Bar-Ilan University
אוניברסיטת בר-אילן

Faculty of Exact Sciences
Department of Chemistry

הפקולטה למדעים מדויקים
המחלקה לכימיה

# S P E C I A L  S E M I N A R

**Thursday 14/2/19, 12:00**

**Building 211, seminar room 112**

## SPEAKER:


# Prof. Laura Kiessling

Department of Chemistry
Massachusetts Institute of Technology (MIT)


## TOPIC:

# Chemical Biology of Microbial Glycans

Pathogenic bacteria cause devastating human diseases. The increased dissemination of infectious diseases and the rise of antibiotic resistance are spurring efforts to understand how bacteria build and maintain their protective cell envelope. Our research focuses on mycobacteria. Their cell envelope is composed of "exotic" carbohydrates. This feature is emblematic of how different bacterial species combine distinct carbohydrate building blocks to assemble a cell envelope barrier that is durable, largely impermeable, and dynamic. The saccharide building blocks used by bacteria are often orthogonal to those used in humans. We are taking advantage of these differences to generate inhibitors of cell envelope construction as antibiotics. We also are synthesizing new probes that can serve as new diagnostics and anti-infective agents. To this end, we have used chemical synthesis to fluorogenic probes that co-opt the biosynthetic machinery and can be used to detect mycobacteria and image cell division in real time.