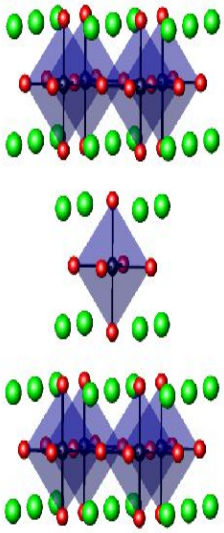
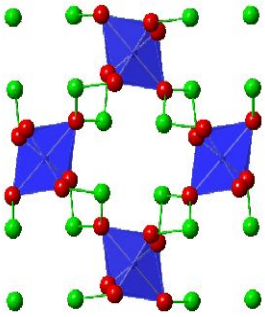
Title:
Functionalization and Characterization of non-stoichiometric A_2BO_{4-x} Oxides

Abstract:
Two classes of material will be discussed which are both derived from parent phases with A_2BO_4 composition (A=large cation,.B=small cation) but have very different structures. Examples of each are La_2CoO_4 (a Ruddlesden-Popper phase, I) and Sb_2FeO_4 (a structure with 1-D channels, II). We will describe chemical manipulations that can modify properties or introduce new functionality , *e.g.* for energy applications derived from oxide ion mobility.





I

II

Topics which will be considered include:

- *in situ* neutron diffraction studies in controlled atmospheres to reveal small structural changes as a function of temperature and composition;
- magnetic and electronic changes in Sb_2FeO_4-related materials *via* cation substitutions;
- anion incorporation into Sb_2FeO_4-related materials.