Name:

Zhonghua Wu

Education:

Bachelor of Food Science and Engineering, China Agricultural University, P.R.China, 1995-1999

Master of Agricultural product processing and storing Engineering, China Agricultural University, P.R.China, 1999-2002

Doctor of Philosophy (ME) Candidate 2002---

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Experience:

1. Technician in Shandong Tianli drying limited company (Sept. 2001--Dec 2001). Project director of experimental spray dryer using pulse combustor. Shandong' Academy of Science, Shandong, China.
2. Researcher in R&D department in Jiangxi Sino-Japanese Musino biochemical limited company (Apr.2002—Oct.2002). Project of a new lactic acid technology and drying of lactic acid salt products. Jiangxi, China.

Research area:

Computational Fluid Dynamics, Agriculture Product and Food Drying, Pulse Combustion.

Research project (for PhD in NUS):

Title: Mass and heat transfer in unsteady flow generated by pulse combustor
Started: Jan. /2003 Expected date of completion: Dec. /2005

Summary of project objectives

1. Evaluate novel spray dryer chamber geometries that yield better volumetric effectiveness and smaller wall deposit.
2. Evaluate a new pulse combustion spray drying method, which combines the spray drying and the counter-current drying. The new pulse combustion spray drying method may have higher drying rate and lower wall deposits
3. Design a pulse combustion spray drying experimental set based on the above analysis results. Try to find a way to scale up a lab pulse combustor to a commercial one and some important mechanics which control and maintain the running of pulse combustor.
4. Develop and validate a CFD-based model and program code, which includes the influence of high temperature and pulse frequency on evaporation rate of particles.

Publications:

1. WU, Z.U, LIU, X.D, *Simulation of Spray Drying of a solution Atomized in a Pulsating Flow*, Drying Technology, 20(6):1101-1122, 2002
2. WU Zhanghua, LIU Xiangdong, *CFD Model for Simulating Spray Drying of Pulse Combustor.* Journal of China Agricultural University, 6(2):35-41, 2002 (in Chinese)
3. WU Zhanghua, LIU Xiangdong *Numerical Simulation of Spray Drying of Pulse Combustor*. Journal of Agricultural Engineering, 18□4□□18-21□2002 (in Chinese)

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