

CATALOGUE

Health Sciences



Universidad
de Alcalá



Comunidad
de Madrid

Dirección General de Investigación
e Innovación Tecnológica

CONSEJERÍA DE CIENCIA,
UNIVERSIDADES E INNOVACIÓN



Health Sciences

- FOOD, NUTRITION AND PUBLIC HEALTH STRATEGIES
- PHARMACOEPIDEMIOLOGY AND CLINICAL PHARMACOLOGY
- PHARMACOGENOMIC OF CANCER
- PATHOPHYSIOLOGY OF THE CARDIOVASCULAR, RENAL AND NERVOUS SYSTEMS
- PHYSIOTHERAPY IN THE APPROACH TO PAIN. TELEPHYSIOTHERAPY AND AUGMENTED THERAPEUTIC REALITY
- NEUROMUSCULOESKELETAL PHYSICAL THERAPY IN STAGES OF LIFE
- PHYSIOTHERAPY IN WOMEN'S HEALTH
- DRUG FORMULATION AND BIOAVAILABILITY
- TISSUE ENGINEERING AND REGENERATIVE MEDICINE
- THERAPEUTIC INNOVATIONS
- MECHANISM OF ACTION OF BIOLOGICALLY ACTIVE COMPOUNDS
- NEUROBIOLOGY OF PAIN
- NEW ANTITUMOR COMPOUNDS: TOXIC ACTION ON LEUKEMIA CELLS



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PHYSIOTHERAPY IN WOMEN'S HEALTH

Code
580

FPSM

RESEARCH AREA

Health sciences

COORDINATOR

María Torres Lacomba

KEY WORDS

Physiotherapy, Obstetric, Menopause, Breast cancer, Gynecologic cancer, Pelvic floor dysfunction, Pain, Lymphedema, Axillary web syndrome, Therapeutic exercise, Musculoskeletal pain, Health education, Pregnancy, Fibromyalgia, Women, Therapeutic patient education, Sport injuries

AIM

- Public and private centers that provide health services
- Associations and professional associations
- Institutions related to women's health
- Educational institutions

CONTACT



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FPSM

Fisioterapia en los Procesos
de Salud de la **Mujer**

ABOUT US

The Physiotherapy in Women's Health Research Group was created and registered at the University of Alcalá in 2007, CCS/2007F15. Since its establishment, its focus has been addressing women's health and well-being. The FPSM Group was given the designation of RECOGNIZED GROUP OF RESEARCH CCS/2007R15 in 2010, and of HIGH-PERFORMANCE RESEARCH GROUP in 2020.

RESEARCH LINES

- Oncology physiotherapy
- Pelvic floor physiotherapy
- Vascular physiotherapy
- Respiratory physiotherapy
- Pain Physiotherapy
- Therapeutic patient education
- Sport physiotherapy
- Physiotherapy in higher education

OFFERED SERVICES

- Research projects in collaboration with Health Centers
- Physiotherapy for women without resources and at risk of social exclusion
- Advice to centers and companies that provide health services, Patient Associations, Associations related to pathophysiological processes, as well as Professional associations of physiotherapists regarding the promotion, prevention, and physiotherapy in women's health
- Workshops and conferences to promote women's health in areas of Physiotherapy, such as sequelae of cancer treatments, pain, pelvic floor dysfunctions (urinary incontinence, pelvic pain, ...), etc
- Specialized training for physiotherapists in Physiotherapy in women's health and information for other health professions (Nurses, Doctors, etc.)
- Promotion, dissemination, and awareness through different Social Networks about physiotherapy in women's health
- Development and evaluation of educational programs in women's health for implementation, development, and awareness

MARKETABLE RESULTS





Universidad
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FORMULATION DRUG AND BIODISPONIBILITY

Code
785

FMB

ÁREAS DE APLICACIÓN

Health Sciences

COORDINATOR

M. Ángeles Peña Fernández

KEY WORDS

Formulation drugs Vectorization, Modified release, Solubility

AIM

- Pharmaceutical industry
- Dermopharmaceutical industry

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ABOUT US

Design, development, elaboration and control of pharmaceutical forms to achieve safe effective and quality drugs with optimal bioavailability. Research and innovation galenic of new pharmaceutical developments. Collaboration and advice on research projects with the pharmaceutical industry.

RESEARCH LINES

- Design, preparation and control of modified release dosage forms
- Modeling and predictive theories of solubility
- Vectoring strategies to increase bioavailability
- Optimization of drug formulations

OFFERED SERVICES

- Study and validation of analytical methods for the determination and quantification of drugs
- Advice on pharmaceutical industry research projects
- Drug formulations developments

MARKETABLE RESULTS





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NEUROMUSCULOKELETAL PHYSICAL THERAPY IN STAGES OF LIFE

**Code
787**

FINEMEV

RESEARCH AREA

Health Sciences

COORDINATOR

Soraya Pacheco da Costa

KEYWORDS

Physiotherapy,
Neuromusculoskeletal
disorders, Baby, Childhood,
Adolescence, Adult,
Elderly

AIM

- Physiotherapy centers
- Child Development and Early Childhood Centers
- Early childhood and primary schools
- Special education colleges
- Secondary education institutes
- Senior care center
- Geriatric Residences

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ABOUT US

The research group Neuromusculoskeletal Physical Therapy in stages of life addresses different neuromusculoskeletal disorders from a biopsychosocial and scientific perspective in populations at different stages of life through Physiotherapy interventions.

RESEARCH LINES

- Physiotherapy in babies, children and adolescents with neurosensorimotor alterations.
- Physiotherapy in babies and children with delay in typical sensorimotor development.
- Physiotherapy in adults and elderly with Neuromusculoskeletal disorders.
- Therapeutic exercise to improve the quality of life in the different stages of life.
- Analysis of scientific production in Neuromusculoskeletal Physiotherapy

OFFERED SERVICES

- Assessment, advice and/or intervention of Physiotherapy, Therapeutic Education and assisted mobility to improve functionality, participation and quality of life in babies, children and adolescents with neuromusculoskeletal disorders and in their caregivers.
- Assessment and advice of Physiotherapy to improve functionality, participation and quality of life both in subjects with neuromusculoskeletal disorders and in their caregivers.
- Physiotherapy intervention in people with neuromusculoskeletal disorders and/or at risk of dependence.
- Postgraduate training courses on the physiotherapeutic approach in different alterations of the neuromusculoskeletal system.
- Prescription of therapeutic exercise to improve the quality of life in people over 65 – Physiotherapy workshops for the elderly.
- Educating programs for families and caregivers.
- Postural hygiene workshops in Nursery and Primary Schools; Special Education Schools; Secondary Education Institutes; Senior Care Center.

MARKETABLE RESULTS





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MECHANISM OF ACTION OF BIOLOGICALLY ACTIVE MOLECULES

Code
827

MOABAC

RESEARCH AREA

Health Sciences

COORDINATORS

Federico Gago Badenas
Antonio Jiménez Ruiz

KEYWORDS

Molecular Pharmacology,
Drug-Receptor
interaction, Antitumor
drugs, Leishmania
infantum, Simulation
methods

AIM

- Biotechnological and
- Pharmaceutical Industry

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ABOUT US

MOABAC is a joint venture between a “wet bench” and a computational laboratory. The former is led by Prof. Antonio Jiménez-Ruiz and is specialized in the expression and purification of enzymes and the subsequent study of their activities in the absence and presence of inhibitors. This Biochemistry and Molecular Biology group has a strong expertise in the design and evaluation of inhibitors directed against the dimerization interface of dimeric enzymes. The main activities in this lab are directed towards the study of enzymes that are essential for survival of *Leishmania infantum* parasites. The “dry lab”, led by Prof. Federico Gago, is devoted to the study of biomolecular structure, including complexes between the target macromolecules and small ligands, using bioinformatic tools and computational chemistry methods. The MOABAC group as a whole has demonstrated the principles of “rational drug design based on the structure of the receptor”, collaborating in the optimization of different enzyme inhibitors, and has recognized experience in studies of virtual screening and molecular dynamics simulations on various macromolecular systems of pharmacological interest.

RESEARCH LINES

- Conformational studies of drugs and peptides
- Molecular Pharmacology. Drug-Receptor interactions
- Mechanism of action of antitumor drugs
- Mechanisms of programmed cell death in the protozoan parasite *Leishmania infantum*

OFFERED SERVICES

- Identification and characterization of the mechanism of action of molecules with biological activity
- Expression and purification of pharmacological targets
- Bioinformatic analysis of pharmacological targets
- Structural characterization of biomolecules
- Ligand modeling and virtual screening of selected chemical libraries
- Computer simulations of ligand-receptor complexes
- Development of biochemical tests for the evaluation of biological activity

MARKETABLE RESULTS

