Praveen Venkata Vadlani
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PART- I Academics

Academic Record

BS. National Institute of Technology (NIT), Surathkal, India. *1988*
Chemical Engineering

MS. Indian Institute of Technology (IIT), New Delhi, India. *1990*
Biochemical Engineering and Biotechnology

Thesis Title: *Studies on immobilized Lactobacillus bulgaricus*

Ph.D Indian Institute of Technology (IIT), New Delhi, India. *1995*
Biochemical Engineering and Biotechnology

Dissertation Title: *Operational characteristics of upflow anaerobic sludge blanket reactor during and after start-up*

MBA Kansas State University, Manhattan, USA *2009*

♦ Academic Achievements

Class Work

GPA in courses taken during MS degree 3.8 on 4.0
GPA in courses taken during BS degree 3.9 on 4.0
GPA in courses taken during MBA degree 4.0 on 4.0

Academic Awards

- Indian Institute of Chemical Engineers Award for getting the highest grade in V, VI and VII semesters in Chemical Engineering. National Institute of Technology, Surathkal, India, 1987
- Dinesh Rao Memorial Award for getting the highest grade in Chemical Engineering (I to VIII semesters). National Institute of Technology, Surathkal, India, 1988.
- University First Rank in Chemical Engineering, Mangalore University, 1989
- Dean's Scholar for academic excellence in MBA, Kansas State University, 2009
- Gary and Betty Lortscher Endowed Professorship, 2012
- ASABE Superior Paper Award, 2013

PART- II Experience

Academic Experience

Gary and Betty Lortscher Associate Professor, Department of Grain Science and Industry, Kansas State University, Manhattan, KS, *07/12 – present*

Department of Chemical Engineering (ancillary appointment), Kansas State University, Manhattan, KS, *01/2014 - present*

Assistant Professor, Department of Grain Science and Industry, Kansas State University, Manhattan, KS, *02/07 – 06/12*

Accomplishments

- Established a fully functional bioprocessing lab and have initiated productive research programs in biofuels, biochemicals and specialty products
- Secured $3,130,746 as PI in research funding; directly involved in projects worth $ 15 million in research funding since 2007. Developed collaborative relationships with faculty in 6 departments and 3 colleges at K-State and with faculty at 3 universities, and with researchers at 4 different industries
- Designed and developed two new courses: GRSC 745 Fundamentals of Bioprocessing (Spring Semester) and GRSC 905 Enzymes and Bioprocessing Applications (Fall Semester); taught GRSC 630 Management Application in Grain Processing Industries. Average TEVAL score for GRSC 745 (overall effectiveness of teacher): 4.5; GRSC 905: 4.5; GRSC 630: 4.0
- Member of 2 committees at University level, 2 committee at College level, and 7 committees at Department level; Faculty Advisor: Alpha Mu club and Product Development; Co-chair: Undergraduate Research Committee; Swanson Reading Room Committee; Feed Safety Research Center. External reviewer for proposals and journal manuscripts; Served as Subject Editor for two journals; Delivered invited lectures.

Volunteered time for public service activities at Department, College and University level. Center for Sustainable Energy, NSF IGERT and NSF REU Faculty in Campus

Current Research Projects

1. Novel Process of Biomass Conversion to Butylenes.$500,000. US DOD Navy SBIR Phase II. 2012-2015, Lead PI: Technology Holdings. Kansas State University Subcontract ($210,200)
2. Sustainable and Technically Advanced Integrated Biobased and Bioenergy Products Project. $2,941,740. Kansas Alliance for Biorefining and Bioenergy (KABB), Kansas Bioscience Authority (KBA). 2012-2014. Lead PI: MGPI,KSU subcontract ($698,296): PIs Madl R, Shi Y-C, Vadlani PV($381,256)
3. Plant based Sesquiterpene Biofuels. Lead PI: Chromatin Inc. DOE ARPA-E Program. KSU subcontract ($549,500). 2012-2016. PI Vadlani PV
4. Bioconversion of Paper Mill Waste to Value-added chemicals. $160,000. Consortium for Plant Biotechnology Research, Department of Energy (DOE). 2011-2013, PI Vadlani PV
5. Lignocellulosic Biomass Conversion to Infrastructure Compatible Fuels, Chemicals and Power. $ 5.7 Million. DOE-USDA Biomass Research Development Initiative 2012 – 2015. Lead PI Ceramatec Inc. KSU subcontract PI Vadlani PV ($650,000)
6. Production of Advanced Biofuels From Salinity Tolerant Brown Midrib (bmt) Sorghum Genotypes. $65,000. US Agency for International Development, 2013-2015 Kansas State University Subcontract ($44,000). PI Vadlani PV

Visiting Faculty, Department of Chemistry, Sri Sathya Sai Institute for Higher Learning, Puttaparthi, Andhra Pradesh, India, *06/08 – Present*

Invited Lectures, Department of Bioengineering and Chemical Engineering, Rice University, Houston, TX, 04*/03 – 04/08.*

Visiting Faculty, Department of Chemical and Materials Engineering, University of Auckland, New Zealand, *06/98 – 12/98.*

Adjunct Faculty, Department of Biotechnology, Anna University, Chennai, India, *08/95 – 05/97*

Accomplishments

- Compiled and taught a course Engineering Biotechnology and Bioprocess Engineering at undergraduate and graduate level.
- Taught Heat & Mass Transfer Laboratory course for sophomore chemical engineering students.
- Advised undergraduate and graduate research and was the internal examiner for a MS thesis

Research Scientist, Biomass Pilot Plant, Chemical Engineering Department, Texas A&M University**,** College Station, Texas, *1998-2002*
Mentor: Dr. Mark T. Holtzapple

Accomplishments

- Involved in pilot plant research and development process for bioconversion of paper fines to useful chemicals.
- Supervised research work of undergraduate and graduate students at the plant and investigated the performance of the various bioprocessing strategies.
- Designed and developed various process equipment and wrote safety reports for the plant
- Made presentations to funding agencies and involved in new product development.

Research Fellow (Government of Malaysia Fellowship), Institute for Post-graduate Studies & Research, University of Malaya, Kuala Lumpur, Malaysia, *08/97 – 05/98*
Mentor: Dr. Shaliza B. Ibrahim

Accomplishments

- Performed research on mixing and hydrodynamic studies in laboratory rigs and fermenters and advised graduate research.
- Participated in the project for producing 2, 3-butanediol from sugarcane molasses.

Industrial Experience

Principal Research Scientist, AgRenew Inc, Manhattan, Kansas 2002 - 2007

Accomplishments

- Process and product development of challenging, commercially-viable industrial biotechnologies using renewable resources.
- Identify emerging technologies of commercial interest and develop collaborative teams with universities and other established industries for synergistic relationships.
- Write proposals to state, federal and private funding agencies and be the Project Director for the awarded projects.
- Develop and sustain state-of-the-art laboratory facilities and supervise the smooth execution of in-house and sponsored research projects.

Research Officer, SPIC Pharmaceuticals Division (SPIC group of industries is a major industrial conglomerate in India), Chennai, India, *1995-1997*

Accomplishments

- Overall in-charge for the R&D fermentation division consisting of fermenters, product recovery unit and analytical equipments. Supervised four research assistants
- Provided leadership to investigate innovative bioprocess strategies and low-cost raw materials for maximizing penicillin G and V production (Pharmaceuticals).
- Attended supervisory development program at SPIC Management Center.

PART- III Affiliations/Service Activities

Senior Member, American Institute of Chemical Engineers.	2000 – present
Senior Member, Society of Biological Engineers	2005 - present
Life Member, Indian Institute of Chemical Engineers	1993 – present
Member, Phi Kappa Phi, an Academic Honor Society	2006 - present
Member, Sigma Xi, the Scientific Research Society	2007 - present
Moderator, AACC International Annual Meeting	2007, 2008
Honorary Director, Prathista Group of Industries, Hyderabad, India	2009 - 2011
External Reviewer, Biotechnology Progress, Biotechnology & Bioengineering, Bioresource Technology, Cereal Chemistry	2003 - present
External Examiner, Ph.D Thesis, University of Auckland, New Zealand; Indian Institute of Technology, Guwahati, India	2006-present
MS, PhD Theses, University of Malaya, Kuala Lumpur, Malaysia	2008-present
Student Advisor, Aggie Cricket Club, Texas A&M University	2001 - 2002.
Editor, Board for Student Publications, Indian Institute of Technology, New Delhi, India.	1991 – 1992

Panel Member:

- USDA CAP (Co-ordinated Agriculture Program) Phase I and II Panel. January and March 2011; June and July 2013.
- SBIR Biofuels and Biobased Products Peer Review Panel of Competitive Programs, Cooperative State Research, Education, and Extension Service (CSREES), USDA. 2007-08, 2008-09
- Symposium on Sustainability of Biofuels Production and Processing in the Central Plains, KSU. September 15-16, 2008;
- Symposium on Biofuels, MAPS Program, Kansas State University, July 2010, 2011.

Subject Co-Editor: Chemical Engineering Research and Design, Special Issue: Biorefinery Integration; Food and Bioproducts Processing, Special Issue: Biorefinery Innovations. 2009.

Guest Editor: Enzyme Research Journal, Special Issue: Enzymes for Biofuel Industry. 2010

Co-PI for Kansas State University: S1041: The Science and Engineering for a Biobased Industry and Economy

Institutional Service

University

Member, International Activities Committee, 2008 – present
Member, Faculty Senate University Handbook and Policy Committee, 2008 – present
Member, Selection Committee –University Distinguished Faculty Award for Mentoring UG Students in Research, 2010, 2011
Member, Selection Committee – University Award for Distinguished UG Student in Research, 2010, 2011
Member, Search Committee – AG*IDEA Project Co-ordinator. 2011
Member, Search Committee – Coordinator for New Faculty Institute. 2010.

College

Member, Undergraduate Research Committee, 2013 – present
Member, Diversity Committee, 2008 – present
Member, Scholarship Committee; College Committee on Planning, 2007-08.
Invitee, College of Agriculture Academic Standards Committee , 2011

Department

Chair, Swanson Resource Room Sub-Committee, 2011 – present
Chair, Feed Safety Research Center Sub-Committee, 2013-present
Co-chair, Undergraduate Research Committee, 2012 - present
Member, Search and Screening Committee – Department Head, Department of Grain Science and Industry. 2014
Member, Graduate Curriculum Committee; CSREES Initial Review Team, 2007-08
Member, Department Committee on Planning (DCOP), 2013 - present
Member, Distinguished Lecture Series Selection Committee, 2012 – present
Member, Search and Screening Committee – Tenure-Track Assistant Professor, Feed Technology and Safety. 2011
Member, Search and Screening Committee – Accounting Specialist, Department of Grain Science and Industry. 2011
Member, Graduate Program Committee, 2008 – present
Member, Research Program Committee, 2008 – present
Facilities Co-ordinator, Bioprocessing and Industrial Value-Added Program (BIVAP), 2012 - present

Faculty Advisor, Alpha Mu. Grain Science and Industry Students Honor Society. 2011 - present
Faculty Advisor, Student Product Development Contest for AACCI, 2008- present. Student team was placed Third in the Contest in 2008; and Second in 2012.

PART- IV Publications/Presentations/Research Projects

Peer Reviewed Publications

1. Guragain Y, Wilson J, Staggenborg S, McKinney L, Wang D, Vadlani PV (2013) Evaluation of pelleting as a pre-processing step for effective biomass deconstruction and fermentation. Biochemical Engineering Journal DOI 10.1016/j.bej.2013.05.014
2. LR Schulte, T Ballard, T Samarakoon, L Yao, P Vadlani, S Staggenborg, M Rezac (2013) Increased growing temperature reduces content of polyunsaturated fatty acids in four oilseed crops. Industrial Crops and Products 51, 212-219
3. Chen L, Vadlani PV, Madl RL (2013) Nutritional enhancement of soy meal via Aspergillus oryzae solid-state fermentation. Cereal Chemistry http://dx.doi.org/10.1094/CCHEM-01-13-0007-R
4. Zhang Y, Vadlani PV (2013) D-lactic acid biosynthesis from biomass-derived sugars via *Lactobacillus delbrueckii* fermentation. Bioprocess and Biosystems Engineering DOI 10.1007/s00449-013-0965-8
5. Chen L, Vadlani PV, Madl RL (2013) High efficiency removal of phytic acid in soy meal using two-stage temperature induced *Aspergillus oryzae* solid state fermentation. Journal of the Science of Food and Agriculture DOI 10.1002/jsfa.6209
6. Wilson J, Theerarattananoon K, Ballard T, Wang D, Staggenborg S, McKinney L, Vadlani PV (2013) A cost analysis for the densification and transportation of cellulosic biomass for ethanol production. Applied Engineering in Agriculture (in press)
7. Rigdon AR, Jumpponen A, Vadlani PV, Maier DE (2013) Impact of various storage conditions on enzymatic activity, biomass components and conversion to ethanol yields from sorghum biomass used as a bioenergy crop. Bioresource Technology 132 (2013) 269–275
8. Zhang Y, Kumar A, Vadlani PV*, Narayanan S (2012) Production of nitrogen-based platform chemical: cyanophycin biosynthesis using recombinant *Escherichia coli* and low-cost media substitutes. Journal Chem Tech Biotechnol DOI 10.1002/jctb.3978
9. Multer A, McGraw N, Hohn K*, Vadlani PV (2012) Production of methyl ethyl ketone from biomass using a hybrid biochemical/catalytic approach. Industrial & Engineering Chemistry Research 52 (1) 56-60
10. Walker, K, Vadlani PV, Madl R, Ugorowski P, Hohn K* (2012) Ethanol fermentation from food processing waste. Environmental Progress and Sustainable Energy DOI 10.1002/ep.11700
11. Rawat N, Sehgal SK, Joshi A, Rothe N, Wilson DL, McGraw N, Vadlani PV, Li WL, Gill, BS (2012) A diploid wheat TILLING resource for wheat functional genomics. BMC Plant Biology 12 (1) 205
12. Theerarattananoon K, Xu F, Wilson J, Staggenborg S, McKinney L, Vadlani, PV, Pei ZJ, Wang D* (2012). Impact of pelleting and acid pretreatment on biomass structure

and thermal properties of wheat straw, corn stover, big bluestem, and sorghum stalk. Transactions of the Asabe, 55(5), 1845-1858

13. Yoo J, Alavi S*, Vadlani PV, Behnke K (2012). Soybean hulls pretreated using thermo-mechanical extrusion - hydrolysis efficiency, fermentation inhibitors and ethanol yield. Applied Biochemistry and Biotechnology 166(3): 576-589
14. Theerarattananoon K, Xu F, Wilson J, Ballard R, McKinney L, Staggenborg S, Vadlani PV, Pei ZJ, Wang D* (2012) Effects of the pelleting conditions on chemical composition and sugar yield of corn stover, big bluestem, wheat straw, and sorghum stalk pellets. Bioprocess and Biosystems Engineering 35(4): 615-623
15. Oberoi HS*, Kaur SS, Vadlani PV (2012). Statistical optimization of hydrolysis process for banana peels using cellulolytic and pectinolytic enzymes. Food and Bioproducts Processing 90 (2): 257-265
16. Nkosi BD*, Vadlani PV, Brijwani K, Nanjunda A, Meeske R (2012) Effects of bacterial inoculants and an enzyme on the fermentation quality and aerobic stability of ensiled whole-crop sweet sorghum. S. Afr. J. Anim Sci 42(3) 232- 240
17. Oberoi HS*, Babbar N, Dhaliwal SS, Kaur S, Vadlani PV, Bhargav VK, Patil RT (2012) Enhanced Oil Recovery by Pre-treatment of Mustard Seeds Using Crude Enzyme Extract Obtained from Mixed-Culture Solid-State Fermentation of Kinnow (Citrus reticulata) Waste and Wheat Bran. Food Bioprocess Technol 5(2): 759-767
18. Ananda N*, Vadlani PV (2011) Carotenoid value addition of cereal products by monoculture and mixed culture fermentation of Phaffia rhodozyma and Sporobolomyces roseus. Cereal Chemistry 88(5):467-472
19. Brijwani K*, Vadlani PV, Hohn K, Maier DE (2011) Experimental and theoretical analysis of a novel deep-bed solid-state bioreactor for cellulolytic enzymes production. Biochemical Engineering Journal 58-59:110-123 [KAES: 11-315-J
20. Brijwani K, Vadlani PV* (2011) Cellulolytic enzymes production via solid-state fermentation: Effect of pretreatment methods on physiochemical characteristics of substrate. Enzyme Research doi: 10.4061/2011/860134 [KAES: 10-301-J]
21. Yoo J, Alavi S*, Vadlani PV Amanor-Boadu V (2011) Thermo-mechanical extrusion pretreatment for conversion of soybean hulls to fermentable sugars. Bioresource Technology 102 (16): 7583-7590
22. Ananda N*, Vadlani PV (2011) Substrates Influence Stimulatory Effect of Mevalonic Acid on Carotenoid Production in Red Yeasts. Cereal Chemistry 88(3): 310-314.
23. Theerarattananoon K, Xu F, Wilson J, Ballard R, McKinney L, Staggenborg S, Vadlani PV, Pei ZJ, Wang D* (2011) Physical properties of pellets made from sorghum stalk, corn stover, wheat straw, and big bluestem. Industrial Crops and Products 33:325–332
24. Ananda, N, Vadlani PV*, Prasad PVV (2011) Evaluation of drought and heat stressed grain sorghum (Sorghum bicolor) for ethanol production. Industrial Crops and Products 33 (3): 779-782
25. Oberoi HS*, Vadlani PV, Ananda N, Bansal S, Singh S, Kaur S, Babbar N (2011) Enhanced ethanol production from kinnow mandarin (Citrus reticulata) waste via a statistically optimized simultaneous saccharification and fermentation process. Bioresource Technology 102(2): 1593 – 1601.

26. Oberoi HS*, Vadlani PV, Saida L, Bansal, S, Hughes JD (2011) Ethanol production from banana peels using statistically optimized simultaneous saccharification and fermentation process. Waste Management 31(7): 1576-1584.
27. Ananda N, Vadlani PV*, Madl RL (2010) Rice bran is an effective substitute for yeast extract in ethanol fermentation. Journal of Biobased materials and Bioenergy 5(1): 70-74
28. Ananda N, Vadlani PV* (2010) Fiber reduction and lipid enrichment in carotenoid-enriched distillers dried grain with solubles (DDGS) by secondary fermentation of red yeasts. Journal of Agricultural and Food Chemistry 58 (24): 12585–12591
29. Brijwani K, Rigdon A, Vadlani PV* (2010) Fungal laccases: production, function and applications in food processing, Enzyme Research, Special Issue: Enzymes as Additives or Processing Aids in Food Biotechnology doi:10.4061/2010/149748
30. K. Brijwani, Vadlani PV* (2010), Lipase-mediated hydrolysis of corn DDGS oil: Kinetics of linoleic acid production, Biochem. Eng. J. 52: 289-295
31. Ananda N, Vadlani PV* (2010) Production and optimization of carotenoid-enriched DDGS by Phaffia rhodozyma and Sporobolomyces roseus fermentation of whole stillage. Journal of Industrial Microbiology& Biotechnology 37(11): 1183-1192
32. Brijwani K, Oberoi HS, Vadlani PV* (2010) Production of a Cellulolytic Enzyme System in Mixed-Culture Solid-State Fermentation of Soybean Hulls Supplemented with Wheat Bran. Process Biochem 45(1):120-128
33. Pfromm PH*, Amanor-Boadu V, Nelson R, Vadlani PV, Madl R(2010) Bio-butanol vs. bio-ethanol: A technical and economic assessment. Biomass and Bioenergy 34 : 515-524
34. Oberoi HS, Vadlani PV*, Madl R, Saida L, Abeykoon JP (2010) Ethanol production from orange peels: two-stage hydrolysis and fermentation studies using optimized parameters through experimental design. J. Agric. Food Chem. 58(6): 3422-3429
Oberoi HS*, Vadlani PV, Brijwani K, Bhargav VK, Patil RT (2010) Enhanced ethanol production via fermentation of rice straw with hydrolysate-adapted Candida tropicalis ATCC 13803. Process Biochem 45(8): 1299-1306
35. Singh R, Vadlani PV, Harrison M, G.N. Bennett GN, San K-Y* (2008) Aerobic production of isoamyl acetate by overexpression of the yeast alcohol acetyl-transferase AFT1 and AFT2 in Escherichia coli and using low-cost fermentation ingredients. Bioprocess and Biosystems Engineering 31(4): 299-306
36. Vadlani PV*, Matthews AP, Karr GS (2008) A two-stage fermentation process: production of propionate and acetate salt as road deicer from cheese whey. Biological Engineering 1(1): 95-104
37. Vadlani PV*, Ramachandran KB (2008) Evaluation of influent composition and concentration in a batch reactor for effective start-up of the UASB reactors. J Environmental Engineering 134(12): 1023-1029
38. Vadlani PV, Ramachandran KB* (2008) Evaluation of UASB reactor performance during start-up operation using synthetic mixed acid waste. Bioresource Technology 99(17): 8231-8236
39. Vadlani PV*, Mathews AP, Karr GS (2008) Low-cost propionate salt as road deicer: evaluation of cheese whey and other media components. World J Microbiol Biotechnol 24: 825-832

40. Agamuthu A*, Choong LC, Hasan S, Vadlani PV (2000) Kinetic evaluation of composting of agricultural wastes. Environmental Technology. 21, 185-192, (2000).
41. Singhal A, Gomes J*, Vadlani PV, Ramachandran KB (1998) Axial dispersion model for upflow anaerobic sludge blanket reactors, Biotechnology Progress, 14, 645 – 648 (1998).

Book Chapters

1. Liyan Chen, Ronald L. Madl, Praveen V. Vadlani, Li Li and Weiqun Wang (2013). Value - Added Products from Soybean: Removal of Anti- Nutritional Factors via Bioprocessing, Soybean - Bio-Active Compounds, Prof. Hany El-Shemy (Ed.), ISBN: 978-953-51-0977-8, InTech, DOI: 10.5772/52993. Available from: http://www.intechopen.com/books/soybean-bio-active-compounds/value-added-products-from-soybean-removal-of-anti-nutritional-factors-via-bioprocessing
2. Bansal S, Brijwani K, Vadlani PV* and Madl R. (2011) Integrated wheat-based biorefinery: Value-added bioproducts using enzymes and microbial fermentation. In; Wheat Science Dynamics: Challenges and Opportunities. Editors: Chibbar, R.N. and Dexter, J.E. Agrobios (International), Jodhpur, India Chapter 19, 179-185. ISBN (10): 978-81-904309-8-2
3. Brijwani, K. Vadlani, PV*. (2011) Solid state fermentation of soybean hulls for cellulolytic enzymes production. In Soybean- Applications and Technology, Editor: Ng, T.B. InTech: Rijeka, Croatia, Chapter 17, 305-322 ISBN 978-953-307-207-4
4. Ballard T*, Bansal S, Agrupis S, Haag L, Vadlani PV, Staggenborg, S. (2011) Seeding Rate Effects on Ethanol Production in Corn and Sorghum. In: Plant Fibers as Renewable Feedstocks for Biofuel and Bio-based Products. Editors: Webber CL and Liu A. CCG International, Chapter 24. ISBN 978-0-9748696-1-2
5. Chen L, Zhang Y, Madl R and Vadlani PV* (2010) Nutritional enhancement of soybean meal and hull via enzymatic and microbial bioconversion. In: Soybeans: Cultivation, Uses and Nutrition. Editors: Maxwell JE. Nova Science Publishers, Chapter 22. Inc ISBN: 978-1-61761-762-1[KAES: 11-005-B]
6. Ghosh P, Ramachandran KB, Vadlani PV (1995) Application of fluidization principles for bioprocesses. Three-Phase Sparged Reactors, Eds: K.D.P. Nigam and A.Schumpe, Gordon and Breach Publishers, 303 – 338, (1995).
7. Vadlani PV, Ramachandran KB (1993) Operational characteristics of an upflow anaerobic sludge blanket (UASB) reactor. In: Recent Trends in Biotechnology, Proceedings of Ninth National Convention of Institution of Engineers, Tata McGraw-Hill, New Delhi, India, 175-178.

Editorials

1. Al-Zuhair S, Ramachandran KB, Farid M, Aroua MK, Vadlani PV, Ramakrishnan S, Gardossi L (2011) Enzymes in Biofuels Production. Enzyme Research, Article ID 658263, 2 pages
2. Campbell GM, Vadlani PV (2009) Baby, remember my name. Food and Bioproducts

Processing 87(C3): 163-163.
3. Campbell GM, Azapagic A, Vadlani PV (2009) Managing the transition decades: Tactical options for an uncertain route towards a clear strategic goal. Chemical Engineering Research & Design 87(9A): 1101- 1102

Patents

1. Robb T, Vadlani PV, Madl R (2008) Improved quality and value of co-products of the ethanol production industry. WO/2009/079183 and PCT/US2008/084814
2. Ananda N, Vadlani PV (2011) Red yeast fermentation to produce natural astaxanthin and β-carotene enriched fish meal. PCT/US2010/61/406904.

Conferences

Oral Presentations

1. Guragain, YN, Bastola K, Vadlani PV. Pretreatment of lignocellulosic biomass using alkaline organic solvents: A green approach for fuels and chemicals production. ACS National Meeting, Dallas, Texas, March 16 - 20, 2014.
2. Zhang Y, Vadlani PV. D (-) Lactic acid biosynthesis from biomass derived sugars using engineered *Lactobacillus delbrueckii* ATCC 9649. Division of Cellulose and Renewable Materials. ACS National Meeting, Dallas, Texas, March 16 - 20, 2014.
3. Gupta J, Vadlani PV. Value-added products from biofuels byproducts: Zein protein extraction from distillers' grains using green solvents. Division of Environmental Chemistry. ACS National Meeting, Dallas, Texas, March 16 - 20, 2014.
4. Nanjundaswamy A and Vadlani PV. 2013. Anti-oxidant enriched fish meal production by microbial fermentation. 2nd International Conference and Exhibition on Probiotics & Functional Foods. Oct 23-25, 2013, Orlando, FL, USA
5. Probst, KV and Vadlani, PV. Single Cell Oil Production from *Lipomyces starkeyi*. Grain Science Graduate Student 6th Annual Symposium. Kansas State University. Manhattan, KS. September 21st, 2013.
6. Probst, KV, Zhang, Y, Wilson, J and Vadlani, PV. Microbial bioprocessing for the conversion of low-valued inputs to biofuels and platform chemicals. WREC – International Conference on Renewable Energy for Sustainable Development and Decarbonisation. Murdoch University. Perth, Australia. July 14-17th, 2013.
7. Probst, KV and Vadlani, PV. Operational characteristics for maximizing single cell oil production from *Lipomyces starkeyi*. BIO World Congress on Industrial Biotechnology. Montreal, Canada. June 16-19th, 2013.

8. Probst, KV and Vadlani, PV. Optimization of a bi-phasic fed-batch fermentation for maximizing single cell oil production. Kansas State Research Forum (KRF). Manhattan, KS. March 27th, 2013.
9. Chen L, Vadlani PV, Madl R, Bioprocessing of Soybean Meal: Removal of anti-nutritional factors. Annual Meeting, Society of Industrial Microbiologists (SIM), August 13-17th, 2012
10. Probst K, Vadlani PV. Biosynthesis of Yeast-Oils for Advanced Biofuels Production. ASABE Annual Meeting, Dallas, TX, August 8-12, 2012
11. Agrupis S, Vadlani PV, Catalino B, Pre-Treatment Studies for the Bioprocessing of Sweet Sorghum Non-Grain Biomass to Sugars. Annual Meeting, World Congress in Industrial Biotechnology and Bioprocessing, April 29-May 2, 2012
12. Probst KV, Vadlani PV. Optimization of cellular growth and single cell oil production from Lipomyces starkeyi using RSM experimental design. Kansas State Research Forum (KRF). Manhattan, KS. March 8, 2012.
13. Bansal S, Vadlani PV. Evaluation of biomass resources: effect of composition on sugar generation and ethanol production. ASABE Annual Meeting, Louisville, Kentucky, August 7-11, 2011
14. Chen L, Vadlani PV. Nutritional enhancement of soybean meal and hull for animal feed using microbial cultures. Asian Congress on Biotechnology, Shanghai, China, May 11-15, 2011
15. Chen L, Vadlani PV. Soybean meal and hull bioconversion for animal feed using microbial cultures. KSU Research Forum, Manhattan, KS. April 20, 2011
16. Brijwani K, Vadlani PV. Solid State Fermentation of Soybean Hulls for Cellulolytic Enzyme Production: Physicochemical Characteristics of Substrate and Bioreactor Design. Society of Industrial Microbiology Annual meeting, San Francisco, August 1-5, 2010.
17. Brijwani K, Vadlani PV. Cellulolytic Enzyme Production in Solid State Fermentation: Role of Physico-Chemical Characteristics of a Substrate. AACC International Annual Meeting, Savannah, GA, October 24-27, 2010
18. Ballard, T, Bansal S, Agrupis S, Haag L, Vadlani PV, Staggenborg, S. Seeding Rate Effects on Ethanol Production in Corn and Sorghum. International Symposium on Renewable Feedstock for Biofuel and Bio-based Products, Austin, TX, August 11-13, 2010.
19. Bansal S, Vadlani PV, Staggenborg, S. Evaluation of Different Agricultural Feedstocks for Bioethanol Production. 39th Biochemical Engineering Symposium. Kansas State University, Manhattan, KS, April 17th, 2010.
20. Zhang Y, Kumar A, Vadlani PV, Narayanan S. Cyanophycin biosynthesis using engineered Escherichia Coli BL21 and thin stillage from ethanol industry. 32nd symposium on Biotechnology for Fuels and Chemicals. April 19-22, 2010. Hilton Clearwater Beach, FL
21. Zhang Y, Kumar A, Vadlani PV, Narayanan S, Production of Nitrogen-Based Platform Chemical: Cyanophycin Biosynthesis using Recombinant Escherichia coli.

International Symposium on Advanced Biological Engineering, Beijing, China. July 23-25, 2010.

22. Zhang Y, Kumar A, Vadlani PV, Narayanan S, Production of nitrogen-based platform chemical: cyanophcyin biosynthesis using recombinant Escherichia Coli. 39th Biochemical Engineering Symposium. Kansas State University, Manhattan, KS, April 17th, 2010.
23. Pfromm PH, Amanor-Boadu V, Nelson R, Vadlani PV, Madl R, Bio-butanol vs. bio-ethanol: A technical and economic assessment, American Institute of Chemical Engineers (AIChE) Annual Meeting, Nashville, TN, November 8-13, 2009
24. Mukhopadhyay A, Vadlani PV, Mulukutla RS, Renk FJ, Bioconversion of Paper Mill Waste to Chemicals, TAPPI Engineering, Pulping and Environmental Conference, Memphis, TN, October 11-14, 2009
25. Yoo J, Alavi S, Vadlani PV, Amanor- Boadu V, Novel Thermo-mechanical Pre-treatment of Lignocellulosic Biomass for Efficient Ethanol Production from Agricultural Residues, AACC International Annual Meeting, Baltimore, September 14-16, 2009
26. Ananda NS, Vadlani PV, Carotenoid production on whole stillage by mixed and monoculture fermentation of Phaffia rhodozyma and Sporobolomyces roseus, Biofuels from Maize: Current Economics and Future Sustainability, AACC International Annual Meeting, Baltimore, September 14-16, 2009
27. Brijwani K, Oberoi HS, Vadlani PV, Cellulolytic enzyme system production in mixed fungal culture and its utilization for lignocellulosic biomass hydrolysis, Breeding and Bioconversion of Plants for Sustainability under Biotechnology and Sustainability, AACC International Annual Meeting, Baltimore, September 14-16, 2009
28. Mukhopadhyay A, Vadlani PV, Mulukutla RS, Renk FJ, Bioconversion of Paper Mill Waste to Value-Added Chemicals, Society for Industrial Microbiology (SIM) Annual Meeting, Toronto, Canada, July 26-30, 2009
29. Vadlani PV, Katz J, Ethanol Industry Emergence in an International Context: Biofuels from Renewable Resources, Academy of International Business (AIB) Annual Meeting, San Diego, California, June 27 – 30, 2009.
30. Vadlani PV, San K-Y, Bennett GN, Production of Natural Flavor Chemicals: Isoamyl Acetate Biosynthesis from Renewable Sugars Using Engineered Escherichia Coli, Advances in Fermentation/Biological Conversion, American Institute of Chemical Engineers (AIChE) Annual Meeting, Philadelphia, November 16-21, 2008
31. San K-Y, Vadlani PV, Bennett GN, Production of Platform Chemicals from Renewable Sugars: Low-Cost Succinic Acid Fermentation Using Engineered Escherichia Coli, Environmental Biotechnology: Green Bioprocessing, AIChE Annual Meeting, Philadelphia, November 16-21, 2008
32. Ananda KN, Vadlani PV, Murphy, D, Prasad, PVV Effect of environmental stress on ethanol production efficiency from grain sorghum, AACC International Annual Meeting, Honolulu, Hawaii, September 21-24, 2008. Abstract in Cereal Foods World 53: A20

33. Vadlani PV, Madl, RL, Robb T, Microbial bioconversion of fiber present in distillers' grain (DG) to single cell protein, AACC International Annual Meeting, Honolulu, Hawaii, September 21-24, 2008. Abstract in Cereal Foods World 53: A42
34. Vadlani PV, San K-Y, Bennett GN, Value-added Chemicals from Grain Sorghum: Isoamyl acetate and Succinic Acid Biosynthesis via Fermentation and Engineered Escherichia coli. AACC International Annual Meeting, October 7 – 10, 2007
35. Vadlani PV, Mathews AP, Karr GS, Low-Cost Propionate and Acetate Salts as Road Deicer from Cheese Whey. American Insitute of Chemical Engineers Annual Meeting November 4 – 9, 2007, Salt Lake City, Utah
36. Vadlani PV, Ramachandran KB, Effect of Inoculum quality on the Start-up of UASB reactors, Indian Institute of Chemical Engineers (IIChE) Annual Meeting, Kalpakkam, India, December 1996
37. Vadlani PV, Ramachandran KB, Steady State characteristics of UASB reactors, Indian Institute of Chemical Engineers (IIChE) Annual Meeting, Bombay, India, December 1993

Poster Presentations

1. Guragain YN, Wilson J, Staggenborg S, McKinney L, Wang D, Vadlani., Assessment of pelleting for partial deconstruction of forages To improve cellulosic ethanol production, Bioenergy Symposium -2013, Kansas State University, April, 11, 2013 won the best poster award at the symposium)
2. Probst, KV and Vadlani, PV. Fed-batch fermentation for increased single cell oil production from Lipomyces starkeyi. Kansas State University Bioenergy Symposium: Update on K-State research and educational programs related to sustainable bioenergy resource development and utilization in the central great plains. Manhattan, KS. April 11th, 2013
3. Zhang Y*, Vadlani PV, Biosynthesis of D (-) lactic acid from renewable paper waste. Annual Meeting, Society of Industrial Microbiologists (SIM), August 13-17th, 2012
4. Theerarattananoon K, Xu F, Wilson J, Ballard R, McKinney L, Staggenborg S, Vadlani PV, Pei ZJ, Wang D. Physical properties of pellets made from sorghum stalk, corn stover, wheat straw, and big bluestem. New Frontiers in Bioenergy. ASABE Annual Meeting, Louisville, Kentucky, August 7-11, 2011.
5. Probst KV, Vadlani PV. Optimization of process and media parameters for single-cell oil biosynthesis using Lipomyces starkeyi. Bioenergy Symposium: Mapping sustainable bioenergy opportunities in the central great plains-feedstocks, land use, markets, and socio-economic aspects. Manhattan, KS. April 27-28, 2011.
6. Chen L, Vadlani PV. Nutritional enhancement of soybean meal and hull for animal feed using microbial cultures. Kansas Soybean Expo, Topeka, KS, Jan 12th, 2011.
7. Zhang Y, Kumar A, Vadlani PV, Narayanan S, Cyanophycin Biosynthesis from Sorghum-Derived Sugars and Recombinant Escherichia coli. AACC International Annual Meeting, October 24-27, 2010. Savannah, Georgia
8. Bansal S, Zhang Y, Vadlani PV, Biomass-Based Integrated Biorefinery:

Biochemicals and Lignin Composites Manufacturing. ASME 2010 International Manufacturing Science and Engineering Conference, Erie, PA, October 12-15, 2010.

9. Yoo J, Alavi S, Vadlani PV, Amanor- Boadu V, Thermo-mechanical Extrusion Processing as a Pretreatment for Efficient Ethanol Production from Soybean Hulls, K-State Center for Sustainable Energy, Kansas State University, KS. May 6, 2010.
10. Chen L, Vadlani PV, Madl R. Nutritional Enhancement of Soybean Carbohydrates and Hulls forAnimal Feed Using Microbial Cultures. Kansas Soybean Expo, Topeka, KS, Jan 6th, 2010
11. Brijwani K, Vadlani PV. Improved Ethanol Production from Cellulosic Biomass: Enhanced Enzyme Production from Agro-Industrial Residues using Solid State Fermentation. Center for Sustainable Energy, Kansas State University, Manhattan, KS May 2010.
12. Ananda NS, Vadlani PV, Madl R, Production of carotenoid-enriched animal feed by secondary fermentation of whole stillage. Recent Advances in Fermentation Technology (RAFT) VIII, San Diego, November 8 - 11, 2009
13. Zhang Y, Kumar A, Vadlani PV, Narayanan S, Production of platform chemical from ethanol industry byproduct: cyanophycin biosynthesis using metabolically engineered Escherichia coli BL21. Advances in Fermentation Technology (RAFT) VIII, San Diego, November 8 - 11, 2009
14. Zhang Y, Kumar A, Vadlani PV, Narayanan S Cyanophycin biosynthesis using engineered Escherichia Coli BL21 and thin stillage from ethanol industry. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, April 19-22, 2010
15. Ananda NS, Vadlani PV Production of carotenoid-enriched whole stillage and wheat bran by fermentation using Phaffia rhodozyma and Sporobolomyces roseus Society for Industrial Microbiology (SIM) Annual Meeting, Toronto, Canada, July 26-30, 2009
16. Vadlani PV, Value-added Chemicals from Paper Mill (PM) Sludge. Bioenergy and Environment, Consortium of Plant Biotechnology Symposium, Washingtion DC, February 9-11, 2009
17. Brijwani K, Vadlani PV, Oberoi HS, Coon E, Bioethanol Production from Wheat Straw: Enzymatic Digestion and Co-Culture Fermentation using Saccharomyces cerevisiae and Pachysolen tannophilus, Symposium on the Sustainability of Biofuels Production and Processing in the Central Plains, Manhattan, KS, September 15-16, 2008
18. Oberoi HS, Vadlani PV, Brijwani K, Coon E, Cellulase and Xylanase Production Studies: Solid State Fermentation using Wheat Straw and Bran as Substrates and Aspergillus oryzae and Trichoderma reesei cultures, Symposium on the Sustainability of Biofuels Production and Processing in the Central Plains, Manhattan, KS, September 15-16, 2008.
19. Prasad PVV, Vadlani PV, Anand KN, Madl RL, Carbohydrate and Ethanol Production Efficiency of Grain Sorghum, American Society of Agronomy (ASA) Joint Annual Meeting, Houston, TX, October 5-9, 2008.

20. Vadlani PV, Ramachandran KB, Hydrodynamics studies in UASB reactor, International Conference on Mixing, Tioman Island, Malaysia, April 1998

Invited Speaker

1. Advanced Biofuels from Biomass: Carbohydrates to Hydrocarbons. ICRISAT, Hyderabad, India. November 21st 2013.
2. Microbial Production of Biofuels and Platform Chemicals from Bioenergy Feedstocks. Center for Sustainable Energy Annual Bioenergy Symposium, Manhattan, KS, April 11th 2013.
3. Sustainable Biofuels from Biomass: Technical Challenges And Future Prospects. KSU Forum at the Philippine-American Academy of Science & Engineering (PAASE) Annual Meeting. Basic and Applied Sciences with Rural Economies in Mind: Land-grant Model at Kansas State University and Its Ability in Other Contexts. Batac City, Philippines. January 28th 2013
4. Biofuels and Platform Chemicals via Microbial Bioprocessing. Ateneo de Manila University, Quezon City, Philippines. January 27th, 2013. http://www.psm.org.ph/2013/02/23/psm-officer-hosted-us-professor/
5. DDGS and Soybean Meal Processing via Microbial Fermentation for Premium Animal Feed Products. 1st Congreso de Valor Agregado en Origen Manfredi, Cordoba, Argentina, July 18 – 20th 2012
6. Biofuels and Biochemicals via Biochemical Platform, Department of Chemistry, Sri Sathya Sai Institute of Higher Learning, Puttaparthi, India. January 17th, 2012
7. Biofuels and Animal Feed Products via Fermentation. SAAFoST Northern Branch Lecture (in collaboration with Cereal Science and Technology-South Africa), Department of Food Science, University of Pretoria, Main Campus, Hatfield, South Africa. August 4th, 2011
8. Biofuels: Status and Potential in the US. ARC-LNR, Grain Crops Institute, Potchefstroom, South Africa. August 5th, 2011
9. Biofuels and Bioproducts from Renewable Resources. Intensive Program (IP) on Sustainability and Energy, University of Graz, Graz, Austria. July 8th 2011 (via Distance)
10. Biochemical Platform for Fuels and Chemicals from Renewable Resources, Department of Chemical Engineering Seminar Series, Kansas State University. February 22nd, 2011
11. Value-Added Products from Sorghum via Enzymatic and Microbial Bioprocessing. Great Plains Sorghum Conference & 27th Biennial Sorghum Research and Utilization Conference, Mead, Nebraska, August 11-12, 2010.
12. Biofuels Production and Economics, CHE 670 Sustainability Seminar, Chemical Engineering Department, Kansas State University, July 23, 2010.
13. Kansas State University: College of Agriculture and Biofuels, Mariano Marcus State University, Batac City, Ilocos Norte, Philippines, July 14th, 2010
14. Production of Chemicals via Microbial Bioprocessing, Department of Chemical

Engineering, University of Philippines, Diliman Campus, Philippines, July 16th, 2010.

15. Biofuels from Renewable Resources, College of Engineering, University of Santo Tomas, Manila, Philippines, July 18th, 2010.
16. Value-added Chemicals and Improved Animal Feed Product from Agricultural Resources: Biocatalysis and Microbial Fermentation. BIT's Inaugural Symposium on Enzymes and Biocatalysis, Shanghai Everbright Convention and Exhibition Center, Shanghai, China, April 22 – 24, 2010
17. Ethanol production from biomass resources. Symposium on bioprocessing and sustainability. Panama City, Panama, November 30 – December 6, 2009
18. An Integrated Approach to Biorefining, Cellulosic Ethanol: Critical Constraints to Success, AACC International Annual Meeting, Baltimore, Maryland, September 13 – 16, 2009
19. Traditional Ethanol via Fermentation Production and Use, Biofuel Processes and Applications, Overland Park, Kansas City, September 10, 2009
20. Production and Use of Biogas, Biofuel Processes and Applications, Overland Park, Kansas City, September 10, 2009
21. Biofuels and Platform Chemicals from Agricultural Resources: Biocatalysis and Microbial Fermentation, Emerging Trends in Catalysis and Biocatalysis, Department of Chemistry, Sri Sathya Sai University, Puttaparthi, India, August 11 – 13th, 2009
22. Integrated Wheat-based Biorefinery: Value-added Bioproducts using Enzymes and Microbial Fermentation, International Wheat Quality Conference IV, Saskatoon, Saskatchewan, Canada, June 2-6, 2009
23. Platform chemicals from renewable resources via bioprocessing, Center for Biopolymer by Design, Kansas State University, March 5, 2009.
24. Bioprocessing: Status and Potential, Sri Sathya Sai University, Puttaparthi, India, June 7, 2008
25. Industrial Biotechnology: Recent Advances, School of Biotechnology, JNTU, Hyderabad, India, June 16, 2008
26. Industrial Biotechnology: Future Challenges and Opportunities, Rice University, Biochemical Engineering Class, Houston, TX, March 29, 2007; April 10, 2008
27. Value-Added Products from Plant Resources: Biofuels and Biochemicals. Plant Biology and Environment: Changing Scenario, University of Allahabad, Allahabad, India, December 17 – 19, 208
28. Bread or BTUs: Industrial Wheat Applications, K-State Research and Extension, ARC-Hays Fall Field Day, Fort Hays, KS, August 23, 2007
29. Bioprocessing of Cellulosic materials to high value products, MeadWestvaco Innovation Center, Rayleigh, NC, November 13, 2007
30. Cellulosic Ethanol: Status and Potential, Bioenergy and Water in Kansas, Kansas Water Office and KCARE, Garden City, KS, December 7, 2007

Collaborators

Dr. Ka-Yiu San, Department of Bioengineering, Rice University; Dr. George Bennett, Department of Biochemistry and Cell Biology, Rice University; Dr. Donghai Wang, Biological and Agricultural Engineering; Dr. Mary Rezac, Dr. Peter Pfromm, Dr. Keith Hohn, Chemical Engineering, Kansas State University; Dr. Otto Folkerts, Dr. Ramesh Nair, Chromatin, Inc; Dr. Tom Robb, Abengoa Bioenergy Inc; Dr. David Knox, MeadWestvaco; Dr. Don Coffee, MGP Ingredients, Dr. Mukund Karanjikar, Technology Holdings, Inc; Dr. K.B.Ramachandran, IIT Madras, India; Dr. R. Sai Sathish, Sri Sathya Sai Institute of Higher Learning, Puttaparthi, India; P. Srinivas Rao, ICRISAT, Hyderabad, India.

Post-Doctoral Students/Research Assistants

Dr. Jhinuk Gupta (2012 – present); Dr. Vinod Kumar Phatak (2014-present); Akhila Rose Kingsly (2013 – present)

Graduate Students

Ananda K. Nanjundaswamy, PhD (2010); Achira Mukhopadhyay,MS (2009); Zhang Yixing, MS (2010); Sunil Bansal, MS(2010); Khushal Brijwani, PhD (2011); Liyan Chen, PhD (2013); Kyle Probst PhD (2010 – present); Yixing Zhang PhD (2011-present); Jonathan Wilson PhD (2011 – present); Yadhu Guragain PhD (2012 – present); JungEun Lee PhD (2013-present); Yanguang Liu MS (2013 – present)

Graduate Student Advising Committee Member

Esam Salim, MS, 2007-08, Erin Mader, MS, 2008-10, Jonathan Wilson, MS, 2009-11, Juhyun (Camila) Yoo, PhD, 2008-10, Yonghui Li, PhD, 2009-11, Anne Rigdon, PhD, 2009-2013, Tianjian Tong, MS, 2010-2012, Gustavo Correa, MS, 2008- present, Namhoon Kim, MS, 2013-present , Grain Science and Industry Department; Subramanian Sathish, PhD, 2007-2012, Rachel Opole, PhD, 2009-2012, Todd Ballard, PhD, 2009-2012, Agronomy Department; Patrick Zhang, PhD, 2010-2011, Sarah Zhang, PhD, 2012 – 2013, Meng Zhang, PhD, 2012- present, Industrial & Manufacturing Systems Engineering; Ling Zhang, MS, 2009-2012, Kyle Linnebur, MS, 2011 – 2013, BAE; Leslie Schulte, PhD, 2010 –present, Liz Boyer, MS, 2011 – present, Chemical Engineering Department.

Outside Chairperson: Karnnalin Theerarattananoon, Doctoral Committee, Biological & Agricultural Engineering Department. 2011

Visiting Scientists/Faculty

Marina Marques, Department of Biochemistry and Chemical Technology, IQ-UNESP-Brazil; Dr. Prasanna Kankanala, Core Adjunct Faculty, National University, Ontario Campus, California ; Mr. Florent Soule, ENSIACET, France (FIPSE Fellow 2012); Dr. Douglas Nkosi (Borlaug Fellow 2010-2011), Senior Scientist, Animal Production Institute, South Africa; Dr. Harinder S. Oberoi, Senior Scientist, CIPHET, India(2008-09); Saida Lavudi, Assistant Professor, School of Biotechnology, JNTU, India (December, 2009); Dr. Shirley Agrupis (Borlaug Fellow 2009-10; Fulbright Fellow 2011-12), Associate Professor, Mariano Marcos State University, Philippines;

Undergraduate Research Students

David Murphy, Nathan McGraw, Biochemistry; Jonathan Wilson, Patrick Mader, Kyle Deutscher, Zachary Lee, Grain Science and Industry; Emily Coon, Blake Wilson, Mechanical Engineering; Reggeany Barrios, Chemical Engineering; Josh Hughes, Brittany Lanning, Life Sciences; NSF REU Program: Karen Snook, Kara Walker, Bethany Vosburgh, Evan Davis, Tyler Touchstone, Alisha Multer, Akeem Obe, Chelsea Connec, Christian Kehr, Garrett Meier; Amanda Chura; Roger Cochrane

Undergraduate Student Advisement

Graham Nelson, Kyle Deutscher; Nichole Bryant; Grace Bokelman; Tessa Jones; Matthew Bentley; Colby Brownrigg; Robert Rash; Bethany Ericson, Ryan Coffman, Abigail Harrison; Zachary Lee; Ira Parsons; Ted Reimer; Cole Rickabaugh.

Current Teaching

GRSC 745: Fundamentals in Bioprocessing. Offered in spring and fall semesters for senior and graduate students; GRSC 905: Enzyme and Bioprocessing Applications. Offered in even fall semester for graduate students; GRSC 630 Management Applications in Grain Processing Industries. Offered for senior UG students in Fall semesters; GRSC 101 Introduction to Grain Science and Industry (ethanol and biodiesel topics); and CHE 802: Sustainable Bioenergy Seminar.

Completed Research Projects

1. Demonstrate pelletizing forage crops and perennial grasses in the field to increase cellulosic ethanol production. $690,000. DOE-USDA Biomass Research and Development Initiative. 2008-2012. PI Scott Staggenborg. Co-PIs: Vadlani PV, Wang D, McKinney L
2. Novel Process for Biomass Conversion to Butylenes. $150,000. US Department of Defense SBIR Phase I. PI Vadlani Hohn K
3. Establishment and Operations of Kansas Bio-Plastics Commercialization Collaborative. $22,000. US Small Business Administration, 2011-2012 Kansas State University Subcontract: PI Vadlani PV
4. Aerobic Stabilization of Silage. $24,889. USDA-FAS Fellowship to host Borlaug Fellow from South Africa. 2010-2011. PI Vadlani PV
5. Improved Ethanol Production from Cellulosic Biomass: Enhanced Enzymatic Digestion and Fermentation from Inhibitor-free Hydrolysis. $49,372. Graduate Assistantship Award, Center for Sustainable Energy, KSU. Aug 2008- July 2010. PI Vadlani PV
6. Nutritional enhancement of soybean carbohydrates and hulls for animal feed using microbial cultures. $77,519. Kansas Soybean Commission. 2009-2011 PI Vadlani PV, Co-PIs Madl RL, O'Brien D.
7. Biomass conversion to biofuels. $24,981. USDA-FAS Fellowship to host a Borlaug

Fellow from the Philippines. 2009-2010. PI Vadlani PV, Co-PIs Madl RL, Staggenborg, S.

8. Innovative Bioprocessing of lignocellulosic biomass to high value products. $97,000. MeadWestvaco, Inc. 2007-2009. PI Vadlani PV
9. Screening sorghum germplasm for abiotic stress tolerance and biofuel production. $66,000. Kansas Sorghum Commission. 2008-2010. PI Prasad PVV. Co-PIs: Vadlani PV, Roozeboom C.
10. Rice Bran as a Nutrient Source to Enhance Ethanol Fermentation Efficiency: Feasibility Studies. $15,779. Nutracea, Inc. 2008. PI Vadlani PV
11. Improving Grain-based ethanol process efficiency and physical and nutritional properties of DDGS. $36,000. KSU College of Agriculture MiniGrant program. 2007-2008. PI Behnke K Co-PIs: Vadlani PV, Madl RL, Lamsal B
12. Protein content enhancement of DG: microbial adaptation and pilot plant studies. Abengoa Inc., 2006 – 2007 ($100,000). PI Vadlani PV, Madl R
13. Biobutanol production from corn grain: feasibility of using existing ethanol plant facilities. A proprietary project with a chemical company, 2007 ($100,740). Co-PI with Peter Pfromm (PI), Richard G Nelson, Ronald L Madl and Vincent Amanor-Boadu (Co-PIs).
14. Protein content enhancement of DG: bioconversion of fiber into single-cell-protein. Value-added project using co-products from the bio-ethanol industry, a proprietary collaborative project with a large bio-energy Industry, 2005 – 2006 ($143,000). Co-PI with Ron Madl, Co-PI, BIVAP.
15. Non-corrosive propionate based road deicer, USDA SBIR Phase II, 2002 -2005 ($300,000).
16. Innovative and low-cost process to produce isoamyl acetate using metabolically engineered E.coli, USDA SBIR Phase I, 2004 – 2005 ($80,000). PI with Rice University subcontract.