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JOB DESCRIPTION

Sr Computational Modeling Engineer -(160000ZQ)

Description

Medtronic's Cardiac Rhythm and Heart Failure (CRHF) division is looking for a motivated engineer/scientist eager to work on challenging and interdisciplinary problems in medical device development through the use of advanced computational modeling technologies. 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 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

Qualifications

- MS degree with 3+ years of working experience in finite element analysis
- Proven expertise in solid mechanics and mechanics of materials
- Strong verbal and written communication skills

DESIRED/PREFERRED QUALIFICATIONS (optional)

- Doctoral degree with a focus on computational modeling of materials or structures
- Advanced material constitutive modeling skills and Abaqus Umat programming experience
- In-depth knowledge of Nitinol processing, characterization and modeling.
- Ability to utilize FEA for the purpose of device design, optimization, testing verification, method validation, and regulatory submissions
- Experience with Six Sigma practices and statistical methods
- Programming and scripting skills with Fortran, Python, Matlab, etc.
- Demonstrated problem solving and critical thinking skills
- Good time management and organizational skills
- Ability to learn and apply new knowledge quickly

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.

Primary Location North America-United States-Minnesota

Job R & D Engineer

Schedule Full-Time

Shift Day Job

Employee Status Regular

Job Type Standard

Job Level Professional

Posting Date Jan 15, 2016

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If you need assistance with completing the online application process, please call Medtronic at (800) 328-2518 (toll free within the US) or (763) 514-4000 (worldwide).

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