

## 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 NICE 2019.

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 37th meeting of universities in civil engineering has been organized by AUGC and Polytech Nice Sophia (Université Nice Sophia Antipolis) at Nice on June 19-21, 2019.

The conference attracted more 170 peoples from several French speaking countries (France, Belgium, Algeria, ...) representing a wide range of academics, scientists, researchers, students, designers, policy makers and other industrialists from a wide variety of backgrounds, including fields of engineering, materials, sustainable, architecture, and ecological technologies, biomaterials, materials sciences, environmental engineering and government agencies, end-users, etc.

The RUGC'19 titled "Towards intelligent civil engineering constructions" includes the lectures and papers presented at the conference. It consists of 140 full texts of papers.

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

- Smart materials for architectural challenges by Prof. Albert Schenning
- Les ouvrages intelligents by Prof. Alaa Chateauneuf, CIDECO, Aubière, France
- Des bâtiments intelligents : cela se saurait ! by Dr. Gérard Sauce, Nice, France

A one-day pre-course on June, 19th 2018 was organized. The courses are related to

- Le monitoring : Introduction aux réseaux de capteurs sans fil, By Yoan Charlon
- Les techniques mathématiques et informatiques d'exploitation de données - Part 1 and 2, By Lionel Fillatre and Valérie Roy
- Présentation d'une étude de cas des techniques de machine learning appliquées au domaine de la ville et des territoires, by Matthieu Denoux

The 128 papers including 23 posters were presented in four parallel sessions which covered a wide spectrum of the topics related to Urban Planning and Sustainable Construction, Bio based - wood and eco-materials, Geotechnics and soil remediation, Innovative materials and Structures.

In parallel with the conference, a new edition of the René Houpert Award has been organized through five parallel sessions. 16 young junior researchers have been presented their PhD works and 6 candidates have been nominated for the final presentation. Here is the award list of the 2019 René Houpert Award:

- 1er prix : Maxime Robira: Propriétés physico-chimiques et comportement mécaniques des matériaux cimentaires sous irradiation gamma, GeM, Subatech, Tracebel Engineering
- 2ème prix: Reine Fares : Modèle de sol en T pour une étude tridimensionnelle d'interaction sol-structure, LJAD, IRD, OCA
- 3ème prix: Abderrahmane Rhardane : Endommagement de la pâte de ciment : intérêt et apport d'une nouvelle approche de modélisation micromécanique, GeM
- 4ème prix ex æquo:
  - Elodie Chapoulade : Optimisation du placement de capteurs pour trouver la contrainte appliquée à une section d'alvéole, Institut Pascal,
  - Eva Queheille : Optimisation multi objectif d'une stratégie de déconstruction de bâtiments, I2M,
  - Alice Micolier, Un modèle couplé de transfert de masse et de chaleur pour évaluer l'impact des choix de conception sur la qualité de l'air intérieur, I2M.

On behalf of the scientific committee of AUGC, we would like to take this opportunity to express our sincere thanks the local organizing committee and in particular to Prof Gérard Sauce to all our contributors and participants for their carefully prepared, stimulating and thought provoking manuscripts; to the co-organizers of the one-day pre-course for their dedicated task; to the members of the Technical and Scientific Committee for their time and effort of reviewing the papers and their valuable assistance, without which the conference and this first Special Issue could not be formed.

Rewarding reading to all

---

**Sofiane Amziane** (Chair of the Scientific Committee)

Prof. Institut Pascal UMR 6602 Polytech Clermont-Ferrand, Université Clermont Auvergne, France

**Gérard Sauce** (Chair of the Organizing Committee RUGC2019)

Prof. Polytech'Lab - Polytech Nice Sophia, Université Côte d'Azur, France

## Organizing Committee RUGC 2019

<b>President:</b> Gerard SAUCE	Polytech'Lab - Polytech Nice Sophia
Jean-Laurent Burret	Polytech'Lab - Polytech Nice Sophia
Olivier Graziani	Lycée Léonard de Vinci Antibes - Polytech Nice Sophia
Mohamad Ibrahim	Polytech'Lab - Polytech Nice Sophia
Maria Paola Santisi d'Avila	LJAD - Polytech Nice Sophia
El-Mehdi Seddiki	Polytech'Lab - Polytech Nice Sophia
Mallory Bobee	Polytech'Lab - Polytech Nice Sophia
Malek Ziani	Polytech'Lab - Polytech Nice Sophia
Zhe Zhou	Polytech'Lab - Polytech Nice Sophia

## Scientific Committee RUGC 2019

AMIRI Ouali	Université de Nantes
BELARBI Rafik	Université de la Rochelle
Belayachi-Belaich Naima	Université Orléans
BONNET Stéphanie	Université de Nantes
BOUCHAIR Hamid	Polytech Clermont-Ferrand
BOUZIDI Nedjima	Université de Béjaia
BRIFFAUD Matthieu	Université Grenoble Alpes
BURLET Jean-Laurent	Polytech Nice Sophia - Polytech'Lab
CHERQUI Frédéric	Université Lyon 1 / INSA Lyon
CHOINSKA Marta	Université de Nantes - IUT Saint-Nazaire
COLLIN Frédéric	Université Liège
DECK Olivier	Université de Lorraine - Ecole des Mines de Nancy
FABBRI Antonin	ENTPE
FAVRIE Nicolas	IUSTI
FOUCHAL Fazia	Université Lmoges
GRONDIN Frédéric	Université Nantes
IBRAHIM Mohamad	Polytech Nice Sophia - Polytech'Lab
JURKIEWIEZ Bruno	Université Lyon 1
KAMALI-BERNARD Siham	INSA Rennes
KELLER Thomas	EPFL
LACARRIERE Laurie	Université Toulouse III
LACHI Mohammed	Université de Reims
LAFFRECHINE Katia	Université Paris-Est Marne-la-Vallée
LANOS Christophe	IUT Rennes
LEKLOU Nordine	Université de Nantes
LOURENCO Paulo	Université de Minho
MICHEL Laurent	IUT Lyon

NOWAMOOZ Hossein	INSA de Strasbourg
PERROT Arnaud	Université Bretagne Sud
PICANDET Vincent	Université Bretagne Sud
RANGEARD Damien	INSA de Rennes
REBOUL Nadège	IUT Lyon
REMOND Sébastien	Mines de Douai
ROUX Sébastien	IUT Nancy Brabois
SANTISI Paola	Polytech Nice Sophia - L JAD
SAUCE Gérard	Polytech Nice Sophia - Polytech'Lab
SELLIER Alain	INSA Toulouse
SI LARBI Amir	Ecole Nationale d'Ingénieurs de Saint-Etienne
SILVANI Claire	INSA Lyon
TAILLANDIER Franck	INRAE
TORRENTI Jean-Michel	IFSTTAR
TOUSSAINT Evelyne	Université Clermont Auvergne
TRABELSI Abdelkrim	Université Lyon 1
TURCRY Philippe	Université de La Rochelle
VU Hong Xuan	Université Lyon 1
YOTTE Sylvie	Université de Limoges / GC2D