CURRICULUM VITAE

KELLY DOYLE CRAVEN
Associate Professor/Microbial Symbiology
Noble Research Institute
Ardmore, Oklahoma 73401

Email: kdcraven@noble.org
Phone: +1 580 224 6710
Cellphone: +1 580 222 6311

ACADEMIC QUALIFICATIONS:

PhD University of Kentucky, Lexington, KY (2003). Thesis Title: Coevolution and genetic diversity in grass-endophyte symbioses. Supervisor: Prof. Christopher Schardl.

MSc University of Kentucky, Lexington, KY (2000). Thesis Title: Evolution of *Epichloë* and *Neotyphodium* endophytes, fungal symbionts of grasses. Supervisor: Prof. Christopher Schardl.

BSc Zoology, Arizona State University (1994).

CURRENT POSITIONS:

Associate Professor, Principal Investigator, Noble Research Institute, Ardmore, Oklahoma (January 2014 – present).

Adjunct Assistant Professor, Plant Pathology and Microbiology, Texas A&M University (June 2010 – present).

PROFESSIONAL POSITIONS HELD:

Assistant Professor, Principal Investigator, Noble Research Institute, Ardmore, Oklahoma (September 2006 – December 2013).

Postdoctoral Research Fellow in the lab of Dr. Ralph Dean, Department of Plant Pathology, North Carolina State University, USA. Research Topic: Functional genomics of the *Alternaria brassisicola* – Brassicaceae pathosystem (December 2002 – August 2006).

Full-time PhD student (September 1997 – December 2002).

EXTERNAL RESEARCH GRANTS AWARDED ($2.1 million to my lab since 2016)

1. BioEnergy Science Center (BESC I)
   Department of Energy DE-AC05-00OR22725
   Through UT Battelle, LLC (Oak Ridge National Lab) award 400064018
   $595, 343 Craven Portion
   11/09/2007-09/30/2012

2. BioEnergy Science Center (BESC II)
   Department of Energy DE-AC05-00OR22725
   Through UT Battelle, LLC (Oak Ridge National Lab) award 4000115929
   $443,999 Craven Portion
   10/01/2012-09/30/2017
   Lead PI: Paul Gilna

3. Center for Bioenergy Innovation (CBI)
   Department of Energy DE-AC05-00OR22725
   Through UT Battelle, LLC (Oak Ridge National Lab) award 4000160536
   Convergent improvement of plants and microbes for feedstocks, fuels and products.
   $560,891 Craven Portion
   10/01/2018-09/30/2023
   Lead PI: Jerry Tuskan

4. Establishment to Senescence: Plant-Microbe and Microbe-Microbe Interactions mediate Switchgrass Sustainability
   Department of Energy DE-SC0014079
   Pass through University of California, Berkeley Subaward 00009015-03
   $1,528,870 Craven Portion
   08/15/2015-08/14/2020
   Lead PI: Mary Firestone

INTERNAL RESEARCH GRANTS AWARDED

1. Harnessing root endophytes (microbes) to improve nutrient acquisition and utilization in wheat and bermudagrass. Noble Foundation, Plant-Microbe Cluster Initiative, Forage 365 Grant Program.
   $246, 267
   01/01/2015-12/01/2018
   Lead PI: Kelly Craven

GRANTS SUBMITTED

1. Scaling Down to Scale Up: How the Systems Biology of Switchgrass-Microbiome Interactions Shapes Soil Health and Sustainability in Marginal Lands
   Department of Energy DE-FOA-0002214
   Through North Carolina State University (Christine Hawkes, lead PI)
   $2,471,545 Craven portion
   01/01/2021-12/31/2025
   Lead PI: Christine Hawkes

EDITORIAL BOARD, REVIEWER AND GRANT PANELS

- Associate editor for Phytobiomes journal (2017-2019).
- Reviewed manuscripts for (**21**): Plant Biotechnology, Annals of Botany, Applied and Environmental Microbiology, Biotechnology for Biofuels, FEMS Microbiology Letters, Fungal Biology, Fungal Diversity, GCB Bioenergy, Journal of Chemical Ecology, Microbial Ecology, Molecular Ecology, Molecular Plant-Microbe Interactions, Molecular Plant Pathology, Molecules, Mycologia, Oecologia, Phytobiomes Journal, Plant and Soil, PLoS Pathogens, PLoS ONE, Scientia Horticulturae.
- Reviewer for the Plant Biotic Interactions Program (PBI), jointly funded by NSF and USDA/NIFA (2016); the National Academy of Sciences "Partnerships for Enhanced Engagement in Research" (PEER) program (2015); and DOE Genomics of Bioenergy Feedstocks and National Institute of Food and Agriculture AFRI in Plant-microbe signaling (2015).
- Participated as a reviewer for Referee for the Marsden Fund (New Zealand Granting Agency) (2015).

PUBLICATIONS (ACCEPTED AND IN PRINT; *PUBLISHED SINCE LAST PROMOTION)

1. *Craven KD and Ray P. (2019) More than Serendipity: The potential to manage soil carbon and emissions while promoting low-input agriculture with Serendipitoid mycorrhizae. *Phytobiomes Journal* 3: 161-164.
2. *Ray P, Abraham PE, Guo Y, Giannone RJ, Engle NL, Yang ZK, Jacobson D, Hettich RL, Tschaplinski TJ, Craven KD. (2019) Scavenging organic nitrogen and remodelling lipid metabolism are key survival strategies adopted by the endophytic fungi, *Serendipita vermifera* and *Serendipita bescii* to alleviate nitrogen and phosphorus starvation *in vitro*. *Environmental Microbiology Reports* 11: 548-557.
3. *Ray P, Chi M-H, Guo Y, Chen C, Adam C, Kuo A, LaButti K, Lipzen A, Barry K-W, Grigoriev IV, Tang, Y, and Craven KD. (2018) Genome sequence of the plant growth promoting fungus *Serendipita vermiferi* subsp. *bescii*: The first native strain from North America. *Phytobiomes Journal* 2:62-63.
4. *Ray, P, Guo Y, Kolape J, and Craven, KD. (2018) Non-targeted colonization by the ectomycorrhizal fungus, *Serendipita vermifera*, in three weeds typically co-occurring with switchgrass. *Frontiers in Plant Science* 8: 1-9.
5. *Chi M-H and Craven KD. (2016) RacA-mediated ROS signaling is required for polarized cell differentiation in conidiogenesis of *Aspergillus fumigatus*. *PLoS ONE* 11: e0149548.
6. *Bokati D, Craven KD. (2016) The cryptic Sebacinales: An obscure but ubiquitous group of root symbionts comes to light. *Fungal Ecology* 22:115-9. Invited Review.

7. *Ray P, Craven KD. (2016) *Sebacina vermifera*: a unique root symbiont with vast agronomic potential. *World Journal of Microbiology and Biotechnology* 32:16.
8. * Shoji J, Charlton N D, Yi M, Young CA, Craven KD. (2015) Vegetative hyphal fusion and subsequent nuclear behavior in *Epichloë* grass endophytes. *PLoS ONE* 10:e0121875.
9. *Ray P, Ishiga T, Decker SR, Turner GB and Craven KD. (2015) A novel delivery system for the root symbiotic fungus, *Sebacina vermifera*, and consequent biomass enhancement of low lignin COMT switchgrass lines. *Bioenergy Research* 8: 922-933.
10. *Bahulikar RA, Torres-Jerez I, Worley E, Craven KD, and Udvardi M. (2014) Diversity of nitrogen-fixing bacteria associated with switchgrass in the native tallgrass prairies of northern Oklahoma. *Applied and Environmental Microbiology* 80: 5636-5643.
11. *Charlton ND, Craven KD, Afkhami ME, Hall BA, Ghimire SR, Young CA. (2014). Interspecific hybridization and bioactive alkaloid variation increases diversity in endophytic *Epichloë* species of *Bromus laevipes*. *FEMS Microbiology Ecology* 90:276-289.
12. Chi MH, Craven KD. (2013) Oxygen and an extracellular phase transition independently control central regulatory genes and conidiogenesis in *Aspergillus fumigatus*. *PLoS One* 8.9
13. Craven KD. (2012) Population studies of native grass-endophyte symbioses provide clues for the roles of host jumps and hybridization in driving their evolution. *Molecular Ecology* 21: 2562-2564.
14. Charlton ND, Shoji J, Ghimire SR, Nakashima J, and Craven KD. (2012). Deletion of the fungal gene *soft* disrupts the mutualistic symbiosis between the grass endophyte *Epichloë festucae* and the host plant. *Eukaryotic Cell* 11: 1463-1471.
15. Rudgers JA, Miller TEX, Ziegler SM, and Craven KD. (2012) There are many ways to be a mutualist: Endophytic fungus reduces plant survival but increases population growth. *Ecology* 93: 565-574.
16. Charlton ND, Craven KD, Mittal S, Hopkins AA, Young CA. (2012) *Epichloë canadensis*, a new interspecific epichloid hybrid symbiotic with Canada wildrye (*Elymus canadensis*). *Mycologia* 104:1187-99.
17. Ghimire SR, Charlton ND, Bell J, Krishnamurthy Y, and Craven KD. (2011) Biodiversity of fungal endophyte communities inhabiting switchgrass (*Panicum virgatum* L.) growing in the native tallgrass prairie of northern Oklahoma. *Fungal Diversity* 47: 19-27.
18. Ghimire SR, and Craven KD. (2011) The ectomycorrhizal fungus *Sebacina vermifera*, enhances biomass production of switchgrass (*Panicum virgatum* L.) under drought conditions. *Applied and Environmental Microbiology* 77: 7063-7067.
19. Shoji J, and Craven KD. (2011) Autophagy in basal hyphal compartments: a green strategy for the great recyclers. *Fungal Biology Reviews* 25: 79-83.
20. Li H, Barker BM, Grahl N, Puttikamonkul S, Bell JD, Craven KD, Cramer RA. (2011) The small GTPase RacA mediates intracellular reactive oxygen species production,

polarized growth, and virulence in the human fungal pathogen *Aspergillus fumigatus*. *Eukaryotic Cell* 10:174-86.

21. Ghimire SR, Rudgers JA, Charlton ND, Young C, Craven KD. (2011) Prevalence of an intraspecific *Neotyphodium* hybrid in natural populations of stout wood reed (*Cinna arundinacea* L.) from eastern North America. *Mycologia* 103:75-84.
22. Ghimire SR, Charlton ND, and Craven KD. (2009) The mycorrhizal fungus, *Sebacina vermifera*, enhances seed germination and biomass production in switchgrass (*Panicum virgatum* L). *Bioenergy Research* 2: 51-58.
23. Tsui CKM, Marshall W, Yokoyama R, Honda D, Lippmeier JC, Craven KD, Peterson PD, and Berbee ML. (2009) Labyrinthulomycetes phylogeny and its implications for the evolutionary loss of chloroplasts and gain of ectoplasmic gliding. *Molecular Phylogenetics and Evolution* 50: 129–140.
24. Craven KD, Vélëz E, Cho Y, Lawrence CB, and Mitchell TK. (2008) Anastomosis is required for virulence of the fungal necrotroph, *Alternaria brassicicola*. *Eukaryotic Cell* 7: 675-683.
25. Schardl CL, Craven KD, Speakman S, Stromberg A, Lindstrom A, and Yoshida R. (2008) A novel test for host-symbiont codivergence indicates ancient origin of fungal endophytes of grasses. *Systematic Biology* 57: 483-498.
26. Lawrence CB, Mitchell TK, Craven KD, Cho Y, Cramer RA, Jr., and Kim K-H. (2008) At death's door: Alternaria pathogenicity mechanisms. *Plant Pathology Journal.* 24: 101-111.
27. Moon CD, Guillaumin J-J, Li C, Craven KD, and Schardl CL. (2007) New *Neotyphodium* endophyte species from the grass tribes Stipeae and Meliceae. *Mycologia* 99: 895-905.
28. Cramer RA, La Rota CM, Cho Y, Thon M, Craven KD, Knudson DL, Mitchell TK and Lawrence CB. (2006) Bioinformatic analysis of expressed sequence tags derived from a compatible *Alternaria brassicicola-Brassica oleracea* interaction. *Molecular Plant Pathology* 7: 113-124.
29. Craven KD, Peterson PD, Windham DE, Mitchell TK, and Martin SB. (2005) Molecular identification of the turfgrass rapid blight organism. *Mycologia* 97: 160-166.
30. Gentile AM, Rossi S, Cabral D, Craven KD, and Schardl CL. (2005) Origin, divergence and phylogeny of epichloë endophytes of native Argentine grasses. *Molecular Phylogenetics and Evolution* 35: 196-208.
31. Moon CD, Craven KD, Leuchtmann A, Clement SL, and Schardl CL. (2004) Prevalence of interspecific hybrids amongst asexual fungal endophytes of grasses. *Molecular Ecology* 13: 1455-1467.
32. Schardl, CL, and Craven KD. (2003) Interspecific hybridization in plant-associated fungi and oomycetes: a review. *Invited review*. *Molecular Ecology* 12: 2861-2873.

33. Craven KD, Tsai PTW, Leuchtmann A, Hollin W and Schardl CL. (2001) Multigene phylogeny of *Epichloë* species, fungal symbionts of grasses. *Annals of the Missouri Botanical Garden* 88: 14-34.
34. Craven KD, Blankenship JD, Leuchtmann A, Hignight K, and Schardl CL. (2001) Hybrid fungal endophytes symbiotic with the grass *Lolium pratense*. Sydowia 53: 44-73.

PUBLICATIONS (SUBMITTED)

1. Ray P, Guo Y, Krom N, Saha MC, Craven KD. Novel mycorrhizal fungus *Serendipita bescii* promotes winter wheat growth by alleviating phosphate and nitrogen starvation responses. *Plant Cell and Environment* (in review)
2. Bates CT, Escalas A, Kuang J, Hale L, Wang Y, Herman D, Nuccio EE, Wang X, Fu Y, Tian R, Wang G, Ning D, Yang Y, Wu L, Pett-Ridge J, Saha M, Craven KD, Firestone M, Zhou J. Conversion of marginal land into switchgrass conditionally accrues soil carbon and reduces methane consumption. Journal of the *International Society of Microbial Ecology Journal (ISMEJ)* (In review).
3. Ray P, Lakshmanan V Lakshmanan, Labbé J and Craven KD. Microbe to microbiome: A paradigm shift in the application of microorganisms for sustainable agriculture. *Frontiers in Microbiology* (Invited review; submitted))

PUBLICATIONS (IN PREPARATION)

1. Lakshmanan V, Kwon S, Lauren B Jones, Rogers J, Craven KD (2020). Large scale field study of long-term no-till systems and summer cover crop of winter pasture land: Novel insights into soil microbial community. Target Journal: BMC Microbiology.
2. Lakshmanan V, Kwon S, Lauren B Jones, Robertson S, Rogers J, Craven KD (2020). Summer cover crops in till/no till systems influences the compositional shifts in root-associated microbiota and forage yield of winter wheat. Target Journal: Soil Biology and Biochemistry.
3. Wang W, Ceja Navarro J, Nuccio E, Ning D, Tian R, Simmons T, Estera-Molina K, Fossum C, Kuang J, Bates C, Hale L, Ding N, Barbour J, Baker N, Arellano A, Zhalnina K, Brodie E, Northen T, Scheible W, Udvardi M, Pett-Ridge J, Saha M, Wu L, Zhou J, Firestone M and Craven KD (2020). Rhizosphere biotic succession during switchgrass establishment in marginal soils. Target journal: *International Society of Microbial Ecology Journal (ISMEJ)*.

INVITED BOOK CHAPTERS (*SINCE MY LAST PROMOTION)

1. *Lakshmanan V, Ray P and Craven KD. (2017) Rhizosphere Sampling Protocols for Microbiome (16S/18S/ITS rRNA) Library Preparation and Enrichment for the Isolation of Drought Tolerance-Promoting Microbes Ramanjulu Sunkar (ed.), *Plant*

Stress Tolerance: Methods and Protocols, *Methods in Molecular Biology*, vol. 1631, 349-362. DOI 10.1007/978-1-4939-7136-7_23, © Springer Science+Business Media LLC 2017

2. *Lakshmanan, V, Ray, P and Craven KD. (2017) Toward a Resilient, Functional Microbiome: Drought Tolerance-Alleviating Microbes for Sustainable Agriculture Ramanjulu Sunkar (ed.), *Plant Stress Tolerance: Methods and Protocols*, *Methods in Molecular Biology*, vol. 1631, pp. 69-84. DOI 10.1007/978-1-4939-7136-7_4, © Springer Science+Business Media LLC 2017
3. Ghimire SR, and Craven KD**.** (2011) The Role of Endophytes in Low Input Agriculture and Plant Biomass Production. *In* M.C. Saha et. al. (ed.) Biomass Crops: Breeding and Genetics. Wiley-Blackwell, Hoboken, NJ, USA.
4. Craven KD, Clay K, and Schardl CL. (2009) Tall fescue – systematics and morphology *in* Tall Fescue for the Twenty-First Century. Tri-Societies Publishers. pp. 9-28.

EXTENSION/POPULAR PRESS ARTICLES (*SINCE MY LAST PROMOTION)

1. *Research Profile*: Kelly Craven. *Legacy* magazine (Summer 2009) https://www.noble.org/news/publications/legacy/2009/summer-2009/researcher-profile-kelly-craven/.
2. *The Unseen Revolution*. *Legacy* magazine (Winter 2010). https://www.noble.org/news/publications/legacy/2000/winter-2010/the-unseen-revolution/.
3. *An Orchid by Any Other Name. Legacy* magazine (Fall 2013) https://www.noble.org/news/publications/legacy/2013/fall-2013/an-orchid-by-any-other-name/
4. **Scientists study plant-microbe interactions in switchgrass*. Press Release about $11 million grant from U.S. Dept. of Energy. (December 2015). https://www.noble.org/news/releases/scientists-study-plant-microbe-interactions-in-switchgrass/
5. **Knowing the Soil's Condition Before Reseeding Rangeland.* Noble News and Views. (December 2017). https://www.noble.org/news/publications/ag-news-and-views/2017/december/know-soils-condition-before-reseeding-rangeland/
6. **Studying How Cover Crops, Tillage Affect the Life in Soil.* Noble News and Views (February 2018). https://www.noble.org/news/publications/ag-news-and-views/2018/february/how-cover-crops-tillage-affect-life-in-soil/
7. * *Noble Land Stewardship Program Aims to Help Ranchers Put Numbers to the Value They Bring to Society*. *Legacy* magazine. (Winter 2019). https://www.noble.org/news/publications/legacy/2019/winter/noble-land-stewardship-program-aims-to-help-ranchers-put-numbers-to-the-value-they-bring-to-society/

SPEAKING INVITATIONS

External talks (* since last promotion)

- *Ada High School, “The soil microbiome: key to healthy soils.”, 06/16/2019.
- *University of Missouri, “Harnessing the phytobiome for low-input sustainable agriculture”, Ada, OK, 10/30/2017.
- *Novozymes and the Research Triangle Institute, “*Serendipita bescii* for crop enhancement”, Research Triangle, NC, 02/22/17.
- *Mycological Society of America, Annual meeting, “Harnessing the microbiome for agricultural sustainability in bioenergy-based systems”, Berkeley, CA, 08/09/2016.
- *American Phytopathological Society, Annual meeting, “Exploitation of the microbiome to facilitate low-input agriculture”, Tampa, FL, 07/31/2016.
- *University of Oklahoma. “Mining the phytobiome for enhancement of agronomic and bioenergy crops”, Norman, OK, 06/02/2016.
- *Plant and Animal Genome (PAG) annual meeting. “Harnessing the plant microbiome for agricultural sustainability in bioenergy-based systems”, San Diego, CA, 01/06/2016.
- *UMass Amherst Plant Biology Symposium, 11/30/2016.
- *Oklahoma State University. Soil Biology Symposium. “Harnessing symbiotic microbes for agricultural sustainability.”, Stillwater, OK, 12/05/2015.
- *Annual miCROPe meeting. “The Sebacinales: Unique root symbionts with vast agronomic potential.” Vienna, Austria, 11/23/2015.
- Invited speaker chosen by post-docs and graduate students, University of Georgia Plant Center Fall Retreat, “Harnessing the plant microbiome for agricultural sustainability.” Athens, GA, 10/30/2015.
- “The Sebacinales: unique root symbionts with vast agronomic potential.” Stellenbosch University, Stellenbosch, South Africa, 05/27/2015.
- Carnegie Institution for Science. Association of Independent Plant Institutes (AIPI). “Structure and assembly cues in leaf surface microbiota.”, Washington D.C., 02/22/2015.
- Oklahoma School for Science and Mathematics (OSSM), Oklahoma City, Oklahoma, 02/11/2015.
- Annual Bob B. Buchanan Lecture (selected by post-docs), Dept. of Plant and Microbial Biology, University of California, Berkeley, “Plant-microbe symbiosis for improved crop performance in the wake of depleting resources”, Berkeley, California, 02/05/2014.
- -10th International Mycological Congress. “The Sebacinales: a novel group of mycorrhizal fungi for improving plant productivity and stress tolerance”, Bangkok, Thailand (Plenary speaker), 08/06/2014.

- Annual BESC Retreat, "Switchgrass symbiosis for sustainability", Chattanooga, TN, 06/09/2014.
- "Life or Death: Tapping fungi for agronomic gain or killing them if they won't help", Research Triangle Institution, Research Triangle, North Carolina, 09/14/2011.
- "Life or Death: Tapping fungi for agronomic gain or killing them if they won't help", Texas A & M University, College Station, Texas, 02/11/2011.
- "Enhancement of switchgrass through natural and novel associations with endophytic microbes.", Brookhaven National Lab, Upton, New York 02/01/2011.
- "Enhancement of switchgrass through natural and novel associations with endophytic microbes.", Oklahoma State University, Stillwater, Oklahoma, 09/12/2009.
- "Enhancement of switchgrass through novel associations with endophytic microbes.", University of Delaware, Newark, Delaware, 11/21/2008.
- "Using beneficial microbes to facilitate sustainable (low-input) agriculture", Annual BioEnergy Science Center Meeting, Chattanooga, TN, 12/5/2008.
- It's all about networking: The role of anastomosis in the lifestyle and evolution of fungal endophytes of grasses. University of Kentucky. Overview of my research program at the Noble Foundation, 04/29/2008.
- "It's all about networking: The role of anastomosis in the lifestyle and evolution of fungal endophytes of grasses. Rice University, Houston, Texas, 12/15/2007.
- "Anastomosis and vegetative compatibility in the fungal pathogen *Alternaria brassicicola.*", Texas A & M University, College Station, 11/15/2006.

Internal talks (at Noble); (*Since my last promotion))

- Forage Genetics, Program overview and potential collaborations, 11/22/2019.
- SolenaGreen, Program overview and potential collaborations, 02/27/2019.
- *PlantOMICS, "Metagenomics and next-generation sequencing to improve crop plants", 12/14/2018.
- *Cool Terra, Program overview and potential collaborations, 03/27/2018.
- *No Till on the Plains, Overview of Microbial Symbiology lab, 01/29/2018.
- *Wilbur Ellis, Program overview and potential collaborations, 09/14/2017.
- *BRITT Boot camp for secondary educators in OK/TX, 06/20/2017.
- *World Prize Tour, 08/29/2016.
- *Knowledge Drop-In", for secondary educators in OK/TX, 06/28/2016.
- *Root Biology Workshop, "Exploiting the root microbiome to address local agricultural problems", 05/03/2016.
- *Science Forum. "Harnessing the microbiome for agricultural sustainability",. 11/09/2015.

SOCIETY MEMBERSHIPS

- Mycological Society American (MSA)
- American Phytopathological Society (APS)
- International Symbiosis Society (ISS)
- Genetics Society of America (GSA)
- British Mycological Society, (BMS)

COMMERCIAL PARTNERSHIPS

Novozymes. *Serendipita vermifera*: "A unique endomycorrhiza for sustainable agriculture. (2015-present) This collaboration has been active for five years, including two years of field trials of *Serendipita bescii* on corn and soybean in Europe and US.

PATENTS

1. Craven K, Ray P, inventors; Noble Research Institute LLC, assignee. Symbiont for enhancement of plant performance. United States patent application US 15/626,926. 2017 Dec 21.
2. Craven K, inventor; Samuel Roberts Noble Foundation, assignee. Grass fungal endophytes and uses thereof. United States patent US 8,975,489. 2015 Mar 10.
3. Craven K, inventor; Samuel Roberts Noble Foundation, assignee. Enhancement of biomass and productivity in grasses. United States patent application US 12/508,801. 2010 Jan 28.

CURRENT AND PAST LAB MEMBERS

Current members

Last Name	First Name	Position	Start Date	End Date
Chi	**Myoung-Hwan**	Senior Research Associate 1	09/16/2009	Current
Ray	**Prasun**	Senior Research Associate 1	12/09/2011	Current
Guo	**Yingqing**	Research Assistant 2	02/03/2014	Current
Wang	**Yuan**	Senior Research Associate 1	02/16/2016	Current
Simmons	**Travis**	Research Assistant 1	12/27/2016	Current

Previous members (* indicates current position)

Ghimire **Sita** Postdoctoral Fellow 03/01/2007 08/26/2011

*Principal Scientist at Biosciences eastern and central Africa (BecA) program of the International Livestock Research Institute (ILRI) in Nairobi, Kenya

Charlton **Nikki** Postdoctoral Fellow 03/20/2007 06/30/2010

*Senior Research Associate 2 in Noble Research Institute. OK, USA

Bell	**Jeremey**	Research Associate	11/05/2007	09/30/2011

* Senior Human Resources Generalist in Noble Research Institute. OK, USA

Bhat	**Sumana**	Postdoctoral Fellow	04/06/2009	04/21/2011

* unknown

Zhang	**Shaopei**	Research Technician	05/19/2008	08/07/2009

* unknown

Shoji	**Junya**	Postdoctoral Fellow	10/07/2010	12/31/2013

* Writer at Self-Employed. Tokyo, Japan (not sure)

Rahalkar	**Monali**	Research Technician	01/12/2011	06/01/2011

* Scientist D, Bioenergy Group, MACS Agharkar Research Institute, Maharashtra, India

Mathioni	**Sandra**	Postdoctoral Fellow	01/03/2012	01/01/2013

* Postdoctoral Associate in Donald Danforth Plant Science Center, MO, USA

Ishiga	**Takako**	Research Technician	01/01/2013	01/24/2014

* Researcher, University of Tsukuba, Tsukuba, Japan

Stewart	**Blue**	Research Technician	06/03/2013	07/13/2015

*unknown

Bandyopadhyay	**Kaustav**	Postdoctoral Fellow	04/16/2014	05/13/2016

* Assistant Professor in Amity University, Haryana, India

Prithiviraj	**Bharath**	Postdoctoral Fellow	05/16/2014	01/15/2016

* unknown

Bokati	**Deepak**	Research Associate 1	01/02/2015	10/19/2018

* Research Scientist in Bayer, MO, USA

Herriott	**Kasun**	Research Technician	12/07/2015	01/13/2017

* unknown

Lakshmanan	**Venki**	Postdoctoral Fellow	04/04/2016	12/31/2018

* Postdoctoral Fellow in Noble Research Institute. OK, USA

Hwang	**Soohwa**	Research Technician	03/20/2017	06/02/2017

* Housewife

Choi	**Jaeyoung**	Bioinformatics Res. Analyst	05/01/2017	02/27/2018

* Senior Research Scientist in Korean Institute of Science and Technology (KIST), Korea

Kitan	**Rose**	Research Technician	07/17/2017	10/08/2017

* unknown

Visitors/interns

Neyhart	**Jeffrey**	Lloyd Noble Scholars (Cornell Univ.)	6/04/2012	8/9/2012

*Postdoct in in the University of Minesota, Minneapolis, MN.

L'Heureux	**Johanna**	Lloyd Noble Scholars (U. Mass)	6/01/2015	8/7/2015

*Graduate Student in Northestern University, MA, USA

Billings	**Grant**	Lloyd Noble Scholars (Mich. State)	8/11/2017	5/5/2017
* Graduate Student in Clemson University, SC, USA				
Epling	**Seth**	Lloyd Noble Scholars (U. Vermont)	5/28/2019	8/2/2019
* Research Assistant, in University of Vermont, VT, USA				
Bell	**Jordan**	SOTC (S. OK Tech. Cntr) intern	3/12/2013	5/3/2013
McAlister	**Kennedy**	SOTC intern	3/12/2013	5/3/2013
Knox	**Hannah**	SOTC intern	2/01/2018	5/1/2018
Drummond	**Casey**	SOTC intern	2/1/2019	3/15/2019
Fielding	**Ethan**	SOTC intern	2/1/2020	3/15/2020
Prado	**Ernesto**	SOTC intern	2/1/2020	3/15/2020
Krishnamurthy	**Y.L.**	Visitor	10/8/2008	6/26/2009
* Professor of Applied Botany, Kuvempu University, India				
Voisey	**Christine**	Visitor	4/29/2012	5/04/2012
*Senior Researcher, Forage Science, AgResearch, Hamilton, New Zealand				
Sanz	**Jose**	Visitor	5/1/2013	8/01/2013
* Postdoc in Universidad de Salamanca, Spain				