

Sr Numerical Modeling Engineer

Use your LinkedIn Profile to help you apply faster!

 [Apply with LinkedIn](#)

Requisition 94254

Category Engineering

Business Cardiac Rhythm Disease Mgmt

Division CVG CRDM-TDS

Location USA-MN-Mounds View

Relocation Relocation eligibility to be determined

Job Type Full Time - Regular

Exempt/Non-Exempt Exempt

Shift First

Travel Percentage less than 10%

Experience Required 3 years

Education Required Master of Engineering

Share:



Facebook



LinkedIn



Twitter

[Apply Now](#)

[Add to Job Cart](#)

Position Description

This position will provide computational modeling expertise in design and development of innovative products to treat Cardiac diseases. The emphasis will be on modeling mechanical systems to predict forces, deflections, stress, and strain within complex medical device assemblies subjected to in vivo and in vitro types of load conditions. Bearing in mind first principles, the Senior Numerical Modeling Engineer will understand customer requirements, formulate a modeling approach that will address those requirements, independently carry out the modeling activities and provide concise communication of the results through technical reports and presentations.

Position Responsibilities

Perform theoretical and finite element analysis (FEA) to predict system behavior under in vivo and in vitro types of load conditions. This individual will develop technical solutions to complex problems that require the regular use of creativity and critical thinking.

The Engineer's primary responsibilities will consist of the following:

- Utilize finite element analysis to assist in the design and evaluation of cardiac leads and devices
- Apply modeling tools to help design and develop new test methods, and integrate new materials and processes
- Work collaboratively with cross-functional product development teams to help bring products to market
- Carry out timely troubleshooting by engaging peers, software technical support, and past experience
- Perform model verification study and validation assessment as appropriate
- Provide regular status updates to internal customers and management
- Prepare reports and presentations to communicate technical assessments and analysis results
- Provide technical input supporting submissions to regulatory bodies and governmental agencies
- Provide peer feedback to others in the group on their work
- Generate intellectual property and aid in the evaluation of intellectual property

Basic Qualifications

- MS degree with at least 3 years of experience in finite element analysis or PhD degree with an emphasis in FEA
- Proven expertise in solid mechanics and mechanics of materials

Desired/Preferred Qualifications

- MS degree with 6+ years of working experience in FEA or PhD degree with 3+ years of working experience in FEA
- Ability to utilize FEA (Abaqus preferred) for the purpose of device design, optimization, testing verification, method validation, and regulatory submissions
- Ability to scope tasks and projects (time, resources and tools) to develop a schedule and update management.
- Ability to build relationships and work effectively with others on cross-functional teams
- Working knowledge or expertise in the areas of metallurgy, tissue biomechanics and polymer behavior
- Experience with Six Sigma practices and statistical methods
- Experience with CAD software such as Pro/Engineer or Solidworks
- Programing and scripting skills with Fortran, Python, Matlab, etc.
- Experience in solving multiphysics problems that requires coupling among mechanical, thermal, electromagnetics and fluid behaviors
- Experience in modeling of manufacturing processes such as metal forming, injection molding, welding and plastic joining
- Demonstrated problem solving and critical thinking skills
- Demonstrated time management and organization skills
- Demonstrated ability to learn and apply new knowledge quickly

Physical Job Requirements

The physical demands described within the Responsibilities section of this job description are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee is regularly required to be independently mobile. The employee is also required to interact with a computer, and communicate with peers and co-workers.

It is the policy of Medtronic to provide equal employment opportunity (EEO) to all persons regardless of age, color, national origin, citizenship status, physical or mental disability, race, religion, creed, gender, sex, sexual orientation, gender identity and/or expression, genetic information, marital status, status with regard to public assistance, veteran status, or any other characteristic protected by federal, state or local law. In addition, Medtronic will provide reasonable accommodations for qualified individuals with disabilities.