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Physics With Robotics: A decade with our little electro-mechanical friends

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Robotics tools for secondary classrooms have developed greatly in the past ten years. Currently available robotics resources offer a physics student many opportunities to explore the concepts and skills of physics. Opportunities range from 15-minute prediction testing exercises to multi-week engineering projects and multi-grade outreach projects. Physics skills developed through robotics exercises range from graph interpretation to experimental design. Topics to explore with robotics include kinematics, dynamics, thermodynamics, electricity and magnetism, vibrations, and wave phenomena. This session will provide many specific examples from the authors past decade's work with robotics as a highly engaging student centered physics learning tool.