

## PhD Position

### User interaction with multi-scale and multi-modal MSD modalities

An appointment as an Early Stage Researcher (ESR) is available at the Welfenlab, Leibniz Universität Hannover in Germany within the framework of the European Marie-Curie Research and Training Network entitled "MultiScaleHuman" (<http://multiscalehuman.miralab.ch/>).

Supervisor and contact:

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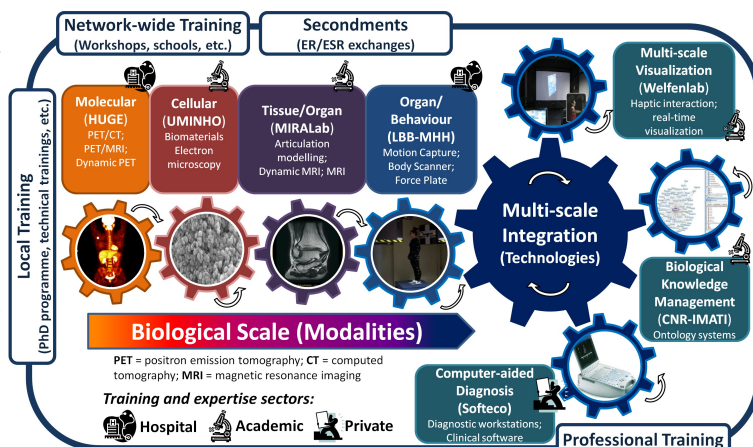
## General information on the MultiScaleHuman project

### Aim of the Project

The goal of **Multiscale** Biological modalities for physiological **human** articulation (MultiScaleHuman) is to research by **training early stage** researchers (ESR) and **experienced** researchers (ER) in the creation of a multi-scale biological data visualization and knowledge management system for improved understanding, diagnosis and treatment of physiological human articulations.

MultiScaleHuman will exploit advances in multiscale biological modalities and their integration by addressing five core biological scales: **Molecular**, **Cellular**, **Tissue**, **Organ** and **Behaviour** scales.

This will be achieved through initiating a network of ESR/ER with training provided from a three-sector-research consortium which involves **academic** (education), **hospital** (social actors) and **private** (industry) sectors. MultiScaleHuman will provide a **unique training program**, from technical to complementary skills learning by fully exploiting the training opportunities that Marie Curie ITN provide and by building a consortium of partners that brings **multi-disciplinary skills** in the understanding and treatment of physiological articulations in MSD and related disorders.



### Partners

- MIRALab (coordinator), Université de Genève, Geneva, Switzerland
- HUGE, Les Hôpitaux Universitaires de Genève, Geneva, Switzerland
- UMINHO, Universidade do Minho, Braga, Portugal
- LBB-MHH, Medizinische Hochschule Hannover, Hannover, Germany
- CNR-IMATI, Consiglio Nazionale Delle Ricerche, Genoa, Italy
- Softeco Sismat Srl, Genoa, Italy
- Welfenlab, Gottfried Wilhelm Leibniz Universität Hannover, Hannover, Germany

### A Marie Curie Research Training Network

MultiscaleHuman is a [Marie Curie Research Training Network](#) project within EU's [Seventh Framework Programme]. These Networks provide the means for research teams of recognised international stature to link up, in the context of a well-defined collaborative research project, in order to formulate and implement a structured training programme for researchers in a particular field of research.

## Criteria of selection

For Marie Curie programme criteria and regulations, please consult the web site:

<http://ec.europa.eu/research/mariecurieactions/> and especially the brochure called "The European Charter for Researchers & the Code of Conduct for their Recruitment":

<http://ec.europa.eu/euraxess/index.cfm/rights/brochure>

## PhD position details

### Description of the work

Working with complex 3D data occurring in this project will be a demanding task that requires means of interaction going beyond traditional man-machine interfaces such as keyboard and mouse. The research hypothesis is that a VR-based interaction employing state-of-the-art force-feedback devices will provide a more intuitive means of understanding and efficiently manipulating such data and navigating between the different scales.

The thesis will include training periods at some sites of the European partners of this network.

### Requirements

Applicants will ideally have a background in either biomedical sciences, computer science or any relevant discipline including biomechanical small scale modeling. Strong programming skills (Java, C++, VTK) are essential for the project. Previous knowledge of haptic rendering and a strong physical and mathematical background are an asset. English written and spoken is necessary.

Criteria on nationality, age and qualification apply. The candidate must preferably be citizen of the European Union. Researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organization for more than 12 months in the 3 years immediately prior to the reference date. Short stays, such as holidays, are not taken into account.

The criteria and provisions of the European Marie Curie Research and Training Network, drafted by EC, will be applied (please consult <http://ec.europa.eu/research/mariecurieactions/>)

We strongly encourage the application of women candidates.

### Contract details

**Start Date:** June 15, 2012

**Duration:** 36 months

Salary calculated according to the European Community regulations for Marie Curie Research and Training Network

### Application

Applications must be sent to [few@welfenlab.de](mailto:few@welfenlab.de). Contact person: Prof. Franz-Erich Wolter. Prof. Wolter is the head of the Welfenlab and Research Affiliate of MIT.

Please make sure to mark in the "Subject" field of your email in capital letters "MSH ER APPLICATION".

For application please supply:

- A detailed Curriculum Vitae
- A list of publications
- A letter of motivation.

Please add the scan of an identity document.

**Deadline:** May 31, 2012