

PROFILE

Name Asst. Prof. Dr.Somsak Vongpradubchai
Position Head of Department of Mechanical Engineering
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Education

- Ph.D.(Engineering), Thammasat University, THAILAND
- M.Eng.(Mechanical Engineering),Thammasat University, THAILAND
- B.Eng.(Mechanical Engineering),Thammasat University, THAILAND

Research interest

- Heat and Mass Transfer in Porous Media
- Microwave and Dielectric Materials interactions
- Microwave Heating and Drying
- Microwave Wood Drying
- Microwave Food Drying

Working Experience

2021 - present Head of Department of Mechanical Engineering
2017-2020 Director of TEP-TEPE
2016 Associate Dean for Student Affairs and Quality Assurance @ faculty of Engineering
2015 Assistant Dean for Quality Assurance @ faculty of Engineering
2013 Assistant Dean for Research @ faculty of Engineering
2012 Deputy Head of Mechanical Engineering Department.(Administration)
2012 Committee of Medical Engineering Program. (to present)
2012 Public Relations and International Affairs Committee of Mechanical Engineering Department. (to present)
2012 Audit Committee of Mechanical Engineering Department. (to present)
2011 QA Committee of Mechanical Engineering Department. (to present)
2011 Secretary of the 2nd TSME International Conference on Mechanical Engineering
2010 Chair Coordinator of the 1st TSME International Conference on Mechanical Engineering (Student)

2008	Chair Coordinator of the 22nd Conference of Mechanical Engineering Network of Thailand (Student)
2008	The project director of the undergraduate and graduate programs in the Research Center of Microwave utilization in Engineering (RCME.)
2007-2010	Graduate Researcher at RCME Lab [A Study of Drying Process of Dielectric Materials by Using Multi-Feed Microwave Continuous Belt Drier]
2005-present	Research Center of Microwave Utilization in Engineering (RCME.) Researcher.
2005-2010	Lab teaching assistant (TA) for the Department of Mechanical Engineering.
2005-2009	Graphics 1-2 teaching assistant (TA) for the Department of Mechanical Engineering.
2005-2006	Graduate Researcher at RCME Lab [Numerical and Experimental Investigation of Combined Microwave and Convective Drying of A Hygroscopic Porous Material : A Study Based on Softwood.]
2003-2004	Undergraduate Researcher at RCME Lab [Experimental study of microwave heating in dielectric material using a continuous belt furnace project. (case study: star apple, clay and natural rubber)]

International Journals

1. Vongpradubchai S., Makul N. and Rattanadecho P. "Influence of the microwave-accelerated process on the drying kinetics, mechanical properties and surface appearance of rubber wood (Heavea brasiliensis)", *European Journal of Wood and Wood Products (HARW)*, <https://doi.org/10.1007/s00107-021-01766-3> ,2021
2. Pengpom. N, Vongpradubchai, S. and Rattanadecho. P "Numerical study of a combined pollutant concentration dispersion and convective heat transfer in a two-dimensional factory model " *International Journal of Heat and Technology* , Vol.6, No.2, June, 2019, pp.649-658: Impact Factor 1.90 (Q3)
3. Pengpom. N, Vongpradubchai, S. and Rattanadecho. P "Numerical analysis of pollutant concentration dispersion and convection flow in a two dimensional confluent river model" *Mathematical Modelling of Engineering problems*, Vol.6, No.2, June, 2019, pp.271-279: Impact Factor 1.01 (Q1)
4. Makul N., Vongpradubchai, S. and Rattanadecho, P. "Experimental Investigations on Microwave-assisted Drying of cement-based materials using A Combined Unsymmetrical Double-feed Microwave and Vacuum Dryer", *International Journal of Heat and Mass Transfer*, vol 127, pp 179-192, 2018: Impact Factor 3.458
5. Charoenvai. S., Yingyuen W., Jewyee A., Rattanadecho P. and Vongpradubchai S. "Comparative Evaluation on Product Properties and Energy Consumption of Single

Microwave Dryer and Combination of Microwave and Hot Air Dryer for Durian Peel Particleboards " Energy Procedia , Vol.34, pp.479-492, 2013

6. Klayborworn., S., Pakdee., W., Rattanadecho., P.and Vongpradubchai, S. "Effects of material properties on heating processes in two-layered porous media subjected to microwave energy ", International Journal of Heat and Mass Transfer, : Vol.61, pp.397-408, 2013 : Impact factor 2.598
7. Jindarat, W., Rattanadecho, P., Vongpradubchai, S. and Pianroj, Y., "Analysis of Energy Consumption in Drying Process of Non-Hygroscopic Porous Packed Bed Using a Combined Multi-Feed Microwave - Convective Air and Continuous Belt System", Drying Technology An International J., Vol.29(08), pp. 926 - 938, 2011 : Impact factor 1.80
8. Jindarat, W., Rattanadecho, P., Vongpradubchai, S.and Pianroj, Y., "Analysis of Energy Consumption in Drying Process of Non-Hygroscopic Porous Packed Bed Using a Combined Multi-Feed Microwave - Convective Air and Continuous Belt System", Drying Technology An International J., Vol.29(08), pp. 926 - 938, 2011 : Impact factor 1.662
9. Jindarat, W., Rattanadecho, P.and Vongpradubchai, S. "Analysis of Energy Consumption in Microwave and Convective Drying Process of Multi-Layer Porous Material Inside a Rectangular Wave Guide", Experimental Thermal and Fluid Science. 35, pp.728-737,2011: Impact factor 1.234
10. Vongpradubchai, S. and Rattanadecho, P., "Microwave and Hot Air Drying of Wood Using a Rectangular Waveguide", Drying Technology An International J.Vol 29, pp.451-460, 2011: Impact factor 1.662
11. Vongpradubchai. S . and Rattanadecho. P., "The Microwave Processing of Wood Using a Continuous Microwave Belt Drier" Chemical Engineering and Processing:Process Intensification , Vol 48(5), pp 997-1003, 2009 : Impact factor 1.518
12. Duangduen, A.,Rattanadecho, P. and Vongpradubchai , S. "Drying of a Slip Casting for Tableware Product Using Microwave-Continuous Belt Furnace.", Drying Technology An International J., Vol. 26, pp. 1-6, 2006

International Conference

1. Aksornkitti S., Rattanadecho P. . and Vongpradubchai, S "Numerical Analysis of Water Infiltration and Heat Transfer in Rectangular Porous Packed Bed" The 7th TSME International Conference on Mechanical Engineering 2016
2. Klinbun, J. and Vongpradubchai, S." Experimental Optimization of Heat Load and Cooling Flow Rate of a Micro Heat Pipe with R134a as Working Fluid" The 4th

International Symposium on Engineering, Energy and Environments 8-10 November 2015, Pattaya Thailand

3. Pongpakpien S., Keangin P., Rattanadecho P. and Vongpradubchai, S.” An Experimental Analysis of Heat Transfer in Liver Tissue during Microwave Ablation using Single and Double Slot Antenna” The 4th International Symposium on Engineering, Energy and Environments 8-10 November 2015, Pattaya Thailand
4. Vongpradubchai, S., Rattanadecho, P. and Jiamjiroch, K. “COMMERCIALIZED DRIER PROCESSING USING A COMBINED MICROWAVE-HOT AIR SPOUTED BED (CMHS)” SEOUL INTERNATIONAL INVENTION FAIR (SIIF2014)
5. Rattanadecho, P., Wessapan, T. and Vongpradubchai, S. “Simulated Software for Predicting Specific Absorption Rate (SAR) and Heat Transfer in Human Head Subjected to Mobile Phone Radiation” 42nd International Exhibition of Inventions of Geneva, 2014
6. Rattanadecho, P., Jindarat, W. and Vongpradubchai, S. “Commercialized Drier Processing Using a Combined Unsymmetrical Double-Feed Low Power Microwave and Vacuum System(CUMV)” 42nd International Exhibition of Inventions of Geneva, 2014
7. Rattanadecho, P., Jindarat, W. and Vongpradubchai, S. “The Commercialized Multi-Purpose Drier Unit Using a Hybrid Unsymmetrical Multi-Feed Microwave and Hot Air-Continuous Belt System (CMCB)” 41st International Exhibition of Inventions of Geneva, 2013
8. Vongpradubchai, S. and Rattanadecho, P. “Microwave and Hot-Air Drying of Wood Using a Rectangular Waveguide”. The 6th Asia-Pacific Drying Conference (ADC2009) October 19-21, 2009, Bangkok , Thailand

National Conference

1. Vongpradubchai, S. and Rattanadecho, P.” Microwave and Hot-Air Drying of Wood Using a Rectangular Waveguide” RGJ-Ph.D Congress X, 3-5 April 2009 , Chonburi
2. Vongpradubchai, S. , Suwetvatin, K., Suwannapum, N., Rattanadecho, P., “Analysis of Microwave and Convective Drying Process in Multi-layer Porous Materials Using a Rectangular Waveguide ”, The 22 nd Conference of Mechanical Engineering Network of Thailand , TSF048, Patumthani , 15-17 October, 2008
3. Vongpradubchai, S. , Jindarat, W., Rattanadecho, P. , “Microwave and Hot-Air Drying of Wood Using a Rectangular Waveguide ” , The 21 st Conference of Mechanical Engineering Network of Thailand , TSF05, Chonburi , 17-19 October, 2007
4. Vongpradubchai, S. , Rattanadecho, P. , Duangduen, A., Doo-ngam, N., “Microwave Drying of Wood Using a Continuous Microwave Belt Furnace” , The 19 st Conference of Mechanical Engineering Network of Thailand , Phuket , 19-21 October, 2005

5. Rattanadecho, P., Atong, D., Suwannapum, N., Vongpradubchai S . , and Piyachote S.,
“ Analytical of Microwave Heating in Dielectric Material Using a Continuous Belt
Furnace” The 18 th Conference of Mechanical Engineering Network of Thailand,
Khonkean, 18-20 October, 2004.
6. Rattanadecho, P. , Atong, D. , Kasuriya S., Vongpradubchai S . , and Suwannapum , N.,
“ Analytical of Microwave Drying in Dielectric Material Using a Continuous Belt
Furnace” , NSTDA Annual Conference S&T in Thailand (NAC2005), 28-30 March 2005.
7. Ratanadecho P. , Atong D., Vongpradubchai S . , Piyachote S., and Suwannapum N. ,
"Microwave Drying of a Slip Casting Operation for Tableware Product." , The Third
Thailand Materials Science and Technology Conference, 10-11 August, 2004, Bangkok,
Thailand