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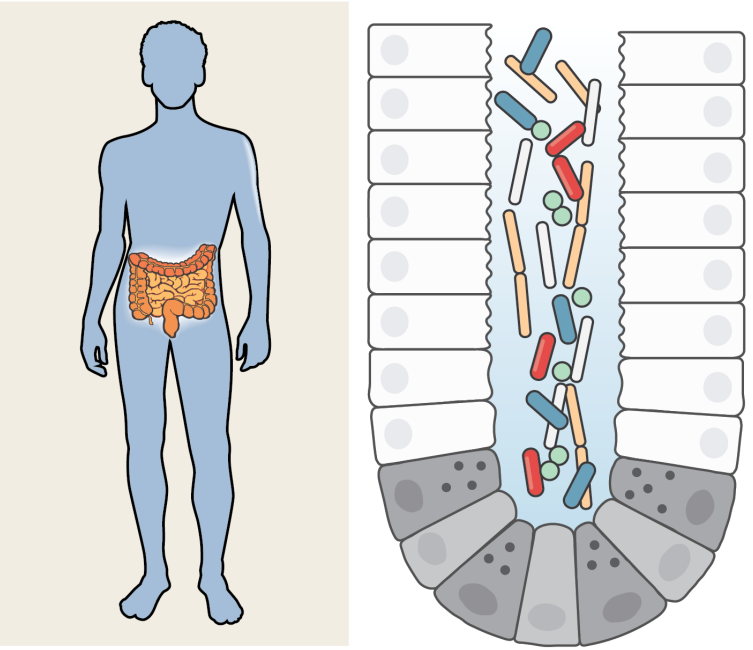


Developing natural precision antibiotics to selectively treat microbe-driven disease

Research Interests: Discovery, study, and engineering of bacterial natural products using chemical biology and synthetic biology methods, with an emphasis on antibiotics.

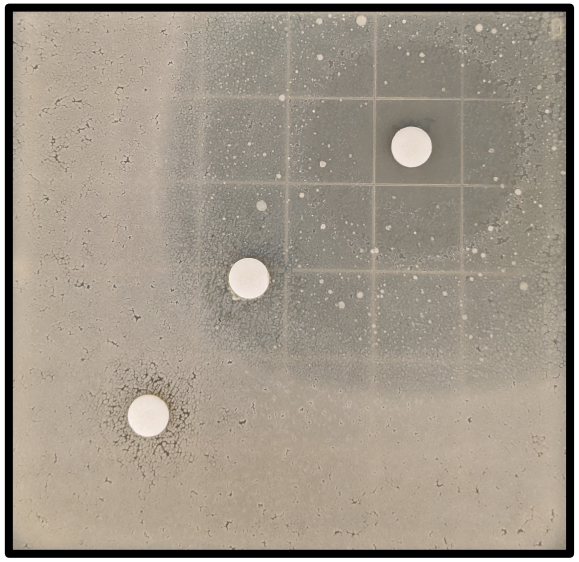
Strengths or Unique Resources: Natural product discovery and study, bacterial synthetic biology, LCMS, directed evolution (including phage-assisted continuous evolution).

Type of collaborator you seek: Generally, our lab seeks collaborators with expertise in structural biology, drug-protein interactions, synthetic chemistry, and molecular docking.

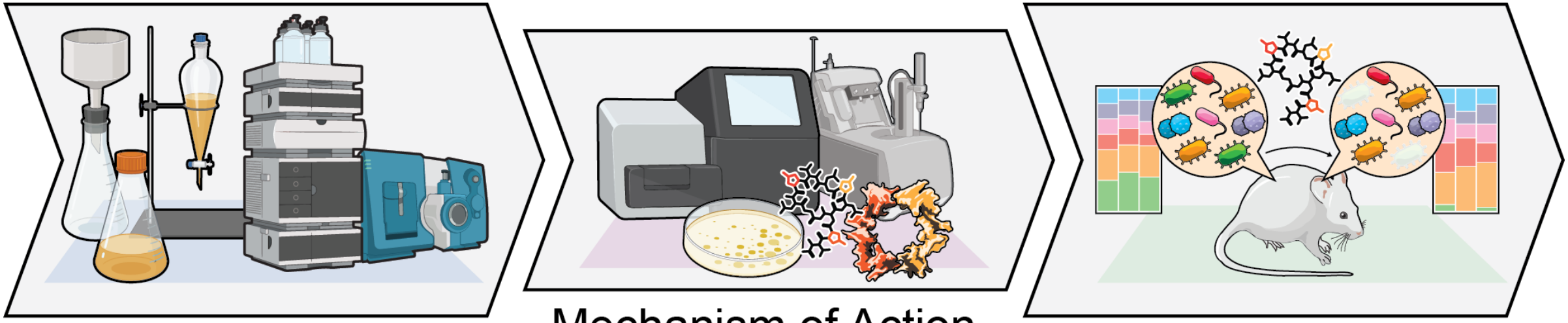
Publication List: https://scholar.google.com/citations?user=E23pVqIAAAAJ&hl=en

Lab or Faculty website: https://www.bcm.edu/research/faculty-labs/chad-johnston-lab

LinkedIn: https://www.linkedin.com/in/chad-johnston-9718b437/



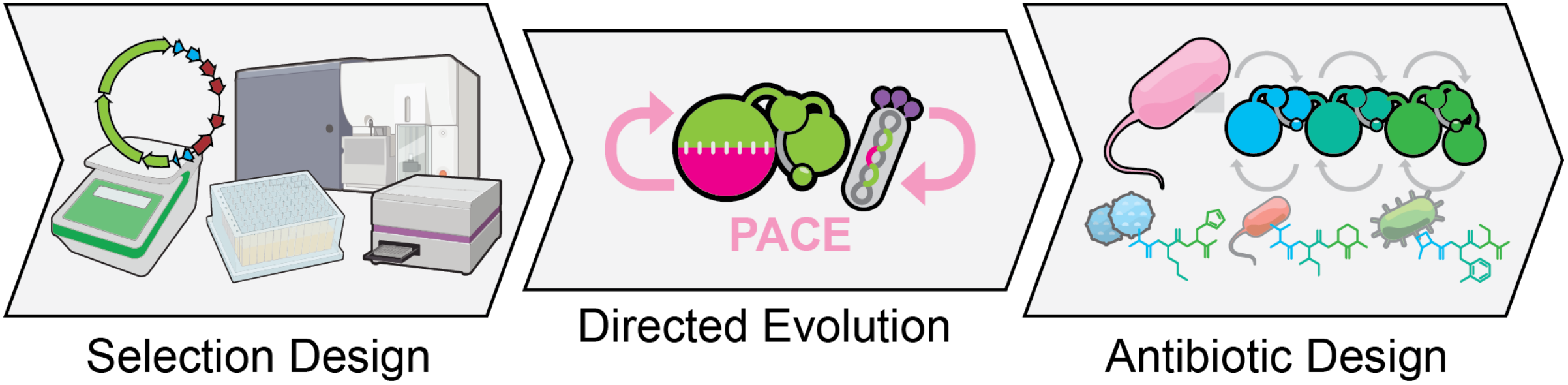
Chemical Biology of Natural Products



Chemical Biology Efforts

- Investigating new precision antibiotics for pathogens like *Vibrio*, *Salmonella*, and *Staphylococcus*
- Developing a novel antifungal drug-like molecule and probiotic delivery method
- Studying the targets and mechanisms of forgotten precision antibiotics

Synthetic Biology for Natural Products



Synthetic Biology Efforts

- Creating a FACS-based evolution platform to transform the engineering of polyketide biosynthesis
- Developing long-read promoters to mitigate dependence on T7 RNA polymerase in gene circuits
- Discovery and optimization of genetic sensors for specific antibiotic bioactivities