

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 2020.

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 39th meeting of universities in civil engineering has been organized by AUGC and the University of Lyon, on line, due to the pandemic, on May 26-28 2021. This year, the organizers benefited from the support of benevolent patrons: the companies 3R and Vicat, the FNTF, the AFGC, Cimbéton and the French Concrete School. May they find here the recognition of our community for their support.

The RUGC'21 special issue includes the lectures and papers presented at the conference. It consists of 64 full texts of papers.

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

- Olivier Deck, Enjeux environnementaux : une nouvelle donne pour les universitaires du GC ?
- Anne Ventura, Adelaïde Feraille, L'ACV dynamique dans la RE2020

The papers were presented in four sessions which covered a wide spectrum of the topics related to innovative methods of construction, durability of materials, bio-based materials, Geotechnics and soil remediation, Innovative materials and Structures, and decision support.

An important part of the conference is the René Houpert Award has been organized through six parallel sessions. 34 young 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 2021 competition is Mickael LE VERN from University Gustave Eiffel. The award list is the following:

- **1st prize: Mickael Le Vern**, *Étude expérimentale des mécanismes et des conditions d'envol des poussières. Application aux chantiers de terrassement*, University Gustave Eiffel
- **2nd prize: Mohammed Saidi**, *Mesure et analyse de l'état de déformation et d'endommagement interne dans les composites à matrice cimentaire pour le renforcement des structures de génie civil*, LMC2, University Lyon 1
- **3rd prize: Ilham Harbouz**, *Impression 3D par extrusion des matériaux cimentaires : Formulation, Structuration et Stabilité*, GEM, Ecole centrale de Nantes, Université de Sherbrooke.
- **4th prize ex-aequo: Yann SOUSSEAU**, *Lois de similitude et modélisation du comportement mécanique des bâtiments bois multi-niveaux*, I2M, Université de Bordeaux & FCBA ; **Marie GIROUDON**, *Évaluation des interactions entre biodéchet en digestion anaérobie et matériaux cimentaires à base de différents liants en vue d'une meilleure durabilité des structures de méthanisation*, LMDC, INSA et Université de Toulouse ; **David GARCIA**, *Etudes exploratoires dédiées au diagnostic de corrosion assisté par ordinateur des structures de génie civil*, LMDC, INSA et Université de Toulouse.

A **video competition** was also organized and the winner is **Khaled SEIFEDDINE** from University Clermont-Auvergne. The videos are visible on the AUGC Youtube channel: <https://www.youtube.com/watch?v=9bhqtyYvawg&list=PL8jHBB0iTXoBvLzQKmCFs4B0oiGln2IJx>

And, finally, a **special award was given by the FNTP** to **Rim CHEHADE**, *Qualification de la vulnérabilité du bâti exposé au risque de coulées de débris et crues éclair par la modélisation numérique*, also from University Clermont-Auvergne.

On behalf of the scientific committee and of the administration committee of AUGC, we would like to take this opportunity to express our sincere thanks the organizing committee Emmanuel FERRIER, Marie MICHEL, Evelyne TOUSSAINT, Mariem KACEM, Claire SILVANI, Franck TAILLANDIER, Ouali AMIRI, Jean-Michel TORRENTI, Jacqueline SALIBA, to all our contributors and participants for their carefully prepared and stimulating, to the members of the Technical and Scientific Committee for their time and effort of reviewing the papers and their valuable assistance.

Alain Sellier (Chair of the association)

Jean Michel Torrenti (Chair of the Scientific Committee)