LiSyM Cancer
Liver Systems Medicine against Cancer

Dr. Amanda Cunha Brum

Postdoc - Department of Gastroenterology, Hepatology and Infectious Disease - University Hospital Düsseldorf

Role in LiSyM-Cancer

- Collection, processing, and biobanking of clinical patient samples and associated clinical data
- Development and application of mouse models for MASLD, MASH, and hepatocellular carcinoma (HCC)
- Characterization of macrophage subpopulation dynamics during the progression from MASLD to HCC
- Analysis of the role of TGF-β signaling in macrophage-mediated disease progression
- Investigation of intercellular communication between macrophages and hepatocytes during liver disease progression
- Supervisor: Johannes G. Bode

Expertise

- Translational and Clinical Research
- Animal Experimentation (in vivo and ex vivo studies)
- Micro-ultrasound Imaging (Echocardiography and flow-mediated vasodilation)
- Cell Culture Techniques, Flow cytometry, Histology, and IHC, Chromatin immunoprecipitation, Western blot, IP, qPCR, PCR
- High-Performance Liquid Chromatography (HPLC) / Nitric Oxide (NOx) Analyser (ENO30 and CLD)
- Molecular Biology, Immunology, Virology, and Viral Hepatitis Research
- Diabetes Mellitus, Insulin Resistance, Obesity, and Cardiometabolic Health
- Scientific Project Management

Degrees

- 2019 - 2024, PhD in Medical Science (Molecular Medicine) - Heinrich-Heine-Universität Düsseldorf, Klinik für Kardiologie, Pneumologie und Angiologie, Düsseldorf, Germany. Thesis title: Pyk2 inhibition restores endothelial function and endothelium-dependent cardioprotective effects of rIPC in an insulin-resistant mouse model
- 2016 - 2017, Master's degree in Biomedical Sciences (Physiology) - Federal Fluminense University, Biomedicine Institute, Endocrine Physiology and Metabolism research Laboratory, Niterói, Rio de Janeiro, Brazil. Thesis: Endocrine-metabolic characterization of a murine model of chronic intestinal inflammation induced by peanut and cashew nut allergy
- 2010 - 2015, Bachelor's degree in Nutrition Science - Federal Fluminense University, Immunobiology Institute, Immunopathology Research Laboratory, Niterói, Rio de Janeiro, Brazil. Thesis: Participation of immunoregulatory lymphocytes in the physiopathology of Duchenne muscular dystrophy: Therapeutic use of 1,25-dihydroxyvitamin D3 in Duchenne muscular dystrophy

Professional Experience

- 2023 - 2026, "Virus-induced changes in cellular signalling in hepatocytes lead to reprogramming of the cell's response to growth factors – analysis of molecular mechanisms and functional consequences" grant funded by the DFG
- 2019 - 2023, Research associate, Klinik für Kardiologie, Pneumologie und Angiologie, UKD, Düsseldorf, Germany. Research associate on CRC 1116 "Master switches in cardiac ischemia"
- 2015 - 2017, Research assistant in the Endocrine Physiology and Metabolism Research Laboratory, Federal Fluminense University, Niterói, RJ, Brazil. Fellowship: Coordination for the Improvement of Higher Education Personnel (CAPES)
- 2012 - 2015, Research assistant in the Immunopathology Research Laboratory. Federal Fluminense University, Niterói, RJ, Brazil. Fellowship: Carlos Chagas Filho Foundation for Research Support of the State of Rio de Janeiro (FAPERJ)