

## SL03 **Empowering Natural Product Drug Discovery through Biosynthesis**

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Natural product chemicals have historically been discovered based on their molecular and biological properties. With the ease and affordability of genome sequencing today, a new era in natural product discovery is unfolding in which genomics and biosynthesis are together fostering new innovations in compound discovery. This orthogonal discovery approach takes advantage of the biosynthetic potential of a genome-sequenced organism to design hypothesis-driven experiments to uncover new chemical entities. Examples from the author's laboratory involving the anticancer agents salinosporamide and didemnin will highlight the myriad of available and evolving genome mining approaches to new natural product chemistry and biosynthetic enzymology.