



Since joining the University of Virginia in 2002, Bart-Smith has founded the Multifunctional Materials and Structures Laboratory (MMS Lab) and the Bio-inspired Engineering Research Laboratory (BIER Lab), and generated over \$10M of research funding, including support from the DoD, MURI program.

Research interests:

- Bio-inspired engineering design (biomechanics of batoid rays, artificial muscle actuators, underwater sensors, synthetic central pattern generators)
- High authority morphing structures (statically and kinematically determinate structures/tensegrity structures)
- Ultra-light multifunctional materials
- Electroactive and electrostrictive polymers
- Nanoporous thin films
- Deployable space structures
- Cellular flow sensor technology

Bart Smith Labs *

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"We want to learn from the biology. We want to understand how and why Nature does what it does—in our case underwater swimming in rays—and then try to engineer systems that have the potential to outperform their inspiration. Can we recreate a robotic manta ray that swims as fast and effortlessly as the real manta ray? I think we can."



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