

# CURRICULUM VITAE

## ***Dr. MAHMOOD LAGHARI***

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### **Present Address**

Associate Professor & Chairman,  
Department of Energy and Environment, Faculty of Agricultural  
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Sindh Agriculture University Tandojam 70060, Sindh, Pakistan.  
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### **Education and Competitive Examination**

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**Ph.D. in Environmental Engineering**, Huazhong University of Science and Technology (HUST), Wuhan, P.R. China 2012—2015, 1<sup>st</sup> division

**Dissertation Title:** Preparation of fast pyrolysis biochars and their applications in desert soils

**Supervisors:** Prof. Dr. Bo Xiao and Prof. Dr. Zhiquan Hu

**M.E. in Agricultural Engineering**, Sindh Agriculture University Tando Jam, Pakistan 2010 — 2012, 1st division (84% marks).

**Thesis Title:** Performance Evaluation of Tractor Mounted Fertilizer Spreader

**Supervisor:** Dr. Naimatullah Laghari

**B.E. in Agricultural Engineering**, Sindh Agriculture University Tando Jam, Pakistan 2000 — 2004, 1st division (74% marks).

**Intermediate (Pre-Engineering)**, Government Degree College Sanghar, Sindh, Pakistan, 1999 (C Gade, 58% Marks).

**Matriculation (Science)**, Government High School Moulvi Khair Muhammad Ahmadani, Sanghar, Sindh, Pakistan, 1997 (A Grade 78% Marks).

**Graduate Assessment Test (GAT-General)**. National Testing Services (NTS) Pakistan, August 07, 2011. Test Score: English 69.62%, Analytical 39.47%, Quantitative 79.82%, Accumulative 76.76%.

### **Award**

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Overseas Ph.D. Scholarship under the University Mega Project entitled “Strengthening and Development of Sindh Agriculture University, Tandojam” Funded by Higher Education Commission (HEC) of Pakistan.

### **Research Publications**

**Impact Factor: 35.902**

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1. Ali Raza Shah, Mashooque Talpur, **Mahmood Laghari**, Ali Mujtaba Shah, Ahmed Memon, Shakeel Ahmed Soomro and Majeeduddin Solangi. Fuel consumption and operational cost of various tillage implements. *Science-International (Lahore)*,28(3) (2016) Pp. 2651-2653.
2. **Mahmood Laghari**, Ravi Naidu, Bo Xiao, Zhiquan Hu, Muhammad Saffar Mirjat, Mian Hu, Muhammad Nawaz Kandhro, Zhihua Chen, Dabin Guo, Qamardudin Jogi, Zaidun Najj Abudi and Saima Fazal. Recent developments in biochar as an effective tool for

- agricultural soil management - a review. *Journal of the Science of Food and Agriculture*. (2016) DOI: 10.1002/jsfa.7753 (IF, 2.076).
3. Zaidun Naji Abudia, Zhiquan Hu, Bo Xiao, Alkhafaji R. Abood, Nagham Rajaab, **Mahmood Laghari**. Effects of pretreatments on thickened waste activated sludge and rice straw co-digestion: Experimental and modeling study. *Journal of Environmental Management*. 177 (2016): 213–222. (IF, 3.131)
  4. Mashooque Ali Talpur, Ji Changying, Shafique Ahmed Junejo, Ma Ran, Asadullah Sarki, Ali Raza Shah, **Mahmood Laghari**. Effect of weather on rice crop cultivation: Case study of Jiangpu farm, Nanjing-China. *Science International-(Lahore)*. 28(2) (2016): 1275–1278.
  5. Mian Hu, Zhihua Chen, Shengkai Wang, Dabin Guo, Caifeng Ma, Yan Zhou, Jian Chen, **Mahmood Laghari**, Saima Fazal, Bo Xiao, Beiping Zhang, Shu Ma. Thermogravimetric kinetics of lignocellulosic biomass slow pyrolysis using distributed activation energy model, Fraser–Suzuki deconvolution and iso-conversional method. *Energy Conversion and Management*. 118 (2016): 1–11. (IF, 4.801).
  6. Mian Hu, Lan Gao, Zhihua Chen, Caifeng Ma, Yan Zhou, Jian Chen, Shu Maa, **Mahmood Laghari**, Bo Xiao, Beiping Zhang, Dabin Guo. Syngas production by catalytic in-situ steam co-gasification of wet sewage sludge and pine sawdust. *Energy Conversion and Management*. 111 (2016): 409–416. (IF, 4.801).
  7. Dabin Guo, Liandong Zhu, Sheng Guo, Baihui Cui, Shipeng Luo, **Mahmood Laghari**, Zhihua Chen, Caifeng Ma, Yan Zhou, Jian Chen, Bo Xiao, Mian Hu, Shiyi Luo. Direct reduction of oxidized iron ore pellets using biomass syngas as the reducer. *Fuel Processing Technology*. 148 (2016): 276–281 (IF, 3.847)
  8. Beiping Zhang, Lan Gao, Saima Fazal, Qaisar Mahmood, **Mehmood Laghari**, Azizullah Sayal. Biosand filter containing melia biomass treating heavy metals and pathogens. *Polish Journal of Environmental Studies*. 25(2) (2016): 859-864. (IF, 0.790)
  9. Muhammad Nawaz Kandhro, Habib-ur-Rehman Memon, **Mahmood Laghari**, Abdul Wahid Baloch and Muhammad Ali Ansari. Allelopathic impact of sorghum and sunflower on germinability and seedling growth of cotton (*Gossypium hirsutum* L.). *Journal of Basic & Applied Sciences*, 12 (2016): 98-102.
  10. **Mahmood Laghari**, Zhiquan Hu, Muhammad Saffar Mirjat, Bo Xiao, Ahmed Ali Tagar, Mian Hu. Fast Pyrolysis biochar from sawdust improves the quality of desert soils and enhances plant growth. *Journal of the Science of Food and Agriculture*. 96(1) (2016): 199-206. (IF, 2.076).
  11. Adnan, T. A. Khan, K. Sheraz and **M. Laghari**. Relationship between seepage and discharge for kabul river in district nowshera. *Pak. J. Agri., Agril. Engg., Vet. Sci.* 31(2) (2015): 249–259.
  12. Muhammad Nawaz Kandhro, Ahmed Naqi Shah, Habib-ur-Rehman Memon, Muhammad Ibrahim Kubar and **Mahmood Laghari**. Weed management and yield improvement in cotton through allelopathic mulches of sorghum and sunflower straw. *Pak. J. Weed Sci. Res.* 21(4) (2015): 523-532.
  13. Shamim Ara Memon, Rajesh Kumar Suthar, Munir Ahmed Mangrio, Raza Hassan Saraz, **Mahmood Leghari**, and Ali Raza Shah. Comparison of observed with theoretical roughness coefficient under lined and unlined water courses. *Science International-(Lahore)*. 27 (2015): 6053-6056.

14. Mian Hu, Dabin Guo, Caifeng Ma, Shipeng Luo, Xiaojuan Chen, Qunpeng Cheng, **Mahmood Laghari**, Bo Xiao. A novel pilot-scale production of fuel gas by allothermal biomass gasification using biomass micron fuel (BMF) as external heat source. *Clean Technologies and Environmental Policy*. (2015). DOI 10.1007/s10098-015-1038-2. (IF, 1.934).
15. Zhiqun Hu, Zhihua Chen, Genbao Li, Xiaojuan Chen, Mian Hu, **Mahmood Laghari**, Xun Wang, Dabin Guo. Characteristics and kinetic studies of Hydrilla verticillata pyrolysis via thermogravimetric analysis. *Bioresource Technology*. 194 (2015): 364-372. (IF, 4.917).
16. **Mahmood Laghari**, Muhammad Saffar Mirjat, Zhiqun Hu, Saima Fazal, Bo Xiao, Mian Hu. Dabin Guo. Effects of biochar application rate on sandy desert soil properties and sorghum growth. *Catena*.135 (2015): 313-320 (IF, 2.612).
17. Zhihua Chen, Mian Hu, Xiaolei Zhu, Dabin Guo, Shiming Liu, Zhiqun Hu, Bo Xiao, Jingbo Wang, **Mahmood Laghari**. Characteristics and kinetic study on pyrolysis of five lignocellulosic biomass via thermogravimetric analysis. *Bioresource Technology*. 192 (2015): 441–450. (IF, 4.917).
18. **M. Laghari**, N. Laghari, A.R.Shah and F.A Chandio. Calibration and performance of tractor mounted rotary fertilizer spreader. *International Journal of Advance Research*. 2(4) (2014): 839-846.
19. A.G. Raper, **M. Leghari**, M.A. Jakhro and G.M. Jamro. Pre and post harvesting wheat grain losses as influenced by days and timings. *Life Sciences International*. 4(4)(2010): 1871-1873
20. A.G. Raper, M.A. Jakhro, **M. Leghari**, and G.M. Jamro. Effects of irrigation frequencies on the growth and yield of Mungbean. *Life Sciences International*. 4(4)(2010): 1893-1899.
21. A.G. Raper, **M. Leghari**, M.A. Jakhro, N. Leghari, and S. Jamro. Effect of tillage operations and NP regimes on the growth and green fodder yield of maize. *Life Sciences International*. 4(4)(2010): 1912-1917.
22. **M. Leghari**, A.G. Raper, M.A. Jakhro and G.M. Jamro. Effect of irrigation scheduling on the seed index and seed cotton yield. *Life Sciences International*. 4(4)(2010): 1946-1949.
23. M.A. Jakhro, A.G. Raper, **M. Leghari**, and A.N. Shah. Effect of sowing patterns on the growth and seed yield of sunflower. *Life Sciences International*. 4(4)(2010): 1982-1987.
24. Sarki A., Memon S.Q., **Leghari M.** Comparison of Different Methods for Computing Seepage Losses in an Earthen Watercourse. *Agricultura Tropica ET Subtropica*. 41(4) (2008): 197-205.

#### **National / International Conferences Proceedings**

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1. **Mahmood Laghari**, Zhiqun Hu, Bo Xiao, Mian Hu. Influence of an Acidic Biochar on Desert Soil Properties and Plant Growth. In: 2nd International Symposium on Biochar and Green Agriculture (BioGra 2015), Nanjing, Jiangsu, China, Apr. 14-18th, 2015.
2. **Mahmood Laghari**, Zhiqun Hu, Bo Xiao, Mian Hu, Mingwei Tian. Improving Soil Quality of Kubuqi Desert with the Addition of High Temperature Biochar. In: 2nd CLEAR 2014, Chuncheon, Korea, Oct. 5-8th, 2014.
3. **Mahmood Laghari**, Zhiqun Hu, Bo Xiao, Muhammad Siddique Lashari, Mian Hu, Mingwei Tian. Influence of Pine Sawdust Biochar on Water Holding Capacity of Sandy Soil. In:

International Workshop on “Biochar in Pakistan: Opportunities and Potential”, Faisalabad, Pakistan, March. 24-27th, 2014.

### **Teaching and Research Experience**

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1. **Associate Professor and Chairman**, Department of Energy and Environment, Faculty of Agricultural Engineering, Sindh Agriculture University Tandojam, Sindh, Pakistan (February 16, 2017— present)
2. **Assistant Professor**, Department of Energy and Environment, Faculty of Agricultural Engineering, Sindh Agriculture University Tandojam, Sindh, Pakistan (January 08, 2016 — February 15, 2016)
3. **Assistant Professor**, Department of Farm Power & Machinery, Faculty of Agricultural Engineering, Sindh Agriculture University Tandojam, Sindh, Pakistan (July 13, 2015 — January 07, 2016)
4. **Lecturer**, Department of Farm Power & Machinery, Faculty of Agricultural Engineering, Sindh Agriculture University Tandojam, Sindh, Pakistan (July 01, 2008 — July 12, 2015).

### **Professional Experience**

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1. **Support Service Engineer**, Engro Polymer & Chemicals Limited (EPCL), Karachi, Pakistan (March 2007 — June 2008)

#### *Job description:*

*a. Designing and construction of PVC geomembrane lining projects such as water storage reservoirs, ponds, irrigation channels, roof treatment, basement lining etc.*

*b. Designing and construction of drip irrigation systems on wide scale and sprinkle irrigation system on a small-scale level for landscaping in Karachi.*

2. **Junior Engineer**, Project Implementation Assistance Consultants (PIA), Sindh On-Farm Water Management (SOFWM) Project, Field Team Hyderabad, Sindh, Pakistan (September 2005 — February 2007).

#### *Job description:*

*Verification of the lining of earthen water courses under National Program for Improving Water Courses (NPIW) in Pakistan. The responsibilities included; the verification of survey, design, cost estimates, ongoing civil work and the final certification of lined water courses.*

### **National / International Trainings and Workshops Attended**

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1. Second International Training Course on Biochar Production, Testing and Applications. October 25 to November 01, 2013. Held at Zhejiang A & F University, Hangzhou, China.
2. Energy Conservation in Agriculture Sector. November 29, 2010. Attended workshop as a resource person, held at City Gate Hotel Hyderabad. Organized by National Productivity Organization (NPO) Pakistan.
3. Modeling Water flow and Contaminant Transport in Soils and Ground Water. August 6-11, 2010. Held at Sindh Agriculture University Tandojam with the collaboration of Higher Education Commission Islamabad, Pakistan.
4. Second Regional Workshop on Sustainable Water Management. August 4-5, 2009. Held at Indus Hotel Hyderabad. Organized by SAU, MUET, and University of Exeter, UK.
5. 11<sup>th</sup> Master Trainer Faculty Professional Development Program. April 21-July 18, 2009. Held at Higher Education Commission Islamabad, Pakistan.

6. Application of Modern Statistical Techniques in Agriculture and Animal Sciences. March 09-14, 2009. Training program organized by Higher Education Commission Islamabad, Pakistan held at SAU Tandojam.

### **Professional Membership**

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Registered Engineer at Sr. No. AGRI/2666 in Pakistan Engineering Council (PEC).

### **Courses Taught**

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1. EE-305- Industrial Chemistry, undergraduate program
2. FPM-306- Engineering Drawing & Graphics, undergraduate program
3. FPM-407- Thermodynamics, undergraduate program
4. FPM-706- Farm Machinery, undergraduate program
5. EE- 706- Environmental Impact Assessment, Postgraduate program
6. FPM- 702- Advanced Farm Power, Postgraduate program

### **Research Supervisor**

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1. Effect of biochar particle size and application rate on physico-chemical properties of sandy soil
2. Design and construction of lab-scale composters for agricultural and municipal bio-wastes
3. Assessment of briquetted biomass available in the surroundings of Tandojam as a fuel for household use
4. Evaluation of biochar potential for campus wastewater treatment
5. Effect of mechanized fertilizer application on growth and yield of maize (Supervisor B.E).
6. Effect of different tillage implements of performance of land leveler (Supervisor B.E).
7. Effect of different biochars on hydraulic properties of coarse textured soils of Sindh (Supervisor M.E.).
8. Biomass status in Hyderabad district and its potential for biochar production (Supervisor M.E.).
9. Effect of traffic noise pollution on health of citizens of Hyderabad (Supervisor M.E.).

### **Additional Official Assignments**

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1. Chairman Departmental Board of Studies (Energy and Environment)
2. Coordinator, Post-graduate Programs, Faculty of Agricultural Engineering
3. Member Sindh Agriculture University Publication cell
4. Member Program Team, department of Energy and Environment for quality enhancement cell (QEC)
5. Member Sports Management Committee
6. Member Admissions Committee, SAU, Tandojam
7. Tabulator, Faculty of Agricultural Engineering at Controller of Examinations Office

**Personal Information**

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Father's Name: Abdul Ghani Laghari  
Date of birth: February 05, 1982  
Passport No: SA0151331  
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Driving License No: 44203-0609133-9#1271  
Domicile. Sanghar (Rural)