

Dr. Muhammad Ishaq Asif REHMANI

Assistant Professor (Department of Agronomy),
Ghazi University, D.G. Khan, Pakistan



PERSONAL DETAILS

Nationality: Pakistani
Languages Known: English, Urdu, Punjabi, Hindi & Chinese
Mobile No. +92-333-6304269
Email: dr.rehmani.mia@hotmail.com, mrehmani@gudgk.edu.pk

EDUCATIONAL QUALIFICATIONS

PhD Agronomy, (Agroclimatology and Environmental Ecology) 2011

Nanjing Agricultural University, Nanjing, China (HEC Overseas Scholarship for Ph.D.)

Thesis: *Assessment of regional temperature extremes, and study the effects of asymmetric warming on yield and quality of two contrasting rice (Oryza sativa L.) hybrids.*

M.Sc. (Hons.) Agriculture (Agronomy) 2006

University of Agriculture, Faisalabad, (UAF), Pakistan.

Thesis: *Impact of organic and inorganic sources of fertilizers on the growth and yield of fodder maize (Zea mays L.)*

B.Sc. (Hons.) Agriculture (Agronomy) 2004

University College of Agriculture (UCA), Bahauddin Zakarya University (BZU) Multan, Pakistan.

Report: Effect of band placement of fertilizers and their different rates on germination and early growth of cotton.

Research Interest: My research interests lie in the area of agroclimatology; environment monitoring system; climate change impact assessment, Plant nutrition; environmental ecology; plant environment interaction, plant abiotic stress, crop modelling, crop ecophysiology and sustainable agriculture.

Recently I was involved in construction of Free-air Temperature Enhancement (FATE) and Rainout Shelter at US-Pakistan Center for Advanced Studies in Agriculture and Food Security (USPCAS-AFS) at University of Agriculture, Faisalabad, Pakistan in collaboration with the UC Davis, USA. I am supervising postgraduate students and conducting research on various aspects of plant nutrition.

During my PhD, I have analyzed historical data of Jiangsu province (China) to assess the changing pattern of temperature extremes (daily maximum and minimum temperatures) during rice growing season. I have detected heatwaves based on daily maximum and minimum temperatures and proposed that rapid increase in daily minimum temperature and hot nights are the threat to rice production in the lower reaches of Yangtze River Valley. Later I designed and constructed Danyang FATE (Free-air Temperature Enhancement) facility with open-field infrared heater arrays to increase rice-wheat canopy temperature in lower Reaches of Yangtze River Valley to simulate different scenarios global warming. In the final step I investigated impact of warming resembling IPCC B1 and A2 scenarios on yield components and quality parameters e.g., protein fractions, amino acid contents, starch and sugar contents of two indica rice hybrids. Results from these experiments would help to understand susceptibility of rice crop to predicted global warming at regional level and will provide guideline for food security.

Professional Experience (>10 years)

- Chief Librarian, Ghazi University, D.G. Khan, Pakistan (Since 01 September, 2017)
- Assistant Professor (TTS) Department of Agronomy, Ghazi University D.G. Khan, (Since June, 11, 2014).

Courses Taught: Postgraduate Classes

- AGR-722/711 (Climate Change and Agriculture) (Since 2014)

- AGR-705 (Applied Crop Ecology) (Since 2014)

Undergraduate Classes

- AGR-101 (Basic Agriculture); AGR-301 (Crop Ecology); AGR-303 (Irrigation Agronomy); AGR-308 (Plant Nutrition); AGR-310 (Crop Growth Modelling and its Application in Agriculture)
- Assistant Professor (TTS) College of Agriculture, D.G. Khan, Sub-Campus of University of Agriculture, Faisalabad (July, 27, 2012 to June 10, 2014). (Sub-Campus merged as newly established Ghazi University, D.G. Khan)

Courses Taught: Postgraduate Classes

- AGR-705 (Applied Crop Ecology)
- AGR-711 (Agro-Meteorology)

Undergraduate Classes

- AGR-301 (Crop Ecology); AGR-303 (Irrigation Agronomy); AGR-308 (Plant Nutrition); AGR-310 (Crop Growth Modelling and its Application in Agriculture); AGR-317 (Water Relations of Crop Plants); AGR-407 (Environmental Physiology and Crop Improvement)
- Assistant Professor (IPFP) Department of Environmental Sciences, B.Z. University Multan (March, 15, 2012-July 26, 2012).

Course Taught to Undergraduate Classes:

- ENV-404 (Climatology)
- Research Associate, Key Laboratory of Crop Physiology & Ecology in Southern China, Nanjing Agricultural University, Nanjing, China (January 2008- December 2011).
- Lecturer (Visiting), University College of Agriculture, B.Z. University Multan (Aug-Dec 2006).

Academic Honours and Awards:

- Recipient of “Excellent International Students award of the year” and cash prize, **2011**, Nanjing Agricultural University, Nanjing, China.
- Recipient of “Excellent International Students award of the year” and cash prize, **2010**, Nanjing Agricultural University, Nanjing, China.
- Recipient of PhD Overseas Scholarship, Higher Education Commission (HEC) of Pakistan
- Recipient of President Gold Medal Rover Scout (**Provincial Gold Medal**, Punjab BSA (2005).

Selected Publications

(Total Publications: 18; Impact Factor: 43.513; Total Citations: 222; h index = 9; i10 index = 9)

1. Rehmani, MIA, G. Wei, N. Hussain, G. Li, C. Ding, Z. Liu, Z. S. Wang and Y. Ding. 2014. Yield and quality responses of two indica rice hybrids to post-anthesis asymmetric day and night open-field warming in lower reaches of Yangtze River delta. *Field Crops Res.* 256:231-241. (Impact Factor: 2.976). <http://www.sciencedirect.com/science/article/pii/S0378429013003250>
2. Rehmani, M.I.A. J. Zhang, G. Li, S.T. Ata-Ul-Karim, S. Wang, B.A. Kimball, C. Yan, Z. Liu and Y. Ding. 2011. Simulation of future global warming scenarios in rice paddies with an open-field warming facility. *Plant Methods.* 7:41. (Impact Factor: 2.833) <http://plantmethods.biomedcentral.com/articles/10.1186/1746-4811-7-41>
3. Ata-Ul-Karim, S.T., Y. Zhu, Q. Cao, M.I.A. Rehmani, W. Cao and L. Tang. 2017. In-season assessment of grain protein and amylose content in rice using critical nitrogen dilution curve. *European Journal of Agronomy.* 90: 139-151. (Impact Factor: 3.757). <http://www.sciencedirect.com/science/article/pii/S1161030117301090>
4. Ata-Ul-Karim, S.T., Q. Cao, Y. Zhu, L. Tang, M.I.A. Rehmani, W. Cao. 2016. Non-destructive assessment of plant nitrogen parameters using leaf chlorophyll measurements in rice. *Frontiers in Plant Sciences.* 7:1829. (Impact Factor: 4.495). <http://dx.doi.org/10.3389/fpls.2016.01829>
5. Bi, J., Z. Liu, Z. Lin, M.A. Alim, M.I.A. Rehmani, G. Li, G., Q. Wang, S. Wang, Y. Ding. 2013. Phosphorous accumulation in grains of japonica rice as affected by nitrogen fertilizer. *Plant Soil.* 369 (1-2), 231-240. (Impact Factor 3.235). <http://link.springer.com/article/10.1007/s11104-012-1561-4>
6. Ding, C., J. You, Z. Liu, M.I.A. Rehmani, S. Wang, G. Li, Q. Wang, Y. Ding. 2011. Proteomic Analysis of Low Nitrogen Stress-Responsive Proteins in Roots of Rice. *Plant Molecular Biology Reporter:* 29: 618-625. (Impact Factor: 2.453). <http://link.springer.com/article/10.1007/s11105-010-0268-z>

7. Wei, G., **Rehmani, M.I.A.**, Xiong, J., Ding, Y. Wang, S. 2013. A simple tillering model for irrigated japonica rice based on measured relative SPAD for lower reaches of Yangtze River delta, China. *Int. J. Agri. Biol.*, 15:48-54 (**Impact Factor 0.808**)
http://www.fspublishers.org/published_papers/56333...pdf

HEC Recognized Journal Publication

1. **Rehmani, M.I.A.**, M.F. Fareed, A.M. Alvi, M. Ibrahim, N. Hussain, S. Hussain, J. Iqbal, M.A. Bashir, H. Nawaz. 2016. Delayed wheat (*Triticum aestivum* L.) cultivation and role of diverse seeding rates and row spacings under semiarid agro-climatic situations. *Pure Appl. Biol.* 5(1):72-84. (HEC Recognized Journal). <http://www.thepab.org/files/2016/March-2016/PAB-MS-150105.pdf>
2. Nawaz, H., N. Hussain, **M.I.A. Rehmani**, A. Yasmeen, M. Arif. 2016. Comparative performance of cotton cultivars under conventional and ultra-narrow row (UNR) spacing. *Pure Appl. Biol.* 5(1):15-25. (HEC Recognized Journal) (**Citations: 01**) <http://www.thepab.org/files/2016/March-2016/PAB-MS-15092.pdf>
3. Mahpara, S., **M.I.A. Rehmani**, S. Hussain, J. Iqbal, M.K. Qureshi, M.A. Shehzad and J.S. Dar. 2017. Heterosis for some physio-morphological plant traits in spring wheat crosses. *Pure Appl. Biol.* 6(4):1103-1110. <http://dx.doi.org/10.19045/bspab.2017.600118>
4. Kausar, R., M.A. Bashir, M.S. Nisar, **M.I.A. Rehmani**, M.S. Hashami, S. Atta. 2017. Eco-friendly management of pulse beetle (*Callosobruchus chinensis*) by using different plant materials. *Asian J. Agric. Biol.* 5(2): 99-106.
5. Dar, J.S., Pushpa, **M.I.A. Rehmani**, Z.A. Abbasi, A.G. Magsi. 2016. Effect of starter nitrogen on yield and yield components of chickpea (*Cicer arietinum* L.) at Dokri, Larkana. *Pure Appl. Biol.* 5(4):1296-1303.
6. Elahi, N., M.I.A. Rehmani, A. Majeed, M. Ahmad. 2018. Salicylic acid improves physiological traits of *Zea mays* L. seedlings under copper contamination. *Asian J. Agric. Biol.* 6(1): 115-124.
7. Kausar, R., M.A. Bashir, M.S. Nisa, M.I.A. Rehmani, M.S. Hashmi and S. Atta. 2017. Eco-friendly management of pulse beetle (*Callosobruchus chinensis*) by using different plant materials. *Asian J. Agric. Biol.* 5(2): 99-106.

Oral Presentation:

1. **Rehmani, M.I.A.**, Simulation of predicted warming scenarios using free air temperature enhancement (FATE) facility. International Conference on Tackling Climate Change Through Plant Breeding, November 13-15, 2017, PMAS Arid Agriculture University, Rawalpindi, Pakistan. (Invited Speaker).
2. **Rehmani, M.I.A.**, Ahmed, S., W. Nazeer, J. Iqbal, N. Hussain. 2016. Changing climate and Punjab cotton yield in 2015. In: 3rd International Conference on Global Environmental Changes and Green Expo. March 22-23, 2016. G.C. University, Faisalabad Pakistan.
3. **Rehmani, M.I.A.**, Ding, Y., Ata-Ul-Karim, S.T. Li, G. *Response of rice hybrids to B1 global warming scenario, simulated under open-field condition*. 2nd International Conference on Global Environmental Changes. February 26-26, 2014. G.C. University, Faisalabad, Pakistan.
4. **Rehmani, M.I.A.**, Ding, Y., Ata-Ul-Karim, S.T. Li, G. *Infrared heater array to simulate high emission scenario in the open-field rice paddies*. International Annual Meetings of American Society of Agronomy. October 21-24, 2012. Cincinnati, Ohio, USA.
5. **Rehmani, M.I. A.**, Ding, Y., Zhang J. Wang, S., Li, G., Liu, Z., Wang, Q. *Vulnerability of regional warming on rice production in Yangtze River Valley: an overview of potential simulation techniques*. International seminar on Crop Management: Issues and Options. June 01-02, 2011, Faisalabad, Pakistan.

Poster Presentation:

1. **Rehmani, M.I.A.**, Ding, Y., Ata-Ul-Karim, S.T. Li, G. *Development of experimental facility to simulate global warming scenarios*. 2nd International Conference on Global Environmental Changes. February 26-26, 2014. G.C. University, Faisalabad, Pakistan.
2. **Rehmani, M.I. A.**, Ding, Y., Wang, Q., Liu, Z., Li, G., Wang, S., Zhang JQ. *Adoption of infrared heater array for warming rice crop*. 28th International Rice Congress (IRC28) November 2010, Hanoi, Vietnam.

Proceedings:

1. Ata-Ul-Karim, S.T., X. Yao, X. Liu, Z. Lu, **M.I.A. Rehmani**, Y. Zhu, W. Cao. 2013. Determination of critical nitrogen dilution curve for rice. Chinese Conference on Precision Agriculture. 5-6 December, 2013, Shanghai, China.
2. **Rehmani, M.I.A.**, Ding, Y., Zhang J. Wang, S., Ata-Ul-Karim, S.T. Li, G., Liu, Z., Wang, S., Kimball, B. *Construction of Danyang-FATE Facility to Simulate Heatwave Effect In the Paddy Fields of Lower Reaches of Yangtze River Valley, China*. Fundamental for Life: Soil, Crop and Environmental Sciences, International Annual Meetings of American Society of Agronomy. October 16-19, 2011. San Antonio, Texas, USA.

Seminars/Trainings Arranged:

- Automatic Citation Management in Scientific Writing using Endnote” at Ghazi University, D.G. Khan, Pakistan on March 2017.
- “Application of Molecular Techniques in Crop Improvement” at Ghazi University, D.G. Khan, Pakistan on 21st April 2016.
- “Sustainable Ecosystem under Changing Climate” at Ghazi University, D.G. Khan, Pakistan on 8th September 2016.
- “Radiation Safety & Environmental Radioactivity” at College of Agriculture, D.G. Khan on 26-05-2014.
- “Application of Ionizing Radiation in Everyday Life and Its Hazards & Protection” at College of Agriculture, D.G. Khan on 11-10-2013.
- Weekly Seminar organized at College of Agriculture, D. G. Khan, Sub Campus of University of Agriculture, Faisalabad

Projects Designed

1. Designed and constructed Danyang FATE facility, Danyang, Jiangsu, China, the first open-field warming facility in the world for rice paddies.
 - I. Acquired funding from “Special Fund for Agro-scientific Research in the Public Interest: Impact of Climate Change on Agricultural Production of China”, Project No. 200903003 (10.0 million CNY, US\$ 1.58 million equivalent).
 - II. The Fundamental Key Technology Support Program of China, Project No. KYT201005 (0.5 million CNY, US\$ 80,000 equivalent)
 - III. The National Key Technology Support Program of China, Project No. 2011BAD16B14 (0.82 million CNY, US\$ 130,00 equivalent)
2. Designed and constructed Free-air Temperature Enhancement (FATE) and Rain-out Shelter facility, US-Pakistan Center for Advanced Studies in Agriculture and Food Security (USPCAS-AFS) at University of Agriculture, Faisalabad, Pakistan

PROFESSIONAL TRAININGS AND COMPUTER SKILLS

1. Asia Pacific Region (APR) Workshop on Environmental Education in Scouting, at National Headquarters, Pakistan Boy Scouts Association, Islamabad, Pakistan 14-18 September, 2015.
 2. HEC Training on Development of Effective and Efficient Career Counseling Center at Public Sector HEIs in Pakistan, 20-21 March 2017.
 3. Participant, Summer School on “Water Informatics: Science and Systems” at Center of Water Informatics and Technology (WIT), Lahore University of Management Sciences, 21-23 May, 2017.
 4. One Day Training “Capacity Building on Production Technology of Hybrid Rice” 15th April, 2016, Ghazi University, D.G. Khan.
 5. Hands-on Training on “Soil, water and plant analysis”, March 2013, NIAB Faisalabad
 6. 20 Days training Environment Monitoring System, Data acquisition, and maintenance for Danyang FATE facility (Datalogger CR-1000, Watchdong ET2900 weather station, environment monitoring sensors, related equipments and soft wares)
 7. Molecular Techniques Training (SDS-PAGE, 2-Dimensional Electrophoresis, PCR) Nanjing Agricultural University, Nanjing.
 8. MS Office Suite (Ms-Word, Excel, Power Point)
 9. “Computer Literacy Program ” 2001, BZU, Multan
 10. Crop Models (DSSAT)
-
-

Professional Memberships:

- Pakistan Society of Agronomy (PSA)
- American Society of Agronomy (ASA)
- Crop Science Society of America (CSSA)
- Soil Science Society of America (SSSA)
- Soil Science Society of Pakistan (SSSP)

Advisory, Administrative and Community Services:

- Provincial Coordinator and Chairman Recommendation Committee “Better World Framework”, Punjab, (March 2017 to date)
- In Charge activities “**Environment Awareness Campaign**” Ghazi University, D.G. Khan 2016.
- Chairman Recommendation Committee “**Asia Pacific Region (APR) Workshop on Environment Education in Scouting**” 14-18 September, 2015, Islamabad, Pakistan.
- **Member International Student’s Administrative Committee**, Tianjin Normal University, China (2007)

Reviewer of International Impacted Journals

- **Science of the Total Environment**,
- **Journal of Experimental Botany**,
- **Frontiers in Plant Sciences**
- **PlosOne**
- **Plant Methods**
- **Australian Journal of Crop Science**
- **Asian Journal of Agriculture and Biology**

Member Editorial Board of Scientific Journals

- Editor-in-Chief “**Journal of Environmental and Agricultural Sciences**” ISSN 2313-8629
- Editor “**Science Letters**” ISSN 2311-3219
- Editor “**Pure and Applied Biology**” ISSN 2304-2478 (HEC Recognized Journal)
- Regional Editor “**Turkish Journal of Agriculture, Food Science and Technology**” ISSN: 2148-127X

EXTRACURRICULAR DISTINCTIONS

- Letter of appreciation from Ambassador of Pakistan to China, May 29th, 2009.
- Asia Pacific Region (APR) Scouts Youth Forum, Tokyo, Japan. (2007)
- 5th South Asian Foundation (SAF) Scouts Friendship Camp, Ghora Gali, Murree, Pakistan (2007).
- 4th South Asian Foundation (SAF) Scouts Friendship Camp, Nuwara Eliya, Sri Lanka (2006).
- **UNDP** South Asian Youth Forum on “AIDS Prevention” Sri Lanka (2006).
- **University Colour**, Rovering and Hiking, 2005.
- **HEC** Intervarsity Rovering, Hiking and Mountaineering Championships, 2005, 1st Position

Language Skills

- English (Full Professional Proficiency).
- Urdu (Native or Bilingual Proficiency)
- Hindi (Native or Bilingual Proficiency)
- Punjabi (Native or Bilingual Proficiency)
- Chinese (Working Communication)
- Arabic (Basic)

References

Prof. Dr. Yanfeng Ding, Vice President, Nanjing Agricultural University, Nanjing, China
Prof. Dr. Weixing Cao, Nanjing Agricultural University, Nanjing, China
Prof. Dr. Bruce A. Kimball, USDA, ARS, USA
Prof. Dr. Nazim Hussain, Department of Agronomy, B.Z. University, Multan, Pakistan