GRANT MUELLER

BETHESDA, MD

(240) 485-6132 | grantmueller@gmail.com | linkedin.com/in/grant-mueller

PROFESSIONAL PROFILE

Data Scientist with eight years of experience driving GMP-compliant biopharma workflows through advanced analytics, data stewardship, and FAIR principles. Led global, cross-functional teams to deliver data-driven solutions aligned with strategic goals. Bridges digital data architecture gaps with ontology mapping, metadata curation, and scalable solutions.

CORE COMPETENCIES

- Data Governance & Stewardship (FAIR principles)
- Ontology Mapping (RDF, SPARQL)
- Python Programming (pandas, NumPy, PySpark)
- R Programming (tidyverse, data.table, ggplot2)
- Machine Learning & Pipeline Deployment
- Statistical Modelling & Data Analysis
- Web Applications (Shiny, React, Node.js)
- Linux & Shell Scripting
- GMP and Regulatory Frameworks (FDA, ICH, EMA)
- Project Leadership & Collaboration

WORK EXPERIENCE

BIONTECH, Gaithersburg, MD — 11/2023 – 08/2025

Senior Process Analytics Scientist, Materials Science and Technology (MS&T)

- Represented Analytical Science and Technology (AS&T) as technical lead during method transfers, interfacing with counterparts from AD and QC to ensure compliance with GMP, data integrity, and regulatory standards.
- Orchestrated cross-functional collaboration between MS&T and PD/AD to develop a small-scale model of CGT manufacturing to streamline process characterization representing a 10X save in development costs.
- Advised BioNTech's global CGT specification committee as technical expert representing the site leveraging statistical expertise to define, refine, and implement in-process and product release specifications.
- Directed the technology transfer of analytical methods to external CDMO partners providing assessment on feasibility for integration with global supply chain and enabled integration of advanced laboratory technologies.
- Contributed to BioNTech's Validation Community by interpreting and applying FDA, ICH, and EMA regulatory frameworks to support filings including IND and BLA submissions along with responding to FDA feedback.
- Informed executive leadership through data interpretation and strategic recommendations across cross-functional departments; built an extensive network of enthusiastic stakeholders to find synergistic solutions.
- Partnered with global teams to generate data-driven solutions; recruited senior stakeholders building teams to address technical issues, authored extensive technical documentation and delivered key analytical insights.
- Executed complex statistical analyses to support laboratory investigations, process change control, optimize AD/PD, QC, and MFG workflows, and assess experimental outcomes as technical expert for analytical methods.
- Contributed to the development of an R Shiny bioreactor monitoring dashboard to visualize production metrics, detect anomalies, and trigger alerts, reducing manual QC checks by 40% and improving data traceability.
- Collaborated with CMC Excellence and Strategy as the Data Steward representing MS&T/AS&T, curating metadata to establish semantic ontologies including data standard and data model aligned with FAIR principles.
- Built an R Shiny web application to increase accessibility of laboratory data in original source server location, automating data analysis pipeline and associated statistical analyses and reducing overall analysis time by 50%.

GLAXOSMITHKLINE (GSK), Rockville, MD — 10/2017 – 08/2023

Senior Scientist, Materials Science and Technology (MS&T) (04/2023 – 08/2023)

Associate Scientist, Materials Science and Technology (MS&T) (10/2017 – 04/2023)

- Collaborated with cross-functional global teams to develop data-driven solutions; authored technical documentation and delivered analytical findings through reports and poster presentations.
- Led late-stage analytical development and method qualification to assess protein quality and process residuals across five biopharmaceutical product streams, supporting both upstream and downstream manufacturing.
- Designed and implemented analytical chemistry methods, including a high-throughput assay for mAb-released N-glycan profiling; optimized residual detection protocols and authored corresponding SOPs.

NVITAL-NIAID, Gaithersburg, MD 01/2017 – 07/2017

Methods Development Analyst (Contract via MSC)

- Adhered to GLP in BSL-2 environment while using aseptic technique for cell line passaging, hemocytometer-based cell counting, viral transfection, viral neutralization and anti-drug antibody testing for clinical samples.
- Developed automated high-throughput cell-based assays in partnership with the Vaccine Research Center (VRC).
- Performed a range of laboratory techniques including cell culture, cell banking, and assay development.

NOVAVAX (Contract), Gaithersburg, MD 05/2016 – 11/2016

Research Associate II (Contract)

- Conducted high-throughput clinical testing and assay training within a GLP-compliant Clinical Immunology lab.
- Maintained detailed records via electronic laboratory notebooks, ensuring strict adherence to safety protocols.
- Analyzed and interpreted clinical and experimental data; managed inventory, ordered supplies, maintained lab facilities, drafted SOPs, prepared reports, and presented findings.

MEDIMMUNE, Gaithersburg, MD 11/2015 – 04/2016

Research Associate I (Contract via Eurofins)

- Executed analysis to support in-process and characterization testing and process development following SOPs.
- Operated Agilent 8453 UV-VIS spectrometer, LabChip DS, Nanodrop 2000, Protein-A Affinity HPLC techniques.
- Generated analytical data under GMP conditions, ensuring integrity and compliance with regulatory standards.

PENNSYLVANIA STATE UNIVERSITY (PSU), State College, PA 09/2011 – 05/2013

Teaching Assistant – Introduction to Plant Biology (07/2012 – 05/2013)

Research Assistant – DePamphilis Lab (09/2011 – 12/2012)

EDUCATION

Master of Science (MS), Biotechnology (Bioinformatics), JOHNS HOPKINS UNIVERSITY, Baltimore, MD
Bachelor of Science (BS), Biology (Plant Biology), PENNSYLVANIA STATE UNIVERSITY, University Park, PA

PROFESSIONAL WEBSITE

https://grant-mueller.github.io/

TECHNICAL SKILLS & TOOLS

Programming & Analytics: Python, R Shiny, Spark, PostgreSQL, Biopython, Bioinformatics, Statistics, Machine Learning
Platforms & DevOps: AWS, Linux, Git, Docker, SPARQL, LIMS, MES, React, Node.js, Airflow, MS Power Apps, Dashboards