

HAEIN SHIN

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RESEARCH INTERESTS

- Morphodynamics and stratigraphic records of autogenic processes in an alluvial fan
- Flume experiment
- Remote sensing and GIS

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 of 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, L HyoJae, and C Paola (2021) Fossilized Autogenic Response of Grain-Size Transition to Sediment Supply and Water Discharge: Experiments for Alluvial Fans: Abstract EP35D-1344 presented at 2021 American Geophysical Union Annual Meeting, New Orleans, LA & Online Everywhere, 13 – 17 Dec.

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
Full-time Student Researcher (Remote Sensing and GIS analyst)

Daejeon, South Korea
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

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