

# How can multiple robots better work together when communication is limited?

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Robots use communication for coordination, cooperation, and collaboration – both physically and computationally. Yet, wireless communication is not perfect in most real-world settings and may be limited, disrupted, or unavailable. Multi-robot algorithms that exhibit similar performance when communication is perfect often degrade in very different ways as communication becomes limited. This talk will cover some of my lab's work on understanding why different multi-robot algorithms are more or less affected by communication degradation, and how we have leveraged this understanding to design new methods with better performance in communication limited scenarios.



Michael Otte is an assistant professor in Aerospace Engineering at the University of Maryland College Park director of the Motion and Teaming Lab. His lab's research interests include motion planning for single and multi-agent systems and distributed robotic algorithms for contested environments that are hazardous, changing, and/or require or impose limited communication between agents. His lab also studies methods that enable cooperation between agents given such constraints. Dr. Otte was previously a National Science Foundation Postdoctoral Associate at the U.S. Naval Research Laboratory (NRL), a visiting Scholar at the U.S. Air Force Research Laboratory (AFRL), and a Postdoctoral Associate at the Massachusetts Institute of Technology (MIT). He received his M.S. and Ph.D. from the University of Colorado Boulder (CU) in Computer Science.

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