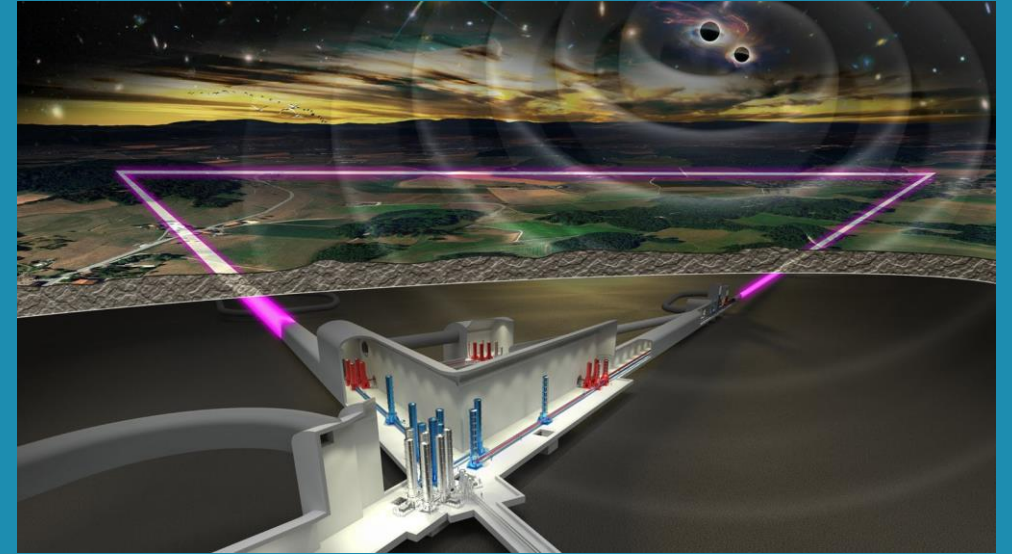


KUL - Geopitch

Materinex launch

Ruben Snellings



Applied Mineralogy lab



KU LEUVEN

- **KU Leuven – Arenberg campus**
 - **Department of Earth and Environmental Sciences**
 - **Geology section**
 - **Applied mineralogy lab**
 - 2 professors: Jan Elsen, Ruben Snellings
 - 1 post-doc
 - 7 PhD students
 - 1 technician
 - X-ray diffraction lab
 - Thermal treatment and analysis lab
 - Clay lab
 - Binder lab



“Mineral resources for low carbon and circular construction materials”

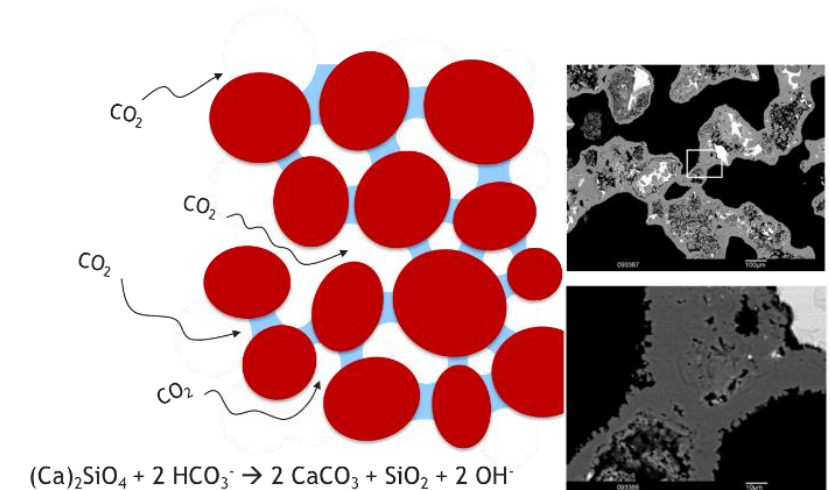
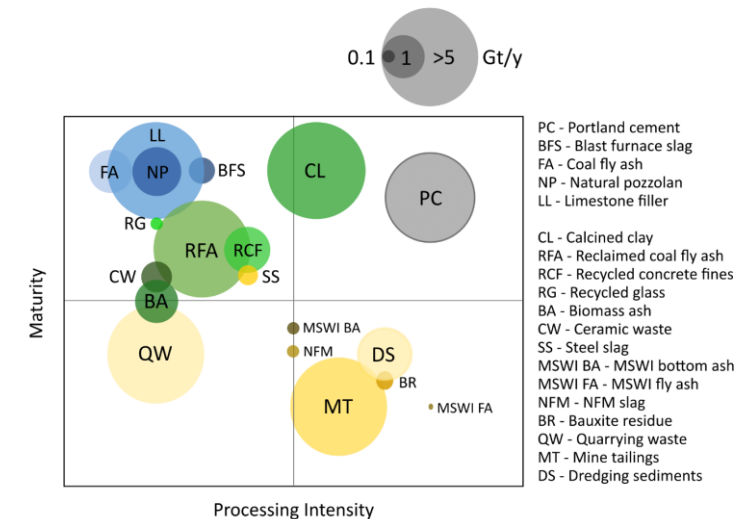
- **Themes:**

“Towards a sustainable and climate-neutral built environment”

1. R&D on **low or carbon-neutral cement and concrete**
2. **Circularity and industrial symbiosis:** maximal and beneficial use of secondary resources

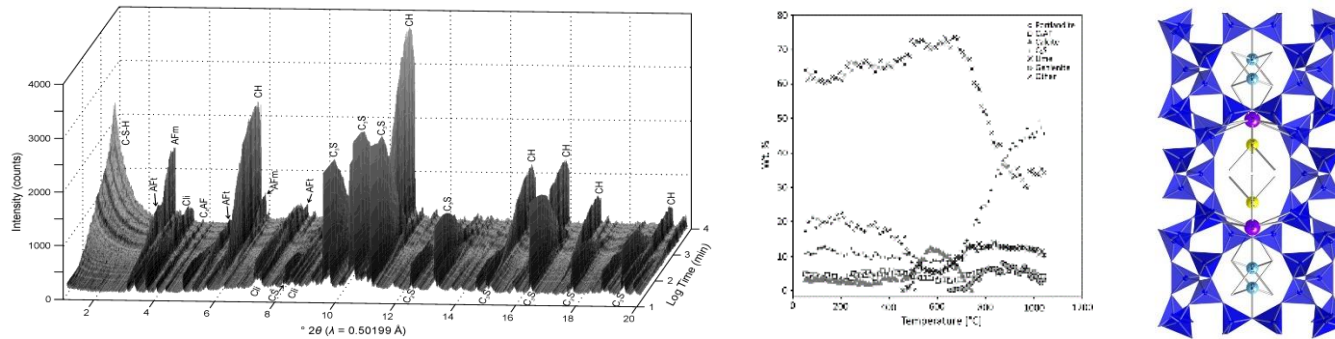
- **Research topics**

1. Supplementary cementitious materials
2. Alternative binders, e.g. mineral carbonation
3. Mineral characterisation methods/applied crystallography
4. Microstructure characterization using advanced techniques

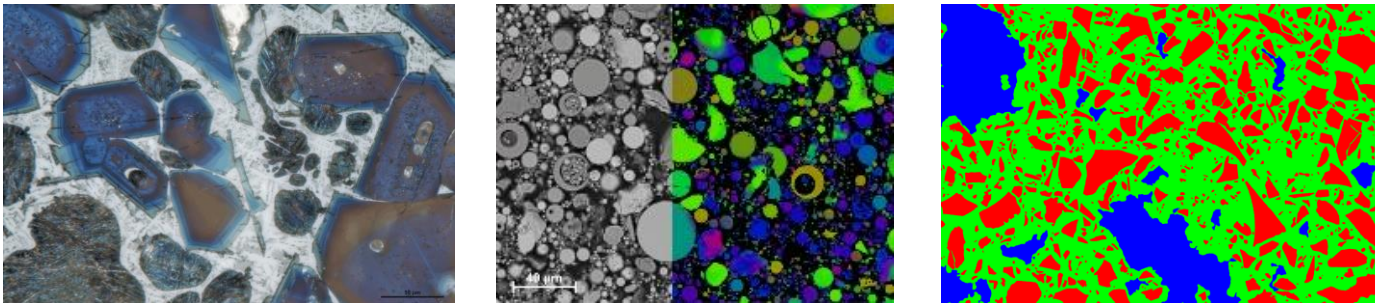


Tools, expertise and models on offer

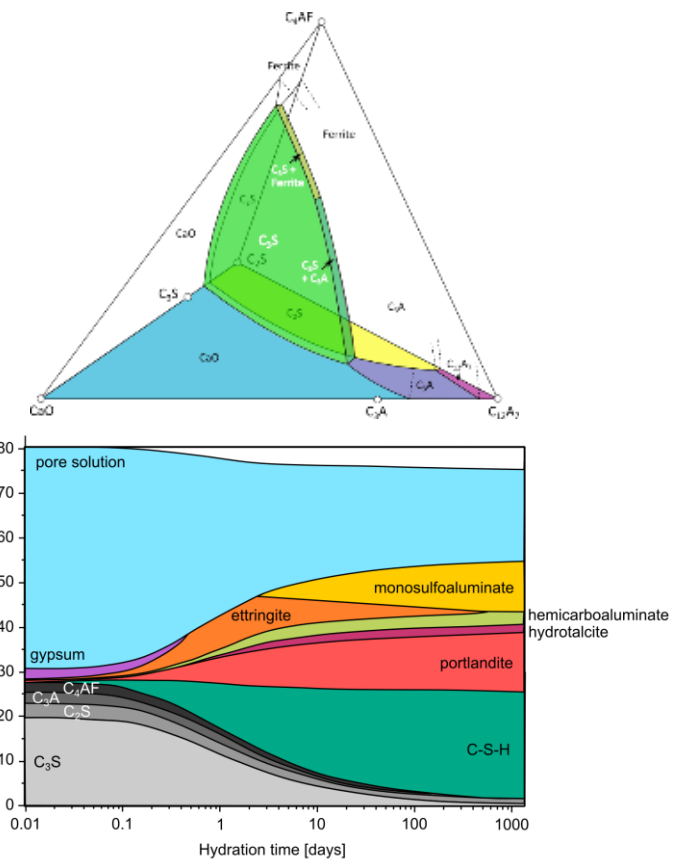
Diffraction methods



Microscopy – AI assisted image analysis



Thermodynamic & kinetic modelling



Project pitch

- Einstein Telescope
 - 2 billion Euro project
 - Bidbook for EMR region in preparation
 - Sustainability is key to win
 - Construction generates most impact
 - Demonstrate and scale innovations in concrete → spill-over to sector
- Project idea(s):
 - Hard-rock processing technologies
 - Binders/fillers from excavated materials
 - Concrete durability sensor for carbonation

