

Principal Scientist II/Senior Principal Scientist, Modeling & Simulation (Dual Level Posting)

Job ID

REQ-10080248

Jun 12, 2026

LOC_US

About the Role

Key responsibilities:

- Act as the M&S representative on several programs. Develop and execute modeling strategies, contribute to project team discussions, and guide model-informed decisions from therapeutic design to first-in-human dose selection and beyond.
- Build and apply mechanistic models (PK/PD, QSP, and PBPK/PD) that link drug pharmacology, tissue biodistribution, mechanism(s) of action, and downstream effects.
- Integrate modeling into the design and interpretation of preclinical in vivo and in vitro studies to support candidate selection, optimization, and advancement towards the clinic.
- Collaboratively develop platform disease (QSP) and PBPK/PD models that extend across multiple projects and phases of discovery & development.
- Engage in strategic initiatives within M&S, such as creating platform-level translational modeling strategies to impact across projects and developing modeling workflows (e.g., agentic AI).
- Proactively seek opportunities to increase the understanding and adoption of translational modeling among internal partners and expand the impact and visibility of modeling through external collaborations.

Essential requirements

- Ph.D. in biology, bioengineering, pharmaceutical sciences, biophysics, or a related field and 3+ years of industry experience with progressively increasing levels of responsibility. Master's degree with 5+ years of industry experience and demonstrated impact will be considered.
- General Modeling Skills: Expert level proficiency in core modeling fundamentals is required, including scripting languages (e.g., MATLAB, R), construction of ordinary differential equation (ODE) models, parameter estimation, and data visualization.
- Industry Modeling Skills: Proficiency in pharmacokinetics and pharmacodynamics (PK/PD), quantitative systems pharmacology (QSP), and/or mechanistic physiologically based PK/PD (PBPK/PD) is required. Proficiency in pharmacometrics concepts (Population PK, exposure-response modeling) is preferred.
- Domain Expertise: Prior experience with the integration of computational modeling and biological concepts is required. Experience modeling in the neuroscience and/or cardiovascular disease areas is preferred but not strictly required. Experience with oligonucleotide therapeutics (siRNA, ASO, PMO, etc.) and/or related experience with antibody-drug conjugates (ADCs) is strongly preferred.

· Collaboration and Communication: Demonstrated ability to communicate modeling results to a multidisciplinary audience for collaborative work and/or to facilitate strategy and decision-making. Fluent in English (oral and written).

This is a hybrid role that requires a balance of in-person and virtual working, with an average of 12 days a month on site in Cambridge, MA.

Candidates with demonstrated impact as a modeler, preferably in the pharmaceutical/biotech industry, and with commensurate experience and proficiency may be considered for the Principal Scientist II (3+ years) or Senior Principal Scientist (5+ years) role.

This is a dual posting. The final level & title of the offer role would be determined by the hiring team based on the skills, experience & capabilities required to perform the role at the level the role has been offered

The salary for this position is expected to range between:

Principal Scientist II: \$126,000 and \$234,000 per year.

Senior Principal Scientist: \$152,000 and \$261,000 per year.

The final salary offered is determined based on factors like, but not limited to, relevant skills and experience, and upon joining Novartis will be reviewed periodically. Novartis may change the published salary range based on company and market factors. Your compensation will include a performance-based cash incentive and, depending on the level of the role, eligibility to be considered for annual equity awards.

US-based eligible employees will receive a comprehensive benefits package that includes health, life and disability benefits, a 401(k) with company contribution and match, and a variety of other benefits. In addition, employees are eligible for a generous time off package including vacation, personal days, holidays and other leaves. To learn more about the culture, rewards and benefits we offer our people click [here](#)

Role Requirements

Why Novartis: Helping people with disease and their families takes more than innovative science. It takes a community of smart, passionate people like you. Collaborating, supporting and inspiring each other. Combining to achieve breakthroughs that change patients' lives. Ready to create a brighter future together? <https://www.novartis.com/about/strategy/people-and-culture>

Benefits and Rewards: Learn about all the ways we'll help you thrive personally and professionally.

[Read our handbook \(PDF 30 MB\)](#)

Division

DIV_RE

Business Unit

Research

Location

LOC_US

Site

Cambridge (USA)

Company / Legal Entity

U175 (FCRS = US175) Novartis Institutes for BioMedical Research, Inc.

Functional Area

FCT_RD

Job Type

Full time

Employment Type

Regular

Shift Work

No

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