

IOWA STATE UNIVERSITY

Agricultural and Biosystems Engineering

Kurt A. Rosentrater

Associate Professor

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Education

Ph.D. Agricultural Engineering, 2001
Iowa State University

M.S. Agricultural Engineering, 1996
Iowa State University

B.S. Agricultural Engineering, 1994
Iowa State University

Honors and Awards

Institute of Food Technologists Outstanding
Section Volunteer (2009)

USDA-ARS Certificates of Merit (2004-2009)

ASABE Manuscript Reviewer of the Year
(2006)

Order of the Engineer (2005)

Sigma Xi (2005)

College of Engineering Faculty of the Year
Award for Excellence in Undergraduate
Education, NIU (2003)

Recent Publications

Balassiano, K., **K. A. Rosentrater**, and S. B. Marcketti. 2014. Student perceptions of dual-listed courses. *Journal of Effective Teaching* 14(1): 20 - 32.

Bhadra, R., **K. A. Rosentrater**, and K. Muthukumarappan. 2014. Measurement and comparison of glass transition and sticky point temperatures of distillers dried grains with solubles (DDGS) with varying condensed distillers solubles (CDS) and drying temperature levels. *Cereal Chemistry* 91(4): 406-413

Fallahi, P., **K. A. Rosentrater**, K. Muthukumarappan, and M. L. Brown. 2014. Characteristics of vegetable-based twin-screw extruded yellow perch (*Perca flavescens*) diets containing fermented high protein soybean meal and graded levels of distillers dried grains with solubles. *Cereal Chemistry* 91(1): 79-87.

Holbrook, G. P., Z. Davidson, R. A. Tataru, N. L. Ziemer, **K. A. Rosentrater**, and W. S. Grayburn. 2014. Use of microalga *Monoraphidium* sp. Grown in wastewater as a feedstock for biodiesel: Cultivation and fuel characteristics. *Applied Energy* 131: 386-393.

Pourafshar, S., **K. A. Rosentrater**, and P. Krishnan. Submitted 2014. Production of Latin American wheat tortillas using different levels of distillers dried grains with solubles (DDGS). *Journal of Food Science and Technology* 23 September, DOI: 10.1007/s13197-014-1566-5

Teaching

Dr. Rosentrater teaches courses in the area of Biological and Process Engineering and Technology.

Research

Currently Dr. Rosentrater's research focuses on utilization of biofuel co-products, development of foods and feeds, value-added products and processes, grain storage, handling, and processing, sustainability of biorenewable resources, improvements in processing efficiencies, techno-economic modeling, and life cycle assessment. His expertise is in value-added product development, alternative recycling and reprocessing strategies, modeling and simulation of processing systems, plant layout and process design. Prior to his work at Iowa State, he was a Lead Scientist with the United States Department of Agriculture – Agricultural Research Service. Previously, he was an assistant professor at Northern Illinois University in the Department of Engineering and Industrial Technology. Before this, he worked for a design-build firm and was responsible for process and equipment design, and plant layout for agri-industrial processing and storage facilities.



Areas of Expertise and Interest

- Biorefining, Biofuel, & Bioproduct Processing
- Biobased Manufacturing Operations
- Biobased Product & Co-product Development
- Biocomposite Production & Characterization
- Computer Aided Design & Drafting
- Continuous Quality Improvement
- Decision-Based Modeling & Analysis
- Food and Feed Processing
- Gluten-Free Product Development
- Grain Storage, Handling, and Processing
- Life Cycle Assessment
- Manufacturing Equipment & Systems Design
- Manufacturing Facility Design & Layout
- Materials Characterization & Analysis
- Physical, Chemical & Nutritional Property Analysis
- Process Design, Modeling & Simulation
- Process Equipment Design & Layout
- Process Flow Development
- Statistical Design, Analysis & Visualization
- Statistical Process Control
- Systems-Based Modeling & Analysis
- Techno-Economic Modeling & Simulation
- Unit Operations Design, Modeling & Simulation
- Value-Added Coproduct Development