



Bernard Tao

Ph.D. Iowa State University - 1988

Professor

Fellow, Teaching Academy/Great Book of Teachers - 2007
College of Agriculture Dean's Team Award - 2007
LANGURRE Senior Fellow – 2005-2008
United Soybean Board New Uses Award - 2006
Purdue Teaching Academy Founding Fellow - 2006
Charles B. Murphy Outstanding Teacher - 2006

Research Areas:

Biopolymer Synthesis. Genetic Engineering. Design of carbohydrate biocatalysts by recombinant genetic techniques.
Chemical synthesis of lipid-carbohydrate polymers.

Classes Taught:

ABE 310 – Thermodynamics of Food and Biological Systems
ABE 370 – Biochemical Kinetics
ABE 210 – Biological Material and Energy Balances
ABE 591A I- Bio/Food Engineering Seminar
ABE 591K – Ethical Issues in Agricultural and Biological
ABE 591T – Biological Engineering

Selected Publications (last 3 years):

Gayatri A., C.Hall, G. Shaver, B. Tao, Diesel Engine Control Strategy for Biodiesel Blend Accommodation Independent of Fuel Fatty Acid Structure, IFAC Workshop on Engine and Powertrain Control, Simulation and Modeling (E-COSM'12), 2012
Castro, J., Li, W., Pour-Ghaz, M., Tao, B., Sun, H., Weiss, W. J. *Durability of Saw-Cut Joints in Plain Cement Concrete Pavements*. Publication FHWA/IN/JTRP-2011/22. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana, 2012
Golias, M., Castro, J., Peled, A., Nantung, T., Tao, B., Weiss, J., Can Soy Methyl Esters Improve Concrete Pavement Joint Durability?, J. Transport. Research Board, No. 2290, Concrete Materials, 2012

Gozdem Kilaz, Shailendra Bist, Denver W. Lopp, David L.Stanley, Bernard Y. Tao, Investigation of Fatty Acid Methyl Esters in Jet Fuel, International Journal of Sustainable Aviation, vol. 1 Number 2/2014
Wiese, A. Washington, T. Tao, B. Weiss, W. J. Assessing the Performance of Glow in the Dark Concrete, TRB, No. 15-2411, Concrete Materials, 2015

Patents/Intellectual Property:

4,388,339 Margarine and method for making the same
4,390,561 Margarine oil product
4,447,462 Structural fat and method for making the same
7,731,767 Vegetable lipid-based composition and candle
7,569,084 Vegetable lipid-based composition and candle
7,387,649 Vegetable lipid-based composition and candle
6,497,735 Vegetable lipid-based composition and candle
6,284,007 Vegetable lipid-based composition and candle
8,070,834 Vegetable lipid-based composition and candle
8,129,459 Soy methyl ester polystyrene blends for use in concrete
8,137,418 Vegetable lipid-based composition and candle
8,404,003 Vegetable lipid-based composition and candle
8,598,379 Method of lowering the cloud point of fatty acid esters