HAEIN SHIN

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Education

Ph.D. in Earth System Science, Yonsei University *Sep. 2019 -*
Advisor: Dr. Wonsuck Kim

Ph.D. Candidate in Astronomy, Space Science and Geology, Chungnam National University
Advisor: Dr. Jeahyung Yu

M.S. in Astronomy, Space Science and Geology, Chungnam National University
Thesis: *Remote Sensing Approaches on Moisture Content Mapping for Coastal Sediments (2016)*

B.S. in Geology and Earth Environmental Sciences, Chungnam National University

Journal Articles

Haein Shin, Jaehyung Yu, Lei Wang, Yongsik Jeong, and Jieun Kim. (2020) Spectral Interference of Heavy Metal Contamination on Spectral Signals of Moisture Content for Heavy Metal Contaminated Soils, *IEEE Transactions on Geoscience and Remote Sensing.*

Haein Shin, Jaehyung Yu, Yongsik Jeong, Lei Wang, and Dong-Yoon Yang. (2017). Case-based regression models defining the relations between moisture content and shortwave infrared reflectance of beach sands, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 10(10), 2017, 4512-4521

Haein Shin, Jaehyung Yu, Jieun Kim, Dongyoon Yang, and Gilljae Lee. (2015). Mapping the moisture content of coastal sediments using ASTER data for spectroscopic and mineralogical analyses: a case study in South Korea, *Remote Sensing Letters,* 6(6), 488-497

Haein Shin, Jaehyung Yu, Sungji Bae, Dongyoon Yang and Min Han. (2016). Analysis of quaternary sedimentary environment based on 3D geological modeling for Saban-ri, Haeri-myeon, Gochang, *Economic and Environmental Geology,* 49(4), 2016, 291-299. (in Korean)

Yongsik Jeong, Jaehyung Yu, Lei Wang, **Haein Shin**, Sang-mo Koh, and Gyesoon Park. (2018). Cost-effective reflectance calibration method for small UAV images, *International Journal of Remote Sensing,* 39(21), 7225-7250.

Jieun Kim, Jaehyung Yu, Lei Wang, Hongxing Li, and **Haein Shin**. (2016). Morphological characteristics if the ice margins of Antarctic ice shelves and outlet glaciers extracted from ICESat Laser altimetry along-track profiles, *Terrestrial, Atmospheric & Oceanic Sciences,* 27(4), 451-462.

Conference

H Shin, W Kim, and C Paola (2020) Stratigraphic Signals of Autogenic Processes in a Bimodal Alluvia fan: Laboratory Experiments. AGU Fall Meeting 2020

W Kim, E Reaves, and **H Shin** (2019) Linking delta shoreline and foreset-bottomset transition trajectories: Experiment and theory. AGU Fall Meeting 2019

H Shin, J Yu, JH Shin, Y Jeong, S Kim and G Lee (2017) Spectral response of romaine lettuce by uptake of ZN. IGARSS 2017

Research Experience

CHUNGNAM NATIONAL UNIVERSITY in REMOTE SENSING & GIS LAB Daejeon, South Korea
Full-time Student Researcher (Remote Sensing and GIS analyst) ***May 2013 – Nov. 2018***

- **Natural hazard monitoring based on remote sensing and GIS**
  Designated as a project member for natural hazard monitoring projects; monitoring coastal processes, exploring mineral resources, and observing heavy metal contamination and mine reclamation

- **3-D geological modeling**
  Designated as a project member for 3D geological modeling projects; 3D modeling in REE minerals zones in Turkey, mineralized zone in Mongolia and North Korea

Teaching Experience

YONSEI UNIVERSITY Seoul, South Korea

Sedimentary Environments (ESS4133-01) *2019 Fall*
Sedimentary Petrology (ESS3102-01) *2020 Spring*

CHUNGNAM NATIONAL UNIVERSITY Daejeon, South Korea

Resources Geology (21955-00) & Ore Deposit Geology (12474-00) *2016 Spring, 2013 Fall*
Remote Sensing (21951-00) & GIS (29079-00) *2014 Spring, 2015 Fall*

Awards & Certificates

Best Poster Presentation Award, the Korea Association for Quaternary Research *2017*
Best Oral Presentation Award, the Korean Society of Economic and Environmental Geology *2016*
2nd Prize, COREA (Campus Ore Reserve Estimation Arena), Korea Resources Corporation *2015*
Korean Government Certificate of Engineer Applied Geologist *2015*

Fellowships

Academic Achievement Scholarship *2011 Fall – 2013 Fall*
2015 Spring – 2015 Fall

Research Skills and Software

Research Skills

- Spectral Analysis apparatus: Analytical Spectral Device Labspec 5100 portable spectrometer
- X-ray diffraction (XRD), and X-ray fluorescence (XRF)

Software

- Spectral Analysis Software: the Spectral Geologist 7.5 (TSG 7.5)
- GIS Software: ArcGIS
- Image Processing Software: ENVI
- Geological Modeling Software: SKUA-GOCAD
- Programming Language: MATLAB
- Statistical Software: SPSS and R program