Our research group at NCL, Pune focuses mainly on total synthesis of biologically active compounds and medicinal chemistry with an ultimate aim of discovering drugs. We have accomplished the synthesis of almost 20 natural products which include cell-adhesion inhibitors, antibacterial, anti-inflammatory, anti-cancer agents, sex pheromones and insect repellents. In the medicinal chemistry front, several programs have been initiated with collaborations from academia and industry. In particular, significant progress has been made using a new concept called “Silicon-switch approach”. This is a relatively new concept in drug discovery and very few companies and academic groups are working on this. We have identified several molecules in three different series which can be taken forward towards further development. Our findings in pre-clinical species with the silinezolid series suggest that silicon incorporation is highly useful in improving brain exposures. I will discuss about the highlights our efforts towards societal importance.

References: