

**Rheumatology Department, Hospital Egas Moniz, Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal**

**Centro de Estudo de Doenças Crónicas (CEDOC); NOVA Medical School; Faculdade de Ciências Médicas, Universidade NOVA de Lisboa**

Main research areas of interest

Research at our department can be broadly divided into three categories:

i. Epidemiology; ii. Basic research; iii. Translational and Clinical research. All presented options given by this formulary (imaging, immunology, genetics, etc) can be found in any of these 3 categories.

### **i. Epidemiology / Outcomes research**

The department has a strong tradition in epidemiological research, in several rheumatic diseases (eg: SpA; RA; PsA, etc):

- At local level:
  - ReumaPt (a Portuguese Society of Rheumatology dataset)
  - EpiReumaPt (the largest national epidemiological study in rheumatic diseases, PI: J.C. Branco)
  - CORPOREA database (Involving more than 350 Portuguese AS patients, PI: F.M. Pimentel-Santos)
  - Risk of fragility fractures and falls in the Portuguese diabetic population (Sofia Furtado)
  - ReumaHEART - a Portuguese population based study (Vital Domingues et al)
  - Impact of different Community-Based interventions (Giuseppe Liotta)
  - Anxiety and depression in Portuguese elderly – determinants and impacts (Rute de Sousa)
  - Psychological conditions in the adherence and impact of a multicomponent intervention for older adults with osteoarthritis (Natalia Duarte et al)
- At international level through the participation in different projects:
  - Work participation in Ankylosing Spondylitis across countries: post-hoc analysis from the COMOSPA study (ASAS project, PI: Annelies Boonen)
  - ASAS FLARE: definition of flare in axial SpA (ASAS project, PI: Maxime Dougados)
  - ASAS Health Index International validation Study (ASAS project; PI: Uta Kiltz)
  - SPACE, SPondyloArthritis Caught Early (PI: Desiree van der Heijde, local PI: F.M.Pimentel-Santos)
  - Performance of rheumatoid arthritis disease activity instruments in distinct populations - a comparative study upon METEOR (Helena Canhão)

We are performing a wide array of methodological analysis; from purely descriptive statistics to complex multivariate regression models.

Participants will have the chance to strengthen their basic statistical knowledge, test hypothesis and to perform complex analysis.

(<https://www.ncbi.nlm.nih.gov/pubmed/26848402>; <https://www.ncbi.nlm.nih.gov/pubmed/26865599>)

### **ii. Basic research - Genetics/Genomics and immunology**

By our partnership with **CEDOC**, the participant may take part in bench research (extracting and analysing genetic material) and/or clinical research at the hospital (by evaluating the clinical phenotypes and corresponding genotypes).

Our department has a strong history of genetic studies in SpA, led by Prof. Fernando Pimentel-Santos (eg: <https://www.ncbi.nlm.nih.gov/pubmed/23749187>; <https://www.ncbi.nlm.nih.gov/pubmed/21470430>).

There are also many basic research laboratory projects focused on inflammation/immunology aspects:

- Biomarkers for rheumatic inflammatory diseases diagnosis (F. M. Pimentel-Santos, J. Capelo et al)

- Biomarkers identification of anti-TNF  $\alpha$  agent's efficacy in Ankylosing Spondylitis patients using a transcriptome analysis and mass spectrometry (J.C.Branco, F.M. Pimentel-Santos et al); EudraCT number 2013-004406-25

We are participating in several International projects as in ImmunoChip consortia with several publications.

### iii. Clinical and translational research (including imaging)

Our department has many ongoing clinical and translational trials. From ongoing industry related drug trials (phase III and IV) to validation of measurement scores and indexes (<https://www.ncbi.nlm.nih.gov/pubmed/21971711>), and purely exploratory projects (all with a strong background) that exalt the empiricist spirit of Science.

Since there are usually many different projects running at different times we strongly recommend the participant to share his/her interests in order to be matched in the best possible project.

Some examples:

- myoSpA: the role of the muscle in Spondyloarthritis, a new paradigm (F.M.Pimentel-Santos, J.C.Branco et al)
- 2M+2BC Project: muscle tone, gait pattern, body balance, spine biomechanics, body mass index evaluation in axial Spondyloarthritis (F.M. Pimentel-Santos, J.C. Branco et al)

Ultrasound in the Assessment of the Carpal Tunnel Syndrome: A step forward (S Falcao, J Branco et al)

Main musculoskeletal and rheumatic diseases investigated:

Ankylosing spondylitis/axial Spondyloarthritis, Pediatric Rheumatology, Rheumatoid arthritis, Osteoporosis and metabolic bone diseases, Lupus/Anti-phospholipid syndrome, Osteoarthritis, Psoriasis/Psoriatic arthritis, Fibromyalgia, Imaging (focus on ultrasound).

Clinical Practice:

Our centre has an outpatient clinic for general rheumatology that is open every day of the week. It also has specialized outpatient clinics for spondyloarthritis (In this context there are some Multidisciplinary clinicians as Rheuma/Ophthalmology; Rheuma/Imaging and Rheuma/Dermatology) and JIA (In this context there are a Multidisciplinary clinicians- Rheuma/Ophthalmology).

Additionally, there is a rheumatology ward with 4 beds.

We also have several rooms for diagnostic and therapeutic techniques (diagnostic and interventional ultrasound, interventional radiology), and once a week biopsies are performed at the operation room (synovial, salivary glands, subcutaneous fat, etc). A polarised light microscope is available for synovial fluid analysis, regarding crystal identification. Capillaroscopies are also performed in a regular basis.

The day hospital is relevant for intravenous administration of several therapies, including Biologics (TNFi, anti-IL6, B-Cells depleters, etc)

Practical information:

The centre can provide research opportunities for: PhD students, clinical research fellows, medical students, specialty trainees, basic scientists, clinical internship/fellowship. Enrolment to full PhD and Master programs is also possible. However applications must be done by a formal process through NOVA-Medical School. Additional informations about the programmes and fees are available at: <http://www.fcm.unl.pt/main/index.php?lang=en#>

Duration of stay: Any duration can be agreed with the Head of the Department, taking into account the available resources at the time.

In order to make a better use of the available resources, we request a list of "learning goals" to be achieved and we will provide a logbook. This logbook is not intended to be a formal evaluation, but only a practical way to satisfy the needs of our institution and our visitor.

Fluency in English or Portuguese (one or both) is demanded to all scientific visitors;

Some basic understanding of Portuguese is also required for clinical activities.

Funding: Some funding might be available via institute

Websites:

- <http://www.chlo.min-saude.pt/index.php/servicos-clinicos/41-medicina/101-reumatologia-hem>
- <http://cedoc.unl.pt/rheumatological-diseases/>

Contact persons for possible research collaborations /clinical internship and mentorship:

	<b>Contact details person 1</b>	<b>Contact details person 2</b>	<b>Contact details person 3</b>	<b>Contact details person 4</b>
<b>Research area</b>	Epidemiology ( <u>Head of department</u> MD PhD)	Spondyloarthritis (Senior MD PhD)	Contact person for clinical internships/fellowships (Senior MD)	Epidemiology
<b>Name</b>	Jaime C. Branco	F.M. Pimentel-Santos	M. Manuela Costa	Helena Canhão
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If you are willing to have a mentor at this centre please email the contact persons and you will be redirected to a mentor that suits your needs.