

# Laboratory of Molecular Biochemistry

---

## Research Focus

“Microbial Glycobiology” and “Bacterial Cell Surface-Interactions”

## Research Interests

- *Glycobiology*
- *Microbial physiology and pathogenesis*
- *Endotoxin (lipopolysaccharide) research*
- *Autoimmunity*
- *Biofilm research*



National University of Ireland, Galway  
*Ollscoil na bÉireann, Gaillimh*



# Laboratory of Molecular Biochemistry

---

## Research Approaches

“Multidisciplinary approach” = microbiological, immunological, serological, biochemical and analytical chemical

## Group Members

- 4 PhD students (AB, CG, YO'D, MT)
- 1 MD student (AZ)
- 2 Post-doc Fellows (KM, SU)

## Pathogens of Interest

*Helicobacter pylori* ( + other enteric and gastric helicobacters)

*Campylobacter jejuni* (*C. coli*, *C. fetus*)

(Influenza, Mycoplasma-related autoimmunity)



# Research Activities in GAMIDI

---

As stated in contract:

“To elucidate the complexity of glycosyltransferase gene expression in different *Helicobacter and Campylobacter* species under physicochemical conditions found in the human GI tract.”



National University of Ireland, Galway  
*Ollscoil na bÉireann, Gaillimh*



# Research Activities in GAMIDI

---

## Microarray analysis of gene expression

- ❖ *H. pylori* glycosylation – *glycosyltransferase* expression etc. (acid vs. neutral; influence of iron)
- ❖ *H. pylori*-induced response of non-conventional T-cell populations (HP+ vs. HP- individuals)
- ❖ *C. jejuni* glycosylation – *glycosyltransferase* expression etc. (pH, temp, growth phase, bile salts, O<sub>2</sub> tension)

