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Lecturer

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July 2006 – Till date

CURRENT RESEARCH ACTIVITIES

- Heat and Mass Transfer.
- Novel Absorbers for Vapor Absorption System.
- Multi-Mode Heat Pump Drying.
- Bio-thermal Systems (Cryosurgery; Bone drilling; Scalp cooling).
- Ice-slurry Energy Storage System.

EDUCATION

- Doctor of Philosophy (Research Scholar)** March 1998-Nov 2001
Energy and Bio-thermal Systems (Thermodynamics), Mechanical Engineering Department,
National University of Singapore (NUS).
- Master of Engineering (Energy Technology)** Jan 1994 - Aug 1995
Asian Institute of Technology, Bangkok, Thailand
- Bachelor of Science in Mechanical Engineering,** July 1984 - Dec 1989
Bangladesh University of Engineering & Technology (BUET)

PATENT AND PUBLICATIONS

Patent

Wijeyesundera, N.E.; Ho J.C.; Islam, M.R. (2003). A Novel Design of Absorbers for Vapor-Absorption Cooling Systems, US Provisional Patent - Submitted.

Publications

Book Chapters

- Islam, M.R.; Mujumdar, A.S. (2004). Heat Pump-Assisted Drying. Guide to Industrial Drying: Principles, Practice and New Developments. Chapter-8, pp. 187-209, Editor: Arun S. Mujumdar, Colour Publications Pvt. Ltd., Mumbai, India.
- Islam, M.R.; Mujumdar, A.S. (2003). Periodic Multi-mode Batch Drying of Heat-Sensitive Materials-Engineering Applications of the Diffusion Equation, Drying of Products of Biological Origin, Chapter-4, pp. 93-133, Editor: Arun S. Mujumdar, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi, India, Co-published by Science Publishers, Inc., USA.

Journal Papers

- Islam, M.R.; Wijeyesundera, N.E.; Ho, J.C. (2006). Heat and Mass Transfer Effectiveness and Correlations for Counter-Flow Absorbers, International Journal of Heat and Mass Transfer – Accepted.
- Chua, K.J.; Islam, M.R.; Chou, S.K.; Ho, J.C.; (2006). On the Analytical Study of How Freeze-Thaw Cycles Affect the Efficacy of Cryosurgery, Journal of Biomechanical Engineering – Submitted.
- Yong, C.K.; Islam, M.R.; Mujumdar, A.S. (2006). Mechanical Means of Enhancing Drying Rates: Effect on Drying Kinetics and Quality, Drying Technology – An International Journal, 24(3).
- Chua, K.J.; Ho, J.C.; Chou, S.K.; Islam, M.R. (2005). On the Study of the Temperature Distribution Within a Human Eye Subjected to a Laser Source. International Communications in Heat and Mass Transfer, 32(8), pp. 1057–1065.

- Lan, S.; Islam, M.R.; Ho, J.C.; Mujumdar, A.S. (2005). A Diffusion Model for Drying of a Heat Sensitive Solid under Multiple Heat Input Modes. *Bioresource Technology*, 96, pp. 1551–1560.
- Islam, M.R.; Wijeyesundera, N.E.; Ho, J.C. (2004). Simplified Models for Coupled Heat and Mass Transfer in Falling-Film Absorbers, *International Journal of Heat and Mass Transfer*, 47(2), pp. 395-406.
- Islam, M.R.; Wijeyesundera, N.E.; Ho, J.C. (2003). Evaluation of Heat and Mass Transfer Coefficients for Falling-Films on Tubular Absorbers, *International Journal of Refrigeration*, 26(2), pp. 197-204.
- Islam, M.R.; Wijeyesundera, N.E.; Ho, J.C. (2003). Performance Study of a Falling-Film Absorber with a Film-Inverting Configuration, *International Journal of Refrigeration*, 26(8), pp. 909-917.
- Islam, M.R.; Ho, J.C.; Mujumdar, A.S. (2003). Simulation of Liquid Diffusion-Controlled Drying of Shrinking Thin Slabs Subjected to Multiple Heat Sources. *Drying Technology – An International Journal*, 21 (3), pp. 413-438.
- Islam, M.R.; Ho, J.C.; Mujumdar, A.S. (2003). Convective Drying with Time-Varying Heat Input: Simulation Results. *Drying Technology – An International Journal*, 21 (7), pp. 1359-1382.
- Islam, M.R.; Ho, J.C.; Mujumdar, A.S. (2003). Role of Product Shrinkage in Drying Rate Predictions Using a Liquid Diffusion Model, *International Communication of Heat and Mass Transfer*, 30 (3), pp. 391-400.
- Islam, M.R.; Sablani, S.S.; Mujumdar, A.S. (2003). An Artificial Neural Network Model for Prediction of Drying Rates. *Drying Technology – An International Journal*, 21 (9), pp. 1871-1888.
- Jia, L.W.; Islam, M.R.; Mujumdar, A.S. (2003). A Simulation Study on Convection and Microwave Drying of Different Food Products. *Drying Technology – An International Journal*, 21 (8), pp. 1551-1576.

Conference Papers

- Islam, M.R.; Ho, J.C.; Wijeyesundera, N.E. (2006). A Numerical Study of Heat and Mass Transfer in Falling Film of Film-inverting Absorber, 13th International Heat Transfer Conference, Sydney Convention & Exhibition Centre, Sydney, Australia, 13-18 August 2006 – Abstract accepted, Full paper submitted.
- Saravanan V.; Islam, M.R.; Mujumdar, A.S. (2005). Microwave Vacuum Drying of Heat Sensitive Materials, 4th Asia-Pacific Drying Conference ADC05, Kolkata, India.
- Islam, M.R.; Ho, J.C.; Wijeyesundera, N.E. (2005). Estimation of Heat and Mass Transfer Coefficients of a tubular Film-Inverting Absorber, In the proceedings of The 2nd ASEAN Science Congress and Sub Committee Conferences, S. Matosudirdjo (ed.), Jakarta, Indonesia, 5-7 August 2005, Publisher: Ministry of Research and Technology, pp. 132.
- Nurshirin B.M.S.; Islam, M.R.; Mujumdar, A.S. (2004). Multi-mode Drying of Various Heat Sensitive Materials – Effect of Pretreatment on Quality and Drying Kinetics. *Topics in Heat and Mass Transfer*, Editor: Guohua Chen, Sakamon Devahastin, Bhaskar N. Thorat, Professor Arun S. Mujumdar Felicitation Function – International Workshop and Symposium on Industrial Drying, pp. 194-202, Mumbai, India.
- Lan, S.; Islam, M.R.; Ho, J.C.; Mujumdar, A.S. (2004). Convection Drying of a Heat Sensitive Solid: Comparison of Experiments with a Diffusion Model. *Topics in Heat and Mass Transfer*, Editor: Guohua Chen, Sakamon Devahastin, Bhaskar N. Thorat, Professor Arun S. Mujumdar Felicitation Function – International Workshop and Symposium on Industrial Drying, pp. 297-308, Mumbai, India.
- Islam, M.R.; Ho J.C.; Wijeyesundera, N.E. (2004). A Detailed Model for the Prediction of Heat and Mass Transfer Coefficients of a Lithium Bromide-Water Absorber, In the proceedings of the 4th European Thermal Sciences Conference, National Exhibition Centre, Birmingham, UK. Publisher: Technology Transfer Management Ltd. pp.52
- Islam, M.R.; Ho, J.C.; Wijeyesundera, N.E. (2004). Experimental and Numerical Study of a Falling-Film on a Tubular Absorber. In the proceedings of the 1st International Forum on Heat Transfer, K. Takeishi (ed.), Kyoto, Japan, 24-26 August 2004, Publisher: The Heat Transfer Society of Japan, pp. 45-46.
- Islam, M.R.; Ho, J.C.; Mujumdar, A.S. (2003). Some Numerical Experiments with Liquid Diffusion Model and Their Practical Significance, 3rd Asia-Pacific Drying Conference, Asian Institute of Technology, Bangkok, Thailand, pp. 645-656.
- Islam, M.R.; Sablani, S.S.; Mujumdar, A.S. (2003). Prediction of Drying Rates Using Artificial Neural Networks, 3rd Asia-Pacific Drying Conference, Asian Institute of Technology, Bangkok, Thailand, pp. 447-455.

