

EMILY CLARK, DEANNA SCHMITT, and JOSEPH HORZEMPA, Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV, 26074. **A high throughput screen of a natural product library for the discovery of novel antibiotics that target *Enterococcus faecalis*.**

Antibiotic resistance is a natural phenomenon that serves as a threat to public health. The investigation and discovery of novel antibiotic compounds is essential for battling the trend of decreasing antibiotic efficacy. The National Center for Natural Products Research (NCNPR) has assembled a library of organic compounds derived from plants, fungi, marine, and algae species with potential antibacterial properties. In partnership with NCNPR, we have developed a rapid and effective method for screening large quantities of organic compounds for antibacterial efficacy against *Enterococcus faecalis*. *E. faecalis* is a gram positive opportunistic pathogen responsible for various hospital acquired infections. To identify extracts that were inhibitory against *E. faecalis*, bacteria were inoculated into 96-well plates containing liquid growth medium. A small volume of each compound was added to a corresponding well in the 96-well plate. After 24 hour incubation at 37o C, bacteria growth was measured using a plate reader. Wells lacking treatment or containing antibiotics recognized as inhibitors of *E. faecalis* were used to identify normal or inhibited growth levels correspondingly. Compounds are currently being evaluated for their ability to inhibit bacterial growth. Further investigations will involve the characterization and a detailed analysis of the antimicrobial efficacy of these compounds.