

4th International Conference and Exhibition on Pharmaceutics & Novel Drug Delivery Systems

March 24-26, 2014 Hilton San Antonio Airport, San Antonio, USA

Amorphous drug-polymer nanoparticles: An enabling drug delivery platform

Michael Morgen

Bend Research Inc., USA

In recent years, a broad range of nanotechnologies have been investigated for addressing a variety of drug delivery challenges. It has been shown by many investigators in the field that nanosized structures often possess a number of unique attributes that can enable for various drug delivery applications. Amorphous drug-polymer nanoparticles are one general class of nanostructured materials that have shown great flexibility and promise for such applications, including oral bioavailability enhancement and PK modification, local and systemic targeting and improved retention. Advantages of such nanoparticles can include tunability in the particle size, surface charge, drug loading and activity, as well as drug release rate using either covalent or non-covalent incorporation. In this talk, we will discuss manufacturing and physicochemical characterization methods, as well as *in vitro* and *in vivo* performance for a range of drug-polymer nanoparticles incorporating small molecule actives. Case studies will be presented that exemplify the rational choice of polymeric materials, drug incorporation method and drug loading, based on the requirements of the particular application. Examples will include applications in oral delivery, topical dermal delivery to the follicles, topical ocular delivery and formulations for increased drug retention in the joints.

Biography

Michael Morgen is Director of New Technology Development at Bend Research Inc., where he has worked since 2003, focusing on formulation development and novel drug delivery technologies. He earned his Ph.D. in physical chemistry from the University of California Berkeley and has more than 15 years of experience in the development and evaluation of materials and pharmaceutical formulations for oral and non-oral delivery.

Mike.Morgen@bendresearch.com