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**DARPA Loves Its Physicists**

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DARPA's Microsystems Technology Office, MTO, conceives and develops a wide range of technologies to benefit the US warfighter, from exotic GaN transistors to high-power fiber lasers, highly efficient embedded computer systems to synthetic biology. MTO has world class electrical and mechanical engineers, but we also have a cadre of extremely capable physicists, whose complementary skillset has been absolutely essential to identifying promising technological avenues for the office and for the agency. In this talk I will explain the DARPA model of technology development, using real examples from MTO, highlighting programs where physics-based insights have led to important new capabilities for the Dept of Defense.