Dr Matthew F McCabe
Director of the KAUST Climate and Livability Initiative
Professor of Remote Sensing and Water Security
King Abdullah University of Science and Technology
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PERSONAL INFORMATION

Born: December 7, 1974
Citizen: Australia
Residency: Saudi Arabia

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RESEARCH INTERESTS AND EXPERTISE

Prof McCabe exploits a wide range of sensing technologies, modeling approaches and data-analysis/integration techniques to better understand Earth system behavior and provide improved description of its diverse processes. His research addresses challenges related to water and food security, precision agriculture, climate change and its impacts, and numerous interrelated and multi-disciplinary problems at the nexus of food, water, energy and sustainability. McCabe has particular interest in:

Satellite remote sensing: terrestrial optical, hyperspectral, microwave, thermal and SAR based systems
Nano-Satellites: high-resolution Earth observations, satellite payload development and deployment;
UAVs and Ground-based Robotics: applications of rovers and unmanned aerial vehicles for precision; agriculture, plant phenotyping, and mapping applications; cooperative UAV and ground-based sensing;
Model-Data Integration: use of Earth system and process models together with statistical, data assimilation and machine learning approaches to drive process understanding;
Environmental Sensing: extensive experience with meteorological measurements, GNSS, cosmic ray neutron sensing, eddy covariance, scintillometry, and the design of distributed sensing networks. Expertise in UAV- and satellite-based passive and active sensors (e.g. hyperspectral, multispectral, lidar, thermal) in addition to field- and laboratory-based spectral sensing and calibration.

ACADEMIC QUALIFICATIONS

Ph.D. in Civil and Environmental Engineering
University of Newcastle, NSW, Australia, 1998-2003

B.E. (Hons) in Environmental Engineering
University of Newcastle, NSW, Australia, 1993-1997

PROFESSIONAL EXPERIENCE

2021 – Present	Director of the KAUST Climate and Livability Initiative
2021 – Present	Co-Founder SARSat Arabia, Chief of Solutions, www.sarsatarabia.com
2021 – Present	Visiting Scientist, l'Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE), Avignon, France
2018 – Present	Full Professor of Remote Sensing and Water Security, Division of Biological and Environmental Science and Engineering, Environmental Sciences and Engineering Program, KAUST
2017 – 2021	Associate Director, Water Desalination and Reuse Center, KAUST
2017 – 2020	Chief Science Officer, www.questfeed.com
2012 – 2018	Associate Professor, Division of Biological and Environmental Science and Engineering, Environmental Sciences and Engineering Program, KAUST

2012	Associate Professor, School of Civil and Environmental Engineering, UNSW, Australia
2011	Visiting Scientist, Department of Civil and Environmental Engineering, Princeton University, Princeton, New Jersey, USA
2011	Visiting Scientist, Geological Survey of Denmark and Greenland (GEUS), University of Copenhagen, Denmark
2009 – 2011	Guest Professor, Chinese Academy of Sciences, Key Laboratory of Water Cycle and Related Land Surface Processes
2008 – 2012	Senior Lecturer, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia
2006 – 2008	Post-doctoral Researcher, International Space and Response (ISR-2)/Earth and Environmental Sciences (EES-6), Los Alamos National Laboratory, New Mexico, USA
2003 – 2006	Post-doctoral Researcher, Department of Civil and Environmental Engineering, Princeton University, Princeton, New Jersey, USA

HONORS AND SCHOLARLY AWARDS

2024 Tarek Al-Kasabi Award For Excellence in Civil Engineering in the Kingdom of Saudi Arabia
2023 Highly Cited Researcher (Cross Field), Thomson Reuters Web of Science Group
2022 Prince Sultan bin Abdulaziz International Prize for Water (PSIPW)
2022 Highly Cited Researcher (Geosciences), Thomson Reuters Web of Science Group
2022 Best Paper Award for "Current practices in UAS-based environmental monitoring", Remote Sensing
2021 Highly Cited Researcher (Geosciences), Thomson Reuters Web of Science Group
2020 Highly Cited Researcher (Cross Field), Thomson Reuters Web of Science Group
2020 Distinguished Lecturer, University of Bonn, Innovation Pathways to Sustainability, "Data-driven agriculture: a new pathway towards sustainability in our food and water systems"
2019 Highly Cited Researcher (Cross Field), Thomson Reuters Web of Science Group
2019 Frontiers Forum Science Unlimited Speaker, "Precision Food and Water Security"
2016 Inaugural Planet Ambassador, Planet Labs (www.planet.com), San Francisco, California, USA
2009 Chinese Academy of Sciences Foreign Visiting Expert Scholarship, Center for Agricultural Resources Research, Shijiazhuang, Hebei, China
2009 Tall Poppy Award of the Australian Institute of Policy and Sciences (NSW and ACT)
1997 Australian Institute of Engineers Civil and Structural Branch Prize (Newcastle) Dux of Engineering
1997 Tony Herzog Prize for the Best Engineering Honors Thesis, University of Newcastle, Australia

PROFESSIONAL SERVICE AND AFFILIATIONS

2023	Member of the Research, Development, Innovation Authority (RDIA) Area Committee for Research Strategy at KAUST
2022 – Present	Directive Committee, Ministry of Environment, Water and Agriculture, Saudi Arabia (USD $13M Strategic Partner Agreement with KAUST)
2022 – Present	Affiliated Faculty, AEON Collective, Riyadh, Saudi Arabia
2019 – Present	Section Chief Editor, Frontiers in Artificial Intelligence
2018 – 2021	GCOS-TOPC Task Team on Climate Adaptations Observations
2018 – 2021	Management Committee Observer – COST-Action
2017 – Present	Editorial Board Member, MDPI Remote Sensing
2017	Guest Editor MDPI Remote Sensing "Advances in the remote sensing of terrestrial evaporation"
2017 – Present	Management Committee, European Cooperation in Science and Technology (COST) Action, "Harmonization of UAS techniques for agricultural and natural ecosystems monitoring"
2017 – 2019	Invited Member, World Meteorological Organization, Global Climate Observing System, Terrestrial Observation Panel for Climate (GCOS-TOPC)

2016	Guest Editor for Hydrology and Earth System Sciences Special Issue in Honour of Eric F. Wood "Observations and modelling of land surface water and energy exchanges across scales".
2015 – 2020	Associate Editor, Frontiers in Earth Science
2015 – 2020	Chair of the Global Energy and Water Exchanges LandFlux Project
2015 – 2016	Vice-Chair, World Climate Research Programme, GEWEX Data and Assessment Panel
2013 – 2018	Editorial Board Member, MDPI Hydrology Journal
2013 – 2015	Member, World Climate Research Programme, GEWEX Data and Assessments Panel
2012 – 2016	Associate Editor, Journal of Hydrology
2009 – 2014	Scientific Steering Committee GEWEX Radiation Panel LandFlux Project
2008 – 2012	Member, World Climate Research Programme, GEWEX Radiation Panel

UNIVERSITY SERVICE AND COMMUNITY OUTREACH (since 2012)

2023 -	Party Delegate, Saudi Arabia, COP 28, Dubai, United Arab Emirates
2023 -	Distinguished Speaker, Riyadh World Expo Bid, Louvre, Paris
2022 -	Party Delegate, UNFCCC, COP 27, Sharm El Sheik, Egypt
2021 -	Invited Speaker, New York Climate Week Side Event, Ministry of Energy, Saudi Arabia
2021 –	Chair KAUST Climate and Livability Faculty Search Committee (12 positions)
2021 –	KAUST Leadership Committee, Provost Office
2021 –	University Search Committee for BESE Dean
2021 –	BESE Divisional Faculty Search Committee
2021 –	KAUST Representative to the Saudi Space Commission, National Space Strategy
2020 – 2021	BESE Elected Representative, Academic Council, KAUST
2020 – 2021	Climate and Livability Taskforce
2020 –	KAUST Coronavirus Task Force on Research, Collaboration and Innovation
2020 –	KAUST Coronavirus Task Force on Administration
2020 –	Vice President, KAUST Red Sea Rugby Club
2020 –	Representative to G20 Saudi Secretariat for Climate Systems Working Group (CSWG)
2019 – 2020	Member, Presidents Air Quality Task Force
2019 –	Deans Advisory Board, Division of Biological and Environmental Sciences and Engineering
2019 – 2021	Faculty and Staff Conflict of Interest Review Committee (FSCOIRC)
2019	ForeSight Leader, Future of Food & Water Security, KAUST Industry Advisory Board (KIAB)
2019	Sci-Café Speaker "Water Security", KAUST (see https://youtu.be/Zgn8kiRVAqQ)
2019	Selection Committee, KAUST Distinguished Teaching Award
2018	KAUST Live, Water Research in the WDRC (see https://youtu.be/JaTnG9cOW44)
2018 - 2019	Member, KAUST Greenhouse Core Lab User Committee
2017 -	Associate Director, Water Desalination and Reuse Center, KAUST
2017	Invited Faculty Speaker, KAUST Industry Advisory Board (KIAB)
2017	Sci-Café Speaker, "Growing Food for the Future", KAUST
2017 - 2020	Member of the Graduate Student Admission Committee, KAUST EnSE Program
2017	Graduation Speaker, KAUST Work Internship and Student Experience (WISE) Program
2016	Scientific Committee, Symposium in Honor of Eric Wood, "Observation and Modelling Across Scales", Princeton, NJ USA, 2-3 June
2015	Member of the Faculty Search Committee, KAUST Environmental Sciences and Engineering Program, Division of Biological and Environmental Sciences & Engineering,
2015	Scientific Committee, European Space Agency Earth Observation for Water Cycle Science 2015, Frascati, Italy
2014	Invited Faculty Speaker, KAUST Industry Collaboration Program (KICP) Symposium
2014	Member of the Faculty Search Committee, KAUST Environmental Sciences and Engineering Program, Division of Biological and Environmental Sciences & Engineering,
2013 – 2014	Associate Director, Water Desalination and Reuse Center, King Abdullah University of Science and Technology (transition period during search for a new Center Director)

2013 – 2014 BESE Elected Representative, Academic Council, KAUST
2012 Member Teaching and Learning Committee, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia

REVIEWER FOR JOURNALS AND FUNDING AGENCIES

Journals: Nature; Nature Climate Change; Scientific Reports; Journal of Geophysical Research; Geophysical Research Letters, Journal of Hydrology; Water Resources Research; Advances in Water Resources; Journal of Hydrometeorology; IEEE Transactions on Geoscience and Remote Sensing; Remote Sensing of Environment, Hydrology & Earth System Sciences (and many others).

International Expert Reviewer: US National Science Foundation; US National Institute of Water Resources; NASA Earth Science Fellowships; Space Research Organization of The Netherlands; Belgium Space Research and Applications Division of the Belgian Federal Science Policy Office; Academy of Sciences of the Czech Republic; Australian Research Council OzReader; Australian Research Council DECRA (and many others)

RESEARCH FUNDING

NB. McCabe also undertakes a range of engineering and expert consulting activities that are not included in the list below. Further details can be provided upon request.

Projects listed below only include those that have been awarded: pending proposals are not listed.

Funding since arriving at KAUST

2023 - $1,133,000 (USD) KAUST Reefscape Research Initiative, Principial Investigator, "Monitoring Benthic Communities and Bathymetry from UAV-based Green LiDAR and Multispectral Data" with Kasper Johansen (co-PI)

2023 - $207,000 (USD) Principal Investigator, KAUST Conferences and Workshops Support, "Climate Futures: risks and challenges of a 3-degree world" with Co-PI Yoshihide Wada

2022 – $4,500,000 (USD) Office of the President, Strategic Research Initiative, Design and build the Climate and Livability with an assigned head-count of 12 Faculty Positions

2021 $1,400,000 (USD). Principal Investigator, KAUST Special Projects, "KAUST-SAT: a GNSS and hyperspectral CubeSat" (to be launched December 2022)

2020 $130,000 (USD). Principal Investigator, KAUST ASEPC, Boston Dynamics SPOT Robot

2021 – 2024 $1,000,000 (USD). Principal Investigator, KAUST Competitive Research Grant (CRG2020), "Proximal to remote: harnessing emerging sensors for improved water and food security", with INRAE France (Dominique Courault, Albert Olioso) and University of Delft (Susan Steele-Dunne) and Planet (Rasmus Houborg)

2021 -2024 $750,000 (USD) Co-Principal Investigator [Lead-PI Carlos Duarte], KAUST Circular Carbon Initiative, "Pushing the boundaries of Nature Based Solutions: from local to global opportunities"

2021 – 2023 $800,000 (USD). Principal Investigator, KAUST Center Partnership Fund, "Mapping national groundwater abstraction for agriculture in Saudi Arabia", with the Ministry of Environment, Water and Agriculture (MEWA)

2020 - 2024 $1,800,000 (USD). Co-Principal Investigator [Lead-PI Carlos Duarte], KAUST Circular Carbon Initiative, "Pushing the boundaries of Nature Based Solutions: from local to global opportunities"

2019 – 2021 $1,100,000 (USD). Co-Investigator [Lead-PI Ibrahim Hoteit], Center of Excellence for NEOM Research at KAUST, "A managing environment for sustainability hub"

2019 – 2021 $550,000 (USD). Co-Principal Investigator [Lead-PI Mark Tester], KAUST-KAU Initiative, "Identifying the genetic basis for salinity and heat tolerance in quinoa using drone-based sensing technologies"

2019 – 2021 €250,000 (EUR). International Investigator [PI Diego Miralles], Belgian Federal Scientific Policy Office (BELSPO), "ET-SENSE – High resolution terrestrial evaporation from Sentinels"

2018 – 2020 $600,000 (USD). Principal Investigator, KAUST Office of the Senior Vice President Research, Innovation and Economic Development, "Monitoring RPW infestation using thermal, hyperspectral and novel tracking techniques"

2018 – 2021 $1,000,000 (USD). Principal Investigator, KAUST Competitive Research Grant (CRG2017), "A new paradigm in precision agriculture: assimilation of ultra-fine resolution data into a crop-yield forecasting model" with University of Southampton (Justin Sheffield)

2017 – 2019 $720,000 (USD). Principal Investigator, Kingdom of Saudi Arabia, Ministry of Environment, Water and Agriculture, "Estimating agricultural groundwater abstractions in Saudi Arabia" (*the only KAUST Faculty-led Government funded award*)

2016 – 2018 $350,000 (USD). Principal Investigator, KAUST Competitive Research Grant (CRG2016), "Unmanned aerial vehicles for enhanced monitoring: the future of precision agriculture" with University of Tasmania (Arko Lucieer)

2016 – 2019 $1,200,000 (USD). Co-Investigator [PI Ying Sun, KAUST], KAUST Competitive Research Grant (CRG2016) "Statistical Process Monitoring and Risk Assessment for Engineering and Spatial Environmental Applications"

2014 – 2020 $1,800,000 (USD). Principal Investigator, KAUST Center Collaborative Funding, Water Desalination and Reuse Center, Hydrologic Systems: Monitoring, Sensing and Modeling

Competitive Funding prior to joining KAUST (approx. $3.5M + $30M multi-investigator)

2012 – 2014 $340,000 (AUD). Principal Investigator, Australian Research Council Discovery Project, **McCabe MF** and Wood EF "Closing the water cycle using land surface modelling, remote sensing, and an Australian hydrological observatory"

2012 $1,000,000 (AUD). Co-Investigator [PI Jeffrey Walker, Monash University], Australian Research Council Linkage Infrastructure Equipment Facility Project "A portable weather radar system for hydrological research"

2012 – 2014 €500,000 (EUR). International Principal Investigator [PI Catherine Prigent, Observatoire Paris], European Space Agency "Water cycle Modeling and Observation Strategy for Evapotranspiration (WACMOS-ET)"

2011 $255,000 (AUD) Principal Investigator [Co-PI Lixin Wang], University of New South Wales Vice Chancellors Research Fellowship on "Stable water isotopes for monitoring agricultural water use: stochastic modeling and field investigations"

2010 $156,000 (AUD). Co-Investigator [PI Jason Evans, UNSW], University of New South Wales Major Research Equipment and Infrastructure Initiative (MREII), "Computational server and associated data storage system for analysis of large climate model, satellite and in-situ observational datasets"

2010 $150,000 (AUD). Co-Investigator [PI Jason Middleton, UNSW], University of New South Wales Major Research Equipment and Infrastructure Initiative (MREII), "Airborne hyper-spectral camera for Earth observation"

2009 – 2014 $30,000,000 (AUD). Co-Investigator [PI Craig Simmons, Flinders University], Program Node Leader, Australian Research Council and the National Water Commission, "National Centre for Groundwater Research and Training: Surface water-groundwater-vegetation-atmosphere interactions"

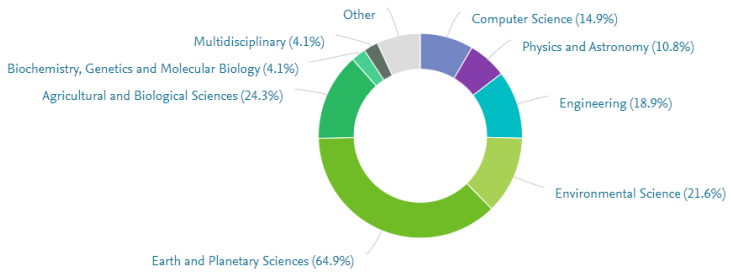
2009 – 2012 $440,000 (AUD). Co-Investigator [PI Jeffrey Walker, Monash University], Australian Research Council Linkage Project (with Victorian Department of Primary Industries), "A new paradigm for improved water resource management using innovative water modeling"

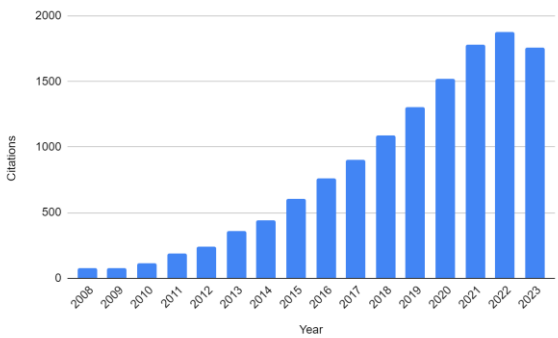
2009 – 2012 $320,000 (AUD). Sole Principal Investigator, Australian Research Council Discovery Project, "Characterizing the hydrological cycle using water isotopes, land-surface models and satellite data", 2009-2012

PUBLICATIONS

Prof. McCabe has published approx. **220+ papers** (avg. 10 per year) in leading international journals, edited book chapters, peer-reviewed conference proceedings and scientific reports. His Hirsch-index is 56/64 (SCOPUS; Google Scholar, January 2024) and he has been recognized as a **Highly Cited Researcher** in both the Cross Field (2019, 2020, 2023) and Geosciences (2021-2022) domains. His 5-year FWCI is 3.18 (2018-2022) and his h-5 index is 24 (from SciVal, Jan 2024).

ORCID: 0000-0002-1279-5272
Google Scholar Page: https://scholar.google.com/citations?user=A3OuUiwAAAAJ&hl
Publons: https://publons.com/researcher/2772955/matthew-f-mccabe/





Peer-Reviewed Journal Articles

Note that Book Chapters, Conference Articles (peer and non-peer reviewed) and Presentations, Research Reports and other publications are not listed herein, but can be provided separately upon request.

Publications since arriving at KAUST (late 2012)

1. El Hajj MM, Steele-Dunne SC, Almashharawi SK, Tian X, Johansen K, Camargo OAL, Amezaga-Sarries A, Mas-Vinolas A, and **McCabe MF** (2024) Ground-Based Soil Moisture Retrieval Using the Correlation Between Dual-Polarization GNSS-R Interference Patterns. IEEE Transactions on Geoscience and Remote Sensing. 62: p. 1-10. DOI: 10.1109/TGRS.2023.3337841.

2. Hong PY, Mishra H, Daffonchio D and **McCabe MF** (2023) Greening initiatives in the Middle East can leverage urban infrastructure to enhance sustainable water use. Nature Water. 1. doi.org/10.1038/s44221-023-00171-9

3. Shi Y, Ballesio M, Johansen K, Trentman D, Huang Y, **McCabe MF**, Bruhn R, and Schuster G (2023) Semi-universal geo-crack detection by machine learning. Frontiers in Earth Science. 11. DOI: 10.3389/feart.2023.1073211.

4. Li T, López Valencia OM, Johansen K, and **McCabe MF** (2023) A Retrospective Analysis of National-Scale Agricultural Development in Saudi Arabia from 1990 to 2021. Remote Sensing. 15(3). DOI: 10.3390/rs15030731.

5. Kim Y, Park H, Kimball JS, Colliander A, and **McCabe MF** (2023) Global estimates of daily evapotranspiration using SMAP surface and root-zone soil moisture. Remote Sensing of Environment. 298. DOI: 10.1016/j.rse.2023.113803.

6. Hirt H, Al-Babili S, Almeida-Trapp M, Martin A, Aranda M, Bartels D, Bennett M, Blilou I, Boer D, Boulouis A, Bowler C, Brunel-Muguet S, et al. (2023) PlantACT! – how to tackle the climate crisis. Trends in Plant Science. 28(5): p. 537-543. DOI: 10.1016/j.tplants.2023.01.005.

7. Elfarkh J, Johansen K, El Hajj MM, Almashharawi SK, and **McCabe MF** (2023) Evapotranspiration, gross primary productivity and water use efficiency over a high-density olive orchard using ground and satellite based data. Agricultural Water Management. 287. DOI: 10.1016/j.agwat.2023.108423.

8. Elfarkh J, Johansen K, Angulo V, Camargo OL, and **McCabe MF** (2023) Quantifying Within-Flight Variation in Land Surface Temperature from a UAV-Based Thermal Infrared Camera. Drones. 7(10). DOI: 10.3390/drones7100617.

9. El Hajj MM, Johansen K, Almashharawi SK, and **McCabe MF** (2023) Water uptake rates over olive orchards using Sentinel-1 synthetic aperture radar data. Agricultural Water Management. 288. DOI: 10.1016/j.agwat.2023.108462.

10. Ziliani MG, Altaf MU, Aragon B, Houburg R, Franz TE, Lu Y, Sheffield J, Hoteit I, and **McCabe MF** (2022) Early season prediction of within-field crop yield variability by assimilating CubeSat data into a crop model. Agricultural and Forest Meteorology. 313. DOI: 10.1016/j.agrformet.2021.108736.

11. Ziliani MG, Altaf MU, Aragon B, Houborg R, Franz TE, Lu Y, Sheffield J, Hoteit I, and **McCabe MF** (2022) Intra-field crop yield variability by assimilating cubesat LA in the APSIM crop model. 43(B3-2022): p. 1045-1052. DOI: 10.5194/isprs-archives-XLIII-B3-2022-1045-2022.

12. Zhou L, Rada J, Tian Y, Han Y, Lai Z, **McCabe MF**, and Gan Q (2022) Radiative cooling for energy sustainability: Materials, systems, and applications. Physical Review Materials. 6(9). DOI: 10.1103/PhysRevMaterials.6.090201.

13. Tu YH, Johansen K, Aragon B, El Hajj MM, and **McCabe MF** (2022) The radiometric accuracy of the 8-band multi-spectral surface reflectance from the planet SuperDove constellation. International Journal of Applied Earth Observation and Geoinformation. 114. DOI: 10.1016/j.jag.2022.103035.

14. Rains D, Lievens H, De Lannoy GJM, **McCabe MF**, De Jeu RAM, and Miralles DG (2022) Sentinel-1 Backscatter Assimilation Using Support Vector Regression or the Water Cloud Model at European Soil Moisture Sites. IEEE Geoscience and Remote Sensing Letters. 19. DOI: 10.1109/LGRS.2021.3073484.

15. Ma C, Johansen K, and **McCabe MF** (2022) Combining Sentinel-2 data with an optical-trapezoid approach to infer within-field soil moisture variability and monitor agricultural production stages. Agricultural Water Management. 274. DOI: 10.1016/j.agwat.2022.107942.

16. Ma C, Johansen K, and **McCabe MF** (2022) Monitoring Irrigation Events and Crop Dynamics Using Sentinel-1 and Sentinel-2 Time Series. Remote Sensing. 14(5). DOI: 10.3390/rs14051205.

17. Lu Y, Wei C, **McCabe MF**, and Sheffield J (2022) Multi-variable assimilation into a modified AquaCrop model for improved maize simulation without management or crop phenology information. Agricultural Water Management. 266. DOI: 10.1016/j.agwat.2022.107576.

18. Li T, Johansen K, and **McCabe MF** (2022) A machine learning approach for identifying and delineating agricultural fields and their multi-temporal dynamics using three decades of Landsat data. ISPRS Journal of Photogrammetry and Remote Sensing. 186: p. 83-101. DOI: 10.1016/j.isprsjprs.2022.02.002.

19. Johansen K, Ziliani MG, Houborg R, Franz TE, and **McCabe MF** (2022) CubeSat constellations provide enhanced crop phenology and digital agricultural insights using daily leaf area index retrievals. Scientific Reports. 12(1). DOI: 10.1038/s41598-022-09376-6.

20. Johansen K, Dunne AF, Tu YH, Jones BH, and **McCabe MF** (2022) Monitoring coastal water flow dynamics using sub-daily high-resolution SkySat satellite and UAV-based imagery. Water Research. 219. DOI: 10.1016/j.watres.2022.118531.

21. Johansen K, Dunne AF, Tu YH, Almashharawi S, Jones BH, and **McCabe MF** (2022) Dye tracing and concentration mapping in coastal waters using unmanned aerial vehicles. Scientific Reports. 12(1). DOI: 10.1038/s41598-022-05189-9.

22. Jiang J, Johansen K, Tu YH, and **McCabe MF** (2022) Multi-sensor and multi-platform consistency and interoperability between UAV, Planet CubeSat, Sentinel-2, and Landsat reflectance data. GIScience and Remote Sensing. 59(1): p. 936-958. DOI: 10.1080/15481603.2022.2083791.

23. Jiang J, Johansen K, Stanschewski CS, Wellman G, Mousa MAA, Fiene GM, Asiry KA, Tester M, and **McCabe MF** (2022) Phenotyping a diversity panel of quinoa using UAV-retrieved leaf area index, SPAD-based chlorophyll and a random forest approach. Precision Agriculture. 23(3): p. 961-983. DOI: 10.1007/s11119-021-09870-3.

24. Gallo A, Odokonyero K, Mousa MAA, Reihmer J, Al-Mashharawi S, Marasco R, Manalastas E, Morton MJL, Daffonchio D, **McCabe MF**, Tester M, and Mishra H (2022) Nature-Inspired Superhydrophobic Sand Mulches Increase Agricultural Productivity and Water-Use Efficiency in Arid Regions. ACS Agricultural Science and Technology. 2(2): p. 276-288. DOI: 10.1021/acsagscitech.1c00148.

25. El Hajj MM, Almashharawi SK, Johansen K, Elfarkh J, and **McCabe MF** (2022) Exploring the use of synthetic aperture radar data for irrigation management in super high-density olive orchards.

International Journal of Applied Earth Observation and Geoinformation. 112. DOI: 10.1016/j.jag.2022.102878.

26. Cheng M, Penuelas J, **McCabe MF**, Atzberger C, Jiao X, Wu W, and Jin X (2022) Combining multi-indicators with machine-learning algorithms for maize yield early prediction at the county-level in China. Agricultural and Forest Meteorology. 323. DOI: 10.1016/j.agrformet.2022.109057.

27. Blunden J, Boyer T, Dunn RJH, Allen J, Hammer G, Love-Brotak SE, Misch DJ, Ohlmann L, Riddle DB, Veasey SW, Ades M, Adler R, et al. (2022) State of the Climate in 2021. Bulletin of the American Meteorological Society. 103(8): p. S11-S142. DOI: 10.1175/2022BAMSStateoftheClimate.1.

28. Blanco-Sacristán J, Johansen K, Duarte CM, Daffonchio D, Hoteit I, and **McCabe MF** (2022) Mangrove distribution and afforestation potential in the Red Sea. Science of the Total Environment. 843. DOI: 10.1016/j.scitotenv.2022.157098.

29. Angel Y and **McCabe MF** (2022) Machine Learning Strategies for the Retrieval of Leaf-Chlorophyll Dynamics: Model Choice, Sequential Versus Retraining Learning, and Hyperspectral Predictors. Frontiers in Plant Science. 13. DOI: 10.3389/fpls.2022.722442.

30. Ades M, Adler R, Aldred F, Allan RP, Anderson J, Anneville O, Aono Y, Argüez A, Arosio C, Augustine JA, Azorin-Molina C, Barichivich J, et al. (2022) GLOBAL CLIMATE. Bulletin of the American Meteorological Society. 103(8): p. S11-S142. DOI: 10.1175/BAMS-D-22-0092.1.

31. Aragon B, Ziliani MG, Houborg R, Franz TE and **McCabe MF** (2021) "Cubesats deliver new insights into agricultural water use at daily and 3 m resolutions", Scientific Reports, 11(1), 12131, doi.org/10.1038/s41598-021-91646-w

32. El Kenawy AM, Lopez-Moreno JI, **McCabe MF**, Dominguez-Castro F, Pena-Angulo D, Gaber IM, Alqaseme AS, Al Kindi KM, Al-Awadhi T, Hereher ME, Robaa SM, Al Nasiri NA and Vicente-Serrano SM (2021) "The impact of COVID-19 lockdowns on surface urban heat island changes and air-quality improvements across 21 major cities in the Middle East", Environmental Pollution, 288, 117802, doi.org/10.1016/j.envpol.2021.117802

33. Lu Y, Chibarabada TP, **McCabe MF**, De Lannoy GJM and Sheffield J (2021) "Global sensitivity analysis of crop yield and transpiration from the FAO-AquaCrop model for dryland environments", Field Crops Research, 269, 108182, doi.org/10.1016/j.fcr.2021.108182

34. Lu Y, Chibarabada TP, Ziliani MG, Kileshye Onema J-M, **McCabe MF** and Sheffield J (2021) "Assimilation of soil moisture and canopy cover data improves maize simulation using an under-calibrated crop model", Agricultural Water Management, 252, 106884, doi.org/10.1016/j.agwat.2021.106884

35. Johansen K, Lopez O, Tu Y-H and **McCabe MF** (2021) "Center pivot field delineation and mapping: A satellite-driven object-based image analysis approach for national scale accounting", ISPRS Journal of Photogrammetry and Remote Sensing, 175, doi.org/10.1016/j.isprsjprs.2021.02.019

36. Virtue J, Turner D, Williams G, Zeliadt S, **McCabe MF** and Lucieer A (2021) "Thermal sensor calibration for unmanned aerial systems using an external heated shutter", Drones, 5(4), 119, doi.org/10.3390/drones5040119

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monitoring techniques", Geochimica et Cosmochimica Acta, 111, 28-38, doi:10.1016/j.gca.2012.12.047

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Publications prior to joining KAUST (late 2012)

143. Mariethoz G, **McCabe MF** and Renard P (2012) "Spatio-temporal reconstruction of gaps in multivariate fields using the direct sampling approach", Water Resources Research, doi:10.1029/2012WR012115

144. Liu YY, Dorigo W, Parinussa R, de Jeu RAM, Wagner W, **McCabe MF**, Evans JP and van Dijk AIJM (2012) "Trend preserving blending of passive and active microwave soil moisture retrievals", Remote Sensing of Environment, 123, pp. 280-297, pp2585-2603, doi:10.1016/j.rse.2012.03.014

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147. Zhao L, Xiao H, Zhou J, Wang L, Cheng G, Zhou M, Yin L and **McCabe MF** (2011) "Detailed assessment of isotope ratio infrared spectroscopy and isotope ratio mass spectrometry for the stable isotope analysis of plant and soil water" Rapid Communications in Mass Spectrometry, 25(20), pp3071-3082, doi:10.1002/rcm.5204

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149. Liu YY, de Jeu RAM, **McCabe MF**, Evans JP and van Dijk AIJM (2011) "Global long-term passive microwave satellite-based retrievals of vegetation optical depth" Geophysical Research Letters, doi:10.1029/2011GL048684

150. **McCabe MF**, P Chylek, Dubey MK (2011) "Detecting ice-sheet melt over western Greenland using MODIS and AMSR-E data for the summer periods of 2002-2006" Remote Sensing Letters, 2(2): 117-126, doi:10.1080/01431161.2010.501830

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152. Jimenez C, Prigent C, Mueller B, Seneviratne SI, **McCabe MF**, Wood EF, Rossow WB, Balsamo G, Betts AK, Dirmeyer PA, Fisher JB, Jung M, Kanamitsu M, Reichle RH, Reichstein M, Rodell M, Sheffield J, Tu K, Wang K (2011) "Global intercomparison of 12 land surface heat flux estimates" Journal of Geophysical Research, 116(2), D02102, doi:10.1029/2010JD014545

153. Liu YY, Parinussa R, Dorigo WA, de Jeu RAM, Wagner W, van Dijk AIJM, **McCabe MF** and Evans JP (2010) "Developing an improved soil moisture dataset by blending passive and active microwave

satellite-based retrievals" Hydrology and Earth System Science 15 (2) pp 425-436, doi:10.5194/hess-15-425-2011

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155. Liu YY, Evans JP, **McCabe MF**, de Jeu RAM, van Dijk AIJM and Su H (2010) "Influence of cracking clays on satellite estimated and model simulated soil moisture" Hydrology and Earth System Science, 14(6): 979-990, doi:10.5194/hess-14-979-2010

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Spaceborne Thermal Emission and Reflection radiometer (ASTER) at the Iowa 2002 SMACEX site (USA)" [Remote Sensing of Environment 2005 99/1–2;55–65], doi:10.1016/j.rse.2005.10.001

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172. French AN, Jacob F, Anderson MC, Kustas WP, Timmermans W, Gieske A, Su B, Su H, **McCabe MF**, Li F, Prueger JH and Brusnell N (2005) "Surface energy fluxes with the Advanced Spaceborne Thermal Emission and Reflection radiometer (ASTER) at the Iowa 2002 SMACEX site (USA)" Remote Sensing of Environment, 99(1-2): 55-65, doi:10.1016/j.rse.2005.05.015

RESEARCH SUPERVISION

Supervision at KAUST/University of New South Wales			
Primary Supervision (Masters)	**Primary Supervision (PhD)**	**Post Doc Supervision**	**Research Scientists**
Completed: 12 In Progress: 0	Completed: 23 In Progress: 7	Completed: 17 In Progress: 6	Completed: 4 In Progress: 3

KING ABDULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

PhD Advisor:

1. Yi Liu; Civil and Environmental Engineering; Microwave remote sensing of the hydrological cycle; (Start Date: Spring, 2008; Graduated: Fall, 2011; Current Position: Assistant Professor, Nanjing University of Information Science & Technology (NUIST), China)

2. Kathryn Bormann; Climate Science; Snow hydrological modeling and observation in Australia; (Start Date: Spring, 2009; Graduated: Fall, 2011; Current Position: Scientist II at NASA Jet Propulsion Laboratory)

3. Ali Ershadi; Civil and Environmental Engineering; Remote sensing and modeling of evapotranspiration; (Start Date: Spring, 2010; Graduated: Fall, 2013; Current Position: Research Fellow at Australian National University)

4. Oliver Lopez; Environmental Sciences and Engineering; Monitoring arid-land groundwater abstraction through optimization of a land surface model with remote sensing-based evaporation; (Start Date: Fall, 2013; Graduated: Spring, 2018; Current Position: Research Scientist at King Abdullah University of Science and Technology)

5. Haleem Shah; Environmental Sciences and Engineering; Monitoring the photosynthetic traits of plants grown under the influence of soil salinity and nutrient stress; (Start Date: Fall, 2013; Graduated: Spring 2019; Current Position: Marine Science Postdoc at KAUST)

6. Jorge Rosas; Environmental Sciences and Engineering; Advancing the Utility of Thermal Remote Sensing in Irrigated Arid-Lands Agriculture; (Start Date: Fall, 2013; Graduated: Fall, 2019; Current Position: Manager, Data Analytics at NEOM, Saudi Arabia)

7. Bruno Solorio; Environmental Sciences and Engineering; Enhanced agricultural water use from satellite and emerging sensor technologies; (Start Date: Spring, 2016; Graduation: Fall, 2020; Current Position: Postdoctoral Scientist, NASA Jet Propulsion Laboratory, USA)

8. Yoseline Angel; Environmental Sciences and Engineering; Hyperspectral insights and analysis of crop health and production; (Start Date: Spring, 2016; Expected Graduation: Spring, 2021; Current Position: Postdoctoral Scientist, NASA Goddard Space Flight Center, USA)

9. Matteo Zilliani; Environmental Sciences and Engineering; Coupling remote sensing, a hydro-agricultural model and a data assimilation framework for crop-yield forecasting; (Start Date: Fall, 2016; Expected Graduation: Fall, 2021; Current Position: Data Scientist, HydroSat, Luxembourg)

10. Ting Li; Environmental Sciences and Engineering; High-resolution monitoring of vegetation using Cubesats and a machine learning framework; (Start Date: Fall, 2017; Expected Graduation: Fall, 2022; Current Position, Post-doc KAUST)

11. Areej Waqas; Environmental Sciences and Engineering; AI/ML approaches for improved land cover classification; (Start Date: Fall, 2021; Expected Graduation: Fall, 2025)

12. Ahmed Al Malki; Environmental Sciences and Engineering; Water and energy footprint and accounting in industrial and agricultural sectors of Saudi Arabia; (Start Date: Fall, 2021; Expected Graduation: Fall, 2025)

13. Victor Angulo Morales; Environmental Sciences and Engineering; Hyperspectral monitoring and analysis using novel Cubesat and UAV platforms; (Start Date: Fall, 2021; Expected Graduation: Fall, 2025)

14. Omar Camargo; Environmental Sciences and Engineering; Ground-based autonomous robotics for improved precision agricultural outcomes; (Start Date: Spring, 2022; Expected Graduation: Spring, 2026)

15. Mariana Elias Lara; Environmental Sciences and Engineering; Aboveground biomass and carbon content of Red Sea mangroves using forest inventory techniques and remote sensing; (Start Date: Spring, 2022; Expected Graduation: Spring, 2026)

16. Jorge Rodriguez Galvis; Environmental Sciences and Engineering; Biodiversity monitoring through the integration of in-situ observations, remote sensing and artificial intelligence; (Start Date: Spring, 2022; Expected Graduation: Spring, 2026)

17. Dario Scilla; Environmental Sciences and Engineering; Optimizing Satellite Constellation Design for Enhanced Monitoring through SAR and Optical Data Fusion; (Start Date: Spring, 2022; Expected Graduation: Spring, 2026)

PhD Dissertation Committee:

1. Riann van der Merwe (PhD Advisor: Professor Gary Amy); Environmental Sciences and Engineering; Marine monitoring and environmental management of SWRO concentrate discharge: A case study of the KAUST SWRO plant; Start Date: Fall 2009; Graduated: Spring 2014

2. Mazahirali Alidina (PhD Advisor: Professor Jorge Drewes); Environmental Sciences and Engineering; Optimizing managed aquifer recharge systems for removal of trace organic chemicals; Start Date: Fall 2009; Graduated: Spring 2014

3. Wenbin Xu (PhD Advisor: Professor Sigurjon Jonsson); Earth Sciences and Engineering; Volcanic and tectonic activity in the Red Sea region (2004-2013): insights from satellite radar interferometry and optical imagery; Start Date: Fall 2011; Graduated: Spring 2015

4. Hamza Bangalath (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; Direct Radiative Effect of Mineral Dust on the Middle East and North Africa Climate; Start Date: Fall 2012; Graduated: Fall 2016

5. Sergy Osipov (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; Aerosol Radiative Impact on the Middle East Regional Climate and the Red Sea; Start Date: Fall 2014; Expected Graduated: Fall 2017

6. Amanda Siemann (PhD Advisor: Professor Eric Wood); Princeton University; Quantifying the terrestrial, global energy budget using remotely sensed satellite data products; Start Date: Fall 2013; Graduated Fall 2017

7. Huang Huang (PhD Advisor: Professor Ying Sun); Applied Mathematics and Computational Science; Computational Methods for Large Spatial Datasets and Functional Data Ranking; Start Date: Fall 2014; Expected Graduation: Fall 2017

8. Yveline Pailles (PhD Advisor: Professor Mark Tester); Plant Sciences; The study of wild tomatoes from the Galapagos Islands as a source of salinity tolerance traits; Start Date: Fall 2012; Graduated Fall 2017

9. Mohammad Dogar (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; Sensitivity of Middle East and North Africa (MENA) to explosive volcanic eruptions; Start Date: Fall 2012; Expected Graduation: Spring 2018

10. Evgeniya Predybaylo (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; ENSO Response to Strong Volcanic Forcing; Start Date: Fall 2014; Expected Graduation: Fall 2019

11. Jerry Raj (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; High resolution climate simulations over Africa: past, present, and future; Start Date: Fall 2014; Graduated: Fall 2019

12. Nada Aljassim (PhD Advisor: Professor Peiying Hong); Environmental Sciences and Engineering; Fate and persistence of antibiotic resistant bacteria upon simulated solar irradiation and bacteriophage exposure; Start Date: Fall 2014; Expected Graduation: Spring 2020

13. Yuxiao Li (PhD Advisor: Professor Ying Sun); Statistics; Spatial and spatio-temporal stochastic weather generators for large-scale nonstationary processes; Start Date: Fall 2015; Expected Graduation: Fall 2019

14. Adil Siripatana (PhD Advisor: Ibrahim Hoteit and Omar Knio); Earth Sciences and Engineering; Uncertainty quantification and assimilation for efficient coastal ocean forecasting; Start Date: Fall 2015; Expected Graduation: Fall 2019

15. Mitchell Morton (PhD Advisor: Mark Tester); Plant Sciences; Dissecting the genetic architecture of salt tolerance in the wild tomato *Solanum pimpinellifolium*; Start Date: Fall 2014; Graduation: Fall 2019

16. Aislinn Dunne (PhD Advisor: Burton Jones); Marine Sciences; Connectivity between mangroves, sea grasses and coral reefs; Start Date: Fall 2018; Expected Graduation: Fall 2022

17. Remi Matrau (PhD Advisor: Sigurjon Jonsson); Earth Sciences; Holocene to present-day deformation of the Husavik-Flatey transform fault in North Iceland; Start Date: Fall 2017; Expected Graduation: Fall 2022

18. Samah El Mohtar (PhD Advisor: Ibrahim Hoteit); Earth Sciences; Uncertainty quantification in forward and inverse oil spill problems with application to the Red Sea; Start Date: Fall 2018; Expected Graduation: Fall 2022

19. Wonjun Cha (Phd Advisor: Carlos Santamarina); Earth Sciences; Long-term sediment response under repetitive mechanical and environmental loadings; Start Date: Fall 2017; Graduation; Spring 2021

20. Adair Gallo (PhD Advisor: Himanshu Mishra); Environmental Sciences and Engineering; Superhydrophobic sand mulches for controlling evaporative losses in arid land agriculture: fundamentals and applications; Start Date: Fall 2017; Expected Graduation: Fall 2021

21. Clara Stanschewski (PhD Advisor: Mark Tester); Plant Science; Domestication and adaptation of Chenopodium quinoa for marginal environments; Start Date: Fall 2017; Expected Graduation: Fall 2023

22. Natalie Dunn (PhD Advisor: Francesca Benzoni); Marine Science; Coral bleaching and temporal variability of benthic habitats using Structure-from-Motion (SfM) photogrammetry and environmental; Start Date: Fall 2022; Expected Graduation: Fall 2026

23. Hugo Mann (PhD Advisor: Carlos Duarte); Marine Science; Seagrass mapping for blue carbon by tracking of green turtles in the Red Sea; Start Date: Fall 2022; Expected Graduation: Fall 2026

24. Philip Mitchell (PhD Advisor: Tad Patzek); Earth Science; Humanity as a super-organism: limits to growth; Start Date: Spring 2022; Expected Graduation: Spring 2026

25. Brian Nieuwenhuis (PhD Advisor: Burton Jones); Marine Science; Advancing tropical marine ecology using remote sensing and unmanned vehicles; Start Date: Fall 2022; Expected Graduation: Fall 2026

26. Nisreen Abu Waer (PhD Advisor: Sami Al Ghamdi); Environmental Sciences and Engineering; Walkability under the Influence of Extreme Temperature and Weather Events; Start Date: Fall 2022; Expected Graduation: Fall 2026

MS Advisor (including MS/PhD Conversions):**

1. Qianwen Shi; Environmental Sciences and Engineering; Flood Hazard Assessment along the Western Regions of Saudi Arabia using GIS-based Morphometry and Remote Sensing Techniques; (Start Date: Fall, 2012; Graduated: Fall, 2014; Current Position; Graduate Student at University of Toronto)

2. Gaohong Yin; Environmental Sciences and Engineering; Application of geostatistical techniques for gap-filling of satellite data; (Start Date: Fall, 2014; Graduated: Fall, 2016; Current Position: Graduate Student, University of Maryland)

3. Bruno Solorio**; Environmental Sciences and Engineering; Monitoring crop water use at the Tawdeehiya agricultural facility; (Start Date: Fall, 2014; Graduated: Fall, 2016; Current Position: Graduate Student, King Abdullah University of Science and Technology)

4. Ting Li**; Environmental Sciences and Engineering; Land use classification and monitoring using high-resolution satellite data and machine learning; (Start Date: Fall, 2016; Graduated: Fall, 2017; Current Position: Graduate Student, King Abdullah University of Science and Technology)

5. Danqing Huang**; Environmental Sciences and Engineering; Monitoring crop water use in the Al Jawf region from Landsat satellite data; (Start Date: Fall, 2016; Graduated: Fall, 2017; Current Position: Graduate Student, King Abdullah University of Science and Technology)

6. Ahmed Al Malki; Environmental Sciences and Engineering; Assessment of agricultural land use, water use and activity in Saudi Arabia; (Start Date: Spring, 2017; Graduated: Fall, 2017; Current Position: Graduate Student (deferred), King Abdullah University of Science and Technology)

7. Alejandra Pareto; Environmental Sciences and Engineering; Mapping and monitoring of tree water use in olive plantations; (Start Date: Fall 2018; Graduated: Fall 2019; Current Position: Graduate Student at King Abdullah University of Science and Technology)

8. Areej Alqarni; Environmental Sciences and Engineering; Big data analytics for precision agriculture; (Start Date: Fall 2019; Graduated: Spring, 2021; Current Position: Graduate Student at King Abdullah University of Science and Technology)

9. Sarah Kanee; Environmental Sciences and Engineering; Machine learning application for food security mapping; (Start Date: Fall 2019; Graduated: Spring 2021)

10. Omar Camargo; Environmental Sciences and Engineering; Ground based autonomous robotics; (Start Date: Fall 2021; Expected Graduation: Fall 2022; Current Position: Graduate Student at King Abdullah University of Science and Technology)

11. Mariana Elias Lara; Environmental Sciences and Engineering; Carbon accounting in mangrove systems; (Start Date: Spring 2020; Expected Graduation: Spring 2022; Current Position: Graduate Student at King Abdullah University of Science and Technology)

12. Tanaallah Alqurshi; Environmental Sciences and Engineering; Water accounting in Saudi agriculture; (Start Date: Fall 2021; Expected Graduation: Fall 2022; Current Position: Graduate Student at King Abdullah University of Science and Technology)

Postdoc Supervision:

1. Name: Dr Yi Liu
   Date: 2012 - 2014
   Topic: Global vegetation monitoring using microwave remote sensing

Previous Institution Awarding Degree: University of New South Wales, Australia
Current Position: Assistant Professor, Nanjing University of Information Science & Technology (NUIST), China; Scientia Senior Lecturer, University of New South Wales, Australia

2. Name: Dr Hoori Ajami
   Date: 2010 - 2014
   Topic: Coupled aquifer-surface hydrological modeling with the PARFLOW system
   Previous Institution Awarding Degree: University of Arizona
   Current Position: Associate Professor, University of California Riverside

3. Dr Lixin Wang
   Date: 2009 - 2011
   Topic: Ecohydrological investigations and stochastic process modeling
   Previous Institution Awarding Degree: University of Virginia
   Current Position: Associate Professor, Indiana University-Purdue University Indianapolis (IUPUI)

4. Dr Xianhong Meng
   Date: 2009 -2011
   Topic: Regional climate modeling with the WRF system in the MDB
   Previous Institution Awarding Degree: Chinese Academy of Science
   Current Position: Professor, Northwest Institute of Eco-Environment and Resources, China

5. Dr Josiah Strauss
   Date: 2009 -2011
   Topic: Hydrological interactions and processes using stable water isotopes
   Previous Institution Awarding Degree: Texas A&M University, College Station
   Current Position: Manager, Neptronic, Boulder, Colorado

6. Name: Dr Ahmed El Kenawy
   Start Date: 2013 - 2015
   Topic: Hydroclimatology of Saudi Arabia
   Previous Institution Awarding Degree: University of Zaragoza, Spain.
   Current Position: Associate Professor, Mansoura University, Egypt

7. Name: Dr Abdou El Magd
   Start Date: 2013 -2015
   Topic: Groundwater hydrogeology of the Saq aquifer system
   Previous Institution Awarding Degree: Western Michigan University, USA
   Current Position: Associate Professor, Suez Canal University, Egypt

8. Name: Raghuveer Jana
   Start Date: 2014 - 2016
   Topic: Numerical modeling of subsurface soil moisture
   Previous Institution Awarding Degree: Texas A&M, University
   Current Position: Assistant Professor, Indian Institute of Science, Bengaluru

9. Name: Dr Ali Ershadi
   Start Date: 2014 - 2018
   Topic: Evaporation modeling and monitoring
   Previous Institution Awarding Degree: University of New South Wales, Australia
   Current Position: CEO, QuestFeed Analytics

10. Name: Dr Umar Liaqat
    Start Date: 2016 - 2017
    Topic: Agricultural systems modeling
    Previous Institution Awarding Degree: Hangyang University, South Korea
    Current Position: International Water Management Institute (IWMI), Pakistan

11. Name: Dr Yoann Malbeteau
    Start Date: 2017 - 2019
    Topic: Water resources modeling
    Previous Institution Awarding Degree: Université Paul Sabatier CESBIO
    Current Position: Senior Remote Sensing Scientist, Planet, Netherlands

12. Name: Dr Chunfeng Ma
    Start Date: 2018 - 2021
    Topic: Soil moisture remote sensing
    Previous Institution Awarding Degree: University of Chinese Academy of Sciences, Beijing, China
    Current Position: Associate Professor, Chinese Academy of Sciences

13. Name: Dr Oliver Lopez
    Start Date: 2018
    Topic: MEWA groundwater abstractions projects
    Departure Date: Current
    Previous Institution Awarding Degree: KAUST, Saudi Arabia
    Current Position: Research Scientist, KAUST

14. Name: Dr Yu-Hsuan Tu
    Start Date: 2019 - 2022
    Topic: UAV monitoring and mapping with multispectral sensors for precision agriculture
    Previous Institution Awarding Degree: University of Queensland, Australia
    Current Position: Spatial Analyst, DataFarming

15. Name: Dr Bonny Stutsel
    Start Date: 2019 – 2021
    Topic: Thermal UAV retrieval for precision agriculture
    Departure Date: 2021
    Previous Institution Awarding Degree: University of Western Australia, Australia
    Current Position: Executive Officer, Reef Catchments, Queensland, Australia

16. Name: Dr Jiale Jiang
    Start Date: 2019 - 2022
    Topic: Scale issues and fusion of high-resolution satellite and UAV data
    Previous Institution Awarding Degree: China University of Geosciences
    Current Position: Associate Prof at Sun Yat Sen University

17. Name: Dr Jamal El Farkh
    Start Date: 2021 – 2023
    Topic: High-resolution mapping of crop water use
    Previous Institution Awarding Degree: Cotutelle b/w Cadi Ayyad University, Morocco and Paul Sabatier University-Toulouse, France
    Current Position: Research Scientist, Mohammed VI Polytechnic University, Morocco

18. Name: Dr Marcel El Hajj

Date: 2021 -
Topic: SAR monitoring of biomass in agricultural systems
Previous Institution Awarding Degree: AgroParisTech, France
Current Position: Post Doc, KAUST

19. Name: Dr Javier Blanco Sacristan
    Date: 2021 -
    Topic: Mangrove ecosystems monitoring and assessment
    Departure Date: Current
    Previous Institution Awarding Degree: University of Milano-Bicocca, Italy
    Current Position: Post Doc, KAUST

20. Name: Dr Hua Cheng
    Date: 2022 -
    Topic: Biodiversity and ecosystem monitoring
    Previous Institution Awarding Degree: Lanzhou University, China
    Current Position: Post Doc, KAUST

21. Name: Dr Ting Li
    Date: 2022 -
    Topic: Agroinformatics with Artificial Intelligence
    Previous Institution Awarding Degree: King Abdullah University of Science and Technology
    Current Position: Post Doc, KAUST

22. Name: Dr Evgeniya Predybaylo
    Date: 2022 -
    Topic: Global methane modeling
    Previous Institution Awarding Degree: King Abdullah University of Science and Technology
    Current Position: Post Doc, KAUST

23. Name: Dr Shiqin Li
    Date: 2023 -
    Topic: Coupled land-surface vegetation modeling
    Previous Institution Awarding Degree: Hohai University, China
    Current Position: Post Doc, KAUST

Research Scientist Supervised:

1. Name: Dr Rasmus Houborg
   Start Date: 2013 - 2017
   Topic: Water resources modeling
   Previous Institution Awarding Degree: University of Copenhagen, Denmark
   Current Position: Senior Research Engineer, Planet, San Francisco, USA

2. Name: Dr Jadoon Khan
   Date: 2014 - 2016
   Topic: Water resources modeling
   Previous Institution Awarding Degree: Université Catholique de Louvain, Belgium
   Current Position: Associate Professor at International Islamic University, Pakistan

3. Name: Dr Liping Deng
   Date: 2013 - 2016
   Topic: Water resources modeling
   Previous Institution Awarding Degree: Iowa State University, USA
   Current Position: Professor, Guangdong Ocean University, Zhanjiang, China

4. Name: Dr Umar Altaf
   Date: 2014 - 2016
   Topic: Data assimilation and numerical modeling
   Previous Institution Awarding Degree: Delft University of Technology, The Netherlands
   Current Position: Research Engineer, Water Desalination and Reuse Center, KAUST

5. Name: Mr Samir Al Mashharawi
   Date: 2014 -
   Topic: Field and laboratory engineer
   Current Position: Research Technician/Engineer

6. Name: Dr Kasper Johansson
   Date: 2018 -
   Topic: Remote sensing, vegetation mapping and modeling
   Previous Institution Awarding Degree: University of Queensland, Australia
   Current Position: Research Scientist, King Abdullah University of Science and Technology

7. Name: Dr Oliver Lopez
   Date: 2019 -
   Topic: MEWA groundwater abstractions project
   Previous Institution Awarding Degree: KAUST, Saudi Arabia
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