Research Interests
Research in the Arnold group primarily focuses on laser processing and transport in materials with particular emphasis on shaping laser-material interactions. We strive to develop a deep understanding of the fundamental materials and optical physics, in order to have a direct impact on applications at the frontiers of technology in fields ranging from energy to biology and imaging to nanoscience. Key examples of our work in this area include the research and development of optical trap assisted direct-write nanopatterning (Trap and Zap), the tunable acoustic gradient index of refraction (TAG) lens for high-speed varifocal imaging and materials processing, laser direct-write printing for complex materials in biological and energy applications, and solution based printing methods of chalcogenide glass for mid-infrared photonic applications. The research is primarily experimental in nature with a mix of fundamental and applied projects.

Areas of Expertise
Laser processing and transport in materials

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