



Visiting Professor Program Academic Year 2024/2025

TEACHING COMMITMENT: 12 hours

COURSE TITLE

Mineralogy and Chemistry of Inorganic Wastes

TEACHING PERIOD

2nd term

SCIENTIFIC AREA

Mineralogy

LANGUAGE USED TO TEACH

English

COURSE SUMMARY

- 1) What is waste?;
- 2) The Aim Conflict in Waste Management: Zero Waste vs Zero Pollution;
- 3) Minerals as Waste: From Excavation Materials to Asbestos Fibres;
- 4) Minerals in Waste Treatment: From Nuclear Waste Disposal via Landfill Liners to Mineral Additives in WtE;
- 5) Synthetic Minerals: A Contradiction in itself?;
- 6) Mineral Wastes I: End-of-Life Mineral Products: C&DW & Refractories;
- 7) Mineral Wastes II: Residues from Industrial Processes and WtE: Slags & Ashes;
- 8) Waste Mineralogy: How Mineralogical Methods and Concepts Solve the Aim Conflic.

LEARNING OBJECTIVES

To become acquainted with the chemical foundations of waste management, in a view of integrated sustainable and circular economy.

VISITING PROFESSOR PROFILE

Based on a strong background in general and applied mineralogy and water-mineral-interaction, the visiting professor should be involved in the new field of "waste mineralogy" by applying mineralogical concepts and methods like electron microprobe and X-ray diffraction to inorganic wastes and by-products like slags, ashes, sludges and dusts to investigate their environmental impact and recycling potential as high-value secondary resources for a sustainable development of our society.

CONTACT REFERENT

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