Ben-Gurion University of the Negev
אוניברסיטת בן-גוריון בנגב

# Graduate Students Seminar

**Department of Chemistry**

**Sunday, June 18th, 2023**
**Time 14:30**
**Bldg. 43 Room 015**


# Omer Sabti

Under the supervision of Prof. Michael M. Meijler


## Identifying Microbial and Molecular Markers of Inflammatory Bowel Diseases

Crohn's disease (CD) and ulcerative colitis (UC) are two common conditions of Inflammatory Bowel Diseases (IBDs).

IBDs are chronic inflammatory conditions that manifest in the gastrointestinal tract (GI). Communication disorders between the immune system and the gut microbiome population (and perhaps also within the microbiota) are suspected to be among the causes of an inappropriate inflammatory response.

A healthy microbiome has a crucial role in heme's catabolic pathway to stercobilin through bilirubin. Thus, a comparison made between animal models (healthy and with UC) has previously shown a difference in this metabolic profile. In healthy mice, mainly stercobilin was observed.

In contrast, various bilirubin metabolites, including oxidized analogs of stercobilin, were observed in sick mice.

Since bilirubin reduction to stercobilin is performed by gut bacteria, we set to identify a potential link between bilirubin metabolism and IBDs, mediated by microbes.

Our goal was to identify molecular patterns in fecal samples that distinguish between healthy people and IBD patients. We detected significant differences between the relative amounts of several analogs between the groups.