Postdoctoral Fellow – In vivo Models & Intestinal Organoids to Investigate Gut-Microbiome Interplay in Malnutrition and Cancer

Project: TROPHIC – Microbiome, Nutrition and Intestinal Trophism in Cancer
Institution : IGFL, Lyon, France/ UCBL - CNRS – ENS Lyon
Employer : Université Claude Bernard Lyon-1
Contract: 1 year, renewable up to 3 years
Start date: April 2026 (flexible)

PROJECT CONTEXT

Malnutrition affects half of all cancer patients and is associated with an increased risk of treatment-related toxicity and overall mortality. The gut microbiota has emerged as a key co-factor influencing nutritional status in both cancer patients and healthy individuals. Building on strong preliminary results, the TROPHIC project, funded by the PEPR SAMS initiative, will aim to identify microbial taxa and metabolites that could serve as potential live biotherapeutic products or postbiotic candidates for use as adjuvant therapies during the nutritional management of cancer patients.

This postdoctoral position is central to the experimental component of the TROPHIC project. The role involves establishing causal relationships between microbiome-derived factors, intestinal trophism, and nutritional recovery in malnutrition and chemotherapy, using a combined approach that integrates human cohort samples with preclinical models (organoids and in vivo murine models).

RESPONSIBILITIES

- Expand Design and perform *in vivo* models of undernutrition and chemotherapy-induced intestinal injury
- Perform gnotobiotic colonization experiments with defined microbial consortia and probiotics
- Test therapeutic candidates (probiotics and postbiotics) on human intestinal organoid cultures
- Perform functional readouts (including villus/crypt morphology, EdU/Ki67, enteroendocrine hormones ELISA,…)
- Supervise students and contribute to the dissemination of results (publications in scientific journals and communications in scientific conferences).

QUALIFICATIONS

- Recent PhD in biology, microbiome research, nutrition, or related field. Expertise in intestinal physiology would be a strong plus, but is not mandatory
- Experience in murine experimentation and intestinal organoid culture
- Ability to manage complex experimental workflows
- Knowledge of French is not a requirement.

SCIENTIFIC ENVIRONMENT

The candidate will benefit from the strong technical support of the SFR Biosciences platform for organoid work and murine experiments, which includes dedicated staff and state-of-the-art infrastructure for complex *in vivo* studies and gnotobiotic approaches.

The postdoctoral fellow will collaborate with microbiologists, immunologists, and clinicians within the interdisciplinary IGFL environment at the École Normale Supérieure de Lyon, a prestigious French public institution that hosts advanced research labs. Through TROPHIC, the fellow will connect to a national hub of French microbiome research via the PEPR Microbiome program (PEPR SAMS), offering valuable networking and career opportunities. Located in Lyon's Gerland-Biodistrict, IGFL benefits from the city's vibrant culture and proximity to Paris (2 hours), the Alps (1.5 hours), and the Mediterranean Sea (3 hours).

APPLICATION PROCESS: The position is vacant from April 2026 on a full-time basis. Highly motivated candidates should send an application (including a cover letter, a *curriculum vitae*, and the names of (at least) two referees) by email to nicolas.benech@chu-lyon.fr before February 28th, 2026. Please indicate "Post-doc TROPHIC project" in the title of the email.