

Associate Director, Data Science

Job ID

REQ-10080761

Jun 22, 2026

LOC_US

About the Role

Key responsibilities:

- Shape and advance AI-driven MIDD by integrating mechanistic modelling and machine learning to bridge biology and clinical outcomes.
- Design and implement hybrid modelling pipelines where mechanistic simulations generate features for machine learning models.
- Translate model-derived biomarkers and mechanistic states into clinically relevant predictions and decision-support tools.
- Drive scientifically grounded AI approaches that enhance mechanistic understanding, ensuring rigor, interpretability, and robustness.
- Develop scalable, reproducible workflows integrating data science, mechanistic modelling, and in-house tools.
- Define and implement project-specific in silico modelling and data strategies aligned with key decision questions.
- Apply and advance currently available data mining and advanced analytics to link molecular structure, ADME properties, and pharmacological outcomes across modalities.
- Drive adoption and effective use of in silico models, tools, and data to accelerate decision-making.
- Collaborate with PKS, Translational Medicine, and Data & Digital teams to integrate diverse datasets (preclinical, clinical, external).
- Contribute to translational programs across disease areas and communicate modelling insights to influence decision-making.
- Stay current with advances in AI/ML and their application to ADME, PK/PD, and drug discovery and development, and proactively evaluate and bring appropriate innovation into practice to improve efficiency and scientific impact.

Essential requirements

- Advanced degree in life sciences or quantitative discipline (e.g., data science, computational biology, pharmacometrics, bioinformatics, computational chemistry, biomedical engineering or related field).
- PhD with 5+ years or MSc with 8+ years of relevant experience in drug discovery or development.
- Strong expertise in machine learning, statistics, and data science methods.
- Demonstrated experience applying reproducible data science approaches to drug discovery or development.
- Experience combining mechanistic modelling and data-driven approaches is strongly preferred.
- Strong understanding of ADME, PK/PD, and/or translational modelling concepts.
- Proficiency in Python and/or R, including software development best practices (version control, testing, documentation).
- Experience with machine learning libraries such as scikit-learn, PyTorch, or Keras.
- Strong data visualization and exploratory data analysis skills.
- Ability to translate complex analytical concepts into clear, actionable insights.
- Strong collaboration and communication skills across multidisciplinary teams.
- Fluency 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.

The salary for this position is expected to range between \$160,300 and \$297,700 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

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_DD

Job Type

Full time

Employment Type

Regular

Shift Work

No

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