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#### Professional experience

2013-Present, Associate Professor, Hong Kong Polytechnic University

2009-2013, Assistant Professor, Hong Kong Polytechnic University

2000-2009, lecturer, Post-Doctoral Fellow, Hong Kong Polytechnic University

2006-2006, Post-Doctoral Fellow, Hong Kong Polytechnic University

2005-2006, Ove Arup & Partners Hong Kong Ltd

#### Education experience

- PhD, (Building Services Engineering) Hong Kong Polytechnic University 2004
- MS, Refrigeration and Cryogenics Engineering, Shang Hai Jiao Tong University, 2001
- BS, Heating, Ventilation and Air-Conditioning (HVAC), Xi'an Jiao Tong University, 1998

#### Qualification:

- Experienced in thermoelectric modeling, design and optimization
- good publication record in related field

#### Publication list (most cited and relevant):

- Ge, G.M., Xiao, F. and Xu, X.H. Model-Based Optimal Control of a Dedicated Outdoor Air-Chilled Ceiling System Using Liquid Desiccant and Membrane-Based Total Heat Recovery. Applied Energy. Vol. 88(11), pp. 4180-4190. 2011. (SCI)
- Ge, G.M., Xiao, F. and Niu, X.F. Control Strategies for a Liquid Desiccant Air-Conditioning System. Energy and Buildings. Vol. 43(6), pp. 1499-1507. 2011. (SCI)
- Niu, X.F., Du, K. and Xiao, F. Experimental Study on the Effect of Magnetic Field on the Heat Conductivity and Viscosity of Ammonia–Water. Energy and Buildings. Vol. 43(5), pp. 1164-1168. 2011. (SCI)
- Xiao, F., Ge, G.M. and Niu, X.F. Control Performance of a Dedicated Outdoor Air System Adopting Liquid Desiccant Dehumidification. Applied Energy. Vol. 88(1), pp.143-149. 2011. (SCI)

- Niu, X.F., Xiao, F. and Ge, G.M. Performance Analysis of Liquid Desiccant Based Air Conditioning System under Variable Fresh Air Ratios. *Energy and Buildings*. Vol. 42(12), pp. 2457-2464. 2010. (SCI)
- Wang, S.W., Zhou, Q. and Xiao, F. A System-Level Fault Detection and Diagnosis Strategy for HVAC Systems Involving Sensor Faults. *Energy and Buildings*. Vol. 42(4), pp. 477-490. 2010. (SCI).
- Xu, X.H., Wang, S.W., Wang, J.B. and Xiao, F. Active Pipe-embedded Structures in Buildings for Utilizing Low-Grade Energy Sources: A Review. *Energy and Buildings*. Vol. 42(10). pp. 1567-1581. 2010. (SCI)
- Niu, X.F., Du, K. and Xiao, F. Experimental Study on Ammonia-Water Falling Film Absorption in External Magnetic Fields. *International Journal of Refrigeration*. Vol. 33(4), pp. 686-694. 2010. (SCI)
- Xiao, F. and Wang, S.W. Progress and Methodologies of Lifecycle Commissioning of HVAC Systems to Enhance Building Sustainability. *Renewable & Sustainable Energy Reviews*. Vol. 13(5), pp. 1144-1149. 2009. (SCI)
- Xiao, F. Wang, S.W., Xu, X.H. and Ge, G.M. An Isolation Enhanced PCA Method with Expert-Based Multivariate Decoupling for Sensor FDD in Air-Conditioning Systems. *Apply Thermal Engineering*. Vol. 29(4), pp. 712-722. 2009. (SCI)
- Zhou, Q., Wang, S.W. and Xiao, F. A Novel Strategy of Fault Detection and Diagnosis for Centrifugal Chiller Systems. *HVAC&R Research*. Vol. 15(1), pp.57-76. 2009. (SCI)
- Huang, G.S., Wang, S.W., Xiao, F. and Sun, YJ. A Data Fusion Scheme for Building Automation Systems of Building Central Chilling Plants. *Automation in Construction*. Vol. 18, pp.302-309. 2009. (SCI)
- Xuan, Y.M. and Xiao, F. Analysis on Energy Efficiency of a Hybrid Liquid desiccant and Evaporative Cooling System in Hong Kong. *Building Science*. Vol. 25(2), pp.84-89. 2009. (In Chinese)
- Wang, J.B., Wang, S.W., Xu, X.H. and Xiao, F. Evaluation of Alternative Arrangements of a Heat Pump System for Plume Abatement in a Large-Scale Chiller Plant in a Subtropical Region. *Energy and Buildings*. Vol. 41(6), pp. 596-606. 2009. (SCI)
- Ma, Z.J., Wang, S.W. and Xiao, F. Online Performance Evaluation of Alternative Control Strategies for Building Cooling Water Systems Prior to in Situ Implementation. *Applied Energy*. Vol. 86(5), pp.712-721. 2009. (SCI)
- Xu, X.H., Wang, S.W., Sun, Z.W. and Xiao, F. A Model-based Optimal Ventilation Control Strategy of Multi-Zone VAV Air-conditioning Systems Using Genetic Algorithm. *Applied Thermal Engineering*. Vol. 29(1), pp. 91-104. 2009. (SCI)
- Zhang, L.Z. and Xiao, F. Simultaneous Heat and Moisture Transfer through a Composite Supported Liquid Membrane. *International Journal of Heat and Mass Transfer*. Vol. 51, pp. 2179-2189. 2008. (SCI)
- Zhou, Q., Wang, S.W., Xu, X.H. and Xiao, F. A Grey-Box Model of Next-Day Building Thermal Load Prediction for Energy-Efficient Control. *International Journal of Energy Research*. Vol. 32(15), pp. 1418-1431. 2008. (SCI)

- Xu, X.H., Xiao, F. and Wang, S.W. Enhanced Chiller Sensor Fault Detection, Diagnosis and Estimation Using Wavelet Analysis and Principal Component Analysis Methods. *Applied Thermal Engineering*, Vol. 28(2-3), pp. 226-237. 2008. (SCI)
- Ma, Z.J., Wang, S.W., Xu, X.H. and Xiao, F. A Supervisory Control Strategy for Building Cooling Water Systems for Practical and Real Time Applications. *Energy Conversion and Management*. Vol. 49(8), pp. 2324-2336. 2008. (SCI)
- Zhou, Q., Wang, S.W., Xiao, F. and Xu, X.H. A Gray-Box Building Model for On-Line Prediction of Hourly Thermal Load in the Next Day. The 1st International Conference on Building Energy and Environment, August 4-6 2008, Dalian, China. 2008. (ISIP)
- Xiao, F., Wang, S.W., Xu, X.H. and Ge, G.M. Automatic Commissioning of HVAC Systems for Enhancing Building Life-Cycle Performance, *HKIE Transactions*. Vol. 15(1), pp. 24-29. 2008. (EI)
- Xiao, F. Wang, S.W., Xu, X.H. and Ge, G.M. Automatic Commissioning of AHU Sensors Using Principle Component Analysis. *Building Science*. Vol. 24(6), pp. 34-39. 2008. (In Chinese)
- Wang, S.W. and Xiao, F. Sensor Fault Detection and Diagnosis Using Condition-Based Adaptive Statistical Analysis. *HVAC&R Research*, Vol. 12(1), pp. 127-150. 2006. (SCI)
- Xiao, F., Wang, S.W. and Zhang, J.P. A Diagnostic Tool for Online Sensor Health Monitoring in Air-Conditioning Systems. *Automation in Construction*, Vol. 15, pp. 489-503. 2006. (SCI)
- Xiao, F. and Wang, S.W. Automatic Continuous Commissioning of Measurement Instruments in Air Handling Units. *Journal of Harbin Institute of Technology (New Series)*, Vol.13B, pp. 179-185. 2006.
- Wong, W. and Xiao, F. Comparison of Control Strategies of Underfloor Air Conditioning Systems and Overhead Air Conditioning Systems. The proceedings of Hubei – Hong Kong Joint Symposium on Building Services Design, System Control and Value Evaluation, July 1-2 2005, Wu Han, China.
- Wang, S.W. and Xiao, F. AHU Sensor Fault Diagnosis Using Principal Component Analysis Method. *Energy and Buildings*, Vol. 36(2), pp.147-160. 2004. (SCI)
- Wang, S.W. and Xiao, F. Detection and Diagnosis of AHU Sensors Faults Using Principal Component Analysis Method. *Energy Conversion and Management*, Vol. 45(17), pp. 2667-2686. 2004. (SCI)
- Xiao, F. and Wang, S.W. Commissioning of AHU Sensors Using Principal Component Analysis Method. *Building Services Engineering Research and Technology*, Vol. 24(3), pp.179-189. 2003. (Best Paper Award in International Conference of System Simulation in Buildings, Belgium, 2002.)
- Wang, S.W. and Xiao, F. Sensor Fault Diagnosis in HVAC Systems. Proceedings of the 4th International Symposium on Heating, Ventilating and Air Conditioning, October 9-11 2003, Tsinghua University, Beijing, China.
- Yu, H., Xia, Q., Jin, X.Q. and Xiao, F. The Using of Fuzzy Control Based on PMV in VAV Air Conditioning Systems. *Energy Conservation*, Vol. 4, pp. 3-6. 2001. (In Chinese)
- Xiao, F., Xia, Q., Jin, X.Q. and Yu, H. Optimization of Water Chiller Sizing. *Energy Conservation*, Vol. 2, pp. 15-17. 2001. (In Chinese)

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- Xia, Q., Xiao, F. and et al. Optimal Sizing Analysis of Water Chillers in Large Air Conditioning System. Refrigeration Science and Technology. Proceedings of the International Symposium on Air Conditioning in High Rise Buildings, Shanghai, China. 2000.