CIVIL AND ENVIRONMENTAL ENGINEERING

Ammin/CRT/DISEG - Applications of Sustainable Materials in New and Existing Concrete Structures

Funded By	Politecnico di TORINO [P.iva/CF:00518460019] FONDAZIONE CRT CASSA DI RISPARMIO DI TORINO [P.iva/CF:06655250014] Dipartimento DISEG
Supervisor	FANTILLI ALESSANDRO PASQUALE - alessandro.fantilli@polito.it
Contact	TONDOLO FRANCESCO - francesco.tondolo@polito.it FANTILLI ALESSANDRO PASQUALE - alessandro.fantilli@polito.it
Context of the research activity	Structural Engineering
Objectives	The main purpose of this research project is to investigate the feasibility of producing structural concrete with recycled materials, especially tyre recycled materials. Several lightweight concrete mixtures have to be tailored in order to evaluate the feasibility of using them in new and existing concrete structures. In particular, the PhD student must: • Tailor sustainable lightweight concrete • Test and model reinforced concrete elements of existing bridges • Evaluate and increase the durability of full-scale reinforced concrete structures with sustainable cement-based composites
Skills and competencies for the development of the activity	Structural Mechanics Design of Reinforced Concrete Structures Design of Steel Structures Tailoring concrete mixtures Laboratory tests on concrete and steel Modelling concrete and steel structures