

## CURRICULUM VITAE

### **Rajan Ghimire, Ph.D.**

New Mexico State University  
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### **1. EDUCATION**

**Ph.D., Soil Science**, 2013, University of Wyoming, Laramie, WY

Dissertation: Soil organic matter and soil microbial communities in long-term and transitional crop and forage production systems in eastern Wyoming

**M.Sc. Soil Science**, 2016, Tribhuvan University, Nepal

Thesis: Soil organic carbon sequestration by tillage, crop residue, and nitrogen management in the light and heavy soils of Chitwan, Nepal

**B.Sc. Agriculture (Soil Science)**, 2004, Tribhuvan University, Nepal

### **2. PROFESSIONAL EXPERIENCE**

**Visiting Professor** (Jan. 2017 – Dec. 2021), Northwest University, Xian, China

**Assistant Professor** (Oct. 2015 – Date), New Mexico State University, Department of Plant and Environmental Sciences, Las Cruces, NM, located at Agricultural Science Center at Clovis, NM

**Postdoctoral Scholar** (Jan. 2014 – Sept. 2015), Oregon State University, Columbia Basin Agricultural Research Center, Pendleton, OR

**Research Associate** (June 2013 – Dec. 2013), University of Wyoming, Department of Ecosystem Science and Management, Laramie, WY

**Graduate Assistant** (Aug. 2009 – May 2013), University of Wyoming, Department of Ecosystem Science and Management, Laramie, WY

**Visiting Scientist** (May – July 2008), Wageningen University and Research Centre/ Louis Bolk Institute, the Netherlands

**Lecturer of Soil Science** (June 2006 – July 2009), Tribhuvan University, Institute of Agriculture and Animal Sciences, Nepal

**Senior Research Assistant** (May 2006 – July 2009), Ecological Services Centre, Nepal.

**Graduate Assistant** (2004 – 2006), Tribhuvan University, Institute of Agriculture and Animal Sciences, Nepal

### **3. LEADERSHIP**

**Presiding leader**, 2019, Global Climate Change Community, American Society of Agronomy

**Incoming leader**, 2018, Global Climate Change Community, American Society of Agronomy

**Chair**, 2018-2019, Scholarship management committee, Association of Nepalese Agricultural Professionals in Americas

**Secretary and Treasurer**, 2017-2019, Western Society of Crop Science

**Vice President**, Center for Agricultural Research and Development Nepal (CARD-Nepal), 2013-2018

#### **4. HONORS AND AWARDS**

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|-------------|---|
| 2017        | Certificate of Appreciation, Nepalese Society of Soil Science, Kathmandu, Nepal   |
| 2013        | Student Poster Awards (1st place), NSF-EPSCoR Workshop in Bioinformatics to Foster Collaborative Research   |
| 2012        | Student travel award for Western Nutrient management conference, Student Poster Award (2nd place) in the Western Society of Soil Science, Student Poster Award (3rd place) in the Great Plains Soil Fertility Conference, and Department of Ecosystem Science and Management Travel Award |
| 2011        | Gerald “Jerry” E. Schuman Graduate Fellowship in Soil Science, Department of Ecosystem Science and Management Travel Award, and Eldon and Josephine Johnston Family Graduate Fellowship and UW Excellence Award   |
| 2010        | Robert L. Lang Graduate Fellowship and Graduate Student International Travel Award  |
| 2009        | Travel Grant, Quality Improvement Program of University Grant Commission of Nepal   |
| 2005-2006   | Research Fellowship, Soil Management – Collaborative Research Support Program (SM-CRSP), Cornell University, USA  |
| 1998 – 2003 | Tribhuvan University Merit Scholarships for Undergraduate Studies   |

#### **5. PROFESSIONAL SOCIETIES**

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|----------------|---|
| 2016 – Present | Nepalese Agricultural Professionals in Americas                   |
| 2011– Present  | Member of the American Association for the Advancement of Science |
| 2011 – Present | Member of honor society “Phi Kappa Phi”                           |
| 2010 - Present | Member of Soil Science Society of America                         |
| 2010 – Present | Member of the American Society of Agronomy                        |
| 2010 – Present | Member of “Gamma Sigma Delta” the Honor Society of Agriculture    |
| 2010 – 2011    | Member of the Soil and Water Conservation Society                 |
| 2007 – 2015    | Member of Society of Agricultural Scientists-Nepal                |

#### **6. RESEARCH**

##### **Peer-reviewed journal papers (\*graduate student paper)**

1. \*Thapa, V.R., **R. Ghimire**, M. Mikha, J. Idowu, and M. Marsalis. 2018. Land use systems effects on soil health in drylands. Agricultural and Environmental Letters. [Doi:](#)

[10.2134/ael2018.05.0022](https://doi.org/10.2134/ael2018.05.0022).

2. **Ghimire, R.**, J.B. Norton, and U. Norton. 2018. Soil organic matter dynamics under irrigated perennial forage-annual crop rotation systems. *Grass and Forage Science*. 73: 907-917. <https://onlinelibrary.wiley.com/doi/10.1111/gfs.12378>.
3. Wang, J., **R. Ghimire**, X. Fu, U.M. Sainju, and W. Liu. 2018. Straw mulching increases precipitation storage rather than water use efficiency and dryland winter wheat yield. *Agricultural Water Management*. 206: 95-101. <https://doi.org/10.1016/j.agwat.2018.05.004>.
4. Cano, A., A. Nunez, V. Acosta-Martinez, M. Schipanski, **R. Ghimire**, C. Rice, C. West. Current knowledge and future research directions of soil health and water conservation in the Ogallala Aquifer region. *Geoderma*. 238: 109-118. <https://doi.org/10.1016/j.geoderma.2018.04.027>.
5. **Ghimire, R.**, B. Ghimire, A.O. Mesbah, M. O'Neill, J. Idowu, S. Angadi, and M.K. Shukla. 2018. Current status, opportunities, and challenges of cover cropping for sustainable dryland farming in the Southern Great Plains. *Journal of Crop Improvement*. 32: 579-598. <https://doi.org/10.1080/15427528.2018.1471432>.
6. Duval B., **R. Ghimire**, M.D. Hartman, and M.P. Marsalis. Water and nitrogen management effects on semiarid sorghum production and soil trace gas flux under future climate. *PlosOne* [13\(4\): e0195782](https://doi.org/10.1371/journal.pone.0195782).
7. Rijal, J.P., R. Regmi, **R. Ghimire**, K. Puri, S Gyawly, S. Poudel. 2018. Farmers' knowledge of pesticide safety and pest management: A case study of Vegetable Growers in Chitwan, Nepal. *Agriculture*, 8(1), 16. <http://www.mdpi.com/2077-0472/8/1/16>
8. **Ghimire, R.**, S. Machado, and P. Bista. 2018. Decline in soil organic carbon and nitrogen limits yield in wheat-fallow systems. *Plant and Soil*. <https://doi.org/10.1007/s11104-017-3470-z>.
9. \*Ghimire, B. **R. Ghimire**, D. VanLeeuwen and A.O. Mesbah. 2017. Cover crop residue inputs and quality effects on soil organic matter mineralization. *Sustainability*, 9, 2316. <http://www.mdpi.com/2071-1050/9/12/2316>.
10. Bista, P., U. Norton, **R. Ghimire**, and J.B. Norton. 2017. Greenhouse gas fluxes, soil mineral N and global warming potential in semi-arid winter wheat (*Triticum aestivum* L.)-fallow during drought. *Journal of Arid Environment*. 147: 103-113. <https://doi.org/10.1016/j.jaridenv.2017.09.002>
11. Sainju, U.M., B.L. Allen, A.W. Lenssen, and **R. Ghimire**. 2017. Root biomass, root/shoot ratio, and soil water content under perennial grasses with different nitrogen rates. *Field Crops Research*. 210: 183-191. <http://dx.doi.org/10.1016/j.fcr.2017.05.029>.
12. Rawal, N., **R. Ghimire**, D.R. Chalise. 2017. Crop yield and soil fertility status of long-term rice-rice-wheat cropping systems. *International Journal of Applied Science and Biotechnology*. <http://dx.doi.org/10.3126/ijasbt.v5i1.17001>.
13. **Ghimire R.**, S. Machado, and P. Bista. 2017. Soil pH, soil organic carbon, nitrogen and crop yield in wheat-fallow systems. *Agronomy Journal*. Doi: [10.2134/agronj2016.08.0462](https://doi.org/10.2134/agronj2016.08.0462).
14. **Ghimire R.**, U. Norton, P. Bista, A. Obour, and J.B. Norton. 2017. Soil organic matter, greenhouse gases and net global warming potential of irrigated cropping systems. *Nutrient Cycling in Agroecosystems*. 107:49-62. [DOI: 10.1007/s10705-016-9811-0](https://doi.org/10.1007/s10705-016-9811-0).

15. **Ghimire, R.**, S. Lamichhane, B.S. Acharya, P. Bista, and U.M. Sainju. 2017. Tillage, crop residue, and nutrient management effects on soil organic carbon in rice-based cropping systems. *Journal of Integrative Agriculture*. 16:1-15. [Doi: 10.1016/S2095-3119\(16\)61337-0](https://doi.org/10.1016/S2095-3119(16)61337-0)
16. Bista, P., S. Machado, **S. R. Ghimire**, S.J. Del-Grosso, and M. Reyes-Fox. 2016. Simulating soil organic carbon in a wheat-fallow system using the DAYCENT model. *Agronomy Journal*. 108:2554-2565. Doi: [10.2134/agronj2016.04.0202](https://doi.org/10.2134/agronj2016.04.0202).
17. **Ghimire. R.** and P. Bista. 2016. Crop diversification improves pH of acidic soils. *Journal of Crop Improvement*. 30:657-667. [DOI: 10.1080/15427528.2016.1219894](https://doi.org/10.1080/15427528.2016.1219894).
18. **Ghimire R.** 2016. Approaches in Cropping Systems Research and Challenges (Invited Opinion). *Advances in Plant and Agricultural Research*. 3(2): 00088. [DOI: 10.15406/apar.2016.02.00088](https://doi.org/10.15406/apar.2016.02.00088)
19. **Ghimire R.**, S. Machado, and K. Rhinhart. 2015. Long-term crop residue and nitrogen management effects on soil profile carbon and nitrogen in wheat-fallow systems. *Agronomy Journal* 107:2230-2240. [DOI: 10.2134/agronj14.0601](https://doi.org/10.2134/agronj14.0601).
20. Bista, P., U. Norton, **R. Ghimire**, and J.B. Norton. 2015. Greenhouse gas fluxes and soil carbon and nitrogen following single summer tillage. *International Journal of Plant and Soil Science* 6:183-193. [DOI: 10.9734/IJPSS/2015/16234](https://doi.org/10.9734/IJPSS/2015/16234).
21. **Ghimire, R.**, J.B. Norton, P.D. Stahl, and U. Norton, 2014. Soil microbial substrate properties and microbial community responses under irrigated organic and reduced-tillage crop and forage production systems. *PLoS ONE* 9(8): e103901. [DOI: 10.1371/journal.pone.0103901](https://doi.org/10.1371/journal.pone.0103901).
22. Paudel, B., B.S. Acharya, **R. Ghimire**, K.R. Dahal, and P.Bista. 2014. Adapting agriculture to climate change and variability in Chitwan, Nepal: long-term trends and farmers' perceptions. *Agricultural Research* 3:165-174. [DOI: 10.1007/s40003-014-0103-0](https://doi.org/10.1007/s40003-014-0103-0).
23. **Ghimire, R.** J.B. Norton, and E. Pendall. 2014. Alfalfa-grass biomass, soil organic carbon, and total nitrogen under different management approach in an irrigated agroecosystem. *Plant and Soil* 374:173-184. [DOI 10.1007/s11104-013-1854-2](https://doi.org/10.1007/s11104-013-1854-2).
24. **Ghimire, R.**, J.B. Norton, U. Norton, J.P. Ritten, P.D. Stahl, and J.M. Krall. 2013. Long-term farming systems research in the central High Plains. *Renewable Agriculture and Food Systems* 28: 183–193. [DOI 10.1017/S1742170512000208](https://doi.org/10.1017/S1742170512000208).
25. **Ghimire, R.**, K.R. Adhikari, Z. Chen, S.C. Shah, and K.R. Dahal. 2012. Soil organic carbon sequestration as affected by tillage and crop residue management in the rice-wheat system. *Paddy and Water Environment* 10: 95-102. [DOI 10.1007/s10333-011-0268-0](https://doi.org/10.1007/s10333-011-0268-0).
26. Khatiwada, B.P., **R. Ghimire**, R. Adhikari, and S. Osti. 2012. Increasing crop water productivity through local crops and technologies: a case from the Chepang ethnic community of Nepal. [Hydro Nepal: Journal of Water, Energy, and Environment](https://doi.org/10.1007/s10333-011-0268-0) Special Issue: conference papers. pp 50-54.
27. Bista, P., **R. Ghimire**, S.C. Shah, and K.R. Pande. 2010. Assessment of soil fertility management practices and their constraints in different geographic locations of Nepal. [Forum Geografic 9: 41-48](https://doi.org/10.1007/s10333-011-0268-0).
28. **Ghimire, R.**, R.K. Basnet, P. Bista, and B. RanaBhat. 2009. Soil quality cards for participatory soil quality assessment in organic and smallholder agriculture. [Forum Geografic 8: 72-76](https://doi.org/10.1007/s10333-011-0268-0).

29. **Ghimire, R.**, S.C. Shah, K.R. Dahal, J.M. Duxbury, and J.G. Lauren. 2008. Tillage and residue management effects on soil organic carbon sequestration in rice-wheat cropping system of Nepal. *Journal of the Institute of Agriculture and Animal Science* 29: 21-26.
30. **Ghimire, R.**, 2008. Increasing resilience of community on climate change through the application of sloping agriculture land technology and eco-friendly agriculture in Jugedi Khola watershed, Nepal. *Forum Geografic* 7: 208 – 215.
31. Tiwari, S., R. B. Thapa, and **R. Ghimire**. 2008. Farmers' field school in potato: an effective tool for integrated crop management. *Journal of Plant Protection* 1: 115-121.
32. **Ghimire, R.**, K.R. Dahal, J.G. Lauren, J.M. Duxbury, and S.C. Shah. 2007. Tillage and crop residue management effects on soil organic carbon content in light and heavy soils of Chitwan, *Journal of Institute of Agriculture and Animal Science* 28: 27-32.
33. **Ghimire, R.**, S.C. Shah, K.R. Dahal, A.K. Shrestha, C. Adhikari, J. G. Lauren, and J.M. Duxbury. 2007. Equation for predicting soil organic carbon using loss on ignition for Chitwan valley soils. *Institute of Agriculture and Animal Science Research Advances* 1:229-232.

### **Book Chapters**

1. **Ghimire, R.**, U. Sainju, and R. Acharya. 2019. Soil health for food security and agroecosystem resilience. In; *Sustainable, Safe and Healthy Food in Nepal: Principles and Practices of Food Security*. Accepted for publication.
2. Sainju, U., **R. Ghimire**, G. Pradhan. 2018. Nitrogen fertilization for sustainable crop production. *Nitrogen in agricultural systems*, Intech Open. In Press.
3. Awale, R., **R. Ghimire**, S. Machado, and P. Bista. 2017. Soil health. In: C. Cruger and G. Yorgy (Eds.). *Advances in Sustainable Dryland Farming in the Inland Pacific Northwest*.
4. Bista, P., S. Machado, **R. Ghimire**, G. Yorgey, D. Wysocki. 2017. Conservation systems. C. Cruger and G. Yorgy (Eds.). *Advances in Sustainable Dryland Farming in the Inland Pacific Northwest*.
5. Angadi, S., S. Begna, M.R. Umesh, R. Ghimire. 2016. Strategies to improve the resiliency of semiarid cropping systems under future climate. In: B.M. Chittapur, A.S. Halepyati, M.R. Umesh, and B.K. Desai (Eds.). *Climate Smart Agriculture: Status and Strategies*. University of Agricultural Sciences, Raichur, India. pp. 116-120.

### **Editor reviewed research papers, conference proceedings, and reports**

1. GC, A., R. Ghimire, D. Blayney, R. N. Acharya. 2018. Feasibility of using cover crops to enhance soil organic matter and crop yield in New Mexico. *Proceedings of the 2018 Southern Agricultural Economics Association Annual Meeting, February 2-6, 2018, Jacksonville, Florida*.
2. Angadi, S., S. Begna, M. Umesh, and **R. Ghimire**. 2015. Strategies to improve the resiliency of semiarid cropping systems under future climate. *Climate-smart agriculture: lessons learned, technological advances made and research priorities in SAT*. ICAR Winter School, Raichur. India.
3. **Ghimire R.** and S. Machado. 2015. Soil organic carbon dynamics in Pendleton Long-Term Experiments. *Regional Approach to Climate Change for Pacific Northwest Agriculture (REACCH)*. [Year 4 Annual Report, p32-33](#).

4. Norton, J.B. and **R. Ghimire**. 2014. Soil microbiology, organic matter, and economics four years after conversion from continuous irrigated corn to crop and forage rotations under typical, reduced tillage, and organic management. Proceedings of the [Great Plains Soil Fertility Conference, March 4-5, 2014](#), Denver, CO.
5. **Ghimire, R.** and J.B. Norton. 2013. Nitrogen dynamics in conventional, reduced tillage, and organic irrigated systems: Results of a four-year experiment in Wyoming. Proceedings of the [Western Nutrient Management Conference, March 7-8, 2013, Reno, NV](#).
6. **Ghimire, R.**, J.B. Norton, and P.D. Stahl. 2012. Alternative soil fertility strategies affect the seasonal dynamics of soil microbial communities in the crop-livestock system. Proceedings of the Great Plains Soil Fertility Conference, March 6-7, 2012. Denver, CO.
7. **Ghimire R.** J.B. Norton, U. Norton, and N.L. Ward. 2011. More than one way to raise a crop. [Reflections Magazine](#). University of Wyoming, Laramie, WY.
8. **Ghimire, R.**, B. Rana Bhat, and R.R. Adhikari. 2011. Empowerment of Tharu community on organic production through farmers' field school. Proceeding of the [17<sup>th</sup> International Federation of Organic Agriculture Movement World Congress](#), September 29 –October 1, 2011, Namyangju, Republic of Korea.
9. **Ghimire R.** and P. Bista. 2009. Conservation agriculture rally-rounds adaptation to climate change. NGO group bulletin on climate change: Scaling up community-based adaptation in Nepal. Local Initiative for Biodiversity Research and Development. Issue 3, December 2009.
10. **Ghimire. R.** 2008. Global climate change, greenhouse effects, and soil organic carbon sequestration. NGO group bulletin on climate change research and development. Local Initiative for Biodiversity Research and Development. August 2008.
11. **Ghimire, R.**, S.C. Shah, K.R. Dahal, J.G. Lauren, and C. Adhikari, 2008. Graham's Colorimetry as an estimate of soil organic carbon in Chitwan valley soils, Nepal. [Proceedings of the Third Conventional of Society of Agricultural Scientists – Nepal](#), August 27-29, 2008, Kathmandu, Nepal
12. Rana Bhat, B. and **R. Ghimire**. 2008. Promotion of organic vegetable production through farmers' field school in Chitwan, Nepal. Cultivating the Future Based on Science. 1. 1. Organic Crop Production. [Proceedings of the Second Scientific Conference of the International Society of Organic Agriculture Research](#), June 18-20, 2008 in Modena, Italy.

### **Extension/Outreach publications**

1. **Ghimire, R.** 2018. Sustainably feeding current and future generations. Scientia Global, <https://www.scientia.global/dr-rajan-ghimire-sustainably-feeding-current-and-future-generations/>.
2. Cano, A., A. Nunez, V. Acosta-Martinez, M. Schipanski, **R. Ghimire**, and C. Rice. 2017. Linking soil health to water conservation in the Ogallala Aquifer region. Colorado Water, special issue – the Ogallala Water, November/December 2017.
3. Idowu, J., S. Angadi, M.K. Darapuneni, and **R. Ghimire**. 2017. Reducing tillage in arid and semi-arid cropping systems. NMSU Cooperative Extension Services. Guide A-152. <http://aces.nmsu.edu/pubs/a/A152.pdf>.
4. **Ghimire R.** and S. Machado. 2017. Soil acidification impacts crop yield in a wheat-fallow system. Crop and Soil. 50:14-16.

5. Norton, J., **R. Ghimire**, P. Stahl, J. Ritten, D. Peck, and U. Norton. 2014. Soil quality and the benefits of crop rotation, reduced tillage, and manure application in crop and forage systems. [2014 Field Days Bulletin](#), University of Wyoming, Laramie, WY.
6. Norton, U., P. Bista, **R. Ghimire** and J.B. Norton. 2014. One-time summer tillage does not negate long-term benefits of no-till. [Crop and Soils, May-June 2014](#).
7. Norton, U., P. Bista, **R. Ghimire** and J.B. Norton. 2014. One-time summer tillage of chemical fallow in a dryland winter wheat rotation does not negate long-term benefits accrued under no-till management Nutrient digest, [Nutrient Management Newsletter for the Western US, Spring 2014](#).
8. Norton J.B. and R. Ghimire. 2013. Soil quality and the benefits of crop rotation, reduced tillage, and manure application. Nutrient digest, [Nutrient Management Newsletter for the Western US, Fall 2013](#).
9. **Ghimire, R.**, U. Norton, J.B. Norton, and P. Bista. 2013. Greenhouse gas emissions from alternative management approaches of irrigated crop and forage production system. [2013 Field Days Bulletin](#), University of Wyoming, Laramie, WY.
10. Bista, P., U. Norton, **R. Ghimire**, J. Norton, and J. Meeks. 2013. Effect of Summer Tillage on Greenhouse Gas Emissions from Organic, Conventional, and No-Till Fallows in Dryland Winter Wheat Production. [2013 Field Days Bulletin](#), University of Wyoming, Laramie, WY.
11. Norton, J.B., **R. Ghimire**, U. Norton, J. Meeks, and S. Paisley. 2012. The sustainable agriculture systems. [2012 Field Days Bulletin](#), University of Wyoming, Laramie, WY.
12. Norton, J.B., **R. Ghimire**, E. Mukhwana and D. Peck. 2012. Soil Quality under wheat-fallow, minimum-till, and no-till cropping systems. [2012 Field Days Bulletin](#), University of Wyoming, Laramie, WY.
13. Meeks, J., J.B. Norton, R. King, **R. Ghimire**, U. Norton, P. Bista, J. Ritten, D. Peck. 2012. The long-term project begins yielding results. [Reflections Magazine](#). University of Wyoming, Laramie, WY.
14. Bista, P., U. Norton, **R. Ghimire**, and J.B. Norton. 2011. Greenhouse gas emissions from dryland winter wheat-fallow system under conventional, no-till, organic and transition to organic management. [2011 Field days Bulletin](#), University of Wyoming, Laramie, WY.
15. **Ghimire, R.**, J.B. Norton, J. Meeks, and R. King. 2011. Soil organic matter and microbial dynamics of the SASP. [2011 Field Days Bulletin](#), University of Wyoming, Laramie, WY.
16. **Ghimire, R.**, J.B. Norton, P. Bista and U. Norton. 2011. Trace gas emission from conventional, reduced-input, and organic approaches of the crop–range–livestock farming in Wyoming. [2011 Field Days Bulletin](#), University of Wyoming, Laramie, WY.
17. Gebault King, R., J. Norton, J. Ritten, E. Arnould, M. Press, **R. Ghimire**, and J. Meeks. 2011. Soil Fertility Challenges in Northern High Plains Organic Farming Operations. [2011 Field Days Bulletin](#), University of Wyoming, Laramie, WY.

**Meeting abstracts and presentations (\* indicate student presentation)**

1. \*Thapa, V.R., and **R. Ghimire**. 2019. Land use effects on soil health in semiarid drylands. SSSA International Annual Meeting, San Diego, CA.

2. \*Allan, M., **R. Ghimire**, C. Brungard, S. Begna, S. Angadi. 2019. Spatial variability of selected soil health indicators in a forage corn production system. SSSA International Annual Meeting, San Diego, CA.
3. \*Thapa V.R., R. Ghimire, V. Acosta-Martinez, and M. Marsalis. 2018. Reducing Tillage and Increasing Crop Diversity for Improving Soil Health and Agricultural Sustainability: Examples from Eastern New Mexico. NM Sustainable Agriculture Conference, Los Lunas, NM (**Second place in student poster competition**).
4. \*Thapa V.R., R. Ghimire, V. Acosta-Martinez, and M. Marsalis. 2018. Conservation systems for improving soil health and resilience in the southern Ogallala region. Ogallala Water Project third annual meeting, Santa Fe, NM.
5. Begna, S., **R. Ghimire**, S. Angadi, M. Allan, C. Brungard, and A.O. Mesbah. 2018. Silage corn row spacing and cutting height effect on yield, quality and wind dynamics in New Mexico. ASA-CSSA International Annual Meeting, Baltimore, MD.
6. **Ghimire, R.**, V.R. Thapa, and A.O. Mesbah. 2018. Tillage and cover crops effects on soil organic matter dynamics under dryland corn-sorghum rotation. ASA-CSSA International Annual Meeting, Baltimore, MD.
7. \*Acharya, P., **R. Ghimire**, and C. Young. 2018. Soil health indicators under diverse cover crops in a winter wheat-sorghum-fallow rotation. Soil Health Institute third annual meeting, Albuquerque, NM.
8. **Ghimire, R.**, A.O. Mesbah, R.N. Acharya, and M.A. Marsalis. 2018. Cover crops in limited irrigated cropping systems: Opportunities and challenges for sustaining the Ogallala Aquifer. Western Society of Crop Science Annual Meeting, Laramie, WY.
9. \*Allan, M.J., **R. Ghimire**, C. Brungard, and S. Begna. 2018. Understanding soil spatial variability for sustainable forage corn production in Eastern New Mexico. Western Society of Crop Science Annual Meeting, Laramie, WY (**Second place in student oral competition**).
10. \*Ghimire, B., **R. Ghimire**, and A.O. Mesbah. 2018. Early responses of cover crops on limited-irrigated winter wheat-sorghum fallow. Global Food Security through Agricultural Transformation. Oklahoma City, OK.
11. \*Thapa, V.R. and **R. Ghimire**. 2018. Tillage and cover cropping effects on soil organic matter components and wet aggregate stability in the semi-arid drylands. Global Food Security through Agricultural Transformation. Oklahoma City, OK.
12. \*Thapa, V.R. and **R. Ghimire**. 2018. Land use effects on soil organic matter pools and soil structure. NeSA 10th International Conference on Role of Diaspora for Sustainable Homeland, Las Cruces, NM (**Second place in student oral competition**).
13. \*Allan, M.J., **R. Ghimire**, C. Brungard, and S. Begna. 2017. Understanding soil spatial variability for sustainable corn production in the Eastern New Mexico. NM Sustainable Agriculture conference, Los Lunas, NM.
14. \*Ghimire, B., **R. Ghimire**, and A.O. Mesbah. 2017. Cover crops effect on soil moisture content, organic matter dynamics and wheat yield in a limited-irrigated winter wheat-summer fallow system. NM Sustainable Agriculture conference, Los Lunas, NM (**First place in poster competition**).
15. \*Thapa, V., **R. Ghimire**, A. Cano, V. Acosta-Martinez, O.J. Idowu, and M. Marsalis. 2017. Soil health under diverse land use systems in the drylands of Eastern New Mexico. Ogallala Water Project second annual meeting, Manhattan, KS.



16. Sainju U.M., B.L. Allen, A.W. Lenssen, **R. Ghimire**. 2017. Bioenergy perennial grass species and nitrogen fertilization effect on root biomass, root/shoot ratio, and soil water. ASA, CSSA, SSSA International Annual Meetings, Tampa, FL.
17. Angadi, S., S. Begna, P.H. Gowda, O.J. Idowu, **R. Ghimire**, C.P. West. G.W. Marek, J. Stout. 2017. Circular buffer strips of perennial grasses: a preliminary assessment. ASA, CSSA, SSSA International Annual Meetings, Tampa, FL.
18. \*Ghimire B., **R. Ghimire**, A.O. Mesbah, D. VanLeeuwen. 2017. Potential soil carbon mineralization and mineralization kinetics under diverse cover crop residues. ASA, CSSA, SSSA International Annual Meetings, Tampa, FL.
19. \*Ghimire B., **R. Ghimire**, A.O. Mesbah. 2017. Soil biochemical responses of cover crops in a winter wheat-summer fallow system. ASA, CSSA, SSSA International Annual Meetings, Tampa, FL.
20. **Ghimire R.**, B. Ghimire, V.B. Thapa, and A.O. Mesbah. 2017. Soil C and N cycling under reduced tillage and cover crops in the southern High Plains agroecosystems. ASA, CSSA, SSSA International Annual Meetings, Tampa, FL.
21. **Ghimire, R.**, T. Silvasy, S. Magar, N. Bhattarai, R. Regmi, and J.P. Rijal. 2017. A participatory approach in soil testing and nutrient management in small-holder farms of Nepal. ASA, CSSA, SSSA International Annual Meetings, Tampa, FL.
22. Silvasy, T., N. Bhattarai, R. Regmi, S. Magar, **R. Ghimire**, T.J.K. Radovich. 2017 Soil testing survey and soil fertility management practices of smallholder farmers in Chitwan, Nepal. American Society for Horticultural Science Annual Meeting, Honolulu, HI.
23. **Ghimire R.** 2017. Conservation systems, global change, and agricultural sustainability in dryland and rain-fed agroecosystems. International Conference on Biodiversity, Climate Change Assessment, and Impacts in Livelihood. Kathmandu, Nepal.
24. **Ghimire R.**, S. Angadi, S. Begna, M. Marsalis. 2016. Alternative strategies for improving the sustainability of dryland and limited-irrigated cropping systems in eastern New Mexico. Ogallala Water CAP, first annual meeting, Denver, CO.
25. Duval, B.D., **R. Ghimire**, M.D. Hartman, M. Marsalis. 2016. Biogeochemical responses of a semi-arid sorghum system to management intensity and simulated future climate. AGU fall meeting. San Francisco, CA.
26. **Ghimire, R.**, A.O. Mesbah, B. Ghimire. 2016. Nutrient dynamics under cover crops and the following winter wheat and sorghum. ASA, CSSA, SSSA International Annual Meetings, Phoenix, AZ.
27. Regmi R., J. Rijal, **R. Ghimire**, K. Puri, S. Gyawaly, S. Poudel. 2016. Status of insect pest management in commercial vegetable farming in Chitwan, Nepal. [International conference on "Mountains in Changing World," Kathmandu, Nepal.](#)
28. Gyawaly, S., J.P. Rijal, R. Regmi, K.D. Puri, **R. Ghimire**, N. Bhattarai. 2016. IPM-based pest management practices in commercial vegetable productions in Nepal. [XXV International Congress of Entomology. Orlando, FL.](#)
29. Bista, P., S. Machado, **R. Ghimire**, L. Pritchett. 2016. Biochar and fertilizer effects on wheat growth and soil properties. [Western Society of Crop Science Meeting, Albuquerque, NM.](#)

30. \*Ghimire, B., **R. Ghimire**, A.O. Mesbah, J. Szaloy. 2016. Potentially mineralizable carbon under cover crops: results of a field and laboratory incubation study. [Western Society of Crop Science Meeting, Albuquerque, NM.](#)
31. **Ghimire, R.**, J. Szaloy, B. Ghimire, and A.O. Mesbah. 2016. Cover crops in a winter wheat-sorghum-fallow system: first-year results of the soil properties and water use. [Western Society of Crop Science Meeting, Albuquerque, NM.](#)
32. **Ghimire, R.** 2016. Sustainable Practices in Small-holder Agriculture: Case Studies from Mountains and Plains of Nepal, NeSA 8<sup>th</sup> International Conference on Role of Diaspora for Sustainable Homeland, Las Cruces, NM.
33. **Ghimire, R.**, S. Machado, P. Bista, C. Burns, and M. Allen. 2015. Soil organic carbon dynamics in the Pendleton long-term experiment. [ASA, CSSA, SSSA International Annual Meetings, Minneapolis, MN.](#)
34. Bista, P., S. Machado, and **R. Ghimire**. 2015. Simulating long-term impact of crop management in soil organic carbon using DAYCENT Model. [ASA, CSSA, SSSA International Annual Meetings, Minneapolis, MN.](#)
35. **Ghimire, R.**, P. Bista, and S. Machado. 2015. Warming effects on soil carbon and nitrogen mineralization in dryland cropping systems in the Pacific Northwest. [Transitioning Cereal Systems to Adapt to the Climate Change. Minneapolis, MN.](#)
36. Bista, P., S. Machado, and **R. Ghimire**. 2015. Soil organic carbon dynamics in a dryland wheat-fallow system: DAYCENT model simulations. [Transitioning Cereal Systems to Adapt to the Climate Change. Minneapolis, MN.](#)
37. **Ghimire, R.**, S. Machado, and P Bista. 2015. Soil acidification from nitrogen fertilizer application in a dryland winter wheat-summer fallow system in the Pacific Northwest. [Western Society of Crop Science Meeting, Logan, UT.](#)
38. **Ghimire, R.**, S. Machado, and P Bista. 2015. Soil pH dynamics in a winter wheat-summer fallow system. [PNW Oilseed and Direct Seed Conference, Kennewick, WA.](#)
39. Bista, P., U. Norton, **R. Ghimire**, and J.B. Norton. 2014. Greenhouse gas emissions and soil inorganic n under dryland winter wheat-fallow management systems as affected by climatic variability in semi-arid Great Plains. [ASA, CSSA, SSSA International Annual Meetings, Long Beach, CA.](#)
40. **Ghimire, R.** and S. Machado. 2014. The long-term trend of soil organic carbon as influenced by crop residue and nitrogen management practices. [ASA, CSSA, SSSA International Annual Meetings, Long Beach, CA.](#)
41. **Ghimire, R.** and S. Machado. 2014. Long-term crop residue and nitrogen management influences on soil profile carbon and nitrogen. [Western Society of Crop Science meeting, Bozeman, MT.](#)
42. **Ghimire, R.**, J.B. Norton, and N.L. Ward. 2013. Management approaches influence diversity of bacterial *nifH* genes in crop and forage production systems in Wyoming, [NSF EPSCoR Workshop in Bioinformatics to Foster Collaborative Research, Little Rock, AR.](#)
43. **Ghimire, R.** and J.B. Norton. 2012. Labile pool soil organic matter response to a transition to organic and reduced input management in irrigated crop and forage production. [ASA, CSSA, SSSA International Annual Meetings, Cincinnati, OH.](#)

44. Bista, P., U. Norton, **R. Ghimire**, and J.B. Norton. 2012. GHG emissions and soil C and N dynamics following the first plowing of long-term no-till fallow in dryland winter wheat. [ASA, CSSA, SSSA International Annual Meeting, Cincinnati, OH.](#)
45. **Ghimire, R.**, J.B. Norton, and U. Norton. 2012. Greenhouse gas emissions from irrigated crop and forage production in Wyoming. Western Society of Soil Science. University of California, Davis, CA.
46. Bista, P., U. Norton, **R. Ghimire**, and J.B. Norton. 2011. Greenhouse gas emission and crop productivity from the contrasting management approach in dryland winter wheat-fallow of the Northern High Plains. [ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX.](#)
47. Bista, P., U. Norton, **R. Ghimire**, and J.B. Norton. 2011. Spring greenhouse gas emissions and residue biomass from contrasting management approach in dryland wheat-fallow of the Northern High Plains. [Western Society of Soil Science and Western Society of Crop Science Joint Annual Meeting, Laramie, WY.](#)
48. **Ghimire, R.** and J.B. Norton. 2011. Soil organic matter changes with the transition to organic and reduced input crop-range-livestock production: first and second-year results. [ASA, CSSA, SSSA International Annual Meetings, San Antonio, TX.](#)
49. **Ghimire, R.** and J.B. Norton. 2011. Management approaches affect soil organic matter and mineral nitrogen in dry land wheat based rotations of Wyoming. Western Society of Soil Science and Western Society of Crop Science Joint Annual Meetings, Laramie, WY.
50. **Ghimire, R.** and J.B. Norton. 2010. Reduced-input and organic management approaches affect soil organic carbon and nitrogen in Wyoming crop production. Western Society of Soil Science and the Western Society of Crop Sciences, Las Vegas, NV.
51. **Ghimire R.**, S.C. Shah, and K.R. Dahal. 2010. No-tillage and crop residue management for carbon sequestration in Rice-Wheat cropping systems of Nepal. International Conference on Soil Fertility and Soil Productivity, Berlin, Germany.
52. **Ghimire R.**, S.C. Shah, and K.R. Dahal. 2009. Tillage and residue management effects on soil organic carbon sequestration in rice-wheat cropping system of Nepal. Fourth World Congress on Conservation Agriculture, New Delhi, India.
53. **Ghimire, R.**, S.C. Shah, and K.R. Dahal. 2008. Tillage, crop residue and nitrogen management effects on soil organic carbon sequestration by rice-wheat cropping system of Nepal. Fifth National Conference on Science and Technology, Kathmandu, Nepal.

### **Invited presentations**

1. Conservation technologies for sustainable crop production: Implications for agriculture in NEPAL. NeSA 10<sup>th</sup> International Conference on Role of Diaspora for Sustainable Homeland, Las Cruces, NM, March 2018.
2. Approaches to improve soil health and agricultural sustainability in the Southern Ogallala Aquifer region. Grazing land Research Laboratory, El Reno, OK, January 2017.
3. Improving agricultural sustainability in the drylands of US High Plains. Northwest University, Xian, China, December 2017.
4. Soil organic matter management in dryland soils. Nepalese Society of Soil Science talk series, Khumaltar, Nepal, January 2017.

5. Conservation systems for sustaining High Plains agriculture, 8th Annual Northeastern New Mexico Prairie Partners Meeting, Tucumcari, NM, December 2016.
6. Monitoring and modeling crop yield in a dryland winter wheat-summer fallow system using the DAYCENT model, Workshop on Water and Energy Innovation for Food Security and Environmental Sustainability, Beijing, China, June 2016.
7. Sustainable Practices in Small-holder Agriculture: Case Studies from Mountains and Plains of Nepal, NeSA 8<sup>th</sup> International Conference on Role of Diaspora for Sustainable Homeland, Las Cruces, NM, March 2016.
8. Crop and forage production in dryland and limited irrigation cropping systems. New Mexico State University, Las Cruces, NM, May 2015.
9. Soil and nutrient management strategies for sustainable dryland and irrigated cropping systems. Montana State University, Bozeman, MT, February 2015.
10. Sustainable forage production in the semiarid West, Oregon State University Program at Eastern Oregon University, La Grande, OR, April 2015
11. Soil organic matter and climate change. Climate Change Workshop for School Teachers, Pendleton, OR, October 2014.
12. Management systems influence soil organic matter and microbial community structure in Great Plains of the USA, Agriculture and Forestry University, Rampur, Nepal, December 2013.
13. Soil organic carbon, microbial communities and greenhouse gases emissions as influenced by crop rotation and management approaches. Columbia Basin Agriculture Research Centre, Pendleton, OR, September 2013.

#### **Extension/outreach presentations**

1. Cover crops for soil health and weed management. Private Applicators Workshop, Tucumcari, Nov. 21, 2017, #Participants: 23.
2. Cover crops for soil health and resilience. Annual field day, Agriculture Science Center, Clovis, August 9th, 2017, # Participants: 123.
3. Conservation systems for agroecosystem resilience under dryland and limited irrigation management. Climate Outlook forum, Clovis, NM. April 2017, #Participants: 48.
4. Conservation systems for sustaining High Plains agriculture, 8th Annual Northeastern New Mexico Prairie Partners Meeting, Tucumcari, NM, December 2016. # Participants: 87.
5. Cover crops and soil organic matter dynamics. Annual field day, Agriculture Science Center, Clovis, August 3rd, 2016, # Participants: 115.
6. Cover crops in winter wheat-sorghum-fallow system, Canola/cover crop field day, May 10th, 2016, # Participants: 71.

#### **Other presentations (2016-2018, \* indicate student presentation)**

1. **Ghimire, R.** Cropping Systems Agronomy: program highlights and on-going research. ACES Open House, Las Cruces, NM, 2018.
2. \*Thapa, V., **R. Ghimire**, A.O. Mesbah. 2018. Land use systems effects on soil organic matter and nutrients in drylands of Eastern New Mexico. ACES Open House, NMSU.

3. \*Allan, M.J., **R. Ghimire**, C. Brungard, and S. Begna. 2018. Evaluating spatiotemporal variability of soil properties for sustainable corn production in Eastern New Mexico. Graduate Student Fair, University Research Council, NMSU.
4. \*Thapa, V., **R. Ghimire**, O.J. Idowu, and A.O. Mesbah. 2018. Soil fertility response to tillage systems and cover cropping in a dryland corn-sorghum rotation. Graduate Student Fair, University Research Council, NMSU.
5. \*Thapa, V., and **R. Ghimire**. 2018. Land use systems effects on soil health in drylands of Eastern New Mexico. NeSA 10th International conference (**Second place on oral competition**).
6. \*Ghimire B., **R. Ghimire**, A.O. Mesbah. 2017. Cover crops effects on soil moisture, weed density, and potentially mineralizable carbon in a winter wheat-summer fallow system. EPPWS Graduate Seminar, New Mexico State University, Las Cruces, NM.
7. \*Ghimire B., **R. Ghimire**, A.O. Mesbah. Potentially mineralizable carbon under cover crops: field results and laboratory incubation study. University Research Council Fair, New Mexico State University, Las Cruces, NM, 2017 (**First prize winner**).
8. **Ghimire, R.**, A.O. Mesbah. Cover crops for improving the sustainability of winter wheat – sorghum – fallow system. University Research Council Fair, New Mexico State University, Las Cruces, NM, 2016.
9. \*Ghimire B., **R. Ghimire**, A.O. Mesbah. Potentially mineralizable carbon under cover crops: field results and laboratory incubation study. EPPWS Graduate Student Poster Competition, New Mexico State University, Las Cruces, NM, 2016 (Poster)

### **Webinars and YouTube video**

1. Silvasy, T., N. Bhattarai, R. Regmi, **R. Ghimire**, et al. 2017. Soil testing survey and soil fertility management in Nepal. <https://www.youtube.com/watch?v=l0ROyf7wLFQ>.
2. Allan, M., P. Bista, **R. Ghimire**, and S. Machado. 2015. Effects of cover crop on soil carbon, nitrogen, and soil moisture in a wheat-fallow system. [https://www.youtube.com/watch?v=-TP\\_jvhV3Kc&index=2&list=PLUqxhcJ7EFQ4f5GhP\\_L27fGaSA0985WwH](https://www.youtube.com/watch?v=-TP_jvhV3Kc&index=2&list=PLUqxhcJ7EFQ4f5GhP_L27fGaSA0985WwH).
3. Burns, C., **R. Ghimire**, P. Bista, and S. Machado. 2015. Long-term management effects on labile C: a response to changing climate in the Pacific Northwest. [https://www.youtube.com/watch?v=lh9XVlbS-EA&index=4&list=PLUqxhcJ7EFQ4f5GhP\\_L27fGaSA0985WwH](https://www.youtube.com/watch?v=lh9XVlbS-EA&index=4&list=PLUqxhcJ7EFQ4f5GhP_L27fGaSA0985WwH)
4. **Ghimire, R.** and S. Machado. 2015. Soil organic carbon dynamics in Pendleton tillage – long-term fertility experiment. Climate Change and Agriculture in Pacific Northwest Webinar Series. <https://www.youtube.com/watch?v=1p1e4AUOZnE&feature=youtu.be>

### **Funded grant proposals** (total involvement: \$9,196,515; Ghimire: \$671,682)

1. Cover crops for improving soil health and forage production in eastern New Mexico. **R. Ghimire**, M. Marsalis, and A.O. Mesbah. New Mexico NRCS, 2018-2023, \$200,576 (Ghimire: \$150,432)
2. Improving soil health and ecosystem services through circular grass buffer strips, cover cropping, and crop diversification in New Mexico. R. Ghimire, S. Begna, S. Angadi, and A.O. Mesbah. New Mexico NRCS Conservation Innovation Grant. 2018-2021, \$97,998 (Ghimire: 53899).

3. Participatory approaches to agroecosystem resilience in times of drought (ARID): An example from the Southern Great Plains, PI: Amy Ganguli, USDA NIFA Resilient Agroecosystems, 2018-2022, 1.2 M (Ghimire: 70,000).
4. Sustaining agriculture through adaptive management to preserve the Ogallala Aquifer under a changing climate. M.A. Marsalis, S. Angadi, R. Ghimire. NMSU sub-award of USDA award# 2016-68007-25066, total funding: 7.8 M (Ghimire: \$145,289).
5. Soil and plant health schools for improving vegetable production and small land-holder farm economy in Nepal. R. Ghimire, J.P. Rijal, N. Bhattarai. The Horticulture Innovation Lab's Trellis Fund (through Center for Agricultural Research and Development, Nepal). 2016-2017: \$ 4,360 (PI).
6. Strategies for soil and water conservation and sustainable forage corn production in New Mexico: cutting height, row spacing, and forage quality considerations. S. Begna, S. Angadi, **R. Ghimire**, and A.O. Mesbah. New Mexico Conservation Innovation Grant. 2017-2018: \$150,000 (Ghimire \$45,000).
7. Integrated nutrient and pest management for improving the sustainability of small-holder farming in Chitwan, Nepal. **R. Ghimire**, J.P. Rijal, K.D. Puri, N. Bhattarai. The Horticulture Innovation Lab's Trellis Fund (submitted through the Center for Agricultural Research and Development, Nepal). 2016-2017: \$2,000.
8. Soil conservation and sustainable crop production through reduced-tillage and crop diversification in drylands of the eastern New Mexico. **R. Ghimire**, A. Mesbah, J. Idowu. NMSU Agricultural Experiment Station. 2016-2018: \$48,000.
9. Conservation tillage and cover crops for improving the sustainability of semiarid dryland cropping systems in the southwestern United States. R. Ghimire. USDA- National Institute of Food and Agriculture, Hatch project, 2016-2021.
10. Soil organic matter dynamics in winter wheat-based production systems: demonstrating the impacts of climate change on soil C and N. **R. Ghimire**, P. Bista, and S. Machado. Extension Sub-award of USDA National Institute of Food and Agriculture competitive grant program (award # 2011-68002-30191). 2015-2016: \$15,000 (Ghimire: 13,500).
11. Developing sustainable dryland winter wheat production systems using cover crops in the Pacific Northwest. S. Machado, P. Bista, and **R. Ghimire**. Agriculture Research Foundation, Oregon State University. 2015-2016: \$12,495 (Ghimire: 4,998).
12. Land use systems effects on the fertility status of hills and valley soils of Nepal. **R. Ghimire**. Kaule eV. Organization for Sustainable Agroecology. 2009: \$1,237.
13. Promotion of organic agriculture, and farmers' field schools for livelihood security of marginalized communities in Chitwan and surrounding districts of Nepal. B. Rana Bhat, **R. Ghimire**, and R. Adhikari. AusAID, Australia. 2007: \$7,500 (Ghimire: 2,625).
14. Raising understanding of rising temperature, educating school students on climate change. **R. Ghimire**. Practical Action – Nepal. 2007-2008: \$4,160.

## **7. TEACHING**

- Guest lecture on Soil Ecology and presentation at Graduate Workshop, Northwest University, Xi'an, China, Nov. 25-Dec 4, 2017
  - Strategies for improving agricultural sustainability in the US High Plains
  - Writing in agronomic science: a guide to becoming a successful early career scientist

- Summer School and Workshop, China Agriculture University, Beijing, China, June 1-7, 2016
  - DayCent model for simulating crop yield and soil processes
  - Measurement and modeling of winter wheat-summer fallow system using DayCent model
- Spring 2016, Guest Lecture on Soil Management and Fertility (Soil 312), New Mexico State University
  - Class size: 11 students
  - Collaborated with course leader in preparation of course material, designing selected homework assignments, and providing lectures in the class
- Fall 2013, Soil Fertility and Fertilizers (Graduate/Undergraduate course, Soil 4160/5160), University of Wyoming (Course Instructor)
  - Class size: 20 students (9 graduate + 11 undergraduate)
  - Prepared course curriculum, designed homework assignments, soil test report for student homeworks, and midterm as well as final exam questions
  - Taught full course (3 credits)
  - Graded homework assignments, term paper, and exams
- Student responses on teaching evaluation (n = 15, agree or strongly agree)
  - Designing syllabus/delivering course material (100%)
  - Prepared for class (100%)
  - Effective communication (94%)
  - Enthusiastic about teaching (85%)
  - Thorough knowledge of course material (82%)
  - Genuinely concerned for students (100%)
  - Available for assistance (100%)
- Fall 2012, Soil Microbiology (Graduate/Undergraduate course and laboratory, Soil 4140/5140), the University of Wyoming as a Graduate Teaching Assistant
  - Class size: 23 students (5 graduate + 18 undergraduate)
  - Planned laboratory exercise in consultation with the lead instructor (Urszula Norton) for 23 students and lab instruction to one group (12 students)
  - Prepared laboratory assays for bacterial and fungal biomass and community structure study and culture medium for a variety of organisms, and helped students in the identification and characterization of organisms
  - Grading and evaluation of homework assignments, term paper, and exams
- Spring/summer 2009, Soil Microbiology (Graduate), Tribhuvan University, Nepal
  - Course instructor, class size: 2 students
  - Prepared course curriculum, designed homework assignments, midterm, and final exams
  - Taught full course (2 credit), evaluated/graded homework assignments, term paper, and exams
- 2008, Soils of Nepal (Undergraduate Soil Science Major), Tribhuvan University, Nepal.
  - Course instructor, class size: 15 students
  - Prepared course curriculum, designed homework assignments, midterm, and final exams
  - Taught full course (2 credit), evaluated/graded homework assignments, term paper, and exams
- 2006-2009, Soil Fertility, Fertilizer, and Integrated Nutrient Management (Undergraduate), Fall Semester, Tribhuvan University, Nepal

- Course instructor, class size: 50 students (one theory and two laboratory sections).
  - Prepared course curriculum, designed homework assignments, and midterm and final exams
  - Plan, prepare and run laboratory demonstration exercises for both groups
  - Taught full course (3 credit each), graded homework assignments, and exams
- 2006-2009, Fundamentals of Soil Science and Geology (Undergraduate), Spring Semester, Tribhuvan University, Nepal
    - Course instructor, class size: 50 students (one theory and two laboratory sections).
    - Prepared course curriculum, designed homework assignments, midterm, and final exams
    - Plan, prepare and run laboratory demonstration exercises for both groups
    - Taught course (3 credit each), evaluated homework assignments, and exams

## 8. **STUDENT ADVISING**

### **Current graduate students/Postdocs**

| <b>Name</b>             | <b>Degree</b> | <b>Research</b>             | <b>Year</b>                | <b>Responsibility</b> |
|-------------------------|---------------|-----------------------------|----------------------------|-----------------------|
| Sk. Musfik US Salehin   | MS            | Nitrogen in Sorghum         | Fall 2018-<br>Spring 2020  | Major advisor         |
| Dr. Abdelaziz Nilahyane | PostDoc       | Forage Systems              | Fall 2018-Fall 2020        | Co-supervisor         |
| Pramod Acharya          | MS            | Cover crops water use       | Fall 2017-<br>Spring 2019  | Co-advisor (ENMU)     |
| Vesh R. Thapa           | PhD           | Cover crops and soil health | Fall 2016 –<br>Summer 2018 | Major advisor         |

### **Graduated students/Postdocs (advisor or co-advisor)**

- Allan, Mikayla J., Fall 2018, Understanding soil spatial and temporal variability for forage corn production and hydrological modeling within New Mexico (Advisor).
- Thapa, Vesh R., Summer 2018, Agricultural management systems affect soil health and crop production in the drylands of eastern New Mexico (Advisor). Continued as a Ph.D. Student at my Lab, PES NMSU.
- Dhakal, Ramesh, 2016-2017, Dryland and limited irrigation cropping systems in eastern New Mexico. Research Associate (Co-supervised with Dr. Naveen Puppala).
- GC, Apar, Summer 2018, Essays on food security, conflict, and production economics (committee member). Currently Ph.D. Student at Washington State University.
- Ghimire, Binod, Fall 2017, Cover crop effects on soil organic matter dynamics, weed suppression and wheat yield in a limited irrigated winter wheat-summer fallow system (co-advised with Dr. Mesbah). Currently Ph.D. Student at the University of Illinois.

### **Visiting scholars**

- Babu Ram Khanal, Agriculture and Forestry University, Nepal, 2018/19
- Yaquiong Fan, China Agricultural University, 2017



## 9. PROFESSIONAL SERVICES

- **Departmental committee**

- Department of Plant and Environmental Sciences Graduate Study Committee, 2018
- Department of Plant and Environmental Sciences Student Recruitment and Retention Committee, 2016-present

- **Professional committee**

- Secretary/Treasurer, Western Society of Crop Science, 7/1/2017-6/30/2019
- Presiding Leader, Global Climate Change Community, 2019
- Soil and Water Conservation Scholarship Committee member 2017-2019
- Vice Leader, Global Climate Change Community, 2018
- Soil Science Applied Research Award Committee member 2017-2018

- **Journal editor**

- **Associate Editor.** Agronomy Journal, <https://dl.sciencesocieties.org/about-society/committees/A302/members/> 2019-2021
- **Special Issue Editor.** Sustainability in the Mountains Region, [http://www.mdpi.com/journal/sustainability/special\\_issues/mountains\\_region](http://www.mdpi.com/journal/sustainability/special_issues/mountains_region), 2016-2017 (handled 6 papers in total, recommended publication of five papers)
- **Review Editor:** Frontiers in Plant Science, <http://journal.frontiersin.org/journal/plant-science>, 2015-2018
- **Contributing Editor:** American Journal of Agricultural and Biological Sciences, <http://thescipub.com/journals/ajabs>, 2012-2014

- **USDA-NIFA proposal review**

- Western Sustainable Agriculture Research and Education – 2018/19 (reviewed 10 proposals)
- Foundational Program – 2018 (reviewed 13 proposals)
- Organic Research and Extension Initiative program – 2017 (reviewed 11 proposals)

- **Journal papers reviewed (10-15 papers reviewed per year since 2015)**

- Agricultural Research
- Agriculture, Ecosystem, and Environment
- Agronomy Journal (>10)
- Air, Water, and Soil Pollutions
- American Journal of Agricultural and Biological Sciences
- Archives of Agronomy and Soil Science
- Arid Land Research and Management
- European journal of soil biology
- Frontiers in Environmental Science
- Frontiers in Plant Science (>5)
- Grassland science
- Global Change Biology
- Greenhouse Gases: Science and Management
- Journal of the Institute of Agriculture and Animal Science
- Journal of Mountain Science

- Land Degradation and Development
- Mountain Science
- Nutrient Cycling in Agroecosystems (>5)
- PlosOne
- Soil Science
- Journal of Environmental Quality
- Soil Science Society of America (>5)
- Soil Use and Management
- Sustainability
- The World Scientific Journals
- Vedos Zone Journal

- **A judge on graduate student oral/poster presentations**

- SASES Club Poster Contest. ASA, CSSA, and SSSA, International Annual Meetings, Tampa, FL, 2017
- Soil Carbon and Greenhouse Gas Emissions Community. ASA, CSSA, and SSSA, International Annual Meetings, Phoenix, AZ, 2016
- Western Society of Crop Science Annual Meeting, Albuquerque, NM, 2016
- Greenhouse Gas Emissions Community. ASA, CSSA, and SSSA, International Annual Meetings, Minneapolis, MN, 2015
- Soil biology and Biochemistry division. ASA, CSSA, and SSSA, International Annual Meetings, Long Beach, CA, 2014

- **Session Chair/Moderator:**

- Symposium on Food Water Energy Nexus Approach for Climate Change Mitigation and Adaptation, ASA and CSSA International Annual Meetings, Baltimore, MD, 2018
- Global Climate Change: More Recent Observations and Adaptations Oral I (includes student competition), ASA and CSSA International Annual Meetings, Baltimore, MD, 2018
- Soil Carbon and Greenhouse Gas Emissions Community. ASA, CSSA, and SSSA, International Annual Meetings, Tampa, FL, 2017

- **Judge of Soil Judging competition:** Umatilla and Morrow county FFA, OR, 2014

## **10. MENTIONED IN THE NEWS**

- Merging Crops for Sustainability: NMSU research could influence future agricultural work. Las Cruces Sun-News. [Aug. 22, 2016](#)
- NMSU's Clovis Science Center reports on benefits of canola, cover crops. Las Cruces Sun-News. May 7, 2016