SAJJAD HAIDER

Associate Professor

NUST Institute of Civil Engineering

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About

Dr. SAJJAD HAIDER is working as Associate Professor in the NUST Institute of Civil Engineering. Dr. SAJJAD HAIDER has a PhD in Hydraulic Engineering. Dr. SAJJAD HAIDER has published 41 research articles & conference papers having a citation count of 636, carried out 6 projects and filed 0 intellectual property.

Qualifications

PhD in Hydraulic Engineering 1998 - 2001
Institut National des Sciences Appliquées de Lyon , France

D.A,E in Civil Engg 1996 - 1998
Institut National des Sciences Appliquées de Lyon , France

BSc in Civil Engg) 1989 - 1991
UET Peshawar , Pakistan

Experience

Associate Professor 2009- Present
NUST Institute of Civil Engineering

Assistant Professor 2003 - 2009
Military College of Engineering

Junior Engineer 1992 - 2003
WAPDA , Wapda House, Lahore

Professional Memberships

PAKISTAN ENGINE

Research Projects

National Projects

Numerical Modeling for Landslide Dam Breach Case Studies from China and Pakistan 2020
Funding Agency: Scientific Cooperation Agreement for Visiting Scholar's Fund, China
Amount: PKR 1,959,200.00
Status: Approved_inprocess

Economic and environmental implications of Water harvesting practices under changing climate and land use scenarios across Pakistan 2021
Funding Agency: HEC
Amount: PKR 20,840,000.00
Status: Completed

Numerical modeling of landslide dam breach case studies from China and Pakistan 2020
Funding Agency: State Key Laboratory of Water Resources & Hydropower Engineering Science, Wuhan University, China
Amount: PKR 1,967,120.00
Status: Approved_inprocess

International Projects

Industry Projects

National Projects

Design for Construction of Mini Dam at Tehsil Naushera, District Khushab 2020

Client: N/A

Amount: PKR 1,804,910.00

Status: Approved_inprocess

Hydraulic Analysis of Bridge # 3 (9+765) on Swat Motorway Project 2019

Client: N/A

Amount: PKR 535,500.00

Status: Completed

Identification of Water Recharge Source & Aquifer Capacity Enhancement – Sector E-9 Islamabad 2019

Client: N/A

Amount: PKR 630,000.00

Status: Completed

International Projects

Research Articles

Assessing flood hazard from Attabad landslide dam breach under various scenarios 2025

Muhammad Rashid SAJJAD HAIDER Muhammad Waqar Saleem Mohiq Khalid Emro Alfeki Rana Noman Prince Mahmood

Journal of Applied Water Engineering and Research, Pages 1-21

Impact Factor: 1.600 | **Quartile:** 3

DOI: https://doi.org/10.1080/23249676.2025.2538850

Development of a hydrodynamic model of the irrigation canal network by using HEC-RAS: a case study of Layyah Canal Division, Pakistan 2025

Numan Ijaz SAJJAD HAIDER Muhammad Muaaz

Modeling Earth Systems and Environment, Volume:11, Issue:3, Article Number 195

Impact Factor: 2.700 | **Quartile:** 3

DOI: https://doi.org/10.1007/s40808-025-02361-8

Simulation of urban flooding using 3D computational fluid dynamics with turbulence model 2025

Muhammad Waqar Saleem Muhammad Rashid SAJJAD HAIDER Mohiq Khalid Emro Elfeki

Results in Engineering, Volume 25, Article Number 103609

Impact Factor: 6.00 | **Quartile:** 1 | **Citations:** 9

DOI: https://doi.org/10.1016/j.rineng.2024.103609

Comparing the Performance of the New HEC-RAS Model Utilizing Different Modeling Techniques: A Case Study of the Tous Dam Break 2024

Prince Mahmood Zain Syed Sajjad Haider Muhammad Waqar Saleem Muhammad Rashid

Open Access Library Journal, Volume 11, Article Number e12217

Impact Factor: N/A

DOI: https://dx.doi.org/10.4236/oalib.1112217

Sensitivity analysis of a 2D flood inundation model. A case study of Tous Dam 2024

Aftab Ullah Sajjad Haider Rashid Farooq

Environmental Earth Sciences , Volume 83, Article Number 213

Impact Factor: 2.800 | **Quartile:** 2

DOI: https://doi.org/10.1007s/12665-024-11500-w

Assessing the utility of hybrid hydrological modeling over complex conditions of the Chitral basin, Pakistan 2023

Zain Syed Prince Mahmood Sajjad Haider Shakil Ahmad

Journal of Water and Climate Change, Volume 14, Issue 12, Pages 4444–4464

Impact Factor: 2.8 | **Quartile:** 2 | **Citations:** 2

DOI: https://doi.org/10.2166/wcc.2023.256

Dam Break Flow: A Comparative Model Study Using OpenFOAM and BASEMENT 2023

Sajjad Haider Hamza Farooq Gabriel Lei Yang Muhammad Shahid Ammara Mubeen

Arabian Journal for Science and Engineering, Pages 1-17

Impact Factor: 2.9 | **Quartile:** 2 | **Citations:** 2

DOI: 10.1007/s13369-023-08400-9

Development of daily bias-corrected ensemble precipitation estimates over the Upper Indus Basin of the Hindukush-Karakoram-Himalaya 2023

Kashif Jamal Xin Li Yingying Sajjad Haider Muhammad Rizwan Shakil Ahmad

Journal of Water and Climate Change, Volume 14(10), Pages 3517–3538

Impact Factor: 2.8 | **Quartile:** 2 | **Citations:** 2

DOI: https://doi.org/10.2166/wcc.2023.202

Short-long-term streamflow forecasting using a coupled wavelet transform-artificial neural network (WT-ANN) model at the Gilgit River Basin, Pakistan 2023

Zain Syed Prince Mahmood Sajjad Haider SHAKIL AHMAD Khan Zaib Jadoon Rashid Farooq Sibtain Syed Khalil Ahmad

JOURNAL OF HYDROINFORMATICS , Vol:25 (3), Pages:881-894

Impact Factor: 3.058 | **Quartile:** 2 | **Citations:** 14

DOI: 10.2166/hydro.2023.161

Acceleration of flow modeling using a freeware 2D GPU-shallow water equations code 2022

Prince Mahmood Sajjad Haider Hamza Farooq Gabriel Muhammad Shahid Zain Syed

Arabian Journal of Geosciences, Volume 15, Article Number 1584

Impact Factor: N/A

DOI: https://doi.org/10.1007/s12517-022-10836-6

Sensitivity analysis and optimization of land use/cover and aquifer parameters for improved calibration of hydrological model 2022

Ammara Mubeen Hamza Farooq Gabriel Sajjad Haider Mohsin Siddique

Mehran University Research Journal of Engineering and Technology, Volume 41(2), Pages 21-34

Impact Factor: N/A

DOI: 10.22581/muet1982.2202.03

Plausible Precipitation Trends over the Large River Basins of Pakistan in Twenty First Century 2022

Ammara Nusrat Hamza Farooq Gabriel Umm e Habiba Habib Ur Rehman Sajjad Haider Shakil Ahmad Muhammad Shahid Saad Ahmed Jamal Jahangir Ali

Atmosphere , Volume 13(2), Article Number 190

Impact Factor: 3.110 | **Quartile:** 3 | **Citations:** 4

DOI: 10.3390/atmos13020190

Hydraulic performance of constructed wetland at NUST H-12 campus 2021

Laraib Pervaiz Akhter Hamza Farooq Gabriel Sajjad Haider Shatirah Akib

Journal of Applied Research in Water and Wastewater, Volume 8, Issue 2, Serial Number 16, Pages 169-173

Impact Factor: N/A | **Citations:** 1

DOI: 10.22126/ARWW.2022.6661.1217

Quantitative assessment of regional land use and climate change impact on runoff across Gilgit watershed 2021

Muhammad Shahid Khalil Ur Rahman Sajjad Haider Hamza Farooq Gabriel Abdul Jabbar Khan Quoc Bao Pham Dr. Chaitanya Pande Nguyen Thi Thuy Linh Duong Tran Anh

Environmental Earth Sciences , Volume 80, Article Number 743

Impact Factor: 3.119 | **Quartile:** 2 | **Citations:** 60

DOI: 10.1007/s12665-021-10032-x

Investigating feasible sites for multi-purpose small dams in Swat District of Khyber Pakhtunkhwa Province, Pakistan: socioeconomic and environmental considerations 2021

Anwar Hussain Khalil Ur Rahman Muhammad Shahid Sajjad Haider Quoc Bao Pham Nguyen Thi Thuy Linh Saad Shauket Sammen

Environment, Development and Sustainability , Pages 1-24

Impact Factor: 3.219 | **Quartile:** 2 | **Citations:** 2

DOI: 10.1007/s10668-021-01886-z

Assessment of Soft Computing Techniques for the Prediction of Suspended Sediment Load in Rivers 2021

Muhammad Adnan Khan Jurgen Stamm Muhammad Adnan Khan Jurgen Stamm Sajjad Haider

Applied Sciences , Volume 11(18), Article Number 8290

Impact Factor: 2.838 | **Quartile:** 2 | **Citations:** 14

DOI: https://doi.org/10.3390/app11188290

Assessing the potential and hydrological usefulness of the CHIRPS precipitation dataset over a complex topography in Pakistan 2021

Muhammad Shahid Khalil Ur Rahman Sajjad Haider Hamza Farooq Gabriel Abdul Jabbar Khan Quoc Bao Pham Babak Mohammadid Nguyen Thi Thuy Linh Duong Tran Anh

Hydrological Sciences Journal, Pages 1-21

Impact Factor: 3.942 | **Quartile:** 2 | **Citations:** 25
DOI: 10.1080/02626667.2021.1957476

Flood Hazard Assessment for the Tori Levee Breach of the Indus River Basin, Pakistan 2021

Babar Naeem Muhammad Azmat Hui Tao Shakil Ahmad Muhammad Umar Khattak Sajjad Haider Sajjad Ahmad Zarif Khero Christopher R. Goodell

WATER, https://www.mdpi.com/journal/water

Impact Factor: 3.530 | **Quartile:** 2 | **Citations:** 23
DOI: https://doi.org/10.3390/w13050604

Fractional Gegenbauer wavelets operational matrix method for solving nonlinear fractional differential equations 2021

Umer Saeed Sajjad Haider Qamar Din Khurram Javid Mujeeb ur Rehman

Mathematical Sciences, Pages 1-15

Impact Factor: 2.070 | **Quartile:** 1 | **Citations:** 13
DOI: https://doi.org/10.1007/s40096-021-00376-7

Application of precipitation products for flood modeling of transboundary river basin: a case study of Jhelum Basin 2020

Muhammad Umer Hamza Farooq Gabriel Sajjad Haider Ammara Nusrat Muhammad Shahid Muhammad Umer

Theoretical and Applied Climatology, Pages 1-16

Impact Factor: 3.179 | **Quartile:** 2 | **Citations:** 14
DOI: 10.1007/s00704-020-03471-2

Application of Machine Learning Techniques to Delineate Homogeneous Climate Zones in River Basins of Pakistan for Hydro-Climatic Change Impact Studies 2020

Ammara Nusrat Hamza Farooq Gabriel Sajjad Haider Shakil Ahmad Muhammad Shahid Saad Ahmed Jamal

Applied Sciences, Volume 10, Issue 19, Article Number 6878

Impact Factor: 2.679 | **Quartile:** 2 | **Citations:** 13
DOI: 10.3390/app10196878

Simulating the Impact of Climate Change with Different Reservoir Operating Strategies on Sedimentation of the Mangla Reservoir, Northern Pakistan 2020

Muhammad Adnan Khan Jurgen Stamm Muhammad Adnan Khan Jurgen Stamm Sajjad Haider

Water, Volume 12(10), Article Number 2736

Impact Factor: 3.103 | **Quartile:** 2 | **Citations:** 14
DOI: https://doi.org/10.3390/w12102736

2D numerical modeling of two dam-break flood model studies in an urban locality 2020

Sajjad Haider Umer Saeed Muhammad Shahid

Arabian Journal of Geosciences, Volume 13, Article Number 682

Impact Factor: 1.827 | **Quartile:** 3 | **Citations:** 6
DOI: https://doi.org/10.1007/s12517-020-05709-9

Application of Meta-Models for Accurate Calibration of Hydrological Model Parameters 2020

Ammara Nusrat Hamza Farooq Gabriel Sajjad Haider Muhammad Shahid

Journal of Critical Reviews, Volume 7, Issue 16, Pages 767-779

Impact Factor: -
DOI: 10.31838/jcr.07.16.103

Analysis of seepage loss from concrete lined irrigation canals in Punjab, Pakistan 2020

Zulqarnain Shah Hamza Farooq Gabriel Sajjad Haider Turab Jafri

Irrigation and Drainage, Pages 1-14

Impact Factor: 1.328 | **Quartile:** 3 | **Citations:** 16
DOI: 10.1002/ird.2474

Flow Division at a Free-Surface, Three-Channel Intersection Using 1D Shallow Water Equations 2019

Sajjad Haider Hamza Farooq Gabriel Ammara Mubeen

Arabian Journal for Science and Engineering, Volume 44, Issue 10, Pages 8489-8501

Impact Factor: 1.711 | **Quartile:** 3 | **Citations:** 3
DOI: 10.1007/s13369-019-03849-z

Application of Godunov Type 2D Model for Simulating Sediment Flushing in a Reservoir 2019

Hashim Nisar Hashmi Muhammad Adnan Khan Munawwar Iqbal Abdur Razzaq Ghumman Sajjad Haider

Arabian Journal for Science and Engineering, Volume 44, Issue 5, Pages 4289-4307

Impact Factor: 1.711 | **Quartile:** 3 | **Citations:** 5
DOI: 10.1007/s13369-018-3381-1

Rainfall-runoff, flood inundation and sensitivity analysis of the 2014 Pakistan flood in the Jhelum and Chenab river basin 2018

Muhammad Junaid Siddiqui Sajjad Haider Hamza Farooq Gabriel Aamir Shahzad
Hydrological Sciences Journal, Volume 63, Issue 13-14, Pages 1976-1997
Impact Factor: 2.180 | **Quartile:** 2 | **Citations:** 14
DOI: 10.1080/02626667.2018.1546049

Planning of Hydraulic Flushing Schedule for Prolonging the Life of a Hydropower Plant 2018

Munawwar Iqbal Abdur Razzaq Ghumman Hashim Nisar Hashmi Sajjad Haider
Iranian Journal of Science and Technology-Transactions of Civil Engineering, not available
Impact Factor: 0.8 | **Quartile:** 4 | **Citations:** 2
DOI: 10.1007/s40996-018-0181-5

Development of a flood forecasting system using IFAS: a case study of scarcely gauged Jhelum and Chenab river basins 2018

Sajjad Haider Ammara Mubeen Hamza Farooq Gabriel Aamir Shahzad Muhammad Junaid Siddiqui
Arabian Journal of Geosciences, NULL
Impact Factor: 1.141 | **Quartile:** 4 | **Citations:** 18
DOI: 10.1007/s12517-018-3737-6

Supercritical Flow Simulation at a Right Channel Junction. Comparison between a Uniform and a Sparse Mesh 2017

Sajjad Haider Hamza Farooq Gabriel Shaukat Ali Khan
KSCE Journal of Civil Engineering,, Volume 21, Issue 7, Pages 2984-2990
Impact Factor: 0.940 | **Quartile:** 3 | **Citations:** 8
DOI: 10.1007/s12205-017-0811-7

Seismic Vulnerability Assessment of Deficient RC Structures with Bar Pullout and Joint Shear Degradation 2015

Arslan Mushtaq Shaukat Ali Khan Hamza Farooq Gabriel Sajjad Haider
Advances in Civil Engineering, Article Number: 537405
Impact Factor: N/A | **Citations:** 4
DOI: http://dx.doi.org/10.1155/2015/537405

Evaluation of Development and Land Use Change Effects on Rainfall-Runoff and Runoff-Sediment Relations of Catchment Area of Simly Lake Pakistan 2014

Muhammad Shahid Hamza Farooq Gabriel Amjad Nabi Sajjad Haider Shaukat Ali Khan Syed Muhammad Ali Shah
Life Science Journal, Volume 11, Issue 7, Pages 11-15
Impact Factor: N/A
DOI: http://www.dx.doi.org/10.7537/marslsj1107s14.02

Application of Moving Kriging Shape Functions on Plate Problems 2008

Shazim Ali Memon Worsak Kanok-Nukulchai Sajjad Haider
NUST Journal of Engineering Sciences, Volume 1, No. 1, Pages 45-55
Impact Factor: N/A
DOI: https://doi.org/10.24949/njes.v1i1.26

Modeling floods in a dense urban area using 2D shallow water equations 2006

E. mignot A., Paquier Sajjad Haider
Journal of Hydrology, Volume 327, Issue 1-2, Pages 186-199
Impact Factor: 2.117 | **Quartile:** 1 | **Citations:** 289
DOI: 10.1016/j.jhydrol.2005.11.026

Two-Dimensional Urban Flood Modeling 2006

Sajjad Haider Tayyab Akram
Science, Technology and Development, Volume 25, No.2, Pages 19-25
Impact Factor: 0
DOI: -

Estimation of the flood levels for a flash flood in urban area: comparison of two hydrodynamic models on the 1988 Nime's flood 2003

Paquier, A Tanguy, J.M. Sajjad Haider
Revue Sciences de l'eau, Volume16, Issue1, Pages 79–102

Impact Factor: 0 | **Citations:** 13
DOI: DOI: https://doi.org/10.7202/705499ar

Urban flood modelling using computational fluid dynamics 2003

Sajjad Haider A., Paquier Robert Morel J.,-E, Champagne

Proceedings of Institution of Civil Engineers-Water and Maritime engineering, Volume 156, Issue 2, Pages 129-135

Impact Factor: 0.069 | **Quartile:** 4 | **Citations:** 44
DOI: 10.1680/wame.2003.156.2.129

Conference Proceedings

A meta-model assisted framework of optimization of the Hydrological model parameters for accurate calibration 2020

Ammara Nusrat Hamza Farooq Gabriel Sajjad Haider Muhammad Shahid Ammara Nusrat Hamza Farooq Gabriel Sajjad Haider Muhammad Shahid Ammara Nusrat Hamza Farooq Gabriel Sajjad Haider Muhammad Shahid

22nd EGU General Assembly 2020 , res.country(12,)

Citations: N/A
DOI: 10.5194/egusphere-egu2020-21083

2D Numerical Simulation of River Hydrodynamics-Application to Indus River Reach Downstream Ghazi Barrage 2007

Dr. Sajjad Haider Tayyab Akram Dr. Shakil Ahmad

The Second International Conference on Environmentally Sustainable Development "ESDev-2007", res.country(177,)

Citations: N/A
DOI: NA

Editorial Activities

Water Science 2025
Reviewed Papers for Journals
Impact Factor: N/A

Urban Water Journal 2025
Reviewed Papers for Journals
Impact Factor: 1.6

Irrigation and Drainage 2025
Reviewed Papers for Journals
Impact Factor: 0.7

Archives of Computational Methods in Engineering 2024
Reviewed Papers for Journals
Impact Factor: 9.7

Water 2024
Reviewed Papers for Journals
Impact Factor: 3.4

Journals Editorial Office Water Resources Management 2024
Reviewed Papers for Journals
Impact Factor: 4.3

Water 2024
Reviewed Papers for Journals
Impact Factor: 3.40

Water 2024
Reviewed Papers for Journals
Impact Factor: 3.40

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.40

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.40

Sustainability 2023
Reviewed Papers for Journals
Impact Factor: 3.9

Wate 2023
Reviewed Papers for Journals
Impact Factor: 3.40

Water 2023
Reviewed Papers for Journals
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Impact Factor: 3.40

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.4

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.4

Water Resources Management 2023
Reviewed Papers for Journals
Impact Factor: 4.3

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.530

Water] 2023
Reviewed Papers for Journals
Impact Factor: 3.530

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.530

Applied Sciences 2023
Reviewed Papers for Journals
Impact Factor: 2.838

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.53

Sustainability 2023
Reviewed Papers for Journals
Impact Factor: 3.889

Water 2023
Reviewed Papers for Journals
Impact Factor: 3.530

Water 2022
Reviewed Papers for Journals
Impact Factor: 3.530

Sustainability 2022
Reviewed Papers for Journals
Impact Factor: 3.889

Water 2022
Reviewed Papers for Journals
Impact Factor: 3.53

Water 2022
Reviewed Papers for Journals
Impact Factor: 3.530

Water 2022

Reviewed Papers for Journals

Impact Factor: 3.53

2021

Reviewed Papers for Journals

Impact Factor: 4.379