

# Mixed Anion metal Oxides (MAOs) – novel functional materials (KJM/MENA-MSc/BSc)

MAOs are families of metal oxides with one or more anions in addition to the oxide ion itself (e.g.  $\text{SrVHO}_2$  and  $\text{BaCeH}_x\text{N}_y\text{O}_{3-z}$ ). These are newly discovered materials with great potential for design of functional properties relevant for applications in sustainable energy and chemical technologies.

We will take state-of-the-art MAOs as starting point, aiming to develop fundamental understanding of the functional properties of the material; conductivity and transport properties, surface reactions, kinetics and electrocatalysis. Characterization of structure, microstructure and defect structure will be major focus.

The figure illustrates potential topochemical synthesis routes for mixed anion metal oxides avoiding high pressure.

