

Director of Accelerator Mass Spectrometry (AMS) Operations

The Director of Accelerator Mass Spectrometry (AMS) Operations is responsible for overseeing all technical and operational aspects of Accium BioSciences' accelerator mass spectrometry facilities and analytical services. The ideal candidate will possess superior understanding and expertise in fundamental aspects of general mass spectrometry, lab instrumentation, ultra-high vacuum systems, electronics, data acquisition and analysis. Accium will provide all training and certification necessary for the candidate to become proficient in AMS fundamentals, instrument operation and maintenance of Accium's two AMS instrument platforms.

About Accium BioSciences

Accium BioSciences is a recognized global leader in commercial analytical services based on AMS, an ultrasensitive analytical platform with low attomole detection limits. In 2004, Accium licensed AMS technology from the Department of Energy and launched the first commercial AMS facility in North America. Accium now owns and operates two independent AMS facilities and serves a diverse range of clients and researchers.

Accium's Seattle facility focuses on the analysis of clinical samples submitted by its pharmaceutical customers. To date, the facility has analyzed over 70,000 AMS samples and supported over 50 Phase 1 clinical studies for many top pharmaceutical companies. In 2011, Accium launched DirectAMS, a second independent AMS facility in Bothell, to provide precision radiocarbon dating services for applications in archaeology, geology, anthropology, climate science, and antiquities. Some of our DirectAMS work has been showcased on the cover of Science and National Geographic. An upcoming episode of NOVA will profile our work on the most complete Ice Age skeleton, helping to solve the mystery of the First Americans.

We are seeking an enthusiastic individual to join our talented team and serve as our new Director of Accelerator Mass Spectrometry (AMS) Operations.

RESPONSIBILITIES

- INSTRUMENT OPERATION
 - Oversee operation of two AMS instruments
 - Create training program and documents
 - Train personnel to operate both instruments
 - Monitor performance of operators to ensure proper operation of AMS
 - Operate AMS instruments as needed
 - Monitor performance of AMS instruments during sample measurements

- MAINTENANCE
 - Oversee routine maintenance of AMS Instruments
 - Maintain ultra-high-vacuum systems
 - Create training program and documents
 - Train personnel to perform routine maintenance operations
 - Monitor performance of maintenance
 - Perform routine maintenance procedures as necessary

- Create and implement preventative maintenance plan
- Create list and ensure inventory of common spare parts for both AMS systems
- MITIGATION OF TECHNICAL ISSUES
 - Perform troubleshooting operations related to non-routine problems with AMS systems
 - Perform non-routine maintenance
 - Utilize external resources to reduce troubleshooting and resolution times
 - Contact AMS instrument vendors (NEC and IonPlus)
 - Utilize other AMS industry contacts and colleagues
 - Monitor non-routine issues and update preventative maintenance plan as necessary
 - Document all non-routine issues and resolutions
- ANCILLARY EQUIPMENT
 - Oversee operation and maintenance of all ancillary equipment
 - Perform all training, operation, maintenance, and non-routine issue resolution steps outlined above, on the ancillary equipment involved in AMS operation
 - Water chillers and cooling loops
 - Air compressors
 - Vacuum pumps and components
 - Electrical power
- GRAPHITIZATION LAB
 - Supervise Graphitization Lab Manager responsible for sample preparation
 - Monitor performance of graphite samples on both AMS systems
 - Alert Graphitization Lab Manager about any issues with sample quality related to graphitization or cathode pressing
 - Provide troubleshooting guidance and expertise to help resolve any issues
- BIOMEDICAL AMS
 - Provide guidance to biomedical AMS study design, protocols and validations
 - Understand AMS Limits of Quantitation and Detection
 - Convert AMS measurements to drug concentrations
 - Corrections for use of carrier carbon
 - Appropriate background and pre-dose corrections
 - Understanding of bioanalytical techniques (e.g. extraction, reconstitution, LC) so that appropriate carbon inventory can be performed for accurate conversion of AMS data to drug concentration
- RADIOCARBON DATING AMS
 - Provide expertise in the application of AMS to radiocarbon dating and natural carbon measurements
 - Understand limits of Detection and background issues
 - Appropriate application and monitoring of chemical blanks
 - Appropriate application and monitoring of standards
 - Appropriate application and monitoring of secondary standards
 - Monitor and ensure accuracy of every sample processing method (e.g. ABA, carbonate, bone collagen) with process blanks and secondary standards

- Understand and provide guidance to lab personnel and clients in the area of small carbon mass samples to ensure accuracy and precision in results
 - Application of small mass blanks and standards
 - Knowledge of contamination sources and types and how they relate to the small carbon mass samples
- Knowledge and understanding of how AMS is applied to natural carbon measurements related to environmental and ecological monitoring and research
- DATA ANALYSIS
 - Poses expert understanding of data analysis techniques for AMS
 - Knowledge about the internal workings of any software used to analyze data so that the limitations and peculiarities of the software are understood
 - Providing consultation for application of various radiocarbon calculations and units to the particular problem under investigation (e.g. use of fraction modern, $\delta^{14}\text{C}$, $\Delta^{14}\text{C}$, etc. to various problems in dating and natural carbon determinations)
 - Understanding of radiocarbon date calibrations, which calibration curve to use under which circumstances, bomb-pulse influences, etc.
 - Ability to perform statistical analysis of blanks, standards, and secondary standards to analyze the performance of the AMS over time and monitor any trends or drifts in the instrument.
- CLIENT INTERFACING
 - Provide clear and concise communication with clients, as needed
 - Interface with clients of both biomedical and radiocarbon dating to explain AMS technology
 - Interface with biomedical clients to help resolve issues with PK curve anomalies, measurement of tails, etc., and to explain calculations and help with understanding
 - Field complaints from clients about AMS measurements
 - Provide explanations about sample processing, AMS measurement, and radiocarbon calculations
 - Provide expertise and consulting to clients about application of AMS to their study or research interest
- STAFF MANAGEMENT
 - Manage AMS technicians
 - Supervise Graphitization Lab Manager
 - Interface with other internal teams and lab operations
- OTHER DUTIES
 - Document activities as required in Standard Operating Procedures
 - Optimize resource utilization without impacting instrument performance data quality
 - Engage with external AMS researchers and experts to maintain current understanding of best practices
 - Conduct and/or contribute to research in the field of AMS
 - Inspire trust in the lab's processes through publication in peer reviewed journals
 - Attend conferences to maintain professional contacts and market the lab to new customers

MINIMUM QUALIFICATIONS

- 4+ years of experience successfully overseeing operation of complex mass spectrometry instrumentation, ideally at a high-performing core facility
- Possess strong fundamental understanding of mass spectrometry, ultra-high-vacuum systems, underlying physics, electronics and instrument componentry
- Exceptional management, operational and planning skills
- Fast learner, eager to become an expert in unique and powerful mass spectrometry platform
- Customer focused, keenly interested in advancing customer's research across biomedical and archeological sciences

Please send resumes or CVs to: info@acciumbio.com

Accium BioSciences, Inc. is an equal opportunity employer.

For more information, see www.acciumbio.com and www.directams.com