

## 김 석 현



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## 학 력

- 2013년 7월 – 2017년 11월 **UNSW Sydney\*** 공학박사 (수자원공학/원격탐사)  
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- 2006년 3월 – 2008년 2월 **고려대학교** 사회환경시스템공학과 공학석사 (수자원공학)  
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- 1997년 3월 – 2001년 2월 **고려대학교** 토목환경공학과 공학사

## 주요경력

- 2017년 4월 – 현재 **UNSW Water Research Centre** 박사후 연구원
- 2013년 7월 – 2017년 3월 **UNSW Sydney** 박사과정 (논문제출: 2017/3; 학위수여: 2017/11)
- 2008년 1월 – 2013년 7월 **현대건설** 대리 토목설계실 수자원/환경 설계담당

## 병역사항

- 2001년 10월 – 2004년 9월 **대한민국육군** (중위 만기전역)

## 수상 및 장학금

- 2021년 12월 **MSSANZ** Early Career Research Excellence (ECRE) Award
- 2021년 10월 **UNSW Sydney** Early Career Academic Seed Grants (AUD 1,000)
- 2021년 5월 **UNSW Sydney** Strategic Research Fund (AUD 4,000)
- 2017년 5월 – 2017년 8월 **UNSW Sydney** Postgraduate Writing Fellowship (AUD 8,000)
- 2013년 7월 – 2017년 1월 **UNSW Sydney** Tuition fee, Stipend and Top-up Scholarship
- 2007년 – 2007년 **고려대학교** 조교장학금; **GS 건설** 장학금; **한국연구재단** BK21 2 단계 장학금

## 논 문

[IF-JCR2020/ #Citations ]

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2. Lee S., **Kim S.**, and Moon S., Development of Car-free Street Mapping (CfSM) Model using an Integrated System with Unmanned Aerial Vehicle, Aerial Mapping Camera and Deep Learning Algorithm, *J. Comput. Civ. Eng.*, Accepted, [4.640/0]
3. **Kim S.**, Sharma, A., Liu, Y., & Young, S. I. (2021). Rethinking Satellite Data Merging: From Averaging to SNR Optimization, *IEEE Trans. Geosci. Remote Sens.*, Early Access, 1–15, [5.600/1]
4. **Kim S.**, Dong J., Sharma A. (2021) A triple collocation-based comparison of three L-band soil moisture datasets, SMAP, SMOS-IC, and SMOS, over varied climates and land covers, *Front. Water.*, 3, 64, [–/1]
5. Kim S., Mehrotra R., **Kim S. (교신)**, Sharma A. (2021) Assessing countermeasure effectiveness in controlling cyanobacterial exceedance in riverine systems using probabilistic forecasting alternatives, *J. Water Resour. Plan. Manag.*, 147(10), 04021062, [3.054/0]

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7. Zhang R., Kim S.(교신), Sharma A., Lakshmi V. (2021). Identifying relative strengths of SMAP, SMOS-IC, and ASCAT to capture temporal variability using a model combination approach, *Remote Sens. Environ.*, 252, 112126, [10.164/5]
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9. Kim S., Pham H., Liu Y., Marshall L., Sharma A. (2020). Improving the combination of satellite soil moisture datasets by considering error cross-correlation: A comparison between triple collocation (TC) and extended double instrumental variable (EIVD) alternatives, *IEEE Trans. Geosci. Remote Sens.*, Early Access, 1–11, [5.600/3]
10. Magan B., Kim S., Wasko C., Barbero R., Moron V., Nathan R., Sharma A. (2020). Impact of atmospheric circulation on the rainfall–temperature relationship in Australia, *Environ. Res. Lett.*, 15(9), 094098, [6.793/6]
11. Kim S., Kim S.(교신), Mehrotra R., Sharma A. (2020). Predicting cyanobacteria occurrence using climatological and environmental controls, *Water Res.*, 175, 115639, [11.236/10]
12. Kim T., Ley T., Kang S., Davis J., Kim S., Amrollahi P. (2020). Using Particle Composition of Fly Ash to Predict Strength and Resistivity of Concrete, *Cem. Concr. Compos.*, 107, 103493, [7.586/14]
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14. Moradi S., Agostino A., Gandomkar Z., Kim S., Hamilton L., Sharma A., Henderson R., and Leslie G. (2020). Quantifying natural organic matter concentration in water from climatological parameters using different machine learning algorithms, *H2Open Journal*, 3(1), 328–343, [–/4]
15. Kim S., Eghdamirad S., Sharma A., Kim J. H. (2020). Quantification of uncertainty in projections of extreme daily precipitation, *Earth and Space Sci.*, 2020, e2019EA001052–T, [2.900/9]
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18. Pham H., Kim S., Johnson F., Marshall L. (2019). Using 3D robust smoothing to fill land surface temperature gaps at the continental scale, *Int. J. Appl. Earth Obs. Geoinf.*, 82, 10879, [5.933/10]
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20. Zhang R., Kim S.(교신), Sharma A. (2019). A comprehensive validation of the SMAP Enhanced Level-3 Soil Moisture product using ground measurements over varied climates and landscapes, *Remote Sens. Environ.*, 223, 82–94, [10.164/48]
21. Kim S., Sharma A. (2019). The role of floodplain topography in deriving basin discharge using passive microwave remote sensing, *Water Resour. Res.*, 55(2), 1707–1716, [5.240/12]
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23. Kim S., Paik K., Johnson F., Sharma A. (2018). Building a flood warning framework for ungauged locations using low resolution, open access remotely sensed surface soil moisture, precipitation, soil and topographic information, *IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens.*, 11(2), 375–387, [3.784/18]
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26. Silva A., Subasinghe K., Rajapaksha C., Raveenthiran K., Kim S., Young M., Perera H. N. R., Araki S. (2016). Assessment of Design Alternation via 2D Physical Modelling in the Main Breakwater of Colombo Port Expansion Project. *J. Jpn. Soc. Civ. Eng., Ser. B2 (Coastal Engineering)*, 72(2), 1129-1134, [-/0]
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28. Kim S., Liu Y., Johnson F., Parinussa R., Sharma A. (2015). A global comparison of alternate AMSR2 soil moisture products: Why do they differ? *Remote Sens. Environ.*, 161 (0), 43-62, [10.164/134]
29. Jun H. D., Kim S., Yoo D. G., Kim J. H. (2009). Evaluation of the reliability improvement of a water distribution system by changing pipe, *J. Korea Water Resour. Assoc.*, 42 (6), 505-511, [-/5]

#### ❖ 컨퍼런스

1. Young M., Hayman-Joyce J., Kim S. (2012). Use of Single Layer Concrete Armour Units as Toe Reinforcement, *Coast. Eng. Proc.*, 1 (33), 48, [-/3]

#### 학술대회 (주발표자)

1. Kim S., Sharma A., Wasko C., Nathan R. How does total precipitable water link to precipitation extremes?, *MODSIM 2021*, Sydney, Australia
2. Kim S., Zhang R., Sharma A., Lakshmi V. Improvements of satellite observations through data merging: status and challenges, *AGU fall meeting 2020*, San Francisco, CA, USA
3. Kim S., Pham H., Liu Y., Sharma A., Marshall L. Combining geophysical variables for maximizing temporal correlation without reference data, *MODSIM 2019*, Canberra, Australia
4. Kim S.(초청), Guo Y., Wasko C., Sharma A. On soil moisture, rain and flood extremes in a warming climate – using satellite remote sensing to define future antecedent conditions, *KSCC 2018*, Jeju, Republic of Korea
5. Kim S., Ajami H., Sharma A. Incorporating an operational satellite-derived leaf area index into a computationally efficient semi-distributed hydrologic modelling application (SMART), *MODSIM 2017*, Hobart, Australia
6. Kim S., Liu Y., Johnson F., Sharma A. A temporal correlation-based approach for spatial disaggregation of remotely sensed soil moisture, *AGU fall meeting 2016*, San Francisco, CA, USA
7. Kim S., Liu Y., Johnson F., Parinussa R., Sharma A. Reducing Structural Uncertainty in AMSR2 Soil Moisture Using a Model Combination Approach, *AGU fall meeting 2014*, San Francisco, CA, USA
8. Kim S., Liu Y., Johnson F., Parinussa R., Sharma A. Improvement of Soil Moisture Dataset Combining AMSR2 Soil Moisture Products, *OzEWEX 2014*, Canberra, ACT, Australia

#### 자격증

- Professional Engineer – Skill Level 1 Civil Engineer (Engineers Australia); 토목기사 (한국산업인력공단)

#### 전문분야 및 보유기술

수문학/수자원공학, 인공위성 원격탐사, MATLAB, Python, ArcGIS/QGIS

#### 연구경력

- 2017 년 4 월 – 현재                      UNSW Water Research Centre 박사후 연구원
  - 기후변화-환경 민감도 분석
  - 원격탐사 데이터 검증, 개선 및 수문학적 활용
  - 녹조발생 예측 모형 개발
- 2013 년 7 월 – 2017 년 3 월              UNSW Sydney 박사과정
  - 원격탐사 데이터 검증, 개선 및 수문학적 활용
- 2006 년 3 월 – 2008 년 2 월              고려대학교 석사과정
  - 상수관망 신뢰도 개선 및 최적화

## 교육경력

- 2017 년 4 월 – 2020 년 3 월      **UNSW Sydney** Post-doctoral teaching assistant
  - 과목: *Catchment and Water Resources Modelling* (UG), *Water Resources Engineering* (PG)
  - 코디네이팅 및 컨설팅 (620 명), 강의, 강의 및 평가자료 준비, Moodle(수업관리시스템) 관리
  - 석사(연구) 연구지도 (1 명): 논문 3 편 게재 (논문번호 5, 6, 11)
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- 2013 년 7 월 – 2017 년 3 월      **UNSW Sydney** 조교
- 2006 년 3 월 – 2007 년 12 월      **고려대학교** 조교

## 학술활동

- 학술지 리뷰: *Remote Sensing of Environment*, *Journal of Hydrology*, *Environmental Research Letters*, *KSCE Journal of Civil Engineering* 등
- 학회 세션 주관: AOGS 2020; MODSIM 2021
- 저널: MDPI Remote Sensing (topic editor, volunteer reviewer)
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## 참여프로젝트

- 박사후 연구원
  - 2020 년 4 월 – 현재: *Assessing Water Supply Security in a Nonstationary Environment* ([DP200101326](#)) funded by Australian Research Council (ARC)
  - 2019 년 5 월 – 2020 년 4 월: *A Fourier approach to address low-frequency variability bias in hydrology* ([DP180102737](#)) funded by ARC
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- 박사과정
  - 2013 년 7 월 – 2017 년 3 월: *Reducing Flood Loss –Data Assimilation Framework for Improving Forecasting Capability in Sparsely Gauged Regions* ([DP140102394](#)) funded by ARC
  - 2015 년 5 월 – 2015 년 5 월: NASA SMAP 토양습윤 데이터 검증 캠페인 (현장 데이터 측정)/Soil Moisture Active Passive Experiment – the 4<sup>th</sup> campaign ([SMAPEX-4](#))

## 참고인

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