

List of Publications of Professor Arun S. Mujumdar (2005-2007)

January 22, 2007

1. Papers in refereed journals

2006

- Wu ZH, Mujumdar AS, R&D needs and opportunities in pulse combustion and pulse combustion drying, DRYING TECHNOLOGY 24 (11): 1521-1523 2006
- Fan L, Zhang M, Mujumdar AS, Effect of various pretreatments on the quality of vacuum-fried carrot chips, DRYING TECHNOLOGY 24 (11): 1481-1486 2006
- Birchal, V.S., Huang, L.X., Mujumdar, A.S. and Passos, M.L., Spray dryers: modeling and simulation, Drying Technology, 24(3), pp 369-371, 2006.
- Huang, L. X., Kumar, K. and Mujumdar, A.S., A comparative study of a spray dryer with rotary disc atomizer and pressure nozzle using computational fluid dynamic simulations, Chemical Engineering and Processing, 45(6), pp 460-471, 2006.
- Xiang-Qi Wang, Mujumdar, A.S. and C. Yap, Numerical analysis of blockage and optimization of heat transfer performance of fractal-like micro-channel nets, Journal of Electronic Packaging, 128, pp 38-45, March 2006.
- Xiang-Qi Wang, A.S. Mujumdar and C. Yap, Thermal characteristics of tree-shaped micro-channel nets for cooling of a rectangular heat sink, International Journal of Thermal Sciences, 45 (11), pp1103-1112, 2006.
- Xiang-Qi Wang, A. S. Mujumdar and C. Yap, Laminar heat transfer in constructal micro-channel networks with loops, Journal of Electronic Packaging, 128, 273, 2006.
- Xiang-Qi Wang and A. S. Mujumdar, A.S., Heat transfer characteristics of nano-fluids: a review, International Journal of Thermal Sciences, Available on-line 10, 2006. (vol. 47, 2007, pp1-19)
- Huang, L.X. and Mujumdar, A.S., Numerical Study of Two-Stage Horizontal Spray Dryers Using Computational Fluid Dynamics, Drying Technology, 24(6), pp727-733, 2006.
- Wu, Z.H. and Mujumdar, A.S., Pulse combustion dryers, Chemical Industry Digest, May, pp 58-65. 2006.

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- Wang, S. J., S. Devahastin and Mujumdar, A.S., Effects of Temperature Difference on Flow and Mixing Characteristics of Laminar Confined Opposing Streams, *Applied Thermal Engineering*, Vol. 26, pp 519-529, 2006.
- Mujumdar, A.S. and L.C. Lim., Filter Dryers in Process Industries. *Chemical Industry Digest*, pp 54-61, 2006.
- Lee, D.J, Lai, J.Y. and Mujumdar A.S., Moisture distribution and dewatering efficiency for wet materials, *Drying Technology* 24 (10): pp1201-1208, 2006.
- Zhang, M., Tang, J. and Mujumdar, A.S., Trends in microwave-related drying of fruits and vegetables , *Trends in Food Science & Technology* 17 (10): pp524-534, 2006.
- Hu, Q.G, Zhang, M. and Mujumdar, A.S., Drying of edamames by hot air and vacuum microwave combination *Journal of Food Engineering* 77 (4): pp977-982.
- Basu, S, Shivhare, U.S. and Mujumdar A.S., Models for sorption isotherms for foods: A review , *Drying Technology* 24 (8): pp917-930, 2006.
- Xu, Y.Y., Zhang, M. and Mujumdar, A.S., A two-stage vacuum freeze and convective air drying method for strawberries ,*Drying Technology* 24 (8): pp1019-1023, 2006.
- Hu, Q.G., Zhang, M. and Mujumdar, A.S., Effects of different drying methods on the quality changes of granular edamame , *Drying Technology* 24 (8): pp1025-1032, 2006.
- Wanjari, A.N., Thorat, B.N., Baker, C.G.J. and Mujumdar, A.S., Design and modeling of plug flow fluid bed dryers , *Drying Technology* 24 (2): pp147-157, 2006.
- Waje, S.S., Thorat, B.N. and Mujumdar, A.S., An experimental study of the thermal performance of a screw conveyor dryer, *Drying Technology* 24 (3): pp293-301, 2006.
- Devahastin, S. and Mujumdar, A.S., Recent developments in drying technologies for carrot and sweet potato, *Acta Horticulture*, 703, pp 89-96, 2006.

- Cao, H., Min, Z., Mujumdar, A.S., Du, W.-H. and Sun, J.-C., Optimization of osmotic dehydration of kiwifruit, *Drying Technology*, vol. 24., no.1, pp 89-94, 2006.
- Yong, C.K., Islam, M.R. and Mujumdar, A.S., Mechanical Means of Enhancing Drying Rates: Effect on Drying Kinetics and Quality, *Drying Technology – An International Journal*, 24(3), pp 397-404 ,2006.

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- Fan, L.P., M. Zhang, and Mujumdar, A.S., Vacuum frying of carrot chips. *Drying Technology*, 23(3): pp 645-656. 2005.
- Huang, L.X., K. Kumar, and Mujumdar, A.S., Spray evaporation of different liquids in a drying chamber - Effect on flow, heat and mass transfer performances. *Chinese Journal of Chemical Engineering*, 2004. 12(6): pp 737-743.
- Huang, L.X. and Mujumdar, A.S., Development of a new innovative conceptual design for horizontal spray dryer via mathematical modeling. *Drying Technology*, 23(6): pp 1169-1187, 2005.
- Huang, L.X. and Mujumdar, A.S., A three-dimensional simulation of a spray dryer fitted with a rotary atomizer. *Drying Technology*, 23(9-11): pp 1859-1873, 2005.
- Jumah, R. and Mujumdar, A.S., Modeling intermittent drying using an adaptive neuro-fuzzy inference system. *Drying Technology*, 23(5): pp 1075-1092, 2005.
- Li, H.L., E. Elias and Mujumdar, A.S., Theoretical simulation of explosive boiling. *International Communications in Heat And Mass Transfer*, 32(5): pp 612-619, 2005.
- Lou, Z.Q., A.S. Mujumdar and C. Yap, Effects of geometric parameters on confined impinging jet heat transfer. *Applied Thermal Engineering*, 25(17-18): pp 2687-2697, 2005.
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- Mujumdar, A.S., Special issue quality of dried foods and biomaterials. *Drying Technology*, 23(4): pp 999-1000, 2005.
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- Poh, H.J., K. Kumar and Mujumdar, A.S., Heat transfer from a pulsed laminar impinging jet. *International Communications in Heat and Mass Transfer*, 32(10): p. 1317-1324, 2005.
- Sablani, S.S., Kacimov, A., Perret, J. and Mujumdar, A.S., Non-iterative estimation of the heat transfer coefficients using artificial neural network models, *Int. Journal of Heat and Mass Transfer*, 48, No. 3, pp. 665-679, 2005.
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- Wang, B.H. and Mujumdar, A.S., Progress in drying technology for nano-materials. *Drying Technology*, 23(1-2): pp 7-32, 2005.
- Wang, S.T. and Mujumdar, A.S., A numerical study of flow and mixing characteristics of three-dimensional confined turbulent opposing jets: Unequal jets. *Chemical Engineering And Processing*, 44(10): pp 1068-1074, 2005.
- Wang, X.Q., C. Yap, and Mujumdar, A.S., Effects of two-dimensional roughness in flow in micro-channels. *Journal of Electronic Packaging*, 127(3): pp 357-361, 2005.

- Xu, Y., Zhang, M., Tu, D., Sun, J., Zhou, L. and Mujumdar, A.S., A two-stage convective air and vacuum freeze-drying technique for bamboo shoots, *Int. Journal of Food Science and Technology*, vol. 40, Issue 6, pp. 589-591, 2005.
- Zhao, L.J. and Mujumdar, A.S., Thermal dehydration methods for fruits and vegetables. *Drying Technology*, 23(9-11): pp 2249-2260, 2005.
- Zhao, W.N., K. Kumar, and Mujumdar, A.S., Impingement heat transfer for a cluster of laminar impinging jets issuing from noncircular nozzles. *Drying Technology*, 23(1-2): pp 105-130, 2005.

2. Conference papers

2006

- Xiang-Qi Wang, A.S. Mujumdar, and C. Yap, Free convection heat transfer in horizontal and vertical rectangular cavities filled with nano-fluids, 13th International Conference of Heat Transfer, Sydney, Australia, 13-18 August, 2006.
- Huang L.X., Kumar, K. and Mujumdar, A.S., A Comparative Study of A Spray Dryer with Rotary Disc Atomizer and Pressure Nozzle Using Computational Fluid Dynamic Simulations, 15th International Drying Symposium, 23-25, August, Budapest, Hungary, 2006.
- Wu, Z.H., A. S. Mujumdar, X.D. Liu and L. Yang, Investigation of pulse combustion impingement to enhance paper drying, 15th international Drying Symposium (IDS 2006), Budapest, Hungary, 20-23 August 2006 .
- Wu, Z.H. and Mujumdar, A. S., CFD modeling of a mechanical valved pulse combustor, Fluent user group meeting, Singapore, July 27~28, 2006.
- Wu, Z.H. and Mujumdar, A. S., A CFD model study of a spouted bed dryer, Fluent user group meeting, Singapore, July 27~28, 2006.
- Lou, Z.Q., C. Yap and Mujumdar, A. S., "Experimental Investigation of Single Phase and Boiling Heat Transfer of Pure Water Under a Micro-impinging Jet Heat Transfer" ECI Conference on Boiling, Spoleto 7-12 May 2006.
- Rahamn, S.M.A., M.R. Raisul and Mujumdar, A. S., A Study of Coupled Heat and Mass Transfer Through A Composite Food Product During Convective Drying, 15th international Drying Symposium (IDS 2006), Budapest, Hungary, 20-23 August 2006.

- Throat, B.N., A. K. Patel, S.S. Waje and Mujumdar, A. S., Recent advances in fluid bed drying, 15th International Drying Symposium, IDS2006, Budapest, Hungary, 20-23 August, 2006.
- Mujumdar, A.S., Academic Research: Effect of Globalization and Role of Innovation, Plenary Lecture, CHEMECA2006, Joint Australia-New Zealand Chemical Engineering Conference, Auckland, New Zealand, September 2006.
- Mujumdar, A.S., Overview of R&D projects utilizing FLUENT CFD software, Invited lecture, FLUENT Users' Group Meeting, Singapore, July 27-28, 2006.
- Mujumdar, A.S., Innovation and globalization in drying R&D; Proc. Of IDS2006, 15th International Drying Symposium Budapest, Hungary, Ed. I. Farkas, Svent Istvan University, Godollo, Hungary, Vol. A, pp 3-17, August 2006.
- Waje, S.S., B.N. Thorat and Mujumdar, A.S., Screw conveyor dryer: Process and equipment design; 15th International Drying Symposium Budapest, Hungary, Ed. I. Farkas, The Svent Istvan University, Godollo, Hungary, Vol. A, pp 621-628, August 2006.
- Ogura, H., S., Yasuda, Y. Otsubo and Mujumdar, A.S., Continuous operation of a chemical heat pump; 15th International Drying Symposium Budapest, Hungary, Ed. I. Farkas, The Svent Istvan University, Godollo, 2006
- Mujumdar, A.S., Modeling of Selected Problems in Industrial Transport Processes, Plenary lecture, ENIEF 2006, XV Congress on Numerical Methods and their Applications, Santa Fe, Argentina, Nov. 7-10, 2006.
- Wang X.-Q., Mujumdar, A.S. and Yap, C., Optimization of fractal-like micro-channel networks, Fluent User Group Meeting, Singapore, July 27-28, 2006.
- Poh, H.J., R. Lum, L. Jing, Mujumdar, A.S., Investigation Of New Channel Designs On PEMFC Performance, /ASME The Fourth International Conference On Fuel Cell Science, Engineering And Technology/, June, 19-21, 2006, Irvine, California, Abstract Accepted - FUELCELL2006-97242.

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- Mujumdar, A.S. and Devahastin, S., Recent advances in drying technologies for roots, ISSc Conference, Kuala Lumpur, Malaysia, June 2005.
- Saravanan V., Islam, M.R., Mujumdar, A.S., Microwave Vacuum Drying of Heat Sensitive Materials, 4th Asia-Pacific Drying Conference ADC05, Kolkata, India-2005.
- Huang, L.X. and Mujumdar, A.S., Simulation of spray drying using computational fluid dynamics, Proceedings of 10th CDC , 9 , Nanjing , China 2005.
- Mujumdar, A.S. and Huang, L.X., Global R&D needs in drying, Invited paper, Proceedings of 10th CDC , 9 , Nanjing , China 2005.
- Huang, L.X. and Mujumdar, A.S., Numerical investigations of two-stage horizontal spray drying using CFD, ADC2005, Kolkata, India.
- Fan, F.R., Wang, B.H., Zhang, W.B., Mujumdar, A.S. and Huang, L.X., The study of drying kinetics of nano-structured magnesium hydroxide, ADC2005, Kolkata, India
- Lou, Z.Q., C. Yap and Mujumdar, A.S., Numerical investigation of laminar impinging jet heat transfer to finned heat sink" ,Proceedings of ASME:2005 Summer Heat Transfer Conference 2005, Published on CD/ Presented, San Francisco, USA
- Wu, Z.H. and Mujumdar, A.S., Flow and heat characteristics under an impinging pulse combustor tailpipe exhaust. 4th Asia Pacific Drying Conference (ADC-2005), Kolkata, India, 13-15 December, 2005.
- Mujumdar, A.S., Innovation and R&D needs in industrial drying technologies, Plenary lecture, Asia Pacific Drying Conference ADC2005, Proceedings, pp. 3-36, 2005.
- Tong, C.K., Islam, M.R., and Mujumdar, A.S., Mechanical means of enhancing drying rates: Effect on drying kinetics and quality, Asia Pacific Drying Conference ADC2005, Proceedings, pp. 289-305, 2005.
- Huang, L., Mujumdar, A.S. and Zhou, C., Development of a novel two-stage horizontal spray dryer using CFD, Asia Pacific Drying Conference ADC2005, Proceedings, pp. 613-625, 2005.

3. Chapters in books

2005 and 2006

- McCormack, P.Y. and Mujumdar, A.S., Drying, Chapter in Concise Editor of Kirk & Othmer Encyclopedia of Chemical Technology, 5th edition, vol.3, Wiley, N. Y. USA. pp 725-730.
- Mujumdar, A.S. and Chung Lim Law, Fluidized bed drying, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Marcel Dekker, NY 2006. pp 173-202.
- Mujumdar, A.S. and Menon, A.S., Drying of Solids: Principles, Classification and Selection of Dryers, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 1-32.
- Pakowski, Z. and Mujumdar, A.S., Basic Process Calculations in Drying, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 53-80.
- Filkova, I. and Mujumdar, A.S., Industrial Spray Drying Systems, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 215-256
- Pallai, E., Szentmarjay, T. and Mujumdar, A.S., Spouted Bed Drying, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 363-384.
- Mujumdar, A.S., Impingement Drying, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 385-396.
- Ratti, C. and Mujumdar, A.S., Infrared Drying, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 423-438.
- Mujumdar, A.S., Superheated Steam Drying Technologies, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp.439-452.
- Kudra, T. and Mujumdar, A.S., Special Drying Techniques and Novel Dryers, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 453-520.
- Chen, G. and Mujumdar, A.S., Drying of Herbal Medicines and Tea, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 635-646
- Sablani, S.S. and Mujumdar, A.S., Drying of Potatoes, Peanuts and Roots, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 647-646

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 - Polat, O. and Mujumdar, A.S., Drying of Pulp and Paper, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006.pp 793-820
 - Mujumdar, A.S., Drying in Mineral Processing, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 879-886
 - Chen, G., Yue, P.L. and Mujumdar, A.S., Drying of Sludges, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006 pp 887-904
 - Hung, J.Y., Wimberger, R.J. and Mujumdar, A.S., Drying of Coated Webs, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 931-952
 - Mujumdar, A.S. and Hasan, M., Drying of Polymers, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 953-980.
- Pikon, J. and Mujumdar, A.S., Drying of Coal, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 993-1018
- Wang, B., Li, Xin and Mujumdar, A.S., Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 713-728.
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 - Jumah, R.Y. and Mujumdar, A.S., Dryer Emission Control Systems, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006.pp 1041-1074.
 - Jumah, R.Y., Mujumdar, A.S. and Raghavan, G.S.V., Control of Industrial Dryers, Handbook of Industrial Drying 3rd Enhanced Edition, Ed. A.S. Mujumdar, Taylor & Francis, NY 2006. pp 1161-1182

Books

Authored/Edited books

2006

- Mujumdar, A.S., Ed., Handbook of Industrial Drying, 3rd Expanded Edition, CRC Press/Taylor & Francis, Boca Raton, Fl., USA . 1281 pp. ISBN No 1-5744-668-1

- Chinese translation of Mujumdar A.S., Guide to Industrial Drying, Principles, Equipment and New Developments, Chemical Press, Beijing, 2006.
- Mujumdar, A.S. (2006), Ed., Handbook of Mathematical Modeling in Food and Bio-Processing, CRC Press, December 15, 2006.

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- Mujumdar, A.S., Guide to Industrial Drying, Principles, Equipment and New Developments, Colour Publications Pvt. Ltd., Mumbai, India, 2005, 349 pp. Translation in Chinese language published by Chemical Publishers, Beijing in July 2005.
- Kudra, T. and Mujumdar, A.S., Translation in Chinese of the book entitled, “Advanced drying technologies”, published by Chemical Publishers, Beijing, 2005.

Books in progress

- **Modern Drying Technology, Vol. 1. E. Tsotsas and A.S. Mujumdar, VCH-Wiley, Germany (March 2007) (First of 6 volume set) Publication in May 2007.**
- **Advanced Drying Technologies, 2nd enhanced edition, CRC Press (2007)**
- **Spray Drying and Spray Processing, Passos, Huang and Mujumdar (Monograph in progress- completion by mid-2008)**

Journal

- **Drying Technology, Taylor & Francis (USA) 12 issues /year**
- **Theme issue on Drying for Asia-Pacific Chemical Engineering Journal, vol. 1, 2007 (Wiley). Formerly, Developments in Chemical Engineering and Mineral Processing.**