

Curriculum Vitae

□ Personal Information

Name: **Engr. Dr. Muhammad Ajmal**
Address: Associate Professor, Department of Agricultural Engineering, University Engineering & Technology, Peshawar, Pakistan, Postal Code: 25120
Email: engr_ajmal@uetpeshawar.edu.pk, ajmal1075@gmail.com
Domicile: Peshawar, Khyber Pakhtunkhwa, Pakistan

□ Academics

Sep. 2012 – Aug. 2015 **PhD in Water Resources & Environmental Engineering** from the Department of Civil & Environmental Engineering, **Hanyang University, South Korea (HEC Scholarship)**
PhD Dissertation Title: Assessment and Development of Event Based Rainfall-Runoff Models for Improved Surface Direct Runoff Estimation

Nov. 2004 – July 2006 **MSc in Soil and Water Engineering** from Department of Agricultural Engineering University of Engineering & Technology Peshawar Pakistan
MSc Project/Thesis: Availability and Utilization of Water Resources in Pakistan

Dec. 1999 – Oct. 2004 **BSc Agricultural Engineering**, University of Engineering & Technology Peshawar Pakistan
BSc Thesis Title: Comparison and Evaluation of Conveyance Losses in Lined and Unlined Channels

□ Job Description

Feb. 2018 to Date **Associate Professor (Regular)**, Agricultural Engineering Department, University of Engineering & Technology, Peshawar

Feb. 2007 to Feb. 2018 **Lecturer (Regular)**, Agricultural Engineering Department, University of Engineering & Technology, Peshawar

Sep. 2006 to Feb. 2007 **Lecturer (Contract)**, Agricultural Engineering Department, University of Engineering & Technology, Peshawar

June 2005 to Sep. 2006 **Teaching Assistant**, Agricultural Engineering Department, University of Engineering & Technology, Peshawar

May 2005 to June 2005 **Field Engineer**, in a project titled, “Small Dams survey, Sediment calculations, Map Development etc. in the project, titles, “Assessment of Sedimentation in Reservoirs of the Embankment Dams at Lachi of District Kohat.

March 2005 to May 2005 **Research Associate** in a project titled, “ALP-PARC Optimal Tillage project for wheat and gram crop for Southern areas of N.W.F.P.”

Dec 2004 to March 2005 **Lecturer (Contract)**, Agricultural Engineering Department, University of Engineering & Technology, Peshawar

□ Current Teaching Assignments

Undergraduate Level (Fall & Spring Semesters)

Irrigation Engineering, Farm Irrigation Systems, Alternate Energy Resources, Fluid Mechanics, Farm Structures and Landscaping Engineering, Computer Fundamentals and Applications.

Postgraduate Level (Fall & Spring Semesters)

Statistical Hydrology, Irrigation Pumping Plant, Stormwater Hydrology, Technical Report Writing and Research Methodologies, Soil and Water Conservation

□ **Other Academic and Administrative Duties**

- Manager, University & Industry Linkages in the office of Research, Innovation and Commercialization (ORIC) 01.01.2018 to date
- Member Departmental Project Evaluation Committee 28.09.2017 to date
- Member of Pakistan Engineering Council as Professional Engineer (Agri/2405)
- Member Departmental Scholarship Committee 01.09.2016 to date
- Departmental Students Bach Advisor 16.08.2016 to date
- Departmental Liaison Officer: 09.05.2016 to date
- Departmental Program Team Member for Self-Assessment Report (SAR) Preparation, Quality Enhancement Cell (QEC), UET Peshawar
- Assessment Team Member for SAR Evaluation, QEC, UET Peshawar

□ **Research Project Supervised (BSc)**

1. Sprin-Trick: A tool for design of Sprinkle and Trickle Irrigation
[Muhammad Kashif, Shabeer Ahmad, Muhammad Zubair] (**Spring 2018**)
2. Spatial Flood Risk Analysis of Chenab River from Marala to Qadir Abad based on multi-criteria decision analysis (MCDA) Approach
[Sher Shah Hassan, Zahoor Ahmad, Zakir Khan] (**Spring 2017**)
3. Assessment of Meteorological Trends Over Kabul River Basin, Pakistan
[Saqib Hamid, Mir Ikram Ullah, Waqas Inam] (**Spring 2017**)
4. Performance Evaluation of Conventional Online Emitters Under Low Head
[Afshan Shareen, Ashfaq Ahmed, Laiq Shah] (**Spring 2016**)

□ **Research [International Journal Papers-Commencing with the latest]**

Note: (The Impact Factors given are according to the JCR report published in 2016). *corresponding author

1. Amin H, Khan M., **Ajmal M*** (2018). Dynamics of Gabion Weir and its comparison with Reinforced Concrete Weir. *Kuwait Journal of Science* (**Accepted IF = 0.811**)
2. Malik A, Shakir AS, Khan MJ, **Ajmal M**, Shahzad M, Khan TA, Haq ZU, Khan MA, Ijaz N (2018). Modelling Sugar Beet Response to Different Combinations of On-Farm Water Management Practices Under Semi-Arid Sub-Tropical Environment. *Sugar Tech. doi:org/10.1007/s12355-018-0631-1* (**IF = 0.829**)
3. Waseem M, Yang H, Lei H, **Ajmal M**, Yang D (2018). Improving the Regional Applicability of Satellite Precipitation Products by Ensemble Algorithm. *Remote Sensing*, Vol. 10, No. 4, Article No. 577. (**IF = 3.244**)
4. Malik A, Shakir AS, Khan MJ, Naveedullah, Latif M, **Ajmal M**, Ahmad S (2018). Effects of Different Mulching Techniques on Sugar Beet Performance Under Semi-Arid Subtropical Climatic Conditions. *Pakistan Journal of Botany*, Vol. 50, No. 3, pp. 1219-1224. (**IF = 0.69**)
5. Khan MA, Ahmad M, Khattak MS, Khan D, **Ajmal M** (2017). Groundwater Recharge Quantification from Rainfall in Peshawar District-Khyber Pakhtunkhwa. *Journal of Engineering and Applied Sciences (JEAS)* Volume 36, No. 2, pp. 55-61. (**HEC X-Category**)

6. Khattak MS, Ali W, **Ajmal M**, Khalil TM, Ahmad J, Malik A, Akbar G (2017). Assessment of wetted irrigation patterns for inline and online emitters in different soil textures. *Journal of Himalayan Earth Sciences* Vol. 50, No. 2, 2017, pp. 149-163. **(HEC X-Category)**
7. Malik A, Shakir AS, Latif M, **Ajmal M*** (2017). Performance Evaluation of the Raised-Bed Planting and Potential in Improving Sugar Beet Yield and Water Use Efficiency in Pakistan. *Sugar Tech*, 20(5):540–55. <https://doi.org/10.1007/s12355-017-0571-1> **(IF = 0.829)**
8. Malik A, Shakir AS, **Ajmal M***, Khan MJ, and Khan TA (2017). Assessment of AquaCrop model in simulating Sugar Beet canopy cover, biomass and root yield under different irrigation and field management practices in semi-arid regions. *Water Resources Management*, Vol. 31, No. 13, pp. 4275–4292. **(IF = 2.848)**
9. Khan M, Tufail M, **Ajmal M***, Haq ZU, and Kim T-W (2017). Experimental analysis of the scour pattern modeling of scour depth around bridge piers. *The Arabian Journal for Science and Engineering*. Vol. 42, No. 9, pp. 4111–4130. **(IF = 0.865)**
10. Ali S, **Ajmal M***, Khan MS, Shah SU (2017). Assessment of precipitation trends in Gilgit–Baltistan (Pakistan) for the period of 1980–2015: An indicator of climate change. *Journal of Himalayan Earth Sciences*. Vol. 50, No. 1A, pp. 66-75. **(HEC X-Category)**
11. Waseem M, **Ajmal M**, Lee JH, Kim T-W* (2016). Multivariate drought assessment considering the antecedent drought conditions. *Water Resources Management*, Vol. 30, No. 12, pp. 4221–4231. **(IF = 2.848)**
12. **Ajmal M**, Kim T-W*, and Ahn JH (2016). Stability Assessment of Curve Number methodology to estimate excess rainfall in forest-dominated watersheds. *Arabian Journal of Geosciences*, Vol. 9, No. 5, pp. 1-14. **(IF = 0.955)**
13. Shin J, **Ajmal M**, Yoo J, Kim T-W* (2016). A Bayesian network-based probabilistic framework for drought forecasting and outlook. *Advances in Meteorology* Vol. 2016, Article ID 9472605. **(IF = 1.277)**
14. Moon G-W, **Ajmal M**, Ahn JH, Kim T-W* (2016). Investigating Practical Alternatives to the NRCS-CN Method for Direct Runoff Estimation Using Slope-Adjusted Curve Numbers. *KSCE Journal of Civil Engineering*, Vol. 20, No. 7, pp. 3022–3030. **(IF = 0.812)**
15. **Ajmal M***, Waseem M, Ahmad W, and Kim T-W (2016). Soil moisture dynamics with hydro-climatological parameters at different soil depths. *Environmental Earth Sciences*, Vol. 75, Article No. 133. **(IF = 1.569)**
16. **Ajmal M**, Waseem M, Ahn J-H, and Kim T-W* (2016). Runoff Estimation using NRCS Slope-adjusted Curve Number in Mountainous Watersheds. *Journal of Irrigation and Drainage Engineering*, Vol. No. 142, No. 4 **(IF = 1.983)**
17. **Ajmal M**, Waseem M, Kim S, Kim T-W* (2016). Potential implications of pre-storm soil moisture on hydrological prediction. *Journal of Hydro-environment Research*, Vol. 11, pp. 1-15. **(IF = 1.429)**
18. **Ajmal M**, Khan TA, Kim T-W* (2016). A CN-Based Ensembled Hydrological Model for Watershed Enhanced Runoff Prediction. *Water*, Vol. 8, No. 1, Article No. 20. **(IF = 1.832)**
19. **Ajmal M**, Ahn J-H, and Kim T-W* (2016). Excess stormwater quantification in ungauged watersheds using event-based modified NRCS model. *Water Resources Management*, Vol. 30, pp. 1433–1448. **(IF = 2.848)**
20. Waseem M, **Ajmal M**, and Kim T-W* (2016). Improving Flow Duration Curve Predictability at Ungauged Site Using Constrained Hydrologic Regression Technique. *KSCE Journal of Civil Engineering*, doi: 10.1007/s12205-016-0038-z. **(IF = 0.812)**

21. Waseem M, **Ajmal M**, Kim T-W* (2015). Development and Evaluation of Extended Inverse Distance Weighting Method for Streamflow Estimation at Ungauged Site. *Hydrology Research*, doi: 10.2166/nh.2015.117. (IF = 1.754)
22. **Ajmal M**, Waseem M, Wi S, Kim T-W* (2015). Evolution of a parsimonious rainfall-runoff model using soil moisture proxies. *Journal of Hydrology*, Vol. 530, pp 623-633. (IF = 3.483)
23. Waseem M, **Ajmal M**, and Kim T-W* (2015). Development of a new composite drought index for multivariate drought assessment. *Journal of Hydrology*, Vol. 527, pp 30-37. (IF = 3.483)
24. Park D-H, **Ajmal M**, Ahn J-H, Kim T-W* (2015). Improving initial abstraction method of NRCS-CN for estimating effective rainfall. *Journal of Korea Water Resources Association*, Vol. 48, No. 6, pp 491-500.
25. Waseem M, **Ajmal M**, and Kim T-W* (2015). Ensemble hydrological prediction of streamflow percentile at ungauged basins in Pakistan. *Journal of Hydrology*, Volume 525, pp 130-137. (IF = 3.483)
26. **Ajmal M**, Moon, G, Ahn J-H, Kim T-W* (2015). Investigation of SCS-CN and its inspired modified models for runoff estimation in South Korean watersheds. *Journal of Hydro-environment Research*, Vol. 9, No. 4, 592-603 (IF = 1.429)
27. **Ajmal M**, Waseem M, Ahn J-H, and Kim T-W* (2015). Improved Runoff Estimation Using Event-Based Rainfall-Runoff Models. *Water Resources Management*, Vol. 29, No. 6, pp. 1995-2010. (IF = 2.848)
28. **Ajmal M** and Kim T-W* (2015). Quantifying Excess Stormwater Using SCS-CN-Based Rainfall Runoff Models and Different Curve Number Determination Methods. *Journal of Irrigation and Drainage Engineering*, Vol. 141, No. 3, article No. 04014058. (IF = 1.983)

□ Publications Under Review

1. Ali A, Khan TA, **Ajmal M** (2018). Rainfall Prediction Models: A Review. *Journal of Forecasting*.
2. Ali S, **Ajmal M**, Khan MS and Shah SU (2017). Conflicting signals of dry/wet rainfall pattern over Punjab (Pakistan) during 1961-2015: Complex seasonal changes. *Himalayan Journal of Earth Sciences*.

□ International Conference Papers

- 1) Hassan SS, **Ajmal M***, Khan AA, Khattak MS, Gohir MA (2017). Spatial Flood Risk Analysis of Chenab River from Marala to Qadirabad Based on Multi-Criteria Decision Analysis (MCDA) Approach. Science-Policy Conference on Climate Change, 18-20th December 2017, Islamabad Pakistan.
- 2) Khan MA, Khattak MS, **Ajmal M**, Khan AA (2017). Impact of climate change on crop water requirement under representative concentration pathways (RCP) in Dera Ismail Khan. Science-Policy Conference on Climate Change, 18-20th December 2017, Islamabad Pakistan.
- 3) **Ajmal M**, Ahn J-H and Kim T-W* (2015). Empirical Evaluation and Comparison of Discrete and Variable Initial Abstraction in the Curve Number Model. Asia Oceania Geosciences Society (AOGS), 12th Annual Meeting 2-7 Aug. 2015, Singapore.
- 4) **Ajmal M**, Hwang MH and Kim T-W* (2015). Future Perspectives of Drought Management Incorporating Interconnection of Climate Change and Extreme Drought. Asia Oceania Geosciences Society (AOGS), 12th Annual Meeting 2-7 Aug. 2015, Singapore.
- 5) Waseem M, **Ajmal M**, Kim T-W* (2014). Prediction of regionalize flow duration curve using multiple factor weighted sorting algorithm. *Korea Water Resources Association Conference*, 15-16 May 2014. http://www.ceric.net/wonmun2/kwra/KWRA_4_2014_05_275%28C%29.pdf

<http://adsabs.harvard.edu/abs/2014EGUGA..16.1839K>

- 6) Kim T-W*, **Ajmal M**, Shin J (2014). Identification of Temporal Trends of Extreme Discharge in Arctic Regions. *European Geosciences Union (EGU) General Assembly 2014* Vienna, Austria, 27 April – 02 May 2014.
<http://meetingorganizer.copernicus.org/EGU2014/EGU2014-1839.pdf>
<http://adsabs.harvard.edu/abs/2014EGUGA..16.1839K>
- 7) Waseem M, **Ajmal M**, Kim T-W* (2013). Regional Approach for Estimating Design Discharge at Ungauged site in Pakistan. 6th Conference of the *Asia Pacific Association of Hydrology and Water Resources (APHW)* (Climate Change and Water Security) conducted on 19-21st August, 2013 (Page#34 in the link below).
http://kuwater.korea.ac.kr/data/upload/Session_Schedule_Oral_20130815.pdf
- 8) **Ajmal M**, Kim T-W* and Ahn J-H (2013). Modified SCS-CN Approaches for Estimating Effective Rainfalls in Korea. 2nd International Symposium on Advanced Technology for River Management, on 7-9th November 2013 (Pages: 243-248).
<http://www.arcrom.re.kr/en/board?bm=v&bbsidx=3046>
- 9) **Ajmal M**, Kim T-W*, Moon G-W and Yoo JY (2013). Effective Rainfall-Runoff Model Selection for Korean Watersheds. The KSCE Civil Conference and Expo conducted on 23-25th October 2013 in the Conventional Kangwon-do Hotel Sponsored by the Korean Society of Civil Engineers (KSCE), Korea.

❑ Reviewer of International Journals

1. Journal of Hydrology
2. Hydrogeology Journal
3. Journal of Hydro-Environment Research
4. KSCE Journal of Civil Engineering
5. Desalination and Water Treatment (DWT)
6. International Journal of Water Resources and Environmental Engineering

❑ Reviewer of National Journals

1. Journal of Engineering and Applied Sciences [UET Peshawar]

❑ Distinctions

- Awardee of **Higher Education Commission of Pakistan PhD scholarship** at Hanyang University, South Korea.
- Merit Certificate awarded for having **Topped** the List of successful candidates in **1st Year** Agricultural Engineering Examination.
- Merit Certificate awarded for having **Topped** the List of successful candidates in **2nd Year** Agricultural Engineering Examination.
- Merit Certificate awarded for having **2nd position** in the List of successful candidates in **3rd Year** Agricultural Engineering Examination.
- Merit Certificate awarded for having **Topped** the List of successful candidates in **Final Year** Agricultural Engineering Examination.
- Merit Certificate awarded for having **Gold Medal** in the List of successful candidates for consecutive four years Agricultural Engineering Examinations.

- Winner of the University Merit **Gold Medal** B.Sc. Agricultural Engineering.
- Winner of the Merit Certificate of **XIV STAR 2003 Award** from Asian Foundation Karachi Pakistan.

□ **Trainings, Seminars/Workshops and Conferences**

- 1) Certificate of participation: One-day short course of Continuing Professional Development Programme on “**New Trends in Telecommunication (Advanced Network Simulation using NS-3)**”, Organized by Agricultural Engineering Department and Pakistan Engineering Council at UET Peshawar on 31st January 2018.
- 2) Certificate of one-day short course as **Resources Person** for delivering lectures on “**Communication and Presentation Skills for Engineers**”, Organized by Pakistan Engineering Council in UET Peshawar on 26th December 2017.
- 3) Certificate of participation: One-day short course of Continuing Professional Development Programme on “Engineering Supply Chain Management”, Organized by Agricultural Engineering Department and Pakistan Engineering Council at UET Peshawar on 30th October 2017.
- 4) Certificate of organizing one-day short course of Continuing Professional Development Programme on “**Groundwater Resources Development and Management**”, in collaboration of Agricultural Engineering Department and Pakistan Engineering Council at UET Peshawar on 23rd May 2017.
- 5) Certificate of participation of one day short course of Continuing Professional Development Programme on “**Groundwater Resources Development and Management**”, Organized by Agricultural Engineering Department and Pakistan Engineering Council at UET Peshawar on 23rd May 2017.
- 6) Certificate of workshop participation for, “**Outcome Based Education & Assessment System of Accreditation**”, organized by University of Engineering and Technology, Peshawar in Collaboration with Pakistan Engineering Council, Islamabad, conducted at Peshawar Services Club, Peshawar on 2nd to 3rd May, 2017.
- 7) Certificate of one-day short course as **Resources Person** for delivering lectures on “**Communication and Presentation Skills for Managerial Engineers**”, Organized by Pakistan Engineering Council in UET Peshawar on 26th January 2017.
- 8) Certificate of participation on, “**Project Formulation Workshop**” organized by Pakistan Science Foundation, Islamabad at Abdul Wali Khan University, Mardan from 20 to 21st September 2016.
- 9) Certificate of participation in a workshop on, “**Agriculture Production System Simulator (APSIM) Modeling**” organized by Climate Change Chair at U.S.-Pakistan Center for Advanced Studies in Agriculture and Food Security, Agriculture University Faisalabad from 30th August to 1st September 2016.
- 10) Certificate of participation for a short seminar, titled, “**World Space Week 2015**” with special theme as “**Geospatial Technologies for Disaster Monitoring and Management**” organized by SUPARCO regional office Peshawar on 5th October 2015 at University of Engineering and Technology, Peshawar, Pakistan.
- 11) Certificate of “**A 24 Days Professional Competency Enhancement Program (PCEPT)** for University Teachers, in collaboration with Higher Education Commission (HEC) has been started at Continuing Engineering Education Center, UET Peshawar, from 29 November 2010 to 11 January 2011.
- 12) Certificate of one day Energy Conservation Training Workshop/Seminar on; “**Agriculture, Buildings, Transport, Industry & Power and Clean Development Mechanism**”, May 27, 2010 at Peshawar, Organized by National

Energy Conservation Centre (ENERCON), Ministry of Environment Govt. of Pak. Islamabad in collaboration with National Cleaner Production Centre Foundation (NCPCF) Rawalpindi Pak.

- 13) Attended one day Seminar on, “**Design and Evaluation of High Efficiency Irrigation Systems and Performance of Centrifugal Pumps**”, Agricultural Engineering Department, University of Engineering and Technology, Peshawar, Pakistan, May 08, 2010.
- 14) Certificate of participation for Four days Seminar on “**Teaching Methodologies**” held on February, 22-25, 2010, at the Center of Continuing Education, University of Engineering and Technology Peshawar in collaboration with Higher Education Commission of Pakistan.
- 15) Certificate of participation for three days workshop on “**Teaching Methodologies**” held on June, 25-27, 2007, at the Department of Civil Engineering, University of Engineering and Technology Peshawar in collaboration with Higher Education Commission of Pakistan.
- 16) Certificate of Participation for one day National Seminar on “**The purpose and value of research**”, held on September 23, 2006, at the Department of Civil Engineering, University of Engineering & Technology Peshawar.
- 17) Certificate of Participation for two days National Conference on “**Sustainable Agricultural for Rural Development & Poverty Alleviation**”, organized by Foundation for ‘Progress’, in collaboration with the Department of Food & Agriculture, Govt. of Sindh & M/O Food, Agriculture & Livestock, Govt. of Pakistan.
- 18) Certificate of 21 days **Survey Camp** (practical training of surveying and leveling) arranged by Department of Civil Engineering, University of Engineering and Technology, Peshawar, Pakistan.

❑ Computer Skill

- SPSS 21
- Systat 13.0
- Windows applications
Installation and trouble shooting
- MS office
- Minitab 17.0
- Statistica 10.0
- Windows & Excel QM4
- Grapher 10
- Arc View GIS 10.1
- Mendeley Ref. Soft.
- EndNote 7.0 Ref. Soft

❑ Languages

- Pushto (Read, Write & Speak fluently)
- Urdu (Read, Write & Speak fluently)
- English (Read, Write & Speak fluently)
- Korean (Read, can write and Speak a little bit)

❑ References

1. Taj Ali Khan (PhD)
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