

***Platform for the Accelerated Realization, Analysis & Discovery of Interface Materials  
(PARADIM)***

***Dr. Adam Phelan,  
The Johns Hopkins University***

*Discovering new materials by design rather than serendipity is accomplished at the “Platform for the Accelerated Realization, Analysis & Discovery of Interface Materials” (PARADIM), a National Science Foundation sponsored Materials Innovation Platform, “via” a synergistic set of user facilities and staff expertise dedicated to theory, synthesis, and characterization. The materials-by-design loop at the heart of PARADIM accelerates the pace at which new materials with unprecedented properties are designed, realized experimentally, and characterized.*

*Specifically, at PARADIM academic and industrial users have access to (via proposal system) world unique synthesis tools (e.g., a high pressure floating zone furnace, “in-situ” tilt laser diode floating zone furnace, etc.), computational codes (VASP, Quantum ESPRESSO, etc.), and PARADIM scientific staff expertise to bring their ideas of materials discovery and/or utilization from conceptualization to realization.*

*Here, I will share a more detailed view of the PARADIM materials-by-design loop model and provide additional insights of the capabilities available to PARADIM users. In-house and user research highlights (e.g., new qubit material candidates and automation via machine learning) will be discussed in these contexts.*