

K.P. Sandeep (Phone: 919-247-3989; E-mail: kpsandeep@gmail.com)

Current Employment (20 years at North Carolina State University)

- Professor and Department Head
[Department of Food, Bioprocessing and Nutrition Sciences](#)
[North Carolina State University](#)
- Associate Faculty Member
[Biological and Agricultural Engineering Department](#)
[North Carolina State University](#)
- Site Director of a [NSF Industry & University Cooperative Research Center](#)
[Center for Advanced Processing and Packaging Studies \(CAPPS\)](#)
- Operational Advisory Committee of a National Dairy Center
[Southeast Dairy Foods Research Center \(SDFRC\)](#)



For more information on my work at North Carolina State University, please visit:
<http://www.ncsu.edu/project/foodengineer>

Education

- Ph.D. in [Agricultural and Biological Engineering](#) and a minor in Mechanical Engineering, [Penn State](#) (Computational and experimental studies on the fluid dynamics and heat transfer aspects in conventional and helical holding tubes for aseptic food processing); worked with faculty from Bio & Ag Eng, Mechanical Engineering, Chemical Engineering, Aerospace Engineering, and Food Science
- M.S. in [Agricultural and Biological Engineering](#), [Penn State](#) (Residence time distribution of multiple particles in non-Newtonian tube flow); worked with faculty from Bio & Ag, Chemical Eng, Food Sci
- B.S. in [Agricultural Engineering](#), [Indian Institute of Technology, Kharagpur](#) (Performance study of a twin-fluid atomizer for spray drying of milk)

Advising of Students and Scholars on their Thesis/Project

9 M.S., 9 Ph.D., 2 Post-Docs, and 25 undergraduate students

(3 of them have become professors; rest have worked at General Mills, Unilever, Campbell Soup, Nestle, Pepsico, Domino's Pizza, Jim Beam, Ingredion, Wyeth, Merck, Quest International, Givaudan)

Courses Taught (400+ Students)

- Principles of Food and Bioprocess Engineering (undergraduate level)
- Thermal Processing of Foods (graduate level)
- Food Packaging (undergraduate & graduate level)

Latest overall instructor rating: 4.9/5

Awards and Honors

- [IFT Industrial Achievement Award](#)
- [USDA Superior Efforts in Technology Transfer Award](#)
- NSF citation for breakthrough technology
- Outstanding Instructor of Food Science
- Phi Tau Sigma (Honor Society for Food Science)
- Gamma Sigma Delta (Honor Society for Agricultural Sciences)
- Alpha Epsilon (Honor Society for Agricultural Engineering)

Funded Projects

\$6.0+ Million (USDA, NSF, CAPPS, FDA, Biofuels Center of NC, NC Sea Grant, various companies)

Presentations, Publications, and Patents

[52 publications](#), [125+ presentations](#), [14 book chapters](#), [2 books \(editor\)](#)

3 U.S. Patents ([7,112,954](#), [8,742,305](#), [9615593](#))

Workshops, Short Courses, and Conferences -- For various companies and FDA (1000+ attendees)

- Conventional and Advanced Thermal Processing Technologies
- Heat Exchangers and their Design
- Thermal Process Design and Calculations: Retorting, Hot-Fill, and Aseptic Processing
- Continuous Flow Microwave Processing
- Aseptic Processing and Packaging
- Fundamentals and Applications of Thermal Processing Technologies: Product, Process, Equipment, and Regulatory Considerations
- Innovations in Food Processing and Technology
- Validation of Microwave Cooking Instructions
- Acidified Foods GMP School
- Better Process Control School
- HTST Equipment, Control and Tests: A Basic Workshop for Dairy Processors
- TD-NMR Applications in the Food Industry
- Nanotechnology: Fundamentals, Applications, and Regulations in the Food Industry
- International Conference on Polymers for Packaging Applications

Non-Confidential Invited Presentations

Institute for Thermal Processing Specialists (IFTPS), Camden & Chorleywood Food Research Association (CCFRA, UK), Pickle Packers International (PPI), Southeast Dairy Foods Research Center (SDFRC), American Dairy Science Association (ADSA), ASEPTIPAK, International Congress on Engineering and Food (ICEF), US Army Natick Labs, International Society of Beverage Technologists (ISBT), Food Research Center (Brazil), Indian Institute of Technology, Indian Institute of Crop Processing Technology, and Mahatma Gandhi University (India), various companies

Contract Runs, Consulting, and Confidential Presentations

- Conducted contract runs at NC State pilot plants for various companies (Pepsico, Heinz, Conagra, Dean Foods, Frito Lay, DaisyBrand etc.)
- Planning and/or consulting for various companies (The Coca Cola Company, Butterball, Smithfield, Air Liquide, Bush Brothers, RJ Reynolds, Bemis, Mizkan, Dr Pepper Snapple Group, RF Biocidics, Mt. Olive Pickles, SOPAKCO, Atlantic Natural Foods etc.)
- Confidential presentations for various companies (The Coca Cola Company, Dr Pepper Snapple Group, Pepsico, Mead Johnson, Michael Foods, General Mills, Guinness UDV, Fairlife, Hormel etc.)

Advisory Board and/or Review Panels

USDA, NSF, Institute of Medicine (for NASA), Southeast Dairy Foods Research Center, Food Research Center (Brazil), Department of Food Science at University of Arkansas

Services offered for Companies

General consulting, trouble-shooting, contract runs, talks & short courses (periodic or one-time – on-site or online), and assistance with plant design, scale-up, equipment selection, process establishment, and validation strategies