

## DAY 2, Aug. 22, 2024

- 09:00-09:15 Registration

- 09:15-09:30 Opening Address

Chair: TANIGUCHI Madoka (Muroran Institute of Technology, Japan)

SHIMATA Akinori (Civil Engineering Research Institute for Cold Regions)

HAMA Yukio (Muroran Institute of Technology, Japan)

### AWARD COMMEMORATIVE LECTURE

Chair: TANIGUCHI Madoka (Muroran Institute of Technology, Japan)

**9:30-9:50**

**Analytical Studies on Salt Damage of Reinforced Concrete Structures and Fluidity Evaluation of Fresh Concrete and Development to Machine Learning**

Prof. YAMADA Yoshitomo (University of The Ryukyus, Japan)

### SPECIAL LECTURE

Chair: TANIGUCHI Madoka (Muroran Institute of Technology, Japan)

**9:50-10:25**

**Water absorption and desorption characteristics of superabsorbent polymers and their concrete properties**

Prof. GUAN Xinchun (Harbin Institute of Technology, China)

**10:25-11:00**

**Applying thixotropy on cement-based materials with PVA and borax**

Prof. Dongyeop HAN (Gyeongsang National University, Korea)

**10:50-11:00 Break time**

### Session I: MATERIALS 1

Chair: Kim Jihoon (Muroran Institute of Technology, Japan)

**11:00-12:30**

**1. Numerical Analysis to Predict Adhesion Chloride in Reinforced Concrete Structures Considering Rain Exposure**

- TOYODA Souta (University of the Ryukyus, Japan)
- SAKIHARA Kohei (University of the Ryukyus, Japan)
- KASAHARA Takumi (Prometech Software, Japan)
- TAKADA Satoshi (Prometech Software, Japan)

## **2. CO<sub>2</sub> activation of cementitious materials based on the mineralization-desorption of amino acid salts absorbent**

- TieFeng Chen (Harbin Institute of Technology, China)

## **3. Assessment of Physical Properties and Optimal Utilization of Cement-Free Precast Concrete Incorporating Industrial By-Products**

- Sohee MOON (Kyungpook National University, Korea)
- Youngwoong JUNG (Kyungpook National University, Korea)
- Seongpyo KIM (Kyungpook National University, Korea)
- Jayeon YUN (Kyungpook National University, Korea)
- Kyungsu SHIN (Woosong University, Korea)
- Hyeonggil CHOI (Kyungpook National University, Korea)

## **4. Chemical Changes in Forced Carbonation of Hardened Cement Paste in Seawater and Stability of Immobilized CO<sub>2</sub>**

- FURUKAWA Ikuya (Shimane University, Japan)
- Natsuki YOSHIDA (Shimane University, Japan)
- Daiki ATARASHI (Shimane University, Japan)

## **5. Influence of cellulose nanocrystal on the hydration and microstructure of Portland cement paste**

- Shuai Bai (Harbin Institute of Technology, China)

## **6. Development of Concrete Rheology Parameter Prediction Model Based on Concrete Slump Flow Using Machine Learning Algorithm**

- Lee Yu-Jeong (Gyeongsang National University, Korea)
- Lee Kang-Hyeok (Gyeongsang National University, Korea)
- Kim In-Tae (Gyeongsang National University, Korea)
- Lim Young-Ju (Gyeongsang National University, Korea)
- Han, Dong-Yeop (Gyeongsang National University, Korea)

**12:30-13:30 Lunch Time**

**Facility Tour (13:00-13:30)****Session II: MATERIALS 2**

Chair: Kim Junho (Tokyo University of Science, Japan)

**13:30-14:45****7. Improvement of biochar on carbonation treatment of steel slag as highly activity mineral slurry**

- Xiaojian Gao (Harbin Institute of Technology, China)

**8. Simulation Analysis of Thermal-Mechanical Coupled Behavior in Viscoelastic Model for Lead Rubber Bearings**

- ITO Yusaku (Hokkaido University, Japan)  
 ISHII Ken (Hokkaido University, Japan)

**9. EXPERIMENTAL STUDY ON THE PERFORMANCE OF PC-CSA-CaO BLENDED SYSTEM IN SUB-ZERO TEMPERATURE**

- Ge Zhang (Xi'an University of Architecture and Technology, China)

**10. Evaluation of the Self-Sensing Properties of Reinforced Concrete Units Using Self-Sensing Mortar for Section Enlargement**

- Jin Soep, Kim (Korea National University of Transportation, Korea)  
 Do Kyun, Kim (Korea National University of Transportation, Korea)  
 Geon Woo, Im (Korea National University of Transportation, Korea)  
 Young Min, Kim (Korea National University of Transportation, Korea)  
 Gun Choel, Lee (Korea National University of Transportation, Korea)

**11. Heat-stored Engineered Cementitious Composite containing n-octadecane/fly ash cenosphere microencapsulated phase change material**

- Yushi Liu (Harbin Institute of Technology, China)

**14:45-14:55 Break time****Session III: Structure/Construction**

Chair : SAGAWA Takahiro (Maebashi Institute of Technology, Japan)

**14:55-16:10****12. Machine Learning Model for RC Beam Subjected to Several Seismic Load and Crack Repair**

- Miki Matusubayashi (Muroran Institute of Technology, Japan)  
 Sota Sugawara (Muroran Institute of Technology, Japan)  
 Mizuki Nakamura (Muroran Institute of Technology, Japan)

Yuya Takase (Muroran Institute of Technology, Japan)

**13. Estimating the period of hot weather concreting in Republic of Korea and introducing caution periods.**

- Jiman JEONG (Cheongju University, Korea)
- Han, Jun-Hui (Cheongju University, Korea)
- Baek, Seong-Jin (Cheongju University, Korea)
- Lim, Gun-Su (Cheongju University, Korea)
- Kim, Jong (Cheongju University, Korea)
- Han, Min-Cheol (Cheongju University, Korea)

**14. Mechanical Properties of Recycled Fine Aggregate Mortar with Red Bricks**

- Do Kyun, Kim (Korea National University of Transportation, Korea)
- Jin Soep, Kim (Korea National University of Transportation, Korea)
- Geon Woo, Im (Korea National University of Transportation, Korea)
- Young Min, Kim (Korea National University of Transportation, Korea)
- Gun Choel, Lee (Korea National University of Transportation, Korea)

**15. Bond Property of Adhesive Post-installed Anchor for RC Beam Damaged by Shear Load**

- Taito Shiokoshi (Muroran Institute of Technology, Japan)
- Atsuto Yasui (Muroran Institute of Technology, Japan)
- Yuya Takase (Muroran Institute of Technology, Japan)

**16. Evaluation Bonding Performance of Super Retarding Concrete for Cold joint Integration in Hot Weather**

- Juntaek JEONG (Cheongju University, Korea)
- Jaewoong Park (Cheongju University, Korea)
- Gunsu Lim (Cheongju University, Korea)
- Jong Kim (Cheongju University, Korea)
- Mincheol Han (Cheongju University, Korea)
- Cheongoo Han (Cheongju University, Korea)

**16:10-16:20 Break time**

**Session IV: DURABILITY**

Chair : SAKIHARA Kohei (University of the Ryukyus, Japan)

**16:20-17:35**

**17. Study on the effect of suppressing frost damage deterioration of concrete with hydrophobic compounds**

- Yasuda Reiko (FLOWRIC CO.,LTD., Japan)
- Nishi Hironobu (FLOWRIC CO.,LTD., Japan)
- Hama Yukio (Muroran Institute of Technology, Japan)

**18. C-S-H seeds used as accelerator for cold weather concreting**

- Yingzi Yang (Harbin Institute of Technology, China)

**19. Reduction of Hydration Heat of Mass Concrete by the Combinations of Ternary Blended Premix Type Cement and Coal Gasification Slag Aggregates**

- Sungjin BAEK (Cheongju University, Korea)
- Gun-su Lim (Cheongju University, Korea)
- Jun-Hui, Han (Cheongju University, Korea)
- Jong, Kim (Cheongju University, Korea)
- Min-Cheol, Han (Cheongju University, Korea)

**20. Microstructural changes in blast-furnace cements with different replacement ratios due to repeated drying and wetting studies on their resistance to freezing and thawing**

- LUO XI (Muroran Institute of Technology, Japan)
- Kim Jihoon (Muroran Institute of Technology, Japan)
- Hama Yukio (Muroran Institute of Technology, Japan)

**21. Influence of Carbonation Curing and Autoclaved Aerated Concrete Powder on Sulfate Attack of Cement Paste at Low Temperature**

- Ling Qin (Qingdao University of Technology, China)

**17:40-17:55 Closing Remarks**

- HAMA Yukio (Muroran Institute of Technology, Japan)