

FOREWORD

Welcome to the Special Issue of Academic Journal of Civil Engineering related to the conference organized each year by **AUGC** (The University - Association of Civil Engineering) dedicated to RUGC 2022.

Established in 1981, the AUGC (The University - Association of Civil Engineering) aims developing and promoting the academic teaching (Undergraduate, Graduate, and PhD) and researches in the civil engineering field in the universities and high schools of the French Education.

The « **RUGC** » is the national forum in civil engineering organized annually by the AUGC for information dissemination and exchange, discussions and debates on research, learning and practice related to the construction field.

The 40th meetings of universities in civil engineering have been co-organized by AUGC, the French Graduate School of Engineering IMT Nord Europe (affiliated to the Institut Mines-Télécom and a partner of the University of Lille) and the Laboratoire Génie Civil et géo-Environnement (LGCgE) Lille-Nord-de-France on May 23-25, 2022. The theme was: “Le Génie Civil, en acteur bâtisseur des transitions écologique, numérique et sociétale”.

This year, the organizers benefited from the sponsorship of Néo-Eco Développement – CimBéton in platinum, 3R – Vicat – FNTF (Fédération Nationale des Travaux Publics) – EFB (Ecole Française du Béton) in gold, Dimione Systems in silver and the support of AFGC (Association Française de Génie Civil). May they find here the recognition of our community for their contributions and supports.

The RUGC'22 special issue includes a section of papers presented at the conference. It consists of ninety six (96) full texts of papers.

In addition, two keynotes related to some hot topics in the construction field were presented:

- Mrs **Sophie Szopa**, « Changement climatique : les bases physiques, ce que nous apprend le dernier rapport du GIEC »
- M. **Guillaume Meunier**, « Construire dans un monde post-carbone, RE2020 et ACV, est-ce suffisant ? »

The papers were presented in several sessions which covered a wide spectrum of the topics related to ecological transition, binders, earth, durability of materials, bio-based materials, soils, physics, modelling, recycling, effect of temperature.

An important part of the conference is the René Houpert Award. This traditional event has been organized through six parallel sessions. Thirty (30) junior researchers have presented their PhD works. This high number of candidates shows the vitality of the civil engineering community of researchers. The winner of the 2022 competition is Victor Poussardin from the Université Gustave Eiffel and Université de Sherbrooke. The awards list is the following:

- 1st prize: **Poussardin Victor**, Université Gustave Eiffel et Université de Sherbrooke (Canada)
- 2nd prize: **Dewitte Charlotte**, (IRSN), PSE-ENV/SEDRE/LETIS, LMDC Toulouse
- 3rd prize : **Aboulela Amr**, LMDC, INSA/UPS Toulouse Génie Civil
- 4th prize ex aequo: **Anglade Elsa**, LMDC, INSA/UPS Toulouse Génie Civil.
- 4th prize ex aequo: **El khoury Marinelle**, GeM, UMR 6183, Centrale Nantes
- 4th prize ex aequo: **Lacombe Clément**, LMDC, INSA/UPS Toulouse Génie Civil

Special prizes were also attributed by FNTF to Mrs **Takwa Sayari** (LMT, ENS Saclay) for her work on “Concrete drying kinetics: development of an accelerated drying protocol in fire testing” and by EFB to **Amr Aboulela** (LMDC, Université de Toulouse, INSA/UPS) for his work on “Performance indicator for cementitious materials exposed to sewer conditions”

A poster competition was organized for the PhD students who are in the first year of their work. The winner is Mrs **Camille Martin-Cavaillé** from ENS Paris-Saclay for her work on “Caractérisation morphologique et chimique des co-produits coquilliers pour une valorisation dans les matériaux cimentaires».

A video competition was also organized and the winner is **Man Hung Nguyen** for his work on “Evaluation des performances thermomécaniques des protections innovantes au feu des structures métalliques”. The video is visible on the AUGC Youtube channel: <https://www.youtube.com/watch?v=wIto7pci760>

On behalf of the scientific committee and the administration committee of AUGC, we would like to take this opportunity to express our sincere thanks to the local organizing committee IMT Nord Europe – LGCgE, to all our contributors and participants for their carefully prepared and stimulating, to the members of the Scientific Committee for their time and effort of reviewing the papers and their valuable assistance.

Frédéric Becquart (Chair of the Local Committee)

Alain Sellier (Chair of the association)

Jean Michel Torrenti (Chair of the Scientific Committee)