

Sports Biomechanics Internship

The Rocky Mountain Consortium for Sports Research (RMCSR) and the University of Denver are seeking Research Assistants for a Sports Biomechanics Internship in one or more ongoing or planned movement science research projects. This person will contribute to the success of the project through multi-disciplinary responsibilities, but will have a primary focus on collecting and analyzing biomechanical data. The position requires advanced knowledge of biomechanical principles and preferably independent laboratory experience in collecting/analyzing biomechanics of functional movements. The Intern will have responsibilities in one or more of the following opportunities:

Track I: Soccer

- The Intern will be involved with an on-going project investigating knee injury risk reduction in youth female soccer athletes. The Intern would be responsible for collecting and analyzing field-based data from wearable sensors; and writing an exercise training manual. Some field-based exercise instruction may be required as well. All data collections and/or exercise instruction will be held on indoor or outdoor soccer fields located in Centennial, Colorado but analysis and writing requirements may be performed where desired.

Track II: Golf

- The Intern will be involved in collecting and analyzing the biomechanics of golf with the leaders of golf instruction. The Intern would be required to be on location for 2 or more days a week at a private company's headquarters located in Centennial, Colorado.

Track III: Alpine Skiing

- The Intern will be involved in collecting and analyzing alpine skiing biomechanics data from elite ski racers. The Intern would be required to be on location for only a few days at a time to collect indoor skiing data in Denver, Colorado and/or outdoor skiing data at Loveland ski area but data analysis can be performed where desired. Ability to work weekends and travel to ski areas outside of Colorado is desirable and the candidate should be proficient at performing alpine skiing with their own alpine equipment (helmet is required).

Research and training responsibilities may include the following:

1. Conduct field-based exercise training and research.
2. Perform data collection using multidisciplinary instrumentation for motor performance, including motion capture, inertial measurement units (IMUs), force plates and electromyography (EMG).
3. Process and analyze experimental data through motion capture software, Visual 3D, MATLAB or Microsoft Excel and Power Point.
3. Coordinate data collections and injury tracking for one or more soccer teams.
4. Project management and weekly reports on collections and outcomes.
5. Apply basic statistical knowledge; understand, interpret and describe complex data by preparing graphs and table in reports.

6. Maintain documents in a highly organized manner.

Knowledge, skills and abilities required:

1. Ability to take computer based course in biomedical research with human subjects and attain CITI certificate within the first week of internship.
2. Experience in the biomechanics/movement science field, as well as knowledge of the theories, principles, practices and techniques of biomechanics.
3. Research experience in a gait and motion lab is highly desired.
4. Knowledge of motion analysis data acquisition and processing.
5. Must be a problem solver, have excellent critical thinking ability and great interpersonal skills.

Minimum physical requirements:

Standing/Walking Constantly (67-100%)
Independently Lifting/Carrying up to 15 pounds frequently
Independently Lifting/Carrying up to 50 pounds occasionally (0-33%)
Finger Dexterity Constantly (67-100%)
Kneeling Frequently
Bending/Stooping Frequently
Reaching Frequently
Talking/Hearing/Seeing Constantly
Pushing/Pulling Frequently
Applicant is required to have transportation for travel.

The above list of duties is intended to describe the general nature and level of work performed by individuals assigned to this classification. It is not to be construed as an exhaustive list of duties performed by the individual so classified, nor is it intended to limit or modify the right of any supervisor to assign, direct, and control the work of employees under his/her supervision.

Contact Information:

Please send a cover letter stating interest and preferred track; and a resume/CV to:

Michael J. Decker, Ph.D.

Director and Chief Scientific Officer | Q Lab
Rocky Mountain Consortium for Sports Research

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970-673-9250 (mobile)

The RMCSR is a tax-exempt (IRS code 501(c)3) charitable organization for the advancement of youth sports research, official participating child safety organization of STOP Sports Injuries and the Youth Sports Safety Alliance; and scientifically collaborates with the University of Denver's Human Dynamics Laboratory.