**Part II summer project**

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**Synchrotron tomography of phase changing thin layer deposits**

In this short project you will be optimising a flow system to deposit a thin film of CaCO3 on the inside of a thin copper pipe. Over time we expect this deposited material to change from aragonite to calcite. This transformation is evident in the heat flow in the system and will be investigated by state of the art synchrotron xray tomography. This will include both ‘simple’ attenuation studies to assess the amount and layout of deposited material, but also using diffraction to follow the phase change of crystal structure, in-situ in a non-invasive fashion. If the time works out, it is hoped that the successful candidate will be able to attend the synchrotron experiment at the UKs leading Xray facility, the DIAMOND light source. You will be jointly supervised by Stuart Clarke at Chemistry and Ian Wilson in the department of Chemical Engineering and Biotechnology.