

## Multi-organ Damage and Rheumatology

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## MAIN LINES OF RESEARCH

### Bone Metabolism and Osteoporosis

- Analysis of genetic influence on osteoporosis using aggregation studies in families of three or more generations with a minimum of 15 members.
- Bone structure study with quantitative CT of hip and spine, analyzing the contribution of trabecular and cortical components using HRCT.
- Description of fat values and percentages in a normal population (in collaboration with the HIV Unit and CETIR Medical Group).
- Description of bone structure in patients with a history of acromegaly assessed by DXA and HRQCT.

### Hypertension and Vascular Risk

- Hypertension and quality of life.
- Refractory hypertension.
- Use of alirocumab in hypercholesterolaemia.

### Clinical Management, Internal Medicine and Geriatrics

- Health-care quality indexes (mortality, readmissions, etc).
- Perioperative medicine, including orthogeriatrics.
- Geriatric evaluation before cardiac and vascular invasive procedures.
- Central Sensitization Syndromes.

### Rheumatology and Rheumatoid Arthritis

- Immunological basis and pathogenic studies



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of rheumatoid arthritis and other inflammatory conditions.

- Pharmacogenetic studies of disease-modifying and immunomodulatory drugs in autoimmune and inflammatory diseases.
- JAK-STAT pathway in autoimmune processes, mainly focused in rheumatoid arthritis.

#### Systemic Sclerosis

- Capillaroscopy patterns and correlation with auto-antibodies and pulmonary function tests.
- Study of capillaroscopy patterns in diffuse connective tissue diseases: QuantiCAP study.

#### Gout

- Epidemiology of hyperuricemia and gout.
- Association of Parkinson and clinical gout and arthritis

#### Sjögren Syndrome, SLE and others

- Study of the pattern of interstitial lung disease in primary Sjögren's syndrome.

### SCIENTIFIC CHALLENGES

- To establish stable work relations between the HSCSP Bone Metabolism and Genomics of Complex Diseases Groups and the Bone Metabolism Unit of Hospital del Mar Medical Research Institute and the Faculty of Biology of the University of Barcelona.
- To strengthen ties between the HSCSP Rheumatology and Immunology departments regarding the study of immunological diseases.

### DOCTORAL THESES DEFENDED

- Martín Marcuello, Jordi. Anàlisi de la qualitat de vida relacionada amb la salut en pacients amb patologia crònica. 30/03/2023. Universitat Autònoma de Barcelona. Supervisors: Ruiz Hidalgo, Domingo; Torres Bonafonte, Olga. <http://hdl.handle.net/10803/689695>.

### SCIENTIFIC PRODUCTION

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