



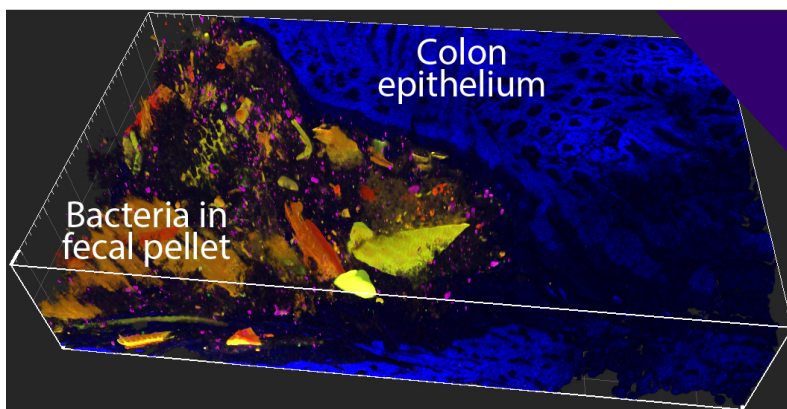
# Biology Seminar

Speaker: **Leonor Garcia-Bayona Ph.D.**

University of Chicago | Postdoctoral Scholar, Department Microbiology

<https://scholar.google.com/citations?user=syVEISEAAAAJ&hl=en>

## Role of mobile genes in the community interactions of the intestinal microbiota



**Monday February 13, 2023**  
**12:00PM PST | HCK 132**

Our intestinal microbial community is quickly evolving with us, following changes to modern lifestyles and even

throughout our lifetimes. I aim to understand how horizontal gene transfer shapes interactions in the microbiota and the implications of this pervasive phenomenon for community properties relevant to human health (e.g. resilience of a healthy microbiota to perturbations). I identified a large conjugative plasmid that frequently transfers to multiple species within a person and mediates the formation of multi-species biofilms. I explore the molecular mechanisms, phenotypes, and eco-evolutionary dynamics that have led to this plasmid's recent spread across global human populations. Using this plasmid as a model system, my lab will take a bottom-up sociomicrobiology approach, working at the interphase of mechanistic bacterial genetics/physiology and systems-level microbiome ecology/evolution. We will use genetic, biochemical, and microscopy-based approaches in vitro and in gnotobiotic mouse models, complemented by population-level analyses and experimental evolution in defined microbial consortia. Together, with the accumulating literature based on bioinformatics and systems-level approaches, this work will provide critical experimental data that will contribute to the rational design of targeted microbial therapeutic interventions.