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North Carolina A&T State University, College of Agriculture and Environmental Sciences
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PROFESSIONAL PREPARATION

PhD Department of Agricultural Economics, Purdue University, Indiana, USA, August 1996
MS Department of Agricultural Economics, Purdue University, Indiana, USA, May 1991
BS Department of Agricultural Economics, National Taiwan University, Taipei, Taiwan, June 1987

FastTrac Training Certificate, Kauffman Center for Entrepreneurship.

FastTrac New Venture Creation and Business Planning Educator, certified by the Kauffman Center for Entrepreneurial Leadership, Kauffman Foundation.

Price Babson Entrepreneurship Education Fellow, certified by Babson College.

Youth Entrepreneurship Education and Development Specialist, certified by the National Rural Entrepreneurship through Action Learning Institute (REAL).

Specialty: Financial Management and Benchmarking, Multifunctional Agriculture, Community Entrepreneurship, Networking and Coalition Building, Science Communication, Policy Analysis

Professional Memberships: Agricultural and Applied Economics Association, American Economic Association, American Association of University Women, Institute of Biological Engineering, National Small Business Institute Association, Food Distribution Research Society, Northeast Resource and Agricultural Economics Association, and Southern Agricultural Economics Association.

APPOINTMENTS AND LEADERSHIP**North Carolina Agricultural and Technical State University**

- *Aug 2016 – Present: W. K. Kellogg Distinguished Professor of Sustainable Agriculture and Community Food Systems, and Director of Center for Environmental Farming Systems*

Role and Responsibilities: to perform scientific and administrative leadership and foster/facilitate interdisciplinary/multidisciplinary collaborations across institutions; provide leadership in operation, management, supporting faculty, staff, students, and stakeholders through grant writing, innovative outcome-based field experiments, public-private relations, and collaborative networks, manage annual budget of two Kellogg accounts and other grants investing on innovative food system strategies using research-based information to offer demonstrations, educational workshops, skill training, and other formats of information dissemination to improve farm viability, business sustainability, employment opportunities, family wellbeing, and community health. Leading change and guiding people to achieve efficiency, competency, and prosperity.

The University of Vermont, Department of Community Development and Applied Economics, Burlington, Vermont

- July 2012 – July 2016: Professor. *Maturation and leading change* (assemble and lead cross-institutional scholars to tackle food insecurity and gaps in agricultural systems, establish leadership in professional organizations, mentor colleagues and students)
- July 2004 – June 2012: Associate Professor. *Progression stage* (develop independent and novel research and teaching initiatives, enhance leadership, establish, and expand research, teaching, and outreach capacity)
- August 1998 – June 2004: Assistant Professor. *Development stage* (contribute as a team member, participate in integrated and multidisciplinary research, participate in training and educational programs for career enhancement and leadership development)

Role and Responsibilities: to design, develop, create, sustain, and grow innovative programs supporting community entrepreneurship activities and mindset that are grounded in public-private collaboration and community engagement using no/limited resources; improve Lake Champlain water quality linking to agriculture and tourism; enhance the capacity of food systems through strategic alliances and interdisciplinary/multidisciplinary/transdisciplinary team building; translate and communicate research-based information to assist agricultural producers and other community entrepreneurs to learn about 'lean and mean start-up approaches'; lead and secure funding for program and workforce development applying integrated system approach.

University of Nebraska Panhandle Research and Extension Center, Scottsbluff, Nebraska

- September 1996 – August 1998: Research and Extension Analyst, Institute of Agriculture and Natural Resources.

Role and Responsibilities: to assist researchers and extension specialists across 12+ disciplines in conducting field experiments, data collection, data analysis, economic impact assessments, and information dissemination; present and distribute research information to farmers including Native American and Tribal Communities (e.g., wild buffalo and prairie dog co-habitat management, small grain and livestock market and futures analysis, dry edible bean trials, sunflower and other specialty crops production, and turfgrass management.)

Other Selected Leadership Positions Served

- **Founder**, Dollar Enterprise – The first Experiential Learning and Service-Learning Entrepreneurship Program in the College of Agriculture to transform wastes into new value-added opportunities.
- **National Leader**, eXtension Community, Regional, and Local Food Systems.
- **Chair**, AAEA Mentorship Award Committee and Committee for Women Agricultural Economists, Agricultural and Applied Economics Association.
- **President and Vice President of Membership**, National Small Business Institute.
- **Chair**, Northeast Regional Center for Rural Development, Tech Advisory Committee.
- **Executive Board**, Vermont Economics Development Coalition for state-regional services.
- **Editor and Board** – Sustainability, International Journal of Financial Studies
- **Board of Directors**, Invent Vermont LLC.; National MarketMaker.

PRODUCTIVITIES, DELIVERABLES, AND HONORS

Recent Grants

1. **PI**, Generating Racial equity and justice by Empowering and ENgaging Underserved farmers to adopt conservation Practices (GREEN UP), USDA Natural Resource Conservation Service, Conservation Outreach: Equity Conservation Cooperative Agreement, \$707,389, April 5, 2022 to April 4, 2024.
2. **PI**, Cultivating Grower-Buyer Partnership for Ethnic Crops, NC Department of Agriculture and Consumer Services, Specialty Crop Division, \$50,000, March 1, 2022 to February 29, 2024.
3. **Co-PI**, HBCU Agribusiness Innovation Center, \$1.92 million, USDA NIFA, Oct 1, 2022 to September 30, 25.
4. **Co-PI, (Lead of Thrust 5 – integrated system for collaboration)** 1890 Center of Excellence for Small Farmers, Entrepreneurship, and Rural Prosperity, USDA NIFA, \$320,634 (Total \$1.8 million), June 1, 2022 to May 31, 2023.
5. **Co-PI**, Breaking down the barriers of benchmarking financial analysis to support farmers. USDA NIFA, \$500,000, September 1, 2021 to August 31, 2022.
6. **Co-PI**, Systems-based integrated program for enhancing the sustainability of antibiotic-restricted poultry production, USDA AFRI Sustainable Agricultural Systems Program, \$10 million, October 1, 2020 to September 30, 2025.
7. **Co-PI**, Farm Benchmarking for Innovative Strategies and Resiliency, USDA NIFA, \$500,000, September 1, 2020 to August 31, 2021.
8. **Co-PI**, 1890 Center of Excellence for Small Farmers and Landowners, USDA NIFA, \$75,000, June 1, 2020 to May 31, 2022.
9. **PI**, Growing Ethnic Crops for Profit\$, North Carolina Department of Agriculture and Consumer Services, \$40,000, March 1, 2020 to March 31, 2022.
10. **Co-PI**, Expanding Farming Benchmarking Result\$ Through Multi-State Collaborations And Mentoring, USDA NIFA, \$500,000, September 1, 2019 to August 31, 2021.
11. **Co-PI**, Dynamics of rural/urban food desert driven by the interactions between community socio-economic characteristics and land/water quality, NSF CNH program, \$749,990, September 1, 2018 to August 31, 2023.
12. **Co-PI**, Improving Labor Management Skills on Small and Medium-Sized Farm, USDA NIFA, \$500,000, April 1, 2018 to March 31, 2021
13. **Co-PI**, Farm Financial Management and Benchmarking, USDA NIFA, \$469,000, September 1, 2018 to August 31, 2020.
14. **Co-PI**, CEFS Long-Term Farming System Research to Create and Maintain Long-Term Farm Enterprise Financial Analysis to Support Small-Scale, Limited-Resourced Farmers in North Carolina, USDA, Sustainable Agriculture Research and Education Program (SARE), \$50,000, September 1, 2018 to August 31, 2021.
15. **Project Director and PI**, Understanding and Designing Long-Term Resilience in the US Food System: The Role of Entrepreneurship and Innovation in Supporting Regional Food Networks, USDA, National Institute of Food and Agriculture (NIFA), Agriculture and Food Research Initiative (AFRI), Foundational Integrated Program - Entrepreneurship, \$500,000, July 1, 2014 to June 30, 2019.
16. **Co-PI**, Farm Financial Benchmarking Management, USDA, \$485,000, 2017-2018.

- 17. Co-PI, Promoting Racial Equity in Food Systems through Innovative Flip-the-Prison strategy, funded by Kellogg Foundation, \$1 million. May 1, 2014 to April 30, 2021.**

Outreach and Extension Training Programs

Designed and conducted sixty-seven farm management and financial analysis training workshops since 2017, focusing on enterprise planning, management strategies, multifunctional operations, niche marketing, risk assessment, and organic production for specialty fruits and vegetables.

Selected Peer-Reviewed Journal Articles

1. Atoloye IA, Adesina IS, Sharma H, Subedi K, Liang C-L(Kathleen), Shahbazi A, et al. (2022) Hemp biochar impacts on selected biological soil health indicators across different soil types and moisture cycles. PLoS ONE 17(2): e0264620. <https://doi.org/10.1371/journal.pone.0264620>
2. Demko, I., Sant'Anna, A. C., & Liang, K. (C. L.). (2021). An overview of the Paycheck Protection Program (PPP) loans and implications for agricultural enterprise recovery from COVID. *Journal of Agriculture, Food Systems, and Community Development*. Advance online publication. <https://doi.org/10.5304/jafscd.2021.111.00X>
3. Liang, C., Mooney, S., Kurkalova, L., Roper, D. K., and Hashemi-Beni, L. (2021). Best Practices and Lessons Learned in Grant Writing for Ag/Applied Economists to Engage in Interdisciplinary Studies, Applied Economics Teaching Resources. Available online https://www.aaea.org/UserFiles/file/AETR_2021_001RRProoffinal_v1.pdf
4. Liang, C., Kurkalova, L., Bensi, L. Mulrooney, T., Jha, M., Monty, G., and Miao, H.R. (2021). Introducing an Innovative Design to Examine Human-Environment Dynamics of Food Deserts Responding to COVID-19, *Journal of Agriculture, Food Systems, and Community Development*, Spring. <https://doi.org/10.5304/jafscd.2021.102.037>
5. Mulrooney, T., Foster, R., Jha, M., Hashemi-Beni, L., Kurkalova, L., Liang, K., Miao, H.R., and Monty, G. (2021). Using Geospatial Networking Tools to Optimize Source Locations as Applied to the Study of Food Availability: A Study in Guilford County, North Carolina, *Applied Geography*. <https://www.sciencedirect.com/science/article/pii/S014362282100031X>
6. Ammons, S., Blacklin, S., Bloom, D., Brown, S., Cappellazzi, M., Creamer, N., Cruz, A., Hynson, J., Knight, G., Lauffer, L., Liang, K., Menius, L., Piner, A., Smallwood, A., Stout, R., Stoves, C., Thraves, T., and Ukah, B. (2021). A collaborative approach to COVID-19 response: The Center for Environmental Farming Systems community-based food system initiatives, *Journal of Agriculture, Food Systems, and Community Development* ISSN: 2152-0801 online <https://foodsystemsjournal.org>
7. Dhamankar, S. S., Hashemi-Beni, L., Kurkalova, L. A., Liang, C. L., Mulrooney, T., Jha, M., Monty, G., & Miao, H. (2020). Study of active farmland use to support agent-based

- modeling of food deserts, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLIV-M-2-2020, 9–13, <https://doi.org/10.5194/isprs-archives-XLIV-M-2-2020-9-2020>.
<https://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XLIV-M-2-2020/9/2020/>
8. Brown, S., & Liang, K. (2020). Telefarming: When Push Comes to Shelve in Responding to COVID-19. *Journal of Agriculture, Food Systems, and Community Development*, 9(3), 1-4. <https://doi.org/10.5304/jafscd.2020.093.030>
 9. Ashqer, Y. S., Liang, C. and Bikdash, M. (2020). Creating a Multivariate-Multifunctional Database for Weed Control to Support Organic Mixed Vegetable Production, *World Journal of Agriculture and Soil Science*, ISSN: 2641-6379. Available online <https://irispublishers.com/wjass/pdf/WJASS.MS.ID.000596.pdf>
 10. Liang, C. (2020). A Proposed Logic Model to Examine Innovation and Entrepreneurship to Support/Enhance Long-Term Resilience and Social/Economic Mobility in Rural Communities, *Agricultural Research & Technology*, 23 (5):63-67. DOI: 10.19080/ARTOAJ.2020.23.556248 63-67. Available online <https://juniperpublishers.com/artoaj/ARTOAJ.MS.ID.556248.php>
 11. Ashqer, Y. S., Bikdash, M., & Liang, C. L. K. (2019, April). A Structured Image Processing Operation Library to Automatically Isolate Weeds and Crops. In 2019 SoutheastCon (pp. 1-7). IEEE.
 12. Werner, S., Lemos, S., McLeod, A., Halstead, J., Gabe, T., Huang, J., Liang, C., Shi, W., Harris, L., and McConnon, J. (2019). Prospects for New England Agriculture: Farm to Fork, *Agricultural and Resource Economics Review*, 48(3): 473-504.
 13. Liang, C. (2019). Creating A Successful and Effective Mentor-Protégé Relationship based on Empirical Studies, *North American Colleges and Teachers of Agriculture Journal*. Volume 63, Number 2, Available online <https://www.nactateachers.org/index.php/current-issues?start=40>
 14. Liang, C and Brown, A. (2019). Local food policy councils - Adopting social network theories to support food systems, *Agricultural Research and Technology*. Volume 22, Issue 3 - August 2019. DOI: 10.19080/ARTOAJ.2019.22.55619 Available online <https://juniperpublishers.com/artoaj/pdf/ARTOAJ.MS.ID.556199.pdf>
 15. Yu, J., Mikiashvili, N., & Liang, C. (2019). Deoxynivalenol and ochratoxin A in North Carolina grown organic wheat grains, *Journal of Food Safety*, <https://doi.org/10.1111/jfs.12687>, available online https://onlinelibrary.wiley.com/doi/epdf/10.1111/jfs.12687?purchase_referrer=onlinelibrary.wiley.com&tracking_action=preview_click&r3_referer=wol&show_checkout=1
 16. Liang, K. (2018). "Overview: The Linkages between Entrepreneurship and Sustainable Regional Food Networks." *Choices*. Quarter 2. Available online:

<http://www.choicesmagazine.org/choices-magazine/theme-articles/the-linkages-between-entrepreneurship-and-sustainable-regional-food-networks/overview-the-linkages-between-entrepreneurship-and-sustainable-regional-food-networks>

17. Duncan, S., C.A. Brekken, S. Lurie, R. Fiegenger, S. Sherry, and K. Liang. (2018). "Can Regional Food Networks and Entrepreneurial Strategies Enhance Food System Resilience?" *Choices*. Quarter 2. Available online: <http://www.choicesmagazine.org/choices-magazine/theme-articles/the-linkages-between-entrepreneurship-and-sustainable-regional-food-networks/can-regional-food-networks-and-entrepreneurial-strategies-enhance-food-system-resilience>
18. Liang, K. (2018). "Farm Incubators - Creating Entrepreneurial Relationships to Support Prosperous Food Networks." *Choices*. Quarter 2. Available online: <http://www.choicesmagazine.org/choices-magazine/theme-articles/the-linkages-between-entrepreneurship-and-sustainable-regional-food-networks/farm-incubators---creating-entrepreneurial-relationships-to-support-prosperous-food-networks>
19. Mary Clare Ahearn, Kathleen Liang, Stephan Goetz, (2018) "Farm business financial performance in local foods value chains", *Agricultural Finance Review*, <https://doi.org/10.1108/AFR-08-2017-0071>
20. Liang, C. (2018). A New Paradigm to Understand the Role of Entrepreneurship and Innovation in Supporting Regional Food Networks (RFNS), *Agricultural Research and Technology*, 13(2): 555875. DOI: [10.19080/ARTOAJ.2018.13.555875](https://doi.org/10.19080/ARTOAJ.2018.13.555875) Available online <https://juniperpublishers.com/artoaj/volume13-issue2-artoaj.php>
21. Liang, C., Dunn, P., Howard, A., and Khananayev S. (2017). Students' Assessment of Experiential Learning in an Entrepreneurship Curriculum – Expectations versus Outcomes. *Journal of Business and Entrepreneurship*. Vol 28, No 1, pp 125-144.
22. Liang, C. and Dunn, P. (2016). Understanding barriers for and information seeking strategies by agritourism entrepreneurs in New England, *Journal of Business and Entrepreneurship*, Vol 27-2, pp. 149-177.

Selected Honors and Awards

- 2022 1890 Agricultural Research Director's Symposium, Morrison-Evans Outstanding Scientist Award.
- 2021 University Interdisciplinary Research Award, Food-Energy-Water Team
- Dr. Manoj Jha, Dr. Chyi Lyi Liang, Dr. Lyubov Kurkalova, Dr. Leila Hashemi Beni, Dr. Gregory H. Monty, & Dr. Timothy Mulrooney, North Carolina A&T State University.
- Fellow, National Small Business Institute, since 2020
- Homer L. Saunders Mentor Award, National Small Business Institute, 2020.
- 2019 Agricultural Finance Review , Highly Commended in the 2019 Emerald Literacy Awards, Volume 78 issue 4, [Farm business financial performance in local foods value chains](https://doi.org/10.1108/AFR-08-2017-0071)

- 2014, 2015, 2017, and 2019 Best Practices Awards in Innovative Entrepreneurship Programs, National Small Business Institute.
- 2015 Hubert W. Vogelmann Award for Excellence in Research and Scholarship, University of Vermont, College of Agriculture and Life Sciences.
- 2015 National Innovation Award, Farm Credit and National MarketMaker Program.
- 2015 Entrepreneur Educator of the Year, Association for Small Business and Entrepreneurship.
- 2015 Outstanding Female Faculty Award, University of Vermont.
- 2011 University Kroepsch-Maurice Excellence in Teaching Award, University of Vermont

SYNERGISTIC ACTIVITIES

Dr. Liang is an expert in food systems and sustainability who has a national reputation for leading change and guiding people to adopt results-driven strategies in problem-solving focusing on Sustainable Farming Practices, Multifunctional Agriculture, Networks Analysis, and Community Entrepreneurship. Dr. Liang has collaborated with more than 100 multidisciplinary scholars, served as leadership positions for 35+ public-private collaborative entities, obtained funding of over \$20 million for 40+ integrated projects as a PI/Co-PI, led 150+ professional presentations/symposiums in national and international conferences, served as an Invited/Keynote Speaker in over 90 events, authored 11 books, published 46 refereed journal articles and 20+ technical reports, authored-co-authored over 65 refereed Proceedings, and organize/delivered 57 extension/outreach training sessions. Dr. Liang received 35 awards in conducting and leading innovative programs, has taught 8,000+ students (K-12, college, tech center); advised 20+ Graduate students and 1,500+ Undergraduate students; and 14 of these students had received Outstanding Undergraduate Research Awards. Dr. Liang has engaged and supported over 4,000 K-12 schools, tech centers, community colleges, faith-based organizations, and others in promoting food security and sustainable farming practices using research-based results. She has designed, developed, and implemented the first Entrepreneurship curriculum in the College of Agriculture in the United States, and led coalitions in the subjects of entrepreneurship, multifunctional agriculture, and innovative networking strategies to support more than 50,000 producers, families, youth, and community organizations nationwide. For over 30 years, Dr. Liang provides leadership to assist people and organizations in advancing agricultural sciences and identify needs for new or amended policies, procedures, and practices serving broad interests of stakeholders. Her vision of entrepreneurial agricultural systems has improved viability and wellbeing for over 30,000 agricultural producers, 1,000 community organizations, and a wide range of government agencies in the US.

Dr. Liang routinely provides mentorship to students, staff, and junior colleagues, including grant writing, professional development, life-work balance, publication, and scientific communication to transfer technical information for non-technical audiences. Her strength and unique applications of service-learning, experiential learning, and storytelling techniques have been widely recognized to motivate and inspire emerging scholars and practitioners.