**Abstract for Michigan State Condensed Matter Seminar — October 1, 2023**

The Never-Ending Story: Vanadium Dioxide as Model Correlated-Electron Material

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In the six decades since Morin published his pioneering study of “Oxides which show a metal-to-insulator transition at the Neél temperature,” the number of papers published about vanadium dioxide has risen from a few tens to several hundred each year. And each year’s bounty brings a new harvest of insights, applications … and puzzles. This is particularly true of the increasing number of microscopic studies on the insulator-to-metal transition in VO2 driven by ultrafast optical excitation. In this talk, I focus mainly on recent studies that both illuminate and yet also call into question our understanding of the relationship between crystal structure and dynamics in this fascinating material. I will also briefly describe new initiatives in our group that suggest tempting opportunities for studies of correlated-electron behavior in other vanadium oxides.