Javed Iqbal, Ph.D.
Department of Agronomy, 2207 Agronomy Hall
Iowa State University, Ames IA 50011
Cell: 859-536-5345, Office: 515-294-3907
Email: jiqbal@iastate.edu

Residence Status: US permanent resident

Education:

2013-2014	**Preparing Future Faculty**, a selective professional development program. Iowa State University, Ames IA Courses taken: Gr st 585, Gr st 586
2006-2009	**Ph.D**. Soil Science – Soil Biogeochemistry, Huazhong Agriculture University, Wuhan, China Advisors: Dr. Hu Ronggui, and Dr. Qiaoyun Huang Dissertation: *Impacts of Different Land Uses on Carbon Fluxes from Subtropical Soils in Central China: Implications for Carbon Sequestration*
2004-2006	**M.Sc**. Soil Science/Agronomy, University of Agriculture, Faisalabad, Pakistan Advisors: Dr. Hafiz Naeem Asghar, and Dr. Zahir Ahmad Zahir Thesis: *Enrichment of Recycled Organic Waste with Nitrogen and Biologically Active Substances for Improving Growth and Yield of Wheat (Triticum Aestivum L.)*
2000-2004	**B.Sc**. Soil Science/Agronomy, University of Agriculture, Faisalabad, Pakistan Advisors: Dr. Hafiz Naeem Asghar, and Dr. Zahir Ahmad Zahir Internship report title: *Salt Stresses Cotton Growth*

Honors:

- Excellence in Ph.D. Dissertation award 2009. Huazhong Agricultural University (HZAU), China.
- Excellence in Provincial Ph.D. Dissertation award 2009. Hubei province, China.
- National Excellence in Ph.D. Dissertation Nomination Prize 2010. Huazhong Agricultural University.
- Ph.D. Fellowship 2006-2009. Ministry of Education Pakistan and Chinese Scholarship Council in China.

Professional Experience:

2011-present — Post-doctoral Associate, Department of Agronomy, Iowa State University, Ames IA, USA

- Determined the effect of N fertilizer rates and cover crop on NO_3 concentration and N_2O emissions in corn-soybean based cropping system in Iowa.
- Modelled DayCent process-based simulations to study the effect of drought years, cover crops, and N fertilizer rates on soil NO_3 retention, soil organic carbon storage, and soil N_2O and CO_2 emissions.
- Examined the effect of optimum tile drainage depths on soil carbon and nitrogen dynamics in corn-soybean based rotation.
- Lead spatial variability demonstrations of corn and soybean yields in Iowa counties.
- Examined the mechanism of NO_3 removal by perennial vegetation filter strips in corn-soybean watersheds at Neal Smith Wild Life Refuge Center in Iowa.
- Coordinated soil carbon and nitrogen flux measurements at 11 institutions across 8 Midwestern states with 20 field test sites in *The Climate Change, Mitigation and Adaptation in Corn based Cropping system, USDA-NIFA A3101 project* (www.sustainablecron.org)
- Evaluated and compared photo acoustic infrared gas analyzer with conventional gas chromatograph for simultaneous measurement of CO_2 and N_2O gas concentration and fluxes at the soil surface.
- Volunteered for teaching class sections of undergraduate Agr-154: Fundamentals of Soil Sciences, and Agr-155: Soils for Horticultural Scientists.
- Mentored undergraduate research assistants in the Soil Biogeochemistry lab.
- Trained research technicians on use of equipment for measuring soil greenhouse gas emissions in sustainable corn project (www.sustainablecron.org).
- Presented research results in professional societies and seminars.

2009-2011 — Post-doctoral Scholar, Department of Plant and Soil Sciences, University of Kentucky, Lexington KY, USA

- Assessed soil carbon sequestration potential of tall fescue stands in Southeastern US.
- Determined the effect of novel fungal endophytes on greenhouse gas (CO_2, N_2O and NH_3) emissions and plant species diversity.

- Determined the effect of fungal endophytes on litter decomposition rates.
- Presented research results in professional societies and seminars.
- Mentored undergraduate research assistants in Grassland Ecology lab.

2006-2009 Graduate Teaching/Research Assistant, College of Resources and Environment, Huazhong Agriculture University, Wuhan, China

- Lead and coordinated research group for intensive field greenhouse gas (CO_2, N_2O, and CH_4) measurements with land use change in Southern China.
- Estimated carbon storage capacity of the dominant land uses in Southern China.
- Used a three-pool first-order model to separate mineralizable soil organic carbon into active (C_a), slow (C_s) and resistant (C_r) carbon pools with land use change.
- Mentored undergraduate research assistants in Soil Ecology laboratory.
- Presented research results in professional societies, and seminars.

Teaching Experience:

2015-2016 Co-instructor of undergraduate soil judging team at Iowa State University, Department of Agronomy.

2013-2015 Undergraduate teaching for Agron-154: *Fundamentals of Soil Science*, Iowa State University, Department of Agronomy.

- 60 minutes of soil laboratory *lecture* per week, 180 minutes of advising at soils learning center.

2013-2015 Undergraduate teaching for Agron-155: *Soils for Horticultural Scientists*, Iowa State University, Department of Agronomy.

- 180 minutes of advising at soils learning center.

2011-Present Undergraduate and graduate student mentoring, Soil Biogeochemistry Laboratory, Department of Agronomy, Iowa State University.

- About 10 hours of mentoring in laboratory per week.

2009-2011 Undergraduate and graduate student mentoring, Department of Agronomy, University of Kentucky.

- About 10 hours of mentoring in laboratory per week.

2006-2009 Undergraduate students mentoring, Soil Science Department, Huazhong Agricultural University, Wuhan China.

- About 12 hours of mentoring in laboratory per week.

Certifications

2015-present Certified Crop Advisor (CCA)

2014-2015 The certificate of "*Center for the Integration of Research, Teaching and Learning Associate*" at Iowa State University, Ames IA USA, 2014-2015.

Professional Development Teaching Courses and Webinars

- Preparing Future Faculty, a selective professional development program. Teaching in US. At: *Iowa State University* Ames IA 2013-2014. Following include major topics covered in this program.
    - Course design (backward design) / Creating a syllabus
    - Effective teaching strategies
    - Team based learning
    - Classroom management
    - Tests, assessments and rubrics
    - Scholarship of teaching and learning
    - Online learning
    - Large format courses
    - Diversity consideration for higher education
    - Grant and proposal writing
    - Balancing teaching, research, and service

- An Introduction to Evidence-Based Undergraduate STEM Teaching Course. By: *Center for the integration of Research, Teaching and Learning* (CIRTL). Sept-Nov 2015.

- Developing Effective Communicating Skills. Series: Teaching in US. By: *Center for the integration of Research, Teaching and Learning* (CIRTL) Oct 8th 2015.

- Cooperative Group Learning: Critical Thinking in the Large Lecture Class. Series: Fostering Critical Thinking in the STEM Classroom. By: *Center for the integration of Research, Teaching and Learning* (CIRTL) October 14th 2015.

- Critical Thinking and Peer Instruction: Students learning together. Series: Fostering Critical Thinking in the STEM Classroom. By: *Center for the integration of Research, Teaching and Learning* (CIRTL) October 21st 2015.

- Inquiry Based Labs: Rethinking the STEM Laboratory. Series: Fostering Critical Thinking in the STEM Classroom. By: *Center for the integration of Research, Teaching and Learning* (CIRTL) October 28th 2015.

Other Professional Development Courses

- GIS: Introduction to Geographic Information Systems. CRP551 (3 credit hours). At: *Iowa State University*, Ames IA, 2014-2015.

- Statistical field plot techniques. Agron 526 (3 credit hours). At: *Department of Agronomy Iowa State University*, Ames IA, 2014-2015.

- Simulation of soil C and N_2O dynamics using DayCent model. At: *Wisconsin Energy Institute*, *University of Wisconsin Madison*, WI, May 18-23 2014.

- Carbon and greenhouse gas inventory: Demonstration of CAALU (a comprehensive system for land-use GHGs). In: *International Workshop on Soil C Sequestration and Climate Change Mitigation in Agriculture*, Nanjing, China, October 22-27 2008.

- Simulation of soil C and N_2O dynamics using Century/Daycent model. In: *International Workshop on Soil C Sequestration and Climate Change Mitigation in Agriculture*, Nanjing, China, October 22-27 2008.

Publications

- 21 peer reviewed international publications; >300 citations; h-index=11
- 15 (3 invited) oral and poster presentations at conferences and workshops.
- 1 extension publication

Peer Reviewed Publications: (* indicates corresponding author)

Iqbal J*, Mitchell DC, Barker DW, Miguez F, Sawyer JE, Pantoja J, Castellano MJ. 2015. Does nitrogen fertilizer rate to corn affect N_2O emissions from the rotated soybean crop? *Journal of Environmental Quality*, 44:711-719.

Iqbal J*, Parkin TB, Helmers MJ, Zhou X, Castellano MJ. 2015. Denitrification and N_2O emissions in annual croplands, perennial grass buffers and restored perennial grasslands. *Soil Science Society of America Journal* 79; 239-250.

Necpálová M, Anex RP, Fienen MN, Del Grosso SJ, Castellano MJ, Sawyer JE, **Iqbal J**, Pantoja J, Barker D. 2015. Understanding the DayCent model: calibration, sensitivity, and identifiability through inverse modeling. *Environmental Modelling and Software* 66,110-130.

Iqbal J, Castellano MJ, Parkin TB. 2014. Accuracy and precision of no instrument is guaranteed: A reply to Rosenstock et al. Global Change Biology 20, 1363-1365.

Iqbal J*, Castellano MJ, Parkin TB. 2013. Evaluation of photoacoustic infrared spectroscopy for simultaneous measurement of N_2O and CO_2 gas concentrations and fluxes at the soil surface. *Global Change Biology* 19, 327-336.

Iqbal J, Nelson J, McCulley RL. 2013. Fungal endophyte presence and genotype affect plant diversity and soil-to-atmosphere trace gas fluxes. *Plant and Soil* 364-15-27.

Shan L, **Iqbal J**, Ronggui H, Shaan M, Cai J, Chen X. 2013. Nitrous Oxide emission from yellow brown soil as affected by incorporation of crop residues with different carbon to nitrogen ratios: A case study in central China. *Archives of Environmental Contamination and Toxicology*. 10.007/s00244-013-9903-7.

Ibrahim M, Cao CG, Zhan M, Li CF, **Iqbal J**. 2013. Changes of CO_2 emission and labile organic carbon as influenced by rice straw and different water regimes. International Journal of Environmental Science and Technology. 10.1007/s13762-013-0429-3.

Nkwopara U, Ibrahim M, Maha A, **Iqbal J**, Qingling F, Jun Z, Guanjie J, Hongqing H. 2013. Impacts of inorganic ions and temperature on lead adsorption onto variable charge soils. Catena 109, 103-109.

Ahamadou B, Qiaoyun H, Lin Y, **Iqbal J**. 2013. Composition and structure of humic substances in long-term fertilization experimental soils of southern China. Journal of Soil Science and Environmental Management 4(4), 77-86.

Iqbal J, Shan L, Ronggui H**,** Feng ML, Liu R. 2013. CH_4 oxidational potential of different land uses in mid-subtropical China. *Pedosphere* 23(5), 609-619.

Iqbal J, Siegrist AJ, Nelson J, McCulley RL. 2012. Fungal endophyte infection increases carbon sequestration potential of southeastern USA tall fescue stands. *Soil Biology and Biochemistry* 44, 81-92.

Shan L, **Iqbal J**, Ronggui H, Leilei R, Wu J, Zhao J, Wang P. 2012. Differences in nitrous oxide fluxes from red soil under different land uses in mid-subtropical China. *Agriculture, Ecosystem and Environment* 146, 168-178.

Shan L, **Iqbal J**, Ronggui H, Jinshui W, Zhao J, Leilei R, Malghani S. 2011. Nitrous oxide emissions from rape field as affected by nitrogen fertilizer management: A case study in central China. *Atmospheric Environment* 45, 1775-1779.

Iqbal J, Ronggui H, Minglei F, Shan L, Saadatullah M, Ibrahim MA. 2010. Microbial biomass, and dissolved organic carbon and nitrogen strongly affect soil respiration in different land uses: A case study at Three Gorges Reservoir Area, South China. *Agriculture, Ecosystem and Environment*, 137, 294-307.

Shan L, **Iqbal J**, Ronggui H, Minglei F. 2010. N_2O emissions from different land uses in mid-subtropical China. *Agriculture, Ecosystems and Environment* 136, 40-48.

Minglei F, Ronggui H, Shan L, Saadatullah M, **Iqbal J**, Ryusuke H. 2010. Influence of land use on nitrate concentrations in baseflow in a rural watershed of Three Gorges Reservoir Area, China. *Journal of Food, Agriculture and Environment* 8 (1), 132-137.

Iqbal J, Ronggui H, Shan L, Ryusuke H, Minglei F, Lu L, Ahamadou B, Lijun D. 2009. CO_2 emission in a subtropical red paddy soil (Ultisol) as affected by straw and N-fertilizer

applications: A case study in Southern China. *Agriculture, Ecosystems and Environment* 131, 292-302.

Iqbal J, Ronggui H, Shan L, Ahamadou B, Minglei F. 2009. Carbon dioxide emissions from Ultisol under different land use types in mid-subtropical China. *Geoderma*, 152-63-73.

Iqbal J, Shan L, Ronggui H, Minglei F. 2009. Temporal variability of soil CO_2 and CH_4 fluxes from different land uses in mid-subtropical China. *Atmospheric Environment*, 43-5865-5875.

Iqbal J, Ronggui H, Lijun D, Lan L, Shan L, Tao C, Leilei R. 2008. Differences in soil CO_2 flux between different land use types in mid-subtropical China. *Soil Biology and Biochemistry* 40, 2324-2333.

Extension Publications:

Castellano M, **Iqbal J**, Helmers M, Strock J. 2014. Crop and soil management effects on greenhouse gas emissions from corn based systems. Contributed papers from the 5th Soil and Water Management Field Day 23 July 2014, Lamberton, Minnesota.

Invited Presentations:

Measuring greenhouse gases, 3rd Annual Sustainable Corn Meeting, Resilient Agriculture: Adapting to a Changing Climate, Agronomy and Extension Farm Ames IA, Field Day Aug 7 2014.

Spatial variability of corn and soybean yields in Iowa counties. Iowa State University GIS lab. Dec 10 2014.

N_2O and CO_2 flux measurements by photoacoustic infrared spectroscopy. Climate and Corn-based Cropping Systems Project Annual Meeting, Chicago, IL. 2011.

Conference Abstracts and Presentations:

Iqbal J, Castellano JM, Helmers MJ, Parkin TB, Kladivko EJ. 2015. Nitrous oxide emissions as affected by drainage design and management in corn based cropping systems. Soil & Water Management & Conservation, *ASA-CSSA-SSSA International Annual Meetings*, Nov 15-18, 2015, Minneapolis, MN, USA.

Iqbal J, Mitchell CD, Barker WD, Miguez F, Sawyer EJ, Pantoja J, Castellano JM. 2014. Can nitrogen fertilizer applied to corn affect N_2O emissions the following year from a corn-soybean rotation in US Midwest? Soils and Environmental Quality, *ASA-CSSA-SSSA International Annual Meetings*, Nov 2-5, 2014, Long beach, CA, USA.

Osterholz WR, Castellano MJ, Liebman M, **Iqbal J**. 2014. Increasing Rates of Gross Nitrogen Mineralization in Diversified Midwestern Cropping Systems. In: Managing Microbial Communities and Processes in Organic, Transition and Hybrid Agroecosystems: II. *ASA-CSSA-SSSA International Annual Meetings*, Nov 2-5, 2014, Long beach, CA, USA.

Iqbal J, Castellano M, Helmers M, Parkin BT, Xiaobo Z. 2013. Nitrate Removal by Perennial Filter Strips in the Toeslope Of Cropland Watersheds. In: Nutrient Loss as Affected by Management, Soils and Environmental Quality*, ASA-CSSA-SSSA International Annual Meetings*, Nov 3-6, 2013, Tampa, FL, USA.

Iqbal J, Castellano M, Parkin BT. 2012. Evaluation of photoacoustic infrared spectroscopy for simultaneous measurement of N_2O and CO_2 gas concentrations and fluxes at the soil surface. In:*Challenges in Measuring Greenhouse Gas Emissions from soil, ASA-CSSA-SSSA International Annual Meetings*, Oct 21-24, 2012, Cincinnati, OH, USA.

Iqbal J, Nelson J, Carlisle E, McCulley R. 2011. Influence of fungal endophyte genotypes on plant diversity and soil-atmospheric trace gas fluxes. *ASA-CSSA-SSSA International Annual Meetings*, Oct 16-19, 2011, San Antnonio, TX, USA.

Iqbal J, Ronggui H. 2010. CO_2 emissions with different soil organic pools and temperature sensitivity. Theme 5: *Impact of changing environmental controls on SOM dynamics; Organic matter stabilization and ecosystem functions*, 19th-23rd September 2010, Presqu'ile de Giens (Cote d'Azur), France, pp 112.

Iqbal J, Ronggui H. 2010. Soil respiration in association with soil organic carbon fractions from different landuses. Theme 5: *Impact of changing environmental controls on SOM dynamics; Organic matter stabilization and ecosystem functions*, 19th-23rd September 2010, Presqu'ile de Giens (Cote d'Azur), France, pp149.

Iqbal J, Ronggui H, Ibrahim MA, Saadatullah M. 2010. On the microbial biomass and dissolved organic substances dependence of soil Respiration. Theme 3: *Microbial communities as drivers of OM dynamics; Organic matter stabilization and ecosystem functions*, 19th-23rd September 2010, Presqu'ile de Giens (Cote d'Azur), France, pp198.

McCulley R, McNear D Jr, **Iqbal J**. 2010. Effects of endophyte symbiosis on belowground processes. *Joint Meeting of the Mycological Society of America and the International Symposium on Fungal Endophytes of Grasses* June 28-July 1, 2010, pp 68-69.

Minglei F, Shan L, Ronggui H, **Iqbal J**. 2010. The impaction of nitrogen fertilization on nitrogen concentrations in stream explored with subwatershed and contributing zone approaches. *CHINA-US Workshop on Sustainable Management of Soil and Water Resources*, January 5-8 2010, Shenyang, China.

Iqbal J, Ronggui H. 2009. Effect of dissolve organic carbon, soil and air temperature, and soil moisture on soil CO_2 flux in different land uses. *IOP Conference Series: Earth and Environmental Science*, Volume 6, pages 152006 (1pp).

Iqbal J, Ronggui H, Shan L, Minglei F. 2008. Changes in carbon dioxide emissions in red paddy soil in the context of straw and nitrogen fertilizer application. *International Workshop on Soil C Sequestration and Climate Change Mitigation in Agriculture*, Nanjing, China, October 22-27.

Extension Talks

- Lectured six separate groups of farmers and scientists on soil nitrogen management and measuring greenhouse gases. Field Day Aug 7 2014. Agronomy and Extension Farm, Ames IA

Other Professional Activities

- SSSA Early Career Professional Committee member (2015-present).
- Organized Iowa FFA Soil Judging Contest at Iowa State University Agronomy Farm Ames IA, Oct 10 2015.
- Judged Graduate Students Poster in *Wetland Soils* division, *ASA-CSSA-SSSA International Annual Meetings*, Nov 15-18, 2015, Minneapolis, MN.
- Presided Biological Nitrogen Fixation section in *Soil Biology and Biochemistry* division, *ASA-CSSA-SSSA International Annual Meetings*, Nov 2-5, 2014, Long beach, CA.
- Judged Graduate Students Poster in *Soil Biology and Biochemistry* division, *ASA-CSSA-SSSA International Annual Meetings*, Nov 3-6, 2013, Tempa, FL.
- Peer reviewed research articles in *Global Change Biology, Soil Biology & Biochemistry, FEMS Microbiology Ecology, Environmental Science & Technology, Soil Science Society of America Journal, Geoderma, Plant and Soil, Agriculture, Ecosystem & Environment, Australian Journal of Crop Science, Environmental Management, Soil Science & Plant Nutrition, Pedoshpere,* and *British Journal of Environment and Climate Change*.
- Competent Communicator in Toastmasters International Club.

Professional Membership:

2013-present	American Society of Agronomy
2013-present	Crop Science Society of America
2013-present	Soil Science Society of America