



Position Description

Effective Date: 7/10/18

Position Title: Biomedical Research Engineer

Department/Unit: Gait Lab

Location/Region: Delaware Valley - AIDHC

Approved By:

Nancy Carlin, Administrator - Orthopaedics
Administrator Name and Title

Prepared By:

Manager Name and Title

To Be Completed By HR:

Job Code: _____

Non-Exempt

Exempt

The most significant duties and requirements of this job at this time have been included in this position description. Other duties may be assigned as needed. Nemours reserves the right to modify job responsibilities as needed and without notice to meet its business needs.

I. Primary Function - Briefly describe why this job exists	No more than 1-2 paragraphs
<p>The Gait Lab Biomedical Research Engineer is responsible for the following: collecting, processing, and storing clinical motion analysis data; the set up and calibration of motion analysis equipment; assisting with the coordination of field based research equipment, data and patients/subjects; maintaining and augmenting software for clinical care and research; programming new tools and analysis applications.</p>	
II. Essential Functions – These responsibilities are of utmost importance and the department can't function without them	No more than 8 to 10
<ol style="list-style-type: none"> 1. Collection and processing of kinematic, kinetic, EMG, force-plate, foot pressure, and oxygen consumption data for clinical and research analysis. 2. Initialization, set up, and calibration of motion analysis, EMG, foot pressure, and metabolic hardware and software systems. 3. Data management including data storage and organization for clinical and research projects. 4. Completing timely documentation as required by departmental and enterprise standards. 5. Maintains knowledge of and familiarity with insurance referral/authorization process and documentation requirements related to therapy services. 6. Completes all mandatory training which may include, but is not limited to safety, environmental, corporate compliance, HIPAA, bioterrorism, and program specific training. 7. Team Work: Participates in conflict identification and resolution. Works cooperatively with other members of the team, as well as other Nemours associates. 8. Assists in maintenance of department space and equipment. 9. Professional Development: Independently seeks to expand knowledge and through literature, in-services, courses and mentorships. 	

10. Research: Serve as PI on research projects utilizing the Gait Lab or Gait Lab patient population or clinical data. Apply for grants to fund research.

III. Non-Essential Functions - List other functions required to perform the job (not the same as essential functions above)
No more than 5 to 7

1. Attendance at department/Gait Lab meetings; contributing to discussion as integral member of the team.
2. Participates in Continuous Improvement projects. Actively contributes to daily management system.
3. Program Development: Stays current on technological aspects of position and develops ties with professional organizations.
4. Participates in activities to increase program use, awareness and marketing
5. Assists in on-boarding and orientation of students, department clinical staff, support personnel, and volunteers.
6. Assist with preparing documentation for re-accreditation as needed.
7. Presenting research studies at regional and national meetings and conferences.

IV. Performance Skills - List the skills that are required to perform the essential functions of the job
No more than 5 to 7

1. Possess excellence in required technical/computer skills and stays current on the technological aspects of the job.
2. Possesses trouble shooting skills of computer platforms (PX, Macintosh), all software programs and all Gait Lab instrumentation.
3. Demonstrates commitment to the Nemours Standards of Behavior.
4. Works cooperatively and collaboratively with the team.
5. Thinks pro-actively; schedules time efficiently; works independently.
6. Possess the ability to work well with others; builds and fosters professional relationships.
7. Possesses a willingness to accept change.
8. Takes direction; accepts feedback, makes suggestions.
9. Regular attendance is required.
10. Possesses good listening, written, verbal, and non-verbal communication skills.
11. Demonstrates excellent organizational skills and attention to detail.

V. Knowledge, Formal Education, and Training

Indicate the minimum amount of formal education, training, and relevant required knowledge that is required for the job (not the level that the incumbent may have). Include training/and or education provided through colleges, universities, trade or vocational schools, military service, or formal, on-the-job training programs. The requirements listed below are guidelines, which reflect a combination of formal education, training, and relevant acquired knowledge.

- Basic (0 to 3 months beyond high school)
- Limited (3 months to 1 year beyond high school)
- Specialized (1 year of training beyond high school)
- Associate (2 years of training beyond high school; e.g., Associate's degree)
- Baccalaureate (up to 3-4 years of formal training/education beyond high school; e.g. Bachelor's Degree)

- Advanced (5 to 6 years of formal training/education beyond high school; e.g., Master's Degree)
- Post Graduate (6+ years of formal training/education beyond high school; e.g., Ph.D., M.D., J.D.)

List specifics here:

Degree in Biomechanics, Biomechanical Engineering, or Biomedical Engineering preferred. Working knowledge of Windows and Macintosh operating systems.

VI. License and Certification List licensure and certification requirements and preferences, be specific and do not use acronyms

- Check box if this section is not applicable for this job description

List **required** licensures and/or certifications here and provide specifics:

List **preferred** licensures and/or certifications here and provide specifics:

VII. Job Related Experience and On-The-Job Training

Indicate the level that best describes how long it would typically take an individual to learn and perform the duties and responsibilities of this job. The amount of time required includes both prior work experience and the amount of "on-the-job" training time to learn the specific job responsibilities within this organization

- Check box if this section is not applicable for this job description
- More than 3 months and up to 6 months
- More than 6 months and up to 1 year
- More than 1 year and up to 3 years
- More than 3 years and up to 5 years
- More than 5 years

List specifics here:

Experience with motion analysis equipment including high speed video motion analysis system, force-plates, electromyography, foot pressure analysis systems, and oxygen analysis systems.

III. Impact of Decisions/Errors

Consider the importance and scope of decisions made as part of the normal job responsibilities of this position. Check only those consequences that are **likely to occur**, not the remote possibilities

- No impact on patients, finances, and organization. Errors are easily detected
- Minimal impact - minor inconvenience and/or discomfort. Financial impact usually less than \$100.
- Limited impact - some consequence, discomfort, or minor injury. Treatment delays, extended stays, or comparable adverse effects are likely. Financial impact would be less than \$1,000.

- Significant impact - Inadequate care or service would result in an extreme inconvenience or administrative problem or a moderate injury impacting recovery time. Financial impact would be less
- Serious impact - Inadequate care could result in serious injury or death. Decisions made at this level can affect the entire organization. Financial impact could be in thousands of dollars.

IX. Computer Knowledge and Skills

Check the box that indicates which computer skills/knowledge are required for this position and indicate what level of usage is required

- | | | | |
|--|---|-----------------------------------|--|
| <input checked="" type="checkbox"/> Word Processing | <input checked="" type="checkbox"/> Basic | <input type="checkbox"/> Standard | <input type="checkbox"/> Advanced |
| <input checked="" type="checkbox"/> Databases | <input type="checkbox"/> Basic | <input type="checkbox"/> Standard | <input checked="" type="checkbox"/> Advanced |
| <input type="checkbox"/> Desktop Publishing | <input type="checkbox"/> Basic | <input type="checkbox"/> Standard | <input type="checkbox"/> Advanced |
| <input checked="" type="checkbox"/> Spreadsheets | <input type="checkbox"/> Basic | <input type="checkbox"/> Standard | <input checked="" type="checkbox"/> Advanced |
| <input checked="" type="checkbox"/> Statistical Packages | <input checked="" type="checkbox"/> Basic | <input type="checkbox"/> Standard | <input type="checkbox"/> Advanced |

List specifics here:

Programming?

X. Dealing with Confidential Material (Non-Patient)

Check only those boxes that apply

- Job does not have access to or use confidential information
- Job has access to and routinely uses confidential information such as pay rates, data, or financial arrangements with customers/stakeholders
- Job has access to and uses confidential materials such as contracts, marketing strategies, and/or legal matters affecting the entire organization, etc
- Job has access to and uses confidential materials, the disclosure of which could have significant ramifications for the organization as a whole. Information is restricted to members of senior management

XI. Supervision and Direction of Others

Check the appropriate box indicating whether or not this individual has supervision responsibilities. If yes, please explain the type of responsibility (i.e., lead worker, manager) and number of people supervised

- None - No supervisory responsibilities
- Lead Worker - Serves as resource for other employees
- First Level Supervisor - Functions as a representative of management for a unit or sub-unit. May conduct or contribute to performance appraisals, assign employees, schedule time off, or determine work to be done. May not budget, hire, terminate, or discipline, but can make recommendations in these areas.
- Supervisor, Level II - Functions as a management representative for a work unit or sub-unit. Performs all duties listed above for Supervisor 1 and has budget responsibility and authority to hire, terminate, discipline, promote, and transfer. May make recommendations for changes in departmental

- Supervisor, Level III - Functions as a management representative for two or more recognized units or subunits of the organization. Performs all duties listed above for Supervisor II. May supervise subordinate supervisors and is held accountable for performance of unit(s) supervised

XII. Number of Employees Supervised

Identify the number of employees supervised. Include all employees who are directly and indirectly supervised. If multiple incumbents supervise different numbers of people, use the average in the position

- None 1-3 4-10 11-20 21-30 30+

XIII. Physical Effort and Working Conditions Indicate frequency for all listed below

Physical Effort

- N=** Never **F=** Frequently (generally 34%-66% of time)
O= Occasionally (generally 1%-33% of time) **C=** Constantly (generally more than 66% of time)

F	Sitting	F	Typing/Keyboarding	Lifting & Carrying:	
O	Standing	F	Reading	O	1-5 lbs
O	Walking	F	Viewing computer screen	O	6-10 lbs
O	Running	F	Reaching horizontally	O	11-20 lbs
O	Climbing stairs or ladders	O	Reaching down	O	21-30 lbs
O	Twisting back or trunk	Uses Hands and Arms to:		N	31-50 lbs
O	Bending, stooping	O	Apply torque	N	50+ lbs
O	Kneeling, crouching	O	Push	Fine Motor Skills using:	
O	Crawling	O	Pull		Hands, arms
O	Reaching overhead	O	Press		Legs, feet

Working Conditions

- N=** Never **F=** Frequently (generally 34%-66% of time)
O= Occasionally (generally 1%-33% of time) **C=** Constantly (generally more than 66% of time)

Environment:				Exposures:			
N	Outdoors	N	Wet/humid	N	Toxic chemicals	N	Cuts and punctures
O	Confined space	N	Dry	N	Irritant chemicals	N	Electrical hazards
N	Heights	N	Noisy	N	Dusts or powders	N	Excrement
N	Underground	N	Unusual lighting	N	Sprays, mists, vapors		Infectious disease
N	High or low pressure	N	Near power supplies	N	Fumes	N	Infectious waste
N	Cold or hot	N	Sources of radiation	N	Bloodborne pathogens	N	Odors
N	Wide range of temps	O	Moving machine parts	N	Body fluids	N	Radiation

XIV. HIPAA Level [THE FOLLOWING SECTION MUST BE COMPLETED](#)

Nemours HIPAA Guidance --- Applying the Minimum Necessary Rule

- Level 1 - shall have no access to PHI
- Level 2 - shall have read-only access to demographic, scheduling, and diagnosis information
- Level 3 - shall have read and write access to demographic, scheduling, and diagnosis information
- Level 4 - shall have read-only access to demographic, scheduling, diagnosis, and encounter information
- Level 5 - shall have read and write access to demographic, scheduling, diagnosis, and encounter information

Providers, including, but not limited to MDs, DOs, ARNPs, PAs, psychologists, and psychiatrists, shall have access to PHI as defined in the policy (above)

Nurses and allied health professionals shall have full access to the records for patients who are under the care of the provider for which they are working, while they are on duty, or relevant to their work assignment

XV. Organizational Relationships

Briefly indicate this individual's organizational relationships. Use job title only in these fields, no individual names.

If none, write **NONE**

Title of position this job reports to:

Gait Lab Program Manager – Chris Church, MPT Chris.Church@nemours.org
