

Curriculum Vitae

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Education

1. 1977-80 Dip. D'Etudes Approfondies and Dr-Ing., Ecole Nationale Supérieure d'Arts et Metiers, Paris, France.
2. 1973-77 B.Eng., Mechanical Engineering, University of Singapore, Singapore.

Employment History

1. 1990-1992 Executive Director, Science Council of Singapore, and Executive Director, National Science and Technology Board
2. 1992-2000 Director, Industry and Technology Relations Office, NUS.
3. 1995-2002 Managing Director, NUS Technology Holdings Pte Ltd
4. 1998-2003 Head, Department of Mechanical Engineering, National University of Singapore
5. 2003-2008 Vice-Dean, External & Industry Relations Office, Faculty of Engineering, National University of Singapore
6. 2007-2009 and 2010- Executive Director, Energy Studies Institute, NUS

Professional and Public Service (Current)

1. Chairman, Advisory Body on the ASEAN Plan of Action on Science and Technology, ASEAN Committee on Science and Technology (COST) (ending 2015).
2. Member, Governing Board, Singapore Polytechnic (ending 2015).
3. Chairman, Advisory Committee, School of Mechanical and Aeronautical Engineering, Singapore Polytechnic.
4. Member, International Advisory Board, APEC Center for Technology Foresighting (ending 2015).
5. Chairman, Technical Evaluation Panel, Grant for Energy Efficiency Technology (GREET), National Environment Agency, Singapore.
6. Immediate Past President, President (2012-2014), Institution of Engineers, Singapore (IES).
7. Fellow, American Society for Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

8. Fellow, Institution of Engineers, Singapore (IES).
9. Fellow, ASEAN Academy of Engineering and Technology (AAET).
10. Fellow, Singapore Academy of Engineering (SAEng).
11. Fellow, Energy Institute (EI), UK.
12. Honorary Fellow, ASEAN Federation of Engineering Organisations (AFEO).

Summary

S.K. Chou obtained a B.Eng. in Mechanical Engineering from the University of Singapore, and a D.E.A. and Dr-Ing. from Ecole Nationale Supérieure d'Arts et Métiers, Paris, under a French Government Scholarship. He joined the Department of Mechanical Engineering, National University of Singapore, as a lecturer, in 1980, and is presently Professor. He is jointly appointed to the NUS Energy Studies Institute as its Executive Director.

From 1990 to 1992, he was seconded to the Science Council of Singapore and the National Science and Technology Board as Executive Director. In 1992, he helped establish the NUS Industry and Technology Relations Office (INTRO), where he was Director from 1992 to 2000. In 1995, he helped found the NUS Technology Holdings Pte Ltd (NUSH), a wholly-owned NUS company responsible for seeding new technology start-ups from university research and inventions. He held the position of Managing Director of NUSH from 1995 to 2001. He was Head of the Department of Mechanical Engineering, NUS, from 1998 to 2003, and Vice-Dean (External and Industry Relations) of the Faculty of Engineering from 2003 to 2008.

S.K. Chou is a Fellow and Immediate Past President of the Institution of Engineers (IES), Singapore, and a Fellow of the American Society of Heating, Refrigerating and Air-Conditioning Engineers. He is a Fellow of the Singapore Academy of Engineering, the ASEAN Academy of Engineering and Technology, the Energy Institute, UK, the ASEAN Federation of Engineering Organisations. He chairs the Advisory Committee of the School of Mechanical and Aeronautical Engineering of Singapore Polytechnic. He chairs the Technical Evaluation Panel on the Grant for Energy Efficiency Technology (GREET) of the National Environment Agency, Singapore. Up till March 2016, he was Chairman of the Advisory Board of the ASEAN Plan of Action on Science and Technology and was a member of the International Advisory Board of the APEC Center for Technology Fore-sighting.

He is credited with the formulation of the Envelope Thermal Transfer Value (ETTV) and the Residential Envelope Transmittance Value (RETV) energy standards used in the Singapore Green Mark Incentive Scheme. He is presently an Editor of the Elsevier journal, *Applied Energy*, and serves on the editorial boards of a number of other energy related journals.

Current Research Interests

Energy and thermal systems, microscale combustion, micro thrusters and propulsion, energy management and policy.

Selected Journal Publications

1. Chou, S. K., Vivier, L. and Gublin, F., "Le froid solaire par ejecteur", *Revue Internationale d'Helio-technique, COMPLES*, 2, 58-61 (1981).
2. Chou, S. K. and Ho, J.C., "A national strategy for energy management in Singapore", *Energy - The International Journal*, 10, 1017-1022 (1985).
3. Chou, S. K. and Wong, Y.W., "Predicting energy performance of commercial buildings in Singapore", *ASHRAE Transactions, Part 1*, 92, 116-136 (1986).

4. Chou, S. K., "Experimental studies on an air-air jet exhaust pump", *ASHRAE Transactions*, Part 2, 92, 496-506 (1986).
5. Ho, J C, Wijeysondera, N. E. and Chou, S. K., "Energy analysis applied to food processing". *Energy - The International Journal*, 11, 887-892 (1986).
6. Chou, S K and Lee, Y. K., "A simplified overall thermal transfer value equation for building envelopes". *Energy - The International Journal*, 13, 657-670 (1988).
7. Ho, J C, Chou, S. K. and Chandratilleke, T.T., "Energy audit of a steel mill", *Energy - The International Journal*, 16, 1021-1029 (1991).
8. Chou, S K and Chang, W. L., "Development of an energy-estimating equation for large commercial buildings", *International Journal of Energy Research*, 17, 759-773 (1993).
9. Chou, S K, Wong, Y. W. and Chang, W. L., "Effects of multi-parameter changes on energy use of large buildings", *International Journal of Energy Research*, 17, 885-903 (1993).
10. Wijeysondera, N E, Chou, S. K. and Jayamaha, S.E.G., "Heat flow through walls under transient rain conditions", *Journal of Thermal Insulation and Building Envelopes*, 17, 118-141 (1993).
11. Chou, S K, Hawlader. M. N. A., Ho, J. C., Wijeysondera, N. E. and Rajasekar, S., "Performance of a heat-pump assisted dryer", *International Journal of Energy Research*, 18, 605-622 (1994).
12. Chou, S K, Chang, W. L., Wong, Y. W. and Yap, C. R., "Efficient energy performance of large commercial buildings in tropical climates", *Energy Conversion and Management*, 35, 751-763 (1994).
13. Wijeysondera, N E, Chou, S.K., Jayamaha, S.E.G. and Paramasivam, P., "Thermal performance of a ferrocement wall panel", *Journal of Ferrocement*, 24, 127-137 (1994).
14. Chou, S.K. Wijeysondera, N.E. and Jayamaha, S.E.G. "Determining the heat flow through building walls under simulated actual weather patterns". *International Journal of Energy Research*, 19, 243-251 (1995).
15. Chou, S K and Chang, W. L., "A generalised methodology for determining the total heat gain through building envelopes", *International Journal of Energy Research*, 20, 887-901 (1996).
16. Jayamaha, S E G, Wijeysondera, N.E. and Chou, S. K., "Measurement of the heat transfer coefficient for walls", *Building and Environment*, 31, 399-407 (1996).
17. Jayamaha, S E G, Chou, S.K. and Wijeysondera, N.E., "Drying of porous materials in the presence of solar radiation", *Drying Technology*, 14, 2339-2369 (1996).
18. Chou, S K and Chang, W. L., "Large building cooling load and energy use estimation", *International Journal of Energy Research*, 21, 169-183 (1997).
19. Chou, S K, Hawlader, M.N.A., Chua. K. J. and Teo, C. C., "A Methodology for Tunnel Dryer Chamber Design", *International Journal of Energy Research*, 21, 395-410 (1997).
20. Chou, S K, Hawlader, M. N. A. and Chua, E. K. J., "On the drying of food products in a tunnel dryer", *Drying Technology*, 15, 857-880 (1997).
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43. Saiful Islam, S. K., Wijesundera, N. E., and Chou, S. K., "Measurement of diffusivity of water in cork", *Journal of Porous Media*, 5, 261-270 (2002).
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45. Yang, W. M., Chou, S. K., Shu, C., Xue, H., and Li, Z. W., "Combustion in micro cylindrical combustors with and without a backward facing step", *Applied Thermal Engineering*, 22, 1777-1787 (2002).
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51. Chou, S. K. and Chua, K. J., "On the Study of the drying behavior of a heat-sensitive biomaterial undergoing stepwise-varying temperature schemes", *Industrial and Engineering Chemistry Research*, 42, 4939-4952 (2003).
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53. Yang, W. M., Chou, S. K. Shu, C., Xue, H., and Li, Z. W., "Power generation at the micro scale", *International Journal of Computational Engineering Science*, 4, 481-484 (2003)

54. Yang, W. M., Chou, S. K., Shu, C., Xue, H., and Li, Z. W., "Development of a prototype microthermophotovoltaic power generator", *Journal of Physics D: Applied Physics*, 37, 1017-1020 (2004).
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62. Zhang, K., Chou, S. K. and Ang, Simon S., "MEMS-based solid propellant microthruster design, simulation, fabrication and testing", *IEE/ASME Journal of Microelectromechanical Systems*, 13, 165-175 (2004).
63. Zhang, K L, Chou, S. K. and Ang, Simon S., "Development of a solid propellant microthruster with chamber and nozzle etched on a wafer surface", *Journal of Micromechanics & Microengineering*, 14, 785-792 (2004).
64. Li, Z. W., Chou, S. K., Shu, C., Yang, W. M. and Xue, H., "Predicting the temperature of a premixed flame in a microcombustor", *Journal of Applied Physics*, 96, 3524-3530 (2004).
65. Yang, W. M, Chou, S. K., Shu, C., Li, Z. W. and Xue, H., "Design, fabrication and testing of a prototype microthermophotovoltaic system", *IEE/ASME Journal of Microelectromechanical Systems*, 13, 851-858 (2004).
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67. Chua, K. J., Ho J. C., Chou S. K. and Islam M. R., "On the study of the temperature distribution within a human eye subjected to a laser source", *International Communications in Heat and Mass Transfer*, 32, 1057-1065 (2005).
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69. Li, Z. W., Chou, S. K., Shu, C., Xue, H., and Yang, W. M., "Characteristics of premixed flame in microcombustors with different diameters", *Applied Thermal Engineering*, 25, 217-281 (2005).
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71. Yang, W. M, Chou, S. K., Shu, C., Li, Z. W. and Xue, H., "Effect of wall thickness of micro combustor on the performance of micro thermophotovoltaic system", *Sensors and Actuators A: Physical*, 119, 441-445 (2005).
72. Li, Z. W., Chou, S. K., Shu, C., and Yang, W. M., "Effects of step height on wall temperature of a microcombustor", *Journal of Micromechanics and Microengineering*, 15, 207-212 (2005).
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87. Chua, K. J., Ho, J.C., and Chou, S.K., "A comparative study of different control strategies for indoor air humidity", *Energy and Buildings*, 39, 537-545 (2007).
88. Xi, X.C., Poo, A. N. , and Chou, S. K., "Support vector regression model predictive control on a HVAC plant", *Control Engineering Practice*, 15, 897-908 (2007).
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91. Li, J., Chou, S.K., Yang, W.M., and Li, Z.W., "Experimental and numerical study of the wall temperature of cylindrical micro combustors", *Journal of Micromechanics and Microengineering*, 19, 015019 (2009).
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97. Li, J., Chou, S.K., Li, Z.W., and Yang, W.M., "Characterization of wall temperature and radiation power through cylindrical dump micro-combustors", *Combustion and Flame*, 156, 1587-1593 (2009)
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100. Chua, K.J. and Chou, S.K., "Energy performance of residential buildings in Singapore", *Energy*, 35, 667-678 (2010)
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"Teaching energy efficiency – context, concepts and challenges", *National Energy Efficiency Conference*, National Energy Agency, Singapore, September 2012.

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