

## E0055

**TB Drug Discovery: Addressing Issues of Persistence and Resistance.** James Sacchettini, Center for Structural Biology, Dept. of Biochemistry and Biophysics, College Station, TX.

*Mycobacterium tuberculosis* infections are responsible for one in four avoidable adult deaths in developing countries. While there are a number of effective drugs available for treating tuberculosis (TB), current strategies are greatly complicated by the long chemotherapy treatment that lasts several months, which is required to eliminate persistent bacteria. In addition, widespread patient non-compliance has contributed to the emergence of multidrug-resistant (MDR) and extensively drug resistant (XDR) TB strains. There is a clear need for fast acting drugs that are capable of eliminating an infection in just a few weeks.

Our lab work, in conjunction with the TB Structural Genomics Consortium, has focused on the identification of new drug targets for persistent infections. Our long range goal is to identify lead compounds that are fast acting and would simplify chemotherapy regimens. A significant step forward has been our recent collaborative discovery of several new targets essential for maintaining the persistent infection. High throughput library screens, virtual screens and structure-based inhibitor design techniques are now being applied to the discovery of new lead compound against these promising targets.