

Academic Job Description
Department of Animal Science
Postdoctoral Researcher 1 – Data Collection & Integration
Methane Emissions and FAIR Data Principles

At Bovi-Analytics Lab, we are at the forefront of digital innovation in the dairy industry. Our mission is to utilize data analytics and artificial intelligence to enhance dairy cattle management and performance. We are currently seeking a highly motivated postdoctoral researcher to lead the data collection and integration efforts for greenhouse gas emissions (CH₄, CO₂, etc.) from dairy and beef cattle studies utilizing GreenFeed. The ideal candidate will have extensive research management experience, a passion for international collaboration, and a proven track record in data-driven research projects applied to dairy science.

Position Function

Under the direction of Dr. Miel Hostens, the ideal candidate will be mainly responsible to 1) engage with external collaborators to acquire raw GreenFeed data from dairy and beef cattle studies across diverse production systems and geographies; 2) be responsible for drafting and managing Joint Data Controller Agreements and Data Transfer Agreements with collaborators; 3) coordinate timely and secure data transfers to ensure all datasets are efficiently stored and made accessible within a centralized database; 4) establish robust project management processes to control scope, timelines, milestones, quality, and risks, ensuring the successful delivery of research outcomes; 5) develop and manage a comprehensive project management system to facilitate efficient task assignments, progress tracking, and project operations at various intervals, such as annually, quarterly, monthly, weekly, and daily; 6) implement data pipelines for data cleaning, integration, and version control using R or Python; 7) apply and promote FAIR data principles to ensure the data is findable, accessible, interoperable, and reusable by all collaborators; 8) contribute to the design of data standards to ensure compatibility across datasets, minimizing future integration efforts; and 9) prepare detailed reports and present progress to stakeholders and collaborators.

This is a full-time position located in Ithaca, New York. This is a 2-year appointment.

Anticipated Division of Time

Project Management 30%

Data Management 50%

Writing and Communication 20%

Required Skills and Qualifications

- Strong experience in database design and management, with proven expertise in both SQL (e.g., MySQL, PostgreSQL) and NoSQL (e.g., MongoDB, Cassandra) systems.
- Demonstrated ability to design and implement scalable data storage solutions for large datasets.
- Knowledge of data security, data privacy regulations, and governance frameworks.
- Proficiency in programming languages such as Python, R, or similar, especially for developing data pipelines and APIs.
- Experience in developing APIs (REST, GraphQL) for data sharing and integration.
- Proficient in Microsoft Azure, Databricks, and related cloud platforms.
- Excellent communication skills for working in a multidisciplinary and international team.
- Strong project management and problem-solving skills.

Preferred Qualifications:

- Familiarity with agricultural data, especially related to livestock production and methane emissions.
- Experience working with high-dimensional, heterogeneous data.
- Knowledge of ICAR, GMH, or other agricultural data standards.
- Prior experience in FAIR (Findability, Accessibility, Interoperability, Reusability) data principles.
- Proven ability to develop ontologies, especially for methane emissions or similar fields, and work with data standards.
- Familiarity with ontology platforms (e.g., ATOL) and data harmonization techniques.
- Demonstrated expertise in creating, managing, and optimizing Docker containers for scalable, high-performance applications.

Supervision Exercised

This position will not supervise anyone.

Apply by February 28th 2025

Send application to miel.hostens@cornell.edu & el839@cornell.edu