**How can we navigate the rapidly evolving world Part 1**

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Oxide materials are the most abundant compound in the earth’s crust and possess a wide range of electrical, optical, and magnetic properties. For instance, insulators, high quality metals, dielectrics, ferroelectrics, piezoelectrics, semiconductors, ferromagnetics, transparent conductors, ionic conductors, multiferroics superconductors, and nonlinear optic materials have all been produced using oxide materials. Oxide materials have enormous potential, particularly as the fundamental building block of a new generation of electronic devices. We create these materials by artificially layering various atoms including oxygen at the single atomic level and discovering novel properties that are likely to find applications in electronic, magnetic, optical and electromechanical devices. I will discuss how our research played a role in understanding the fundamental solid state phenomena at the atomic scale and the discovery of new materials so that we can use them to develop new oxide nanoelectronic devices. Atomic layer control of novel oxide heterointerfaces may provide some of the answers that we need to continue the electronics revolution, particularly for nanoscale devices with new functionality that are currently being developed and can be applied to various fields. I will discuss the challenges and opportunities in this exciting field.