

Timothy Horn received the Ph.D. degree in industrial engineering.

He is currently a Research Assistant Professor with the Fitts Department of Industrial and Systems Engineering, North Carolina State University (NCSU). He is also the Director of Research for the Center for Additive Manufacturing and Logistics (CAMAL), which is one of the leading international centers for metal and alloy additive manufacturing (AM) where he has developed new AM systems and applications pertaining to powder-bed fusion processes. He is recognized as a leading expert in designing operating parameters, machines and materials for powder-bed electron beam and laser melting AM processes. His research has focused on developing new alloys and parameters for AM technologies, process monitoring and in situ control and also developing new metal materials for additive manufacturing technologies; leveraging the unique structure-property relationships feasible with this new manufacturing approach, where he has led multiple new material development efforts on behalf of a number of consortia, companies, and government agencies. He has overseen the development of process parameters for the additive manufacturing of a variety of materials and alloy systems including, but not limited to: Titanium Alloys, Aluminum Alloys, OFHC Cu, GrCOP-84, Titanium Aluminide, Nickel Superalloys, RRR Niobium, and Niobium alloys, several novel bulk metallic glasses (Fe and Zr based), and rare earth magnetic materials such as FeNdB.