UNIVERSIDAD DE GRANADA

Centro de Investigación Biomédica

Clon de Líneas de investigación

- **Líneas de investigación**

- **Responsible Researcher:** Dr. Houria Boulaiz Tassi (@email)
  - Functionalized Nanoparticles for Targeted Drug and Therapeutic Agent Delivery.
  - Identification and Development of New Molecules for Molecular Targets in Cancer.
  - Targeted Gene Therapy for Oncology and Rare Diseases.
- **Responsible Researcher:** Dr. Mariana Fernández Cabrera (@email)
  - - Biomonitoring of human exposure (Epidemiology and prevention of diseases resulting from environmental chemical exposures).
  - - Endocrine Disruption
  - - Intervention strategies for health promotion and disease prevention
  - - Management of databases in health (Big data)
- **Responsable:** Dr. José Luis Quiles Morales. (@email)
  - At the Food4HealthLab of the University of Granada, we study the role of nutrition in health and disease, with a particular focus on healthy aging and age-related diseases (periodontitis, neurodegenerative diseases, etc.). Our research explores the effects of nutrients and bioactive compounds from foods and agro-food by-products, combining preclinical and clinical approaches. We focus on mitochondrial biology, oxidative stress, and redox regulation as key processes in maintaining health. Our lab has a strong facility on the experimental model Caehorhabditis elegans.
- **Responsible Researcher:** Dr. Margarita Rivera Sánchez (@email)
  - Shared genetic and environmental factors between physical and mental disorders.
  - Physical health in individuals with mental disorders.
  - Use of bioinformatics tools and large-scale statistical analyses to investigate the relationship between physical and mental disorders.
- **Responsible Researcher:** Dr. Cristina Sánchez (@email), Pilar Aranda (@email) and Juan Llopis (@email)
  - Effects and applications of nanoparticles and metal coordination compounds in biological systems.
  - Study of mineral metabolism and the role of trace and ultra-trace elements in physiological and pathological situations.
  - Studies of exposure to toxic environmental conaminants.
  - Analysis of mineral composition and trace and ultra-trace elements in foods and simples of biological and biomedical interest.

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    - Assessment of the nutritional status of populations in physiological and pathological situations.
    - Bioactivity analysis and evaluation of the nutritional value of naturally occurring matrices.
- **Responsible Researcher:** Dr. Germaine Escames (@email); Dr. Luis Carlos López García (@email); Dra Iryna Rusanova (@email); Laura Jiménez Sánchez (@email); Carmen Venegas (@email); Pablo Ranea (@email); https://grupoinvestigacion-cts101.es
    - · Mechanisms of action of melatonin. Nucleus-mitochondria connection
    - · Regulation of mitochondrial bioenergetics by melatonin
    - · Chronodisruption, oxidative and inflammatory stress, and mitochondrial damage in aging
    - · Study of clock genes in cellular and mitochondrial damage in experimental models of Parkinson's disease and sepsis
    - · Melatonin and its metabolites as new pharmacological tools in cancer
    - · Chronobiology of cancer
    - · Mechanisms to prevent chemo- and radioresistance
    - · Melatonin and mucositis
    - · Mitochondrial physiology. Pathophysiological mechanisms and therapeutic strategies in mitochondrial diseases
    - · Cellular and animal models of mitochondrial diseases
    - · Primary coenzyme Q10 deficiency
    - · Mitochondrial Complex I deficiency
    - · Hydrogen sulfide metabolism
    - · Pharmacological, cellular, and genetic therapies
    - · Mitochondria and exo-miRNAs: therapeutic targets for treating endothelial dysfunction in diabetes
    - · Mitochondrial encephalopathies associated with sulfur metabolism disorders
    - · Senescence and inflammation in neurodegenerative diseases
    - · Peroxisomes and metabolic homeostasis
- **Responsible Researcher:** Dr. Mª Inmaculada López Aliaga (@email), Mª José Muñoz Alférez (@email), Teresa Nestares Pleguezuelo (@email), Javier Díaz Castro (@email) and Jorge Moreno Fernández (@email)
    - Bioavailability of macro and micronutrients in health and disease: dietary modifications.
    - Nutritional iron deficiency anemia: modifications in cellular signaling pathways and patterns of gene and protein expression mediated by nutrients.
    - Goat milk as a nutraceutical, bioactive components and health effects.
- **Responsible Researcher:** Dr. Teresa Nestares Pleguezuelo (@email)
    - Celiac desease and gluten free diet
- **Responsible Researcher:** Dr. Inmaculada Llamas Company (illamas@ugr.es)
    - Microbial biodiversity
    - Study of exopolysaccharides produced by halophilic bacteria
    - Study of intercellular communication systems and their interference
    - Selection of bacteria of interest in agriculture
    - Selection of enzymes of industrial and agricultural interest
- **Responsible Researcher:** Dr. Margarita Aguilera Gómez (@email) and Mercedes Monteoliva Sánchez (@email)

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    - Intestinal Microbiota and Probiotics: Biotechnological resources of interest in nutrition and health
    - Microbial Phylogeny and Taxonomy
    - Genetic Biomarkers
- **Responsible Researcher:** Dr. Laura Vera Ramírez (@email). https://www.ugr.es/~tumor.dormancy.lab/
    - Study of the molecular mechanisms regulating the establishment and maintenance of dormancy in disseminated tumor cells.
    - Analysis of the molecular mechanisms that regulate the dormant-to - proliferative switch of disseminated tumor cells.
    - Development of new tumor dormancy models
- **Responsible Researcher:** Dr. Enrique J Cobos del Moral (@email), Francisco R Nieto López (@email), Rafael González Cano (@email) and Miguel Ángel Tejada Giráldez (@email)
    - New pharmacological targets for pain treatment
    - Sigma receptors
    - Neuroimmune interactions in pain states
    - Associations of analgesic drugs to improve their therapeutic range
    - Artificial intelligence tools for the evaluation of rodent behavior
- **Responsible Researcher:** Dr. Rafael Jiménez Medina (@email) and Francisco Barrionuevo Jiménez (@email)
    - Developmental Genetics and mammalian sex determination
    - Genetic basis of seasonal testis regression.
    - Genetic basis of non-obstructive azoospermia.
- **Responsible Researcher:** Dr. María Dolores Mesa (@email) and Emilio Martínez de Victoria (@email)
    - Development of functional foods derived from olives and virgin olive oil.
    - In vitro and in vivo assays and nutritional clinical trials.
- **Responsible Researcher:** Dr. Ángel Gil (@email), Carmen Piernas (@email) and M. Dolores Mesa (@email)
    - Dietary antioxidants
    - Clinical studies on nutritional components and dietary interventions in healthcare settings
    - Maternal and child health
- **Responsible Researcher:** Dr. Julio José Ochoa Herrera (@email), Javier Díaz Castro (@email), Jorge Moreno Fernández (@email), Juan Manuel Toledano Dueñas (@email), María Puche Juárez (@email)
    - Influence of advanced maternal age on gestation and postnatal health.
    - COVID-19 and pregnancy
    - DHA supplementation in pregnancy and lactation.
    - Oropharyngeal colostrum intake.
    - Exercise, gestation and newborn development.
    - Early metabolic programming, advanced maternal age, mitochondrial rheostasis and microbiota. Implications on maternal-fetal health.
    - Influence of hormonal administration in transgender population. Physical and mental health implications.

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