

## JOB DESCRIPTION

**Job Title:** Research Associate (General Surgery)

**Shift:** Day

**Position Type:** Full Time

**Organization:** Emory University

**Operating Unit:** Emory University

**Department:** Surgery

**JOB DESCRIPTION:** Independently performs a wide range of highly theoretical and complex mathematical and computational procedures. These include original mathematical derivations, application of existing theory, scripting and programming. Must be fluent in MATLAB and Mathematica environments and experienced in high-level computer programming, including parallel computing and cluster computing. Devises highly specialized computational procedures by applying knowledge of advance research techniques and equipment. Provides input to protocol development. Serves as a theory and technical source for other research personnel. Analyzes and interprets the results of studies. Investigates and recommends alternative approaches to improve the quality of results. Trains research staff in specialized procedures and theoretical concepts for unique applications. Recommends new equipment and software needed for specialized procedures. May assist in grant and other funding application preparation. Reviews literature for related research developments and techniques. Prepares written materials, charts and graphs on specialized techniques and research results for publication or presentation. Oversees quality of research performed by others. Monitors the handling, storage and disposal of patient identifiers. Performs related responsibilities as required. Will be required to work with, and take specific precautions against data destruction, malware, hardware failures and software failures. Functions as a skilled individual contributor or lead researcher on one or more research projects, serving as an expert in specialized area(s). Designs, develops and conducts large and/or complex research experiments. Reviews progress of research and evaluates results. Shares expertise in equipment and software. Refines/adapts methodologies to fit specific experiment requirements. Collaborates in the development of new techniques. Co-authors publications and co-presents findings with Principal Investigator at meetings/conferences. Performs related responsibilities as required.

**MINIMUM QUALIFICATIONS:** A postgraduate (MD or PhD) degree in a scientific field. Four years of professional research experience. Must be fluent in MATLAB and Mathematica environments and experienced in high-level computer programming, including parallel computing and cluster computing. Must have advanced education in mathematics, physics or a related computational field. Must have advanced education in human or mammalian physiology.

Experience with physiologic datastream management (for example, TrendFace environment) preferred. Experience supervising predoctoral students highly desirable.