in implementation of basic kinetic characterization of organic reactions is a plus, but not required.

Key Responsibilities include, but are not limited to:

- Designing and performing experiments in a laboratory setting to meet project timelines and objectives.
- Thinking creatively to generate new ideas for new synthetic routes and simplifying process problems.
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- Ensuring that experimental work is communicated effectively at internal R&D meetings.
- Participating in technology transfer activities as appropriate to our manufacturing partners Pharma Supply Chain (PSC), other parts of R&D, and partner Contract Manufacturing Organizations (CMOs).
- Authoring or contributing to regulatory submissions, patents, scientific papers and other internal documentation relevant to the role.
- Complying with applicable Data Integrity, Quality, cGMP and regulatory requirements in all aspects of work.

About You

As a member of Chemical Development, you will use your chemistry knowledge and expertise to develop new chemistry routes for primary manufacture and contribute to the development and deployment of state-of-the-art processes and technologies to enable the delivery of our medicines. This is a highly practical role where you will be working in the R&D laboratories to generate new synthetic routes and process understanding that underpins the successful scale-up and commercial industrialization of GSK's future manufacturing processes. Your focus will be to combine the information generated in laboratory studies with your strong knowledge of synthetic organic chemistry to develop sustainable pharmaceutical manufacturing routes and processes.

As projects advance through development, pilot plant support may also be required across scales, culminating in the transfer of projects to our commercial manufacturing facilities around the globe. The role is highly technical and dynamic as you will be working in a number of multi-disciplinary project teams. You will thrive in this environment if you are able to effectively manage multiple priorities, communicate your recommendations clearly, and enjoy working in teams.
Investigator, Computational Chemistry & Molecular Design (US)

An exciting opportunity is available to support and aid in the development of new pharmaceutical products through computational molecular design. The primary focus of this role will be to support preclinical research and development by identifying relevant biological targets, generating and optimizing candidate medicines and derisking of these therapies.

**Basic qualifications**
- Ph.D. or equivalent in Computational Chemistry, Cheminformatics, Computational Biology, Physics, Biophysics or Chemistry
- Experience in molecular modeling, protein structure analysis and small molecule optimization
- Experience using bioinformatics methods for protein structure prediction and design.
- Knowledge of cheminformatics, and QSAR methods
- Competent working in a Linux/Unix environment
- Proficient in one or more programming languages (e.g. Perl, C/C++, Java or Python)
- Demonstrated ability to work in multi-disciplinary matrix teams, displaying excellent interpersonal skills
- Strong organizational and communication skills (both written and oral), with the ability to liaise with scientists and external collaborators at all levels
- Ability to independently review and appraise scientific literature
- Ability to present data in team meetings and participate in writing of abstracts and publications

**Preferred qualifications**
- Solid foundation in chemistry, physics, computer science, statistics, probability theory and analytics
- Knowledge of drug discovery: medicinal chemistry, toxicology, DMPK, high content imaging and/or screening data analysis
- Deep expertise with molecular simulation and/or quantum chemistry
- Experience in detailed protein:ligand interaction analysis

**Key responsibilities may include:**
- Work with medicinal chemistry teams to provide structure-based drug design, QSAR modelling of desired features, and modelling of macromolecular systems.
- Work with biology team members to assimilate data from experiments, optimize those experiments and integrate that data into compound design.
Investigator, Biocatalysis Chemistry (Upper Providence, PA)

GlaxoSmithKline is a world leading research-based pharmaceutical company that combines both individual talent & technical resources to create a platform for the delivery of strong growth in a rapidly changing healthcare market. Our mission is to improve the quality of human life by enabling people to do more, feel better, & live longer.

An exciting opportunity in the GlaxoSmithKline Synthetic Biochemistry group. The primary focus of this role is to support the discovery and implementation of novel enzyme-based applications at GSK, by participating in the development, screening and optimization of biocatalytic reactions, as well as the exploration of novel applications of directed evolution within GSK’s portfolio of research and discovery. The successful candidate would participate on an interdisciplinary team tasked with providing fit for purpose enzymes to chemistry and biology project teams and broader.

Basic qualifications:

- Ph.D. in Chemistry, Biotechnology, Chemical Biology, or related field with 1-2 years relevant experience.
- Significant hands-on experience in the discovery, development and scale-up of organic reactions.
- Experience in enzyme characterization including a background in mechanistic and kinetic studies of enzymatic reactions ($v_{\text{max}}$, $K_m$, product inhibition, substrate inhibition, cofactors, redox chemistry).
- Demonstrated ability to work in multi-disciplinary teams, displaying excellent interpersonal, organizational, and communication skills

Preferred qualifications:

- Experience in the discovery, development and scale-up of enzyme catalyzed organic reactions.
- Experience with parallel experimentation, high throughput assay development, Design of Experiments, etc.
- Experience in the development of miniaturized biochemical assays to drive enzyme evolution toward conditions relevant to industrial manufacturing.
- Understanding of protein engineering/expression tools and techniques.
- Broad knowledge of organic chemistry, with particular emphasis on biocatalysis and chirality.
- Familiarity with or interest in learning automation equipment.

Key responsibilities may include:

- Interact with process chemists and engineers to determine process parameters under which an enzyme must perform.
- Develop appropriate surrogates for process conditions in order to authentically replicate target process conditions in high throughput.
- When appropriate, develop immobilized process conditions for enzyme candidates generated from protein engineering efforts.
- Express, test and rank enzyme variants in both HTP and shake flask scales.
- Work with molecular biologists, bioinformaticians, and process chemists to identify and resolve barriers to enzyme evolution.
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- Manipulate large-scale datasets using MS Excel and equipment interfacing programs.
- Liaise with scientists & external collaborators at all levels.
- Generate conclusion reports, present data in team meetings & participate in writing of abstracts & publications.
- Conduct scientific work programs and make contributions both independently and as a member of a team with other R&D staff.
- Work through problems logically and apply innovative solutions (appropriate to grade).
- Adopt new technologies and apply them to project work.
- Maintain customer focus, motivate self, and demonstrate a high degree of urgency.
- Use scientific literature and database resources in the execution of project related work.
- Exhibit flexibility, being open to new ways of working.
Investigator, Chemical Biology (US)

Do you have a profound interest in the practical application of chemistry to solve biological problems? If so, this Chemical Biologist role would be a great opportunity to consider. As a Chemical Biology team member, you will be carrying out experimental work within the group to support initiation and progression of GSK programs and capabilities. You will be influencing the experimental strategies of the team and contributing to establishing a culture and environment of scientific excellence.

Basic qualifications:
- Ph.D. in chemical biology, organic chemistry, medicinal chemistry, bioorganic chemistry, or equivalent experience.
- Deep knowledge of contemporary chemical biology techniques and literature.
- Able to effectively work and communicate across the chemistry/biology interface.
- Eagerness to grow and develop as a scientist.

Preferred qualifications:

Scientific:
- Synthetic chemistry and mass spectrometry practical skills
- Demonstrated track record of peer reviewed publications and scientific meeting presentations based predominantly on their own work
- Biochemical assays and proteomic workflows experience
- Experience of site-specific incorporation of unnatural amino acids into recombinant protein
- Primary cell usage
- Techniques related to target identification, validation, tractability, and engagement

Values and Expectations:
- Collaborative working with data scientists, biochemists, chemoproteomics scientists and cell biologists.
- Supervising and developing other scientists
- Work through problems logically and apply innovative solutions (appropriate to grade)
- Adopt new technologies and apply them to project work
- Use scientific literature and database resources in the execution of project related work
- Exhibit flexibility, being open to new ways of working

Key responsibilities may include:
- Maintaining high individual lab-based chemical biology productivity.
- Enable the team by driving the design and implementation of experiments to solve biological questions.
- Help GSK establish industry-leading, cutting edge chemical biology capabilities
- Establish personal and profession development goals and outline plan to meet them.
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*These are job descriptions to aide in the job posting but does not include all job evaluation details.

If you require an accommodation or other assistance to apply for a job at GSK/ViiV Healthcare, please contact your local HR department.

Subject to approval of reasonable request, GSK is a modern employer and offers flexible working hours and conditions.

GSK is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive equal consideration for employment without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity/expression, age, disability, genetic information, military service, covered/protected veteran status or any other federal, state or local protected class.