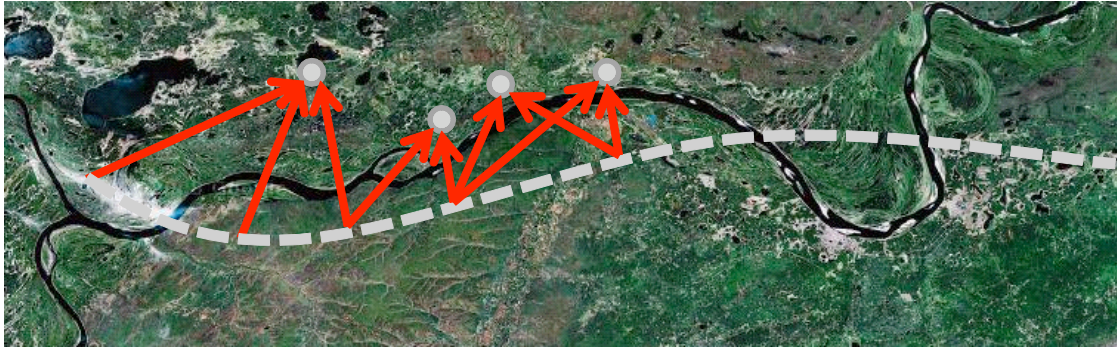


# Precision Indoor and Outdoor Navigation Using Existing Signals of Opportunity and Inertial Navigation Sensors

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Sponsor: DAGSI



There is a great need to develop non-GPS methods for navigation in situations in which GPS is not appropriate. This project presents an approach to navigating using a sensor designed for other purposes, namely an orthogonal frequency division multiplexing (OFDM) radar. The proposed work leverages off of existing work by all of the PIs, and will involve a three-way collaboration between AFIT, Miami University, and the Air Force Research Laboratory's Sensors Directorate. AFIT and Miami University will perform most of the system development and testing, and AFRL will have open access to all aspects of the research and will provide guidance to maximize the potential that this research can be transitioned into operational systems.

## Further Reading:

Kauffman, K., J. Raquet, Y. Morton, D. Garmatyuk, "Simulation study of UWB-OFDM SAR for dead-reckoning navigation," *2010 ION ITM*, San Diego, CA, Jan. 2010.