The Pre-Clinical Imaging Scientist will take a lead role in implementing and managing complex pre-clinical imaging techniques offered by the Center for Biometric Analysis (CBA), with particular focus on MicroCT and MRI. Under direction of the Senior Manager of Pre-Clinical Imaging, this PhD level scientist will be responsible for method development, study execution, data analysis and interpretation, and training of The Jackson Laboratory (JAX) faculty and staff in complex pre-clinical imaging techniques.

**Key Responsibilities:**

- Lead all aspects of the acquisition, development and execution of complex pre-clinical imaging protocols for CBA clients [Faculty, research staff and JAX Mice, Clinical & Research Services (JMCRS) representatives], with particular focus on Micro-Computed Tomography (MicroCT) and Magnetic Resonance Imaging (MRI). Oversee maintenance and troubleshooting of pre-clinical imaging platforms within the CBA portfolio.
- Deliver image processing and post-processing quality control, critical analysis, and biological interpretation. Ensure the quality, integrity and security of imaging data delivered to CBA clients, to include management of data storage and archiving, hot desk workstations, and high specification workstations for data processing. Analyze, collate and prepare data package summaries using MATLAB, Paravision, Topspin, Perkin-Elmer Quantum GX, Bruker MicroCT CTAn, FSL, ANTs, AFNI, SPM, Nrecon, Amira, DSIstudio, ITK-SNAP, MIPAV, ImageJ, Python, Perl, Word, Excel, Powerpoint and/or R as appropriate.
- Assist with manuscript preparation, grant submissions, and progress reports.
- Provide training to faculty, staff, post docs, and students in complex pre-clinical imaging techniques including in vivo and ex vivo approaches and their respective data processing, analysis and interpretation.
- Maintain and establish SOPs, competency forms, and training material including safety training materials; maintain currency in research technologies and paradigms by literature searches and ensuring instrumentation and techniques are up to date, state of the art and forward thinking by attending seminars, workshops and courses and conferences; monitor metrics, contribute to strategic planning, budget development and billing support, and IACUC compliance in collaboration with the CBA project manager.

**Requirements:**

- PhD in Biomedical Engineering, Physics, Chemistry, or a related scientific discipline
- 5+ years demonstrated expertise (e.g. publication record) using Bruker, Agilent or other major MRI platform as a pre-clinical, scientific investigatory tool
- Extensive experience in image processing and post processing data skills. Experience and proficiency with the following software: MATLAB, Paravision, Topspin, Bruker Skyscan suite, Perkin-Elmer Quantum GX, Amira, FSL, ANTS, AFNI, SPM, DSIstudio, ITK-SNAP, MIPAV, ImageJ, Python, Perl, Word, Excel, Powerpoint and R preferred.
- Extensive experience in pre-clinical MicroCT image development, acquisition and analysis is preferred.
- Experience with and knowledge of advanced MR neuroimaging techniques is highly desirable, such as resting-state functional MRI (rsfMRI), awake animal fMRI,
simultaneous multi-slice technique (SMS), diffusion tensor imaging (DTI), arterial spin labelling (ASL) and/or cerebrovascular reactivity (CVR).

- Knowledge of Bruker Paravision pulse sequence programming and image reconstruction will be a plus.
- Highly-motivated, passionate, flexible scientist with the ability to perform successfully in a fast-paced team environment
- Ability to handle multiple tasks/projects and develop and recommend solutions to complex problems often under time constraints
- Must possess strong analytical, writing and successful program/project management skills with the ability to manage multiple projects simultaneously and to work well in a dynamic fast-paced environment
- Exceptional Mouse handling skills are preferred