The biomechanics and impact mechanics laboratory (LBMC: https://lbmc.univ-gustave-eiffel.fr/) is looking for a postdoctoral researcher for 24 months to work on markerless motion capture and analysis for high-level sport applications.

The postdoctoral researcher will be involved in the PerfAnalytics project's team (PPR-ANR project in research program "very high-performance sport"). This project aims at objectifying performance using in situ video analysis. This will be to determine how video analysis can be used to quantify performance indicators and provide feedback to coaches and athletes. This collaborative project involves 9 research teams and 5 sports federations (boxing, BMX, gymnastics, climbing, and wrestling).

In this project, the postdoctoral research will be involved in the development and validation of methods to estimate relevant biomechanical variables (based on kinematics and kinetics) from in situ videos. More specifically, the objectives will be to:

- develop methods for in situ construction of subject-specific biomechanical models for markerless analysis;
- develop markerless motion analysis methods to assess biomechanical variables;
- set up laboratory experiments to validate these methods;
- set up in situ experiments in collaboration with sports federations.

Requirements:

- Ph.D. in mechanical or biomechanical engineering;
- research experience in multibody system and/or human motion analysis possibly including in vivo measurements;
- programming (e.g. Python, Matlab);
- excellent communication skills.

Experience in the field of vision, 3D meshing et/or animation would be a plus.

Complementary information:

- starting date: as soon as possible;
- working place: LBMC, Bron, France;
- contract: postdoctoral fellow of 24 months.

Candidates should send a cover letter, CV, and contact information for references by email to thomas.robert@univ-eiffel.fr, raphael.dumas@univ-eiffel.fr, and antoine.muller@univ-lyon1.fr.