

Research stay in the group of Prof. Shimakawa at Institut for Chemical Research, Kyoto University: 04-06/2016

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Thanks to the strong collaboration between my master's tutor, Prof. Paulus (MaMaSELF & ICGM at Université de Montpellier), and Prof. Shimakawa, I had the opportunity to develop my master thesis in the advanced solid state chemistry laboratory at the ICR, in Kyoto University. This stay was partly supported by ICR's young researchers exchange program.

My research was focused on the synthesis of novel transition metal oxides with perovskite structure. Specifically, on B-site substituted systems of $\text{Sr}_2\text{ScGaO}_5$, being those interesting as possible pure ionic or mixed ionic/electronic conductors which can work at relatively low temperatures. Consequently, those compounds have applications as solid electrolytes in solid oxide fuel cells, ceramic membranes for fuel cells or oxygen separation, among others.

I concentrated on the synthesis of the different compounds, structural analysis by powder Xray diffraction and study of the conductivity properties.

Personally, I had the opportunity to learn about a new research field to me, as well as to gain a strong knowledge in xray diffraction, applying everything I had learnt during the master. Thus, becoming more independent as a researcher. Moreover, I find immensely positive to develop my career in such a different culture to mine, as we always can learn from each other.

I am very thankful for all the support I received by the teachers and students of Shimakawa lab, who were so patient with me and helped me everytime I needed it. It was a great experience in both fields, scientific and personal.

