



Graduate Student

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Thomas Defferriere's research interest focuses on the investigation of optical, magnetic and electrical properties of oxygen deficient metal oxide materials for the development of novel non-volatile memory devices and improvement/design of existing/novel

opto-magnetic-electronic devices. Particularly, his work is focused on understanding how these properties can be directly related to the local chemistry and crystallography of the metal oxides. By identifying model systems that can exhibit large oxygen non-stoichiometries we can actively tune the local chemistry and investigate the intricate coupling of the materials functional properties. By designing experiments that can simultaneously investigate the inter-relationship of these properties ex-situ and in-situ, we can acquire a better understanding of how to design devices that take advantage of these unique properties.