5-2018

Adam J. Liska: *Curriculum vitae*

Adam Liska
University of Nebraska - Lincoln, aliska2@unl.edu

ADAM J. LISKA

CURRICULUM VITAE

Associate Professor, George Dempster Smith Chair of Industrial Ecology
Departments of Biological Systems Engineering and Agronomy & Horticulture,
University of Nebraska-Lincoln
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EDUCATION

Ph.D. 2003	Biology (magna cum laude), Max Planck Institute of Molecular Cell Biology & Genetics, Technische Universität Dresden, Dresden, Germany
B.S. 1999	Biochemistry, Biology, University of Nebraska-Lincoln

RESEARCH

2015-present	Associate Professor, Endowed Chair, Departments of Biological Systems Engineering (60%), Agronomy & Horticulture (40%), School of Natural Resources (courtesy appt., 2012-present), University of Nebraska-Lincoln
2009-2015	Assistant Professor, Endowed Chair, Departments of Biological Systems Engineering, Agronomy & Horticulture, School of Natural Resources (courtesy) University of Nebraska-Lincoln
2005-2009	Research Assistant Professor (2009), Post-Doctoral Res. Associate (2005-8) Department of Agronomy & Horticulture, with KG Cassman University of Nebraska-Lincoln
2004-2005	Post-Doctoral Res. Associate, University of Manitoba, Department of Physics & Astronomy, Winnipeg, Canada, with K Standing & W Ens
2001-2003	Pre-Doctoral Student, Max Planck Institute for Molecular Cell Biology & Genetics, Dresden, Germany, with A Shevchenko
2000-2001	Research Technician II, University of Nebraska-Lincoln, Nebraska Center for Mass Spectrometry, with RL Cerny
1996-2000	Undergraduate Research, University of Nebraska, Departments of Biological Sciences (TE Elthon), Biochemistry (JP Markwell), State Museum (SL Gardner)

TEACHING

Program Coordinator, Energy Sciences Minor (ENSC, University of Nebraska), 2009-present
Instructor, *Energy in Perspective* (ENSC 110), developed & taught: 2008-present
Instructor, *Energy Seminar* (ENSC 300), developed & taught: 2010-present
Instructor, *Energy & War: Nuclear Weapons, Oil, & Probability* (ENSC 496), developed & taught: 2016-2017

Co-instructor, *Energy & Natural Resources Engineering Systems in Germany* (BSEN 496, study abroad Kiel, Germany): Spring 2011

Graduate Research Advising:

Ph.D. Natural Resources: Eric Holley (in progress), Calvin Harman (in progress)

MS Agricultural & Biological Systems Engineering: C. Harman (2017), Quentin Dudley (2012)

MS Natural Resources: E. Holley (2016)

MS Environmental Engineering: Matthew Pelton (2013), Xiao Xue Fang (2012)

Undergraduate Research Advising:

Senior/Honors Thesis: E. Holley (ENSC, 2014), Celeste Wanner (SNR, 2013), Q. Dudley (BSE, 2011)

UCARE undergraduate research: C. Wanner (2012-2013), Casey Heier (2010-2012)

Visiting Faculty collaborators: Ming Zhan (China, 2013-2014), Weber Amaral (Brazil, 2011)

Supervisor/collaborator: Maribeth Milner, PhD (2011-present)

Scholarship Committee Chair, Biological Systems Engineering, 2015-2017.

HONORS, AWARDS, & SOCIETIES

Robert B. Daugherty Water for Food Institute Faculty Fellow, 2015-present

Encyclopedia of Czech-American Biography; Embassy, Czech Republic-Washington, DC, 2014

Recognition for Contributions to Students, UNL Parents & Teaching Council: 2009, 2011

Member, American Society of Agronomy, 2008-2015

Member, American Chemical Society, 2010-2015

Member, Gamma Sigma Delta, Honor Society of Agriculture, 2006

Wieland Huttner Prize, First Graduate of International Max-Planck Research School for Molecular Cell Biology & Bioengineering Dresden, 2003

PROFESSIONAL ACTIVITIES & SERVICE

Journal Referee:

Nature
Nature Climate Change
Nature Energy
Proceedings of the National Academies of Science
Global Change Biology
Environmental Science & Technology
Climatic Change
Global Biogeochemical Cycles
GCB Bioenergy
Ecological Economics
Journal of Industrial Ecology
Journal of Cleaner Production
Energy & Fuels
Biofuels, Bioproducts, & Biorefining
Biomass & Bioenergy
BioEnergy Research
Greenhouse Gases: Science & Technology
Agricultural Systems
Science of the Total Environment
Journal of Environmental Quality
Food & Energy Security
Food Security
Biotechnology for Biofuels
Journal of Biobased Materials & Bioenergy

Reviewer:

US Departments of Energy (DOE), Agriculture (USDA), Transportation (DOT); Clinton Global Initiative; CRC Press; Environmental Defense Fund; World Resources Institute

ISO PC 248 Sustainability Criteria for Bioenergy, ASTM E48 subcommittee 48, Technical Advisory Groups 1 & 4 (Geneva, Switzerland), 2010-2011

Low Carbon Fuel Standard Advisory Group, Midwestern Governors Association, 2009-2010

Conference organizer; environmental section. *Growing the Bioeconomy*; Banff, Canada, 2012.

MANUSCRIPTS, IN PREPARATION

*Corresponding author**

Harman C, *Liska AJ, Fulginit L, Perrin R. Livestock and Thermodynamic Limits to Food Security. for *PNAS*.

*Liska AJ, Harman C, Sharma S, Ray C. Thermodynamics of Livestock and Food Security in India. for *Springer* (book chapter).

Suyker AE, Arkebauer TJ, Nguy-Robertson AL, Zhan M, Liska AJ. Eddy-Covariance Measured CO_2 Emissions from Maize Residue Removal over Three Years. for *GCB Bioenergy.*

Mekonnen MM, Romanelli TL, Ray C, Hoekstra AY, Liska AJ, Neale C. Water, Energy, and Carbon Footprints of Ethanol from the US and Brazil. for *Biofuels, Bioproducts, & Biorefining*.

PUBLICATIONS, PEER-REVIEWED

Google Scholar H-Index: **20** (>2,344 citations) http://scholar.google.com/citations?user=y6hlwEcAAAAJ&hl=en&oi=ao
Articles since 2007 at: http://digitalcommons.unl.edu/bseliska/ (downloaded >33,700 times since 2009)

Zhan M, *Liska AJ, Nguy-Robertson T, Suyker AE, Pelton MP, Yang H. Modeled and Measured Ecosystem Respiration in Maize-Soybean Systems Over 10 Years. Submitted to *Agronomy Journal.*

Holley, ER, Walters CG, Friesen GC, Hayes MJ, Ruldoph MJ, Wilhite DE, Liska AJ*. Climate Change Feedbacks via Market-Based Insurance. Submitted to *Climatic Change.*

*Liska AJ, White, TR, Holley ER, Oglesby RJ. Nuclear Weapons in a Changing Climate: Uncertainty, Increasing Risks, and Perception. *Environment* 59: 22-33, 2017.

Dudley QM, *Liska AJ, Watson A, Erickson GE. Uncertainties in Life Cycle Greenhouse Gas Emissions from U.S. Beef Cattle. *Journal of Cleaner Production* 75, 31-39, 2014.

*Liska AJ, Yang H, Milner M, Goddard S, Blanco-Canqui H, Pelton MP, Fang XX, Zhu H, Suyker AE. Biofuels from Crop Residue Can Reduce Soil Carbon and Increase CO_2 Emissions. *Nature Climate Change* 4, 398-401, 2014.

*Liska AJ, Yang H, Pelton MP, Suyker AE. Reply to'CO2 emissions from crop residue-derived biofuels'. *Nature Climate Change* 4, 934-935, 2014.

*Liska AJ, Heier CD. The Limits to Complexity: A Thermodynamic History of Bioenergy. *Biofuels, Bioproducts, and Biorefining* 7, 573–581, 2013.

Sanchez, ST, Woods J, Akhurst MA, Brander M, O'Hare M, Dawson T, Liska AJ, Malpas R. Accounting for Indirect Land Use Change in the Life Cycle Assessment of Biofuel Supply Chains. *Journal of the Royal Society Interface 9,* 1105-1119, 2012.

Karlen, DL, Archer D, Liska AJ, Meyer S. Energy Issues Affecting Corn/Soybean Systems:

Challenges for Sustainable Production. *Council on Agricultural Science and Technology (CAST),* Issue Paper 48. Ames, Iowa. 2012.

Bremer VR, Watson AK, Liska AJ, Erickson GE, Cassman KG. Hanford KJ., Klopfenstein TJ. Effect of Distillers Grains Moisture and Inclusion Level in Livestock Diets on Greenhouse Gas Emissions in the Corn-Ethanol-Livestock Life Cycle. *The Professional Animal Scientist* 27, 449-455, 2011.

*Liska, AJ. Book Review: Gasoline, Diesel, and Ethanol Biofuels from Grasses and Plants, by Gupta and Demirbas. *Great Plains Research 21*, 112, 2011.

*Liska AJ, Perrin RK. Securing Foreign Oil: A Case for Including Military Operations in the Climate Change Impact of Fuels. *Environment, 52*, 9-22, 2010.

*Liska AJ, Perrin RK. Indirect Land Use Emissions in the Life Cycle of Biofuels: Regulations vs. Science. *Biofuels, Bioproducts, and Biorefining, 3*, 318-328, 2009.

Wortmann CS, Liska AJ, Ferguson RB, Klein RN, Lyon DJ, Dweikat I. Dryland Performance of Sweet Sorghum and Grain Crops for Biofuel in Nebraska. *Agronomy Journal, 102*, 319-326, 2010.

Bremer VR, Liska AJ, Klopfenstein TJ, Erickson GE, Yang HS, Walters DT, Cassman KG. Emissions Savings in the Corn-Ethanol Life Cycle from Feeding Co-Products to Livestock. *Journal of Environmental Quality, 39*, 1-11, 2010.

Liska AJ, Yang HS, Bremer VR, Klopfenstein TJ, Walters DT, Erickson GE, Cassman KG. Improvements in Life Cycle Energy Efficiency & Greenhouse Gas Emissions of Corn-Ethanol. *Journal of Industrial Ecology, 13*, 58-74, 2009.

Liska AJ, Cassman KG. Response to Plevin: Implications for Life Cycle Emissions Regulations. *Journal of Industrial Ecology*, 13, 508-513, 2009

Liska AJ, Cassman KG. Towards Standardization of Life-Cycle Metrics for Biofuels: Greenhouse Gas Emissions Mitigation and Net Energy Yield. *Journal of Biobased Materials and Bioenergy*, *2*, 187-203, 2008.

Naylor RL, Liska AJ, Burke MB, Falcon WP, Gaskell J, Rozelle SD, Cassman KG. The Ripple Effect: Biofuels, Food Security, and the Environment. *Environment, 49*, 30-43, 2007.

Cassman KG, Liska AJ. Food and Fuel for All: Realistic or Foolish? *Biofuels, Bioproducts, and Biorefining, 1*, 18-23, 2007.

*Liska AJ. The Myth and the Meaning of Science as a Vocation. *Ultimate Reality and Meaning, 28*(2), 149-164, 2005.

Liska AJ, Sunyaev S, Shilov I, Schaeffer D, Shevchenko A. Error-Tolerant EST Database Searching by Tandem Mass Spectrometry & MultiTag Software. *Proteomics, 5*, 4118-4122, 2005.

Liska AJ, Shevchenko A, Pick U, Katz A. Enhanced Photosynthesis and Redox Energy Production Contribute to Salinity-Tolerance in *Dunaliella* as Revealed by Homology-Based Proteomics. *Plant Physiology*, *136*, 2806-2817, 2004.

Liska AJ, Popov A, Sunyaev S, Coughlin P, Habermann B, Shevchenko A, Bork P, Karsenti E, Shevchenko A. Homology-Based Functional Proteomics by Mass Spectrometry: Application to the *Xenopus* Microtubule-Associated Proteome. *Proteomics, 4,* 2707, 2004.

*Liska AJ. The Morality of Problem Selection in Proteomics. *Proteomics, 4,* 1929-1931, 2004.

Sunyaev S, Liska AJ, Golod A, Shevchenko A, Shevchenko A. MultiTag: Multiple Error-Tolerant Sequence Tag Search for the Sequence-Similarity Identification of Proteins by Mass Spectrometry. *Analytical Chemistry, 75*, 1307-1315, 2003.

Liska AJ, Shevchenko A. Combining Mass Spectrometry with Database Interrogation Strategies in Proteomics. *Trends in Analytical Chemistry*, *22,* 291-298, 2003.

Liska AJ, Shevchenko A. Expanding the Organismal Scope of Proteomics: Cross-Species Protein Identification by Mass Spectrometry and its Implications. *Proteomics*, *3*, 19-28, 2003.

BOOK CHAPTERS

*Liska AJ. Eight Principles of Uncertainty for Life Cycle Assessment of Biofuel Systems. Chapter 11, p.243-268, IN: Bhardwaj AK, Zenone T, Chen JK (eds.), 2015. *Sustainable Biofuels: An Ecological Assessment of Future Energy*. Walter De Gruyter, Berlin.

*Liska AJ, Perrin RK. Energy and Climate Implications for Agricultural Nutrient Use Efficiency. Chapter 1, p.1-17, IN: Clay D.E. and Shanahan J.F. (eds.), *GIS Applications in Agriculture—Volume Two: Nutrient Management for Energy Efficiency.* CRC Press, 2011.

Liska AJ, Shevchenko A. Identification of Proteins from Organisms with Unsequenced Genomes by Tandem Mass Spectrometry and Sequence-Similarity Database Searching Tools. *Cell Biology: A Laboratory Handbook, Four-Volume Set, 3rd edition.* Julio E. Celis et al. (eds.), Academic Press, 2005.

Shevchenko A, Sunyaev S, Liska A, Bork P, Shevchenko A. Nanoelectrospray Tandem Mass Spectrometry and Sequence Similarity Searching for Identification of Proteins from Organisms with Unknown Genomes. *Protein Sequencing Protocols*, *Methods in Molecular Biology, 211*, Humana Press, 2003.

OTHER PUBLICATIONS

Gill M, Liska AJ. *Greenhouse Gas Emissions Inventory of the Centralized Renewable Energy System (CRES) at Nebraska Innovation Campus. (pp. 10).* Epochlabs.com, 2015.

Liska AJ, Holley E. Climate Change and Its Implications for the Insurance Industry. IN *Understanding and Assessing Climate Change: Implications for Nebraska. A Synthesis Report to Support Decision Making and Natural Resource Management in a Changing Climate*, ed. Deborah J. Bathke, Robert J. Oglesby, Clinton M. Rowe, and Donald A. Wilhite (University of Nebraska), p. 59–60, 2014.

Hoy R, Rohrer R, Liska AJ, Luck J, Isom L, Keshwani D. *Agricultural Industry Advanced Vehicle Technology: Benchmark Study for Reduction in Petroleum Use*. Idaho National Laboratory. US

Department of Energy, pp. 55, 2014.

Liska, AJ. Climate Change Policy could make Keystone XL Obsolete. Op Ed, *Lincoln Journal Star*, Oct 2, 2011.

Liska, AJ. The Other Gulf Oil Crisis. Op Ed, *McClatchy Tribune News Service*, *Lincoln Journal Star*, *Korean Herald*, Aug 3, 2010.

Bremer VR, Liska AJ, Yang HS, Walters DT, Erickson GE, Klopfenstein TJ, Koelsch RK, Cassman KG. 2010. Distillers Grains and Livestock are Important to Ethanol Energy and Greenhouse Gas Balance. *2010 Beef Cattle Report*. University of Nebraska-Lincoln, Extension.

Perrin, RP, Liska AJ. Looming Changes in the Energy Economy.
Cornhusker Economics, University of Nebraska-Lincoln, Extension, 2009.

PATENTS

"Method for Predicting Protein Function", WO/2004/070643, Aug 19, 2004.
Shevchenko A, Sunyaev S, Liska A, Shevchenko A, Golod A, Bork P.

CONFERENCE PRESENTATIONS: LECTURES, POSTERS, ABSTRACTS, & PAPERS

Crop Residues for Advanced Biofuels: Exploring Soil Carbon Effects, ASA-CSSA-SSSA. Liska, AJ. Biofuels from Crop Residue: Soil Organic Carbon and Climate Impacts in the US and India. Sacramento, CA, Aug 15, 2017. *Invited speaker*

Indo-US Workshop on Addressing the Nexus of Food, Energy, and Water. Liska, AJ. Biofuels from Crop Residue: Soil Organic Carbon and Climate Impacts in the US and India. Indian Institute of Science, Bangalore, India, Apr 20, 2017. *Invited*

Growing the Bioeconomy: Social, Environmental and Economic Implications. Liska, AJ. The Limits to Complexity: A Thermodynamic History of Bioenergy. Banff, Canada, Oct 5, 2012. *Invited*

Growing the Bioeconomy: Social, Environmental and Economic Implications. Liska et al. Spatial Soil CO_2 Emissions Modeling and LCA of Cellulosic Ethanol. Banff, Canada, Oct 4, 2012. *Invited*

Agricultural Decision Making with Water and Climate Change Perspective. Liska, AJ. Soil Carbon Loss Contributes to Greenhouse Gas Emissions from Cellulosic Ethanol. Nebraska City, NE, Nov 2, 2011. *Invited*

241st American Chemical Society National Meeting. Liska AJ, Fang, XX. Life Cycle Assessment of Greenhouse Gas Emissions from Ethanol and Biopolymers. Anaheim, CA, Mar 28, 2011. *Invited*

Biomass 2010 Conference, U.S. Department of Energy. Liska, AJ. Uncertainty in Indirect Land Use Change Emissions in the Life Cycle of Biofuels: Implications for Legislation. Washington DC, Mar 30, 2010. *Invited*

Growing the Bioeconomy; Solutions for Sustainability, Iowa State University. Liska AJ, Perrin, RK, and Cassman, K.C. Recommendations for the Life Cycle Assessment of Greenhouse Gas Emissions from Biofuels in the EPA Renewable Fuel Standard (RFS2). Mahoney, NE, Dec 1,

2009. *Invited*

102nd ASA-CSSA-SSSA International Annual Meetings, Wortmann, C, Ferguson R, Klein, R, Lyon D, Liska A, Dweikat I. Dryland Performance of Sweet Sorghum and Grain Crops for Biofuel. Pittsburgh, PA, Nov 1-5, 2009. *Poster*

CRC Workshop on Life Cycle Analysis of Biofuels. Bremer VR, Liska AJ, Klopfenstein TJ, Erickson GE, Yang HS, Walters DT, Cassman KG. Magnitude and Variability in Emissions Savings in the Corn-Ethanol Life Cycle from Feeding Co-Products to Livestock. Argonne National Laboratory, Chicago, IL, Oct 21, 2009. *Invited*

238th American Chemical Society National Meeting. Liska AJ, Cassman KG, Perrin RK. Life Cycle Emissions Standards for Biofuels: Transparency, Relevance, and Uncertainties. Washington, DC, Aug 18, 2009. *Invited*

National Environmental Partnership Summit 2009, US EPA. Liska AJ, Cassman KG, Perrin RK. Life Cycle Emissions Standards for Biofuels: Transparency, Representativeness, and Uncertainties, San Francisco, CA, May 6, 2009. *Speaker*

101st ASA-CSSA-SSSA International Annual Meetings, Liska AJ, Yang H, Bremer V, Erickson G, Klopfenstein T, Walters DT, Cassman KG. Life Cycle Assessment of Biofuel Greenhouse Gas Emissions and Net Energy Yields Using the BESS Model. Houston, TX, Oct 5-9, 2008. *Speaker*

101st ASA-CSSA-SSSA International Annual Meetings. Cassman KG, Liska A, Yang H, D'Croz Mason D. Accelerating the Rate of Crop Yield Gains to Ensure Sustainable Biofuel Systems. Houston, TX, Oct 5-9, 2008. *Abstract*

Measuring and Modeling the Lifecycle GHG Impacts of Transportation Fuels. Liska AJ, Cassman KG. Life-Cycle Energy Efficiency and GHG Balance of Corn-Ethanol: BESS Model Analysis, University of California-Berkeley, CA, Jul 1-2, 2008. *Invited*

24th International Fuel Ethanol Workshop & Expo. Liska AJ, Cassman KG. Life Cycle Assessment Using the BESS Model for State and National Low Carbon Fuel Standards and GHG Emissions Trading. Nashville, TN, Jun 16-19, 2008. *Invited*

Fluid Fertilizer Foundation Forum, Cassman KG, Dobermann A, Adviento-Borbe MAA, Liska A, Specht J, Walters D, Yang H. Ecological Intensification of Corn-Based Cropping Systems. Scottsdale, AZ, Feb 17-18, 2008. *Paper*

100th ASA-CSSA-SSSA International Annual Meetings. Liska AJ, Yang H, Walters DT, Bremer V, Erickson G, Klopfenstein T, Koelsch R, Kenny D, Tracy P, Cassman KG. Energy Efficiency, GHG Balance, and Carbon Credits of Corn-Ethanol: BESS Model Analysis. New Orleans, LA, Nov 4-8, 2007. *Poster*

Expert Consultation on Biofuels. Liska AJ, Cassman KG, Yang H, Walters DT. Life-Cycle Performance of Biofuels: GHG Mitigation and Net Energy, International Rice Research Institute, Los Baños, Philippines, Aug 27-29, 2007. *Invited speaker & paper*

23rd International Fuel Ethanol Workshop & Expo. Liska AJ, H. Yang, D.T. Walters, V.R. Bremer, G.E. Erickson, T.J. Klopfenstein, R. Koelsch, D. Kenney, P. Tracy, K.G. Cassman. A User-

Friendly Simulation Tool for Estimating Carbon Credits for Corn-Ethanol Systems. St. Louis, MO, Jun 26-29, 2007. *Invited*

4th USDA Greenhouse Gas Conference. Walters DT, Ginting D, Cassman K, Verma S, Dobermann A, Yang H, Suyker A, Liska AJ. Impact of Grain Biofuel Production on the Global Warming Potential of Maize-based Agroecosystems. Baltimore, MD, Feb 6-8, 2007. *Abstract*

Fluid Fertilizer Foundation Forum, Specht JE, Bastidas A, Salvagiotti F, Setiyono T, Liska AJ, Dobermann A, Walters DT, Cassman KG. Soybean Yield Potential and Management Practices Required to Achieve it. Scottsdale, AZ, Feb 13-14, 2006. *Paper*

3rd European Life Science Organization Conference, Identification of *Xenopus laevis* Microtubule-Associated Proteins by MS and Homology Database Searching. Dresden, Germany, Sep 2003. *Invited*

50th American Society for Mass Spectrometry Conference, Proteomics in the Jungle: Macromolecular Complexes from Organisms with Unsequenced Genomes. Orlando, FL, Jun 2002. *Speaker*

6th International Congress on Plant Mitochondria. Liska AJ, Rhoads DM, Shevchenko A, Elthon TE. Identification of the 32 kD NADH Dehydrogenase of Plant Mitochondria. Perth, Australia, Jul 2002. *Abstract*

50th American Society for Mass Spectrometry, Shevchenko A, Habermann B, Golod A, Liska A, Sunyaev S. Sequence-Similarity Searching Tools for High-Throughput Identification of Proteins from Organisms with Unsequenced Genomes. Orlando, FL, Jun 2002. *Poster*

48th American Society for Mass Spectrometry, Cerny RL, Liska A, Wulser K, Elthon TE. Development of a Maize Mitochondria 2-D Gel Database. Long Beach, CA, 2000. *Poster*

American Society of Plant Physiologists, Rhoads DM, Liska A, Bhattramakki D, Lund AA, Elthon TE. Isolation and Characterization of a Genomic Clone Encoding the Mitochondrial HSP22 of Maize. 1998. *Poster*

GRANT FUNDING *(only grants >$17,000/yr shown)*

US Department of Energy
"AmeriFlux Core Site Network, No. 7220865"
P.I.: Suyker A. Co-P.I.'s: Arkebauer T, Walter-Shea E, Zygielbaum A, Liska A, Yang H, Blanco H, Franz T, Hubbard K, Gitelson A.
May 2015—Sept 2020 $656,798

US Department of Energy
"Agricultural Industry Advanced Vehicle Technology: Benchmark Study"
P.I.: Hoy R. Co-P.I.'s: Liska A, Keshwani D, Luck J.
May 2013—May 2014 $180,000

US Department of Energy
"Second Generation Biofuels: Carbon Sequestration and Life Cycle Analysis, No. DE-EE0003149"

P.I.: Verma S.; Co-P.I.'s: Liska A (P.I., 9/2012-2013), Arkebauer T, Cassman K.
Nov 2010—Dec 2013 $500,000

IANR-University of Nebraska
"Forty-First Parallel Agro-Ecosystem Sustainability and Productivity"
P.I.: Fulginiti, L.; Co-P.I.'s: Perrin, R., Liska A, Oglesby R., Harvey F, Awada T, Hayes M, Cassman K, Verma S, Powers T.
Sept 2010—2013 $373,720

IANR-University of Nebraska
"Nitrogen cycling and greenhouse gas emissions in pasture and feedlot production systems"
P.I.: Erickson G, Co-P.I.'s: Guretzky J, Schacht W, Verma S, Suyker A, Arkebauer T, Liska A, Rasby R, Klopfenstein T.
Apr 2010—2013 $189,468

Nebraska Center for Energy Sciences Research-University of Nebraska
"Potential Carbon Credits from Biomass Firing Technologies in Ethanol Production and Related Crop Technology and Land Use Patterns"
P.I.: Perrin R; Co-P.I.'s: Liska A, Fulginiti L.
Nov 2008—2010 $132,000

Environmental Defense Fund
"Expanding the Biofuel Energy Systems Simulator (BESS)" (cellulosic ethanol)
P.I.: Cassman K; Co-P.I.'s: Liska A, Walters D, Yang H.
Jun 2007—Apr 2008 $50,000

Total $1,900,000

REFERENCES

Richard K. Perrin, Ph.D., Jim Roberts Professor, Department of Agricultural Economics, University of Nebraska. rperrin1@unl.edu, *Co-Author*.

Kenneth G. Cassman, Ph.D., Emeritus Robert B. Daugherty Professor, Department of Agronomy & Horticulture, University of Nebraska. kcassman1@unl.edu. *Post-Doctoral Advisor & Co-Author*.

Shashi D. Verma, Ph.D., Emeritus Charles Bessey Professor, School of Natural Resources, University of Nebraska. sverma1@unl.edu, *Research Collaborator*.

Dennis D. Schulte, Ph.D., Emeritus Holling Family Distinguished Professor, Department of Biological Systems Engineering, University of Nebraska, dschulte1@unl.edu, *Teaching Collaborator*.

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