

Moseson awarded NSF Graduate Research Fellowship



Dana Moseson has been awarded NSF Graduate Research Fellowship for her project “Process Design of Hot Melt Extruded Pharmaceuticals for Optimized Manufacturability and Product Performance.” This three-year national award is highly competitive, only given to those graduate students who demonstrate great potentials in their pursuit of research distinction. The National Science Foundation’s (NSF) Graduate Research Fellowship Program (GRFP) recruits high-potential, early-career scientists and engineers and supports their graduate research training in science, technology, engineering and mathematics (STEM) fields. Launched in 1952 shortly after Congress established NSF, GRFP represents the nation’s oldest continuous investment in the U.S. STEM workforce. The 2000 new [awardees](#) for 2018 were selected from more than 12,000 applicants and come from all 50 U.S. states, as well as the District of Columbia and U.S. territories. Honorable mention recognition went to 1,459 individuals.

Dana is a member of Dr. Lynne Taylor’s lab. Here is a description of her research. “Hot melt extrusion is one of two major manufacturing methods used to prepare amorphous solid dispersions (ASDs), wherein thermal and mechanical inputs are used to generate a homogeneous molecular dispersion of drug and polymer. The proposed research aims to define the HME processing design space of amorphous solid dispersions, increasing product performance while decreasing manufacturing cost and complexity. By exploiting the melting point depression phenomena, we seek to enable lower temperature processing. First, we aim to connect residual crystalline content to the thermodynamic phase diagram. Second, we will investigate the interplay of residual crystallinity and product stability. Third, we will elucidate the impact of residual crystallinity on the drug release profile. Fully realized, the direct impacts of this work are to overcome a critical technical barrier to new drugs reaching patients, to make drug manufacture simpler and less expensive.”

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