

Hoong Chuin LAU
School of Information Systems
Singapore Management University

hclau@smu.edu.sg
Office Phone: 6828 0229

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Citizenship: Singapore

Education

1993 - 1996	Doctorate of Engineering in Computer Science Tokyo Institute of Technology, Japan Dissertation: Simple Yet Efficient Algorithms for Constraint Satisfaction and Related Problems
1987 - 1988	MSc in Computer Science University of Minnesota, Mpls/St Paul, USA
1983 - 1986	BSc in Computer Science (Summa Cum Laude) University of Minnesota, Mpls/St Paul, USA

Position(s) Held

Jul 2005 - Now	Associate Professor School of Information Systems Singapore Management University
Jul 2005 - Now	Adjunct Fellow (Appointment as Director) The Logistics Institute Asia Pacific National University of Singapore
Apr 2001 - Jun 2005	Program Director (Joint Appointment) The Logistics Institute Asia Pacific National University of Singapore
Sep 1999 - Jun 2005	Assistant Professor School of Computing National University of Singapore
Sep 1999 - Sep 2001	Chief Technology Officer Logismatic (Spinoff unit from Kent Ridge Digital Labs) and Senior Consultant iFusion Pte Ltd (that acquired Logismatic)
Oct 1996 - Sep 1999	Member of Research Staff Kent Ridge Digital Labs (now Infocomms Institute of Research)
1993 - 1996	Visiting Scholar in Fujitsu AI Research Lab (Tokyo) Full-time PhD Candidate Tokyo Institute of Technology
1991 - 1993	Member, Technical Staff Information, Technology Institute, National Computer Board
1991 - 1993	Adjunct Lecturer Comsertrac School of Information Processing
1988 - 1990	Full-time National Service, involved as Part-time tutor School of Computing

	National University of Singapore
1987 - 1988	Teaching Assistant Department of Computer Science University of Minnesota

Research Interests

1. Models and Algorithms for Logistics, Supply chain management, e-Commerce
2. Interface of Computer Science and Operations Research
3. Multi-agent systems and distributed decision making
4. Decision support tools, systems and applications in e-business, public sector and defense
5. Software frameworks and solvers for optimization problems

Conference Program Committee and Advisory Services

1. Chair, Organizing Committee, Meta-heuristics International Conference (MIC), 2013 - 2013
2. Co-Chair, Program Committee, IEEE/WIC/ACM International Conf. on Intelligent Agent Technology (IAT), 2012 - 2012
3. Co-Chair, Program Committee, International Conference on Electronic Commerce (ICEC), 2012 - 2012
4. Program Committee, Metaheuristics International Conference (MIC), 2009 - 2011
5. Program Committee, Multi-Disciplinary Intl Conf. on Scheduling Theory and Applications (MISTA), 2007 - 2011
6. Program Committee, IEEE/WIC/ACM Conf. on Intelligent Agents Technology (IAT), 2006 - 2011
7. Stream Organizer, International Federation of OR Societies Conf.(IFORS), 2008 - 2008
8. Program Committee, Intl Conf. on Automated Planning and Scheduling (ICAPS), 2006 - 2008
9. Program Committee, Evolutionary Computing (EVO*) Workshop on Transportation and Logistics, 2007 - 2009
10. Program Committee, Intl Conf. on E-Commerce (ICEC), 2006
11. Program Committee, IEEE Conf. on Automation Science and Engineering, 2005, 2006
12. Program Committee, Intl Conf. on Tools with Artificial Intelligence (ICTAI), 2006
13. Program Committee, Intl Conf. Transportation and Logistics (T-LOG), 2005 and 2007
14. Organizing and Program Committees, 5th Asia Pacific Conference of the Operational Research Society within IFORS (APORS) 2000

Editorial Boards

1. Member, Editorial Board, Research in Logistics & Production Journal, 2011 - Now
2. Associate Editor, Editorial Board, IEEE Conf. on Automation Science and Engineering, 2011 - Now

Grants

1. Living Analytics Research Centre funded by Singapore National Research Foundation (NRF), Deputy Director and co-PI, \$26m, 2011 - 2015
2. Singapore-MIT Alliance Research Center (SMART), PI, \$50k, 2011 - 2011
3. ST Dynamics, PI, \$66k, 2010 - 2011
4. PSA, PI, \$50k, 2009 - 2010
5. SMU Internal Grants, PI, total approx. \$180k, 2006 - 2010
6. ASTAR SERC, PI, \$440k, April 2006 - April 2009
7. Ministry of Defense / DSTA, PI, 8 years, \$5m, 2002 - 2010
8. National University of Singapore PI, 2 years, \$28k, Jan 2000 to Jan 2002
9. NSTB (now called ASTAR), PI, 1 year, \$96k, Jan 2000-Dec 2000
10. NSTB (now called ASTAR), PI, 1.5 years, \$113k, Oct 1997-May 1999

Professional Activities

1. Mentor, Doctoral Symposium, International Conf. Planning and Scheduling (ICAPS), 2008
2. Reviewers for Journals:
Asia Pacific Journal of Operations Research;
Computers and Operations Research;
Constraints Journal;
European Journal of Operations Research;
International Journal of Inventory Research;
IEEE Transactions on Automation Science and Engineering;
Journal of Heuristics,
Journal of Global Optimization;
Journal of Scheduling;
Journal of Food Engineering (Special issue OR in Food Logistics), 1996 - 2010
3. Reviewer for Conferences (in addition to Conference Program Committees listed above):
International Joint Conference on AI (IJCAI);
AAAI National Conference;
Decision Sciences Institute Annual Meeting (DSI);
European Conf. on AI (ECAI);
International Symposium on Algorithms and Computation (ISAAC);
International Conf. on Principles and Practice of Constraint Programming (CP);
Pacific Rims International Conference on AI (PRICAI);
Workshop on Algorithmic Theory (WATS), 1996 - 2010

Awards, Recognition and Honors

1. Japan-Singapore Promotion of Science (JSPS) Fellowship, 2000 - 2000
2. National IQC Star Award, 2006 - 2006
3. Singapore Management University Lee Kwan Yew Research Fellowship, 2008 - 2008

Scholarships

1. National Computer Board Overseas Undergraduate Scholarship (1984-1988)
2. Infocomm Development Authority (IDA) Postgraduate Scholarship (1993-1996)

Consultancy

1. Singapore Technologies (ST Dynamics): Berth Allocation, 2010 - 2011
2. Lavie TimeTECH (Israel): Scheduling toolkit, 2009
3. EADS (Singapore): Logistics R&D Landscape study
4. Bax Global (Thailand): Automotive Logistics operations
5. DHL (Singapore): Inventory forecasting
6. Multimedia Development Corp (Malaysia): Agent-Oriented Supply Chain Architecture
7. Local agencies/companies: PSA, MINDEF, SCS, STEE, iFusion, FriarTuck

Memberships in Professional Organizations

1. Member, AAAI (American Association of Artificial Intelligence)
2. Member, DSI (Decision Sciences Institute) (up to 2006)

Journal Articles (Forthcoming)

1. "Robust Local Search for Solving RCPSP/max with Durational Uncertainty", by Na FU, Hoong Chuin LAU, Pradeep Reddy VARAKANTHAM, and Fei XIAO, 2012, *Journal of Artificial Intelligence Research*, Forthcoming.
2. "Master Physician Scheduling Problem", by Aldy GUNAWAN and Hoong Chuin LAU, 2012, *Journal of the Operational Research Society*, Forthcoming
3. "Robust distributed scheduling via time period aggregation", by Shih-Fen CHENG, John TAJAN, and Hoong Chuin LAU, 2011, *Web Intelligence and Agent Systems*

Journal Articles (Refereed)

1. "Allocating resources in multi-agent flowshops with adaptive auctions", by Hoong Chuin LAU, Zhengyi ZHAO, Sam Shuzhi GE, and Thong Heng LEE, 10/2011, 8, 4, *IEEE Trans Automation Science and Engineering*, 732-743
2. "Periodic Resource Reallocation in Two-Echelon Repairable Item Inventory Systems", by Hoong Chuin LAU, Jie PAN, and Huawei SONG, 2010, 7, 3, *IEEE Trans. Automation Science and Engineering*, 474 – 485
3. "Integrated Resource Allocation and Scheduling in Bidirectional Flow Shop with Multi-Machine and COS Constraints", by Hoong Chuin LAU, Zhengyi ZHAO, and Shuzhi, Sam GE, 2009, 39, 2, *IEEE Trans. Systems, Man, Cybernetics (Part C)*, 190-200
4. "The Price of Stability in Selfish Scheduling Games", by Lucas AGUSSURJA and Hoong Chuin LAU, 2009, 7, 4, *Web Intelligence and Agent Systems*, IOS Press
5. "Optimizing Service Systems Based on Application-Level QoS", by Qianhui (Althea) LIANG, X. WU, and Hoong Chuin LAU, 2009, 2, 2, *IEEE Transactions on Services Computing*, 108-121
6. "Multi-Echelon Repairable Item Inventory System with Limited Repair Capacity under Nonstationary Demands", by Hoong Chuin LAU and Huawei SONG, 2008, *International Journal of Inventory Research*
7. "Real-Time Supply Chain Control via Multi-Agent Adjustable Autonomy", by Hoong Chuin LAU, L. AGUSSURJA, and R. THANGARAJOO, 2007, *Computers and Operations Research*, (Special Issue on Real-Time Supply Chain Management)
8. "Efficient Algorithms for Machine Scheduling Problems with Earliness and Tardiness Penalties", by G. FENG and Hoong Chuin LAU, 2007, *Annals of Operations Research*, (Special Issue on Scheduling)
9. "A Framework Model for Rapid Hybridization of Meta-Heuristics", by Hoong Chuin LAU, W. C. WAN, S. HALIM, and K. Y. TOH, 2007, Vol. 14, 2, *International Transactions in Operational Research (Special Issue for 17th IFORS Triennial Conf.)*, 123-141
10. "Evaluation of Time-Varying Availability in Multi-Echelon Spare Parts Systems with Passivation", by Hoong Chuin LAU, H. W. SONG, C. T. SEE, and S. Y. CHENG, 2006, Vol. 170, 1, *European Journal of Operational Research*, 91 - 105
11. "Finding a Length-Constrained Maximum-Sum or Maximum-Density Subtree and Its Application to Logistics", by Hoong Chuin LAU, NGO T. H, and Nguyen B. N., 2006, Vol. 3, 4, *Discrete Optimization*
12. "A Periodic-Review Inventory Model with Application to the Continuous-Review Obsolescence Problem", by Y. SONG and Hoong Chuin LAU, 2004, Vol. 159, No. 1, *European Journal of Operational Research*, 110 - 120
13. "Vehicle Routing Problem with Time Windows and A Limited Number of Vehicles", by Hoong Chuin LAU, M. SIM, and K. M. TEO, 2003, Vol. 148, No. 3, *European Journal of Operational Research*, 559 - 569
14. "On the Strategy of Supply Hubs for Cost Reduction and Responsiveness", by E. BARNES, J. DAI, S. DENG, D. DOWN, M. GOH, and Hoong Chuin LAU, 05/2003, *ICFAI Journal of Operations Management*
15. "A New Approach for Weighted Constraint Satisfaction", by Hoong Chuin LAU, 2002, Vol. 7, No. 2, *Constraints Journal*, 150 - 165

16. "Pickup and Delivery Problem with Time Windows, Algorithms and Test Case Generation", by Hoong Chuin LAU and Z. LIANG, 2002, Vol. 11, No. 3, *International Journal on Artificial Intelligence Tools*, 455 - 472
17. "Low-degree Graph Partitioning via Local Search with Applications to Constraint Satisfaction, Max-Cut and 3-Colouring", by M. HALLDORSSON and Hoong Chuin LAU, 1997, Vol. 1, No. 3, *Journal of Graph Algorithms and Applications*, 1 - 13
18. "On the Complexity of Manpower Shift Scheduling", by Hoong Chuin LAU, 1996, Vol. 23, No. 1, *Computers and Operations Research*, 93 - 102
19. "Combinatorial Approaches for Hard Problems in Manpower Scheduling ", by Hoong Chuin LAU, 1996, Vol. 39, No. 1, *Journal of the Operations Research Society of Japan*, 88 - 98
20. "Randomized Approximations of the Constraint Satisfaction Problem", by Hoong Chuin LAU and O. WATANABE, 1996, Vol. 3, No. 4, *Nordic Journal of Computing*, 405 - 424
21. "Manpower Scheduling with Shift Change Constraints", by Hoong Chuin LAU, 1995, Vol. 36, No. 5, *Journal of the Information Processing Society of Japan (Joho Shori)*, 1271 - 1279
22. "Automated Manpower Rostering: Techniques and Experience", by C M KHOONG, Hoong Chuin LAU, and L W CHEW, 1994, Vol. 1, No. 3, *International Transactions in Operational Research (ITOR)*, 353 - 361
23. "Branch Distance Optimization of Structured Programs", by Hoong Chuin LAU and P POWELL, 1990, Vol. 19, No. 12, *Computers and Mathematics With Applications*, 1184 - 1201

Chapters in Books

1. "The Oil Drilling Model and Iterative Deepening Genetic Annealing Algorithm for the TSP", by Hoong Chuin LAU and Fei XIAO, *Advances in Computational Intelligence in Transportation and Logistics*, A. Fink and F. Rothlauf, *Springer Series on Studies in Computational Intelligence*, 2008
2. "Visual Diagnostics for Parameter Tuning in Meta-Heuristics", by Halim S and Hoong Chuin LAU, *Metaheuristics - Progress in Complex Systems Optimization*, K. F. Doerner, M. Gendreau, P. Greistorfer, W. J. Gutjahr, R. F. Hartl, M. Reimann, *Springer Operations Research/Computer Science Interfaces Book Series*, 2007
3. "A Generic Object-Oriented Tabu Search Framework", by Hoong Chuin LAU, W. C. WAN, and X. JIA, *Metaheuristics: Progress as Real Problem Solvers*, T. Ibaraki, K. Nonobe, and M. Yagiura (eds), *Kluwer Academic Publishers*, Boston, USA., 2005
4. "An Integrated Approach to Manpower Planning and Scheduling ", by Hoong Chuin LAU, *New Development in Their Interfaces*, O. Balci, R. Sharda and S. Zenios (eds), *Pergamon Press*, 1992

Conference Papers (Refereed)

1. "A math-heuristic approach for integrated resource scheduling in a maritime logistics facility", by Huaxing CHEN and Hoong Chuin LAU, 12/2011, *IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, Singapore
2. "Search-Based Fault Localization", by Shaowei WANG, David LO, Lingxiao JIANG, - LUCIA, and Hoong Chuin LAU, 11/2011, *26th IEEE/ACM International Conference on Automated Software Engineering (ASE 2011)*, Lawrence, USA

3. "A POMDP Model for Guiding Taxi Cruising in a Congested Urban City", by Lucas AGUSSURJA and Hoong Chuin LAU, 11/2011, *10th Mexican International Conference on Artificial Intelligence (MICAI)*, Puebla, Mexico
4. "Real-World Parameter Tuning using Factorial Design with Parameter Decomposition", by Aldy GUNAWAN, Hoong Chuin LAU, and Elaine WONG, 07/2011, *9th Metaheuristics International Conference (MIC)*, Udine, Italy
5. "Finding Robust-under-Risk Solutions for Flowshop Scheduling", by Steven KIMBROUGH and Hoong Chuin LAU, 07/2011, *9th Metaheuristics International Conference (MIC)*, Udine, Italy
6. "Improving service through Just-in-Time concept in a dynamic operational environment", by Kar Way TAN and Hoong Chuin LAU, 01/2011, *Hawaii International Conf. on System Sciences (HICSS)*, Hawaii, USA
7. "Instance-based Parameter Tuning via Search Trajectory Similarity Clustering.", by Linda LINDAWATI, Hoong Chuin LAU, and David LO, 01/2011, *Learning and Intelligent Optimization Conference (LION5)*, Rome, Italy
8. "Fine-Tuning Algorithm Parameters using the Design of Experiments", by Aldy GUNAWAN, Hoong Chuin LAU, and Linda LINDAWATI, 01/2011, *Learning and Intelligent Optimization Conference (LION5)*, Rome, Italy
9. "The Bi-Objective Master Physician Scheduling Problem", by Aldy GUNAWAN and Hoong Chuin LAU, 08/2010, *8th International Conference on the Practice and Theory of Automated Timetabling (PATAT)*, Belfast, North Ireland
10. "Distributed Route Planning and Scheduling via Hybrid Conflict Resolution", by Ramesh THANGARAJOO and Hoong Chuin LAU, 08/2010, *IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT)*, Toronto, Canada
11. "Decentralized Resource Allocation and Scheduling via Walrasian Auctions with Negotiable Agents", by Huaxing CHEN and Hoong Chuin LAU, 08/2010, *IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT)*, Toronto, Canada
12. "Effective Heuristic Methods for Finding Non-Optimal Solutions of Interest in Constrained Optimization Models", by Steve KIMBROUGH, Ann KUO, and Hoong Chuin LAU, 07/2010, *Genetic and Evolutionary Computation Conference (GECCO)*, Portland, Oregon, USA
13. "Towards Finding Robust Execution Strategies for RCPSP with Durational Uncertainty", by Na FU, Pradeep Reddy VARAKANTHAM, and Hoong Chuin LAU, 05/2010, *International Conference on Automated Planning and Scheduling (ICAPS)*
14. "Setting Discrete Bid Levels in Adaptive Auctions", by Jilian ZHANG, Hoong Chuin LAU, and Jialie SHEN, 2009, *The 11th International Conference on Electronic Commerce (ICEC'09)*, Taipei, Taiwan, China
15. "Master Physician Scheduling Problem", by Aldy GUNAWAN and Hoong Chuin LAU, 08/2009, *Multidisciplinary International Conference on Scheduling: Theory and Appl.*, Dublin, Ireland
16. "Enhancing the Speed and Accuracy of Automated Parameter Tuning in Heuristic Design", by Hoong Chuin LAU and Fei XIAO, 07/2009, *Metaheuristics International Conference*, Hamburg, Germany
17. "On Using Genetic Algorithms to Support Post-Solution Deliberation in the Generalized Assignment Problem", by Steve KIMBROUGH, Ann KUO, and Hoong Chuin LAU, 07/2009, *Metaheuristics International Conference*, Hamburg, Germany
18. "Conceptual Framework of a Dynamic Resource Allocation Test Bed-Its Practical Realization with ProModel", by I. R. WIOR, Z. ZHAO, M. LUO, and Hoong Chuin LAU, 07/2009, *IEEE*

Multi-conference on Systems and Control, Saint Petersburg, Russia

19. "A Heuristic Method for Job-Shop Scheduling with an Infinite Wait Buffer", by Z. ZHAO, J. KIM, M. LUO, and Hoong Chuin LAU, 2008, *IEEE Conf. Cybernetics and Intelligent Systems (CIS)*, Chengdu, China
20. "Distributing complementary resources across multiple periods with stochastic demand: Hedging via time frame aggregation", by Shih-Fen CHENG, John TAJAN, and Hoong Chuin LAU, 12/2008, 373-379, *IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT-08)*
21. "Robust Application Level QoS Management in Service Oriented Systems", by Qianhui (Althea) LIANG, Hoong Chuin LAU, and X. WU, 10/2008, *2008 IEEE International Conference on E-Business Engineering (ICEBE '08)*
22. "Generating Robust Schedules Subject to Resource and Duration Uncertainties", by Na FU, Fei XIAO, and Hoong Chuin LAU, 09/2008, *International Conf. on Automated Planning and Scheduling (ICAPS)*, Sydney, Australia
23. "Relationship-Preserving E-Procurement Auction", by Hoong Chuin LAU, Jong Han PARK, and Jae Kyu LEE, 08/2008, *International Conf. on Electronic Commerce (ICEC)*, Innsbruck, Austria
24. "Utility Pricing Auction for Multi-period Resource Allocation in Multi-Machine Flow Shop Problems", by Hoong Chuin LAU, Zhengyi ZHAO, Shuzhi, Sam GE, and T. H. LEE, 08/2008, *International Conf. on Electronic Commerce (ICEC)*, Innsbruck, Austria
25. "A Hybrid Approach to Convoy Movement Planning in an Urban City", by Hoong Chuin LAU, R. THANGARAJOO, and R. AGUSSURJA, 07/2008, *Innovative Applications of Artificial Intelligence (IAAI)*, Chicago, USA
26. "A Combinatorial Auction Framework for Solving Decentralized Scheduling Problems.", by Hoong Chuin LAU, Kong Wei LYE, and Viet Bang NGUYEN, 05/2008, *5th Int. Conf. on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems*
27. "Multi-period combinatorial auction mechanism for distributed resource allocation and scheduling", by Hoong Chuin LAU, Shih-Fen CHENG, Thin Yin LEONG, Jong Han PARK, and Zhengyi ZHAO, 11/2007, 407-411, *IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT-07)*, San Jose, USA
28. "The Price of Stability in Selfish Scheduling Games", by Lucas AGUSSURJA and Hoong Chuin LAU, 11/2007, *IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT)*, San Jose, USA
29. "Bidirectional Flow Shop Scheduling with Multi-Machine Capacity and Critical Operations Sequencing", by ZhengYi ZHAO, Thin Yin LEONG, Shushi Sam GE, and Hoong Chuin LAU, 10/2007, 8, *IEEE Multi-Conference on Systems and Control*, Singapore
30. "Robust Local Search and Its Application to Generating Robust Schedules", by Hoong Chuin LAU, Fei XIAO, and Thomas OU, 09/2007, *International Conference on Automated Planning and Scheduling (ICAPS)*, Rhode Island, USA
31. "An Integrated White+Black Box Approach for Designing and Tuning Stochastic Local Search", by S. HALIM, R. YAP, and Hoong Chuin LAU, 09/2007, *International Conf. on Principles & Practice of Constraint Programming (CP)*, Rhode Island, USA
32. "Generating Job Schedules for Vessel Operations in a Container Terminal.", by Thin Yin LEONG and Hoong Chuin LAU, 08/2007, *2nd Multidisciplinary International Conference on Scheduling: Theory and Applications (MISTA)*, Paris, France
33. "Towards an Intelligent Meta-Heuristics Development Framework", by Hoong Chuin LAU and Fei XIAO, 06/2007, *7th Metaheuristics International Conference (MIC)*, Montreal, Canada

34. "Search Trajectory Visualization for Analysing Trajectory-Based Meta-Heuristic Search Algorithm", by Halim S., Hoong Chuin LAU, and Yap R., 2006, *European Conference on AI (ECAI) 2006*, Riva De Garda, Italy
35. "Solving Generalized Open Constraint Optimization Problem using Two-Level Multi-Agent Framework - Improved Results", by Hoong Chuin LAU and Viet B., 2006, *European Conference on AI (ECAI) 2006 Workshop on Distributed CSP (DisCSP)*
36. "Dynamic Multi-Linked Negotiations in Multi-Echelon Production Scheduling Networks", by Hoong Chuin LAU, Soh G. L, and Wan W. C., 12/2006, *IEEE/WIC/ACM Int'l Conference on Intelligent Agent Technology (IAT) (Also presented in IFIP Workshop on Virtual Environments for Advanced Modeling , Hamburg, Germany, 2006)*, Hong Kong
37. "Robust Controllability in Temporal Constraint Networks under Uncertainty", by Hoong Chuin LAU, Li J., and Yap R., 11/2006, *IEEE Conference Tools with Artificial Intelligence (ICTAI) (European Conference on AI (ECAI) 2006 Workshop on Modeling and Solving Problems with Constraints)*, Washington D.C
38. "A Hybrid MIP/Heuristic Model for Experience Based Driver Assignment", by Hoong Chuin LAU, Ng K. M., and Thangarajoo R., 11/2006, *IEEE Conference Tools with Artificial Intelligence (ICTAI)* , Washington D.C
39. "Periodic Resource Reallocation in Multi-Echelon Inventory Systems", by Song H. and Hoong Chuin LAU, 10/2006, *IEEE Conference on Automation Science and Engineering(CASE)*, Shanghai, China
40. "Explaining Local Search Behaviour Using Viz : The Local Search Visual Analysis Suite", by Halim S., Yap R., and Hoong Chuin LAU, 10/2006, *19th Annual ACM Symposium on User Interface Software and Technology (UIST) 2006*, Montreux, Switzerland
41. "A Multi-Agent Approach for Solving Optimization Problems involving Expensive Resources", by Hoong Chuin LAU and H. WANG, 2005, 79 - 83, *20th ACM Symp. On Applied Computing (SAC)*, New Mexico, USA
42. "Robust Temporal Constraint Networks", by Hoong Chuin LAU, T. OU, and M. SIM, 2005, 82 - 88, *IEEE Conference Tools with Artificial Intelligence (ICTAI)*, Hong Kong
43. "Solving Generalized Open Constraint Optimization Problem using Two-Level Multi-Agent Framework", by Hoong Chuin LAU, L. ZHANG, and C. LIU, 09/2005, 558 - 564, *IEEE/WIC/ACM Int'l Conf. on Intelligent Agent Technology (IAT)*, Compiègne, France
44. "Partial Adjustable Autonomy in Multi Agent Environment and Its Application to Military Logistics", by Hoong Chuin LAU, L. AGUSSURJA, and R. THAGARAJOO, 09/2005, 152 - 156, *IEEE/WIC/ACM Int'l Conf. on Intelligent Agent Technology (IAT)*, Compiègne, France
45. "Evaluation of Time-Varying Availability in Multi-Echelon Inventory System with Combat Damage", by Hoong Chuin LAU and H. SONG, 08/2005, 226 - 231, *IEEE Conference on Automation Science and Engineering (CASE)*, Edmonton, Canada
46. "Tuning Tabu Search Strategies via Visual Diagnosis", by Hoong Chuin LAU, W. C. WAN, and S. HALIM, 08/2005, 630 - 636, *6th Metaheuristics International Conference (MIC)*, Vienna, Austria
47. "Efficient Algorithms for Machine Scheduling Problems with Earliness and Tardiness Penalties", by G. FENG and Hoong Chuin LAU, 07/2005, 196 - 212, *2nd Multidisciplinary International Conference on Scheduling: Theory and Applications (MISTA)*, New York City, USA
48. "Transport Logistics Planning with Service-Level Constraints", by Hoong Chuin LAU, K. M. NG, and X. WU, 2004, *19th National Conference on Artificial Intelligence (AAAI)*, Pages 519 - 524, San Jose, USA

49. "Two-Echelon Repairable Item Inventory System with Limited Repair Capacity under Nonstationary Demands", by Hoong Chuin LAU and H. SONG, 11/2004, *35th Meeting of the Decision Sciences Institute (DSI)*, Pages 1901 - 1908, Boston, USA
50. "Corrective Maintenance Optimization in an Air Force", by Hoong Chuin LAU, K. Y. NEO, and W. C. WAN, 11/2004, *35th Meeting of the Decision Sciences Institute (DSI)*, Pages 1911 - 1917, Boston, USA
51. "Job Scheduling with Unfixed Availability Constraints", by Hoong Chuin LAU and C. ZHANG, 11/2004, *35th Meeting of the Decision Sciences Institute (DSI)*, Pages 4401 - 4406, Boston, USA
52. "A Development Framework for Rapid Metaheuristics Hybridization", by Hoong Chuin LAU, M. K. LIM, W. C. WAN, and S. HALIM, 09/2004, *28th Annual International Computer Software and Applications Conference (COMPSAC)*, Pages 362 - 367, Hong Kong
53. "A Two-level Framework for Coalition Formation via Optimization and Agent Negotiation", by Hoong Chuin LAU and L. ZHANG, 09/2004, *IEEE/WIC/ACM Int'l Conference on Intelligent Agent Technology (IAT)*, Pages 441 - 445, Beijing, China
54. "Multi-Period Multi-Dimensional Knapsack Problem and Its Application to Available-to-Promise", by Hoong Chuin LAU and M. K. LIM, 05/2004, *Int'l Symposium on Scheduling (ISS)*, Pages 94 -99, Hyogo, Japan
55. "Transport Scheduling with Service-Level Constraints - Complexity and Algorithms", by Hoong Chuin LAU, K. M. NG, and X. WU, 05/2004, *2nd Int'l Symposium on Scheduling (ISS)*, Pages 11 - 16, Hyogo, Japan
56. "Multi-Agent Coalition via Autonomous Price Negotiation in a Real-Time Web Environment", by Hoong Chuin LAU and W. S. LIM, 10/2003, *IEEE/WIC Int'l Conference on Intelligent Agent Technology (IAT)*, Pages 580 - 583, Halifax, Canada
57. "Task Allocation via Multi-Agent Coalition Formation: Taxonomy, Algorithms and Complexity", by Hoong Chuin LAU and L. ZHANG, 10/2003, 346 - 350, *15th IEEE Conference on Tools with Artificial Intelligence (ICTAI)*, Sacramento, California, United States
58. "A Generic Object-Oriented Tabu Search Framework", by Hoong Chuin LAU, W. C. WAN, and X. JIA, 08/2003, *5th Metaheuristics International Conference (MIC)*, Kyoto, Japan
59. "Solving Multi-Objective Multi-Constrained Optimization Problems using Hybrid Ants System and Tabu Search", by Hoong Chuin LAU, M. K. LIM, W. C. WAN, H. WANG, and X. WU, 08/2003, *5th Metaheuristics International Conference (MIC)*, Kyoto, Japan
60. "Integrating Local Search and Network Flow to solve the Inventory Routing Problem", by Hoong Chuin LAU, Q LIU, and H. ONO, 2002, 9 -14, *18th National Conference on Artificial Intelligence (AAAI)*, Edmonton, Canada
61. "An Intelligent Brokering System to support Multi-Agent Web-Based 4th Party Logistics", by Hoong Chuin LAU and Y. G. GOH, 11/2002, Pages 154 - 161, *14th IEEE Conference on Tools with Artificial Intelligence (ICTAI)*, Washington D.C., United States
62. "Combining Two Heuristics to solve a Supply Chain Optimization Problem", by Hoong Chuin LAU and Y SONG, 07/2002, 581 - 585, *15th European Conference on Artificial Intelligence (ECAI)*, IOS Press, Lyon, France
63. "Pickup and Delivery Problem with Time Windows, Alogorithms and Test Case Generation", by Hoong Chuin LAU and Z LIANG, 11/2001, 455 - 472, *13th IEEE Conference on Tools with Artificial Intelligence*, IEEE Computer Society Press,Dallas, Texas, United States

64. "A Multi-Agent Framework for Supporting Intelligent Fourth-Party Logistics", by Hoong Chuin LAU and G LO, 08/2001, *International Conference on Integrated Logistics*, Pages 195 -200, Singapore
65. "Diversification of Search Neighborhood via Constraint-Based Local Search and Its Applications to VRPTW", by Hoong Chuin LAU, Y F LIM, and Q LIU, 04/2001, *CP-AI-OR*, Pages 361 - 374, Ashford, Kent, United Kingdom
66. "Solving a Supply Chain Optimization Problem Collaboratively", by Hoong Chuin LAU, A L C LIM, and Q LIU, 2000, 780 - 785, *17th National Conference on Artificial Intelligence (AAAI)*, Austin, United States
67. "Collaborative Model and Algorithms for supporting Real-Time Distribution Logistics System", by Hoong Chuin LAU and Q LIU, 1999, *CP99 Workshop on Large-Scale Optimization and Constraints*, Alexandria, United States
68. "Ant Colony Optimization for the Ship Berthing Problem", by J.T CHIA, Hoong Chuin LAU, and A L C LIM, 12/1999, *ASIAN Computing Science Conference (ASIAN), Lecture Notes in Computer Science 1742*, P.S Thiagarajan, Springer-Verlag, Pages 359 -370, Phuket, Thailand
69. "An Efficient Near-Exact Algorithm for Large-scale Vehicle Routing with Time Windows", by Q LIU and Hoong Chuin LAU, 10/1998, *5th World Congress on ITS*, Seoul, South Korea
70. "Traffic Prediction in Intelligent Vehicle Highway Systems", by X. WU and Hoong Chuin LAU, 08/1998, *International Conference on System Science and System Engineering*, Pages 424 - 429, Beijing, China
71. "An Efficient Technique for Routing of Vehicles Reactively", by Hoong Chuin LAU and D SEAH, 05/1998, *ITSA Eighth Annual Meeting and Exposition (ITS America)*, Detroit, Michigan, United States
72. "Randomized Approximations of the Constraint Satisfaction Problem", by Hoong Chuin LAU and O WATANABE, 1996, *5th Scandinavian Workshop on Algorithm Theory (SWAT), Lecture Notes in Computer Science 1097*, R.Karlsson and A.Lingas (ed), Springer-Verlag, Reyjavik, Iceland
73. "A New Approach for Weight Constraint Satisfaction", by Hoong Chuin LAU, 1996, *2nd International Conference Principle and Practice of Constraint Programming, Lecture Notes in Computer Science 1118*, E.Freuder (ed), Springer-Verlag, Pages 323 -337, Boston, United States
74. "Probabilistic Analysis of Local Search for Random Instances of Constraint Satisfaction problem", by Hoong Chuin LAU, 1996, 195 -199, *12th European Conference on Artificial Intelligence*, W. Wahlster (ed), Budapest, Hungary
75. "Probabilistic Analysis of Local Search and NP-Completeness Results for Constraint Satisfaction", by Hoong Chuin LAU, 1996, *2nd International Conference on Computing and Combinatoric, Lecture Notes in Computer Science 1090*, J. Cai and C.K Wong (ed), Springer-Verlag, Pages 371 - 380, Hong Kong
76. "Approximation of Constraint Satisfaction via Local Search", by Hoong Chuin LAU, 1995, *4th Workshop on Algorithms and Data Structures (WADS), Lecture Notes in Computer Science 955*, S.Akl et al (ed), Springer-Verlag, Kingston, Ontario, Canada
77. "Manpower Scheduling with Shift Change Constraints", by Hoong Chuin LAU, 1994, *5th International Symposium on Algorithms and Computation (ISAAC), Lecture Notes in Computer Science 834*, D.Z Du and X.S Zhang, Springer-Verlag, Beijing, China
78. "Preference-based Scheduling via Constraint Satisfaction", by Hoong Chuin LAU, 1992, *Optimization Techniques and Applications (ICOTA)*, Phua et al (ed), Singapore: World Scientific

79. "Unit-Capacity Vehicle Scheduling via Constraint Satisfaction", by Hoong Chuin LAU and S C WONG, 10/1992, *Singapore International Conference on Intelligent Systems (SPICIS)*, Pages 243 - 248, Singapore

Invited Talks

1. Multi-Agent Coordination in Humanitarian and Emergency Response Logistics. AAAI Fall Symposium Workshop on Multiagent Coordination Under Uncertainty, Arlington, USA, November 2011
2. Real World Project Management : How to Efficiency Generate a Robust Schedule? Distinguished Speaker Series, Leeds School of Business, University of Colorado (Boulder), USA, December 2010
3. Master Physician Scheduling Problem. Invited presentation at Asia Pacific Workshop on Decision Support Technology, Taipei, Republic of China, September 2010
4. Recent Advances in Meta-heuristics for Handling Uncertainty. Invited presentation at Special Conference on Methods and Applications of Metaheuristics, Guangzhou, China, December 2009
5. A Combinatorial Auction Framework for Solving Decentralized Resource Allocation and Scheduling. Invited presentation at DiCoMAS Seminar on New Approaches to Planning and Scheduling, Brussels, Belgium, November 2009
6. Optimising Performance In Logistics And Supply Chains Through Real-Time Optimisation Technology, Invited talk at Defense Logistics Summit (Middle East), Abu Dhabi, UAE, January 2009
7. Ministry of Defence (Singapore) d-Logistics seminar (2002, 2003, 2004, 2006, 2008)

Conference Presentations

1. "Decentralized Resource Allocation and Scheduling via Walrasian Auctions with Negotiable Agents", by Hoong Chuin LAU, 07/2010, *European Conference on Operational Research*, Lisbon, Portugal
2. "Combinatorial auction for multi-period distributed resource allocation", by Shih-Fen CHENG, Hoong Chuin LAU, and Thin Yin LEONG, 11/2007, *INFORMS Annual Meeting*, Seattle, WA, USA
3. "Multi-Period Combinatorial Auctions for Distributed Resource Allocation.", by Hoong Chuin LAU, 07/2007, *22nd European Conference on Operational Research*, Prague, Czech Republic
4. "iMDF: Intelligent Meta-heuristics Development Framework", by Hoong Chuin LAU, 07/2006, *19th Intl Symposium on Mathematical Programming (ISMP)*, Rio de Janeiro, Brazil
5. "A Development Framework for Rapid Meta-heuristics Hybridization", by Hoong Chuin LAU, 07/2005, *17th Triennial Conference of the IFORS*, Hawaii, USA
6. "A Generic Object-Oriented Tabu Search Framework,", by Hoong Chuin LAU, 07/2003, *EURO/INFORMS Joint International Meeting*, Istanbul, Turkey
7. "Diversification of Search Neighborhood via Constraint-Based Local Search and Its Applications to VRPTW", by Hoong Chuin LAU, 2000, *INFORMS Annual Meeting*, Salt Lake City, USA

Conducting Workshops

1. SMU-SimTech Joint Workshop on "Services Analytics and Applications", July 2009
2. SMU-SimTech Joint Workshop on "Trends in Planning and Scheduling", August 2008
3. SMU-TLIAP Joint Workshop on "Agents in Supply Chain Management", August 2007
4. Defense Logistics Workshop, May 2006
5. Defense Logistics Workshop, October 2004
6. Military Focussed Supply Chain Management Seminar, January 2004

Courses Taught - Ph. D

1. Decision Support and Optimization
2. Advanced Topics in Intelligent Decision Support

Courses Taught - Masters

1. Combinatorial and Graph Algorithms

Courses Taught - Undergraduate

1. Design and Analysis of Algorithms
2. Software Design Methodology
3. Computer as an Analysis Tool
4. Guided Research (Coordinator), Now
5. Enterprise Adaptive Decision Support , Now

Executive Teaching

1. Applied Algorithmics

Thesis Student (Ph. D)

1. Steven Halim Visualization of Local Search Trajectory (NUS), 2004 - 2010
2. Ramesh Thangarajoo Hybrid Techniques for Emergency Response Optimization (NUS), 2005 - 2010
3. Zhao Zhengyi Auctions for Decentralized Job Scheduling (NUS), 2006 - 2010
4. Fu Na, Scheduling Under Uncertainty, July 2007 - July 2011
5. Lindawati, Automated Parameter Tuning in Meta-Heuristics, July 2008 - July 2012

6. Mike Liow. Online Advertisement Scheduling in Social Networks, July 2009 - July 2013
7. Tan Kar Way. Improving Service Performance through Robust Optimization, January 2010 - January 2014

Master Student Supervision

1. Melvyn Sim. Over-constrained Vehicle Routing with Time Windows Part I (MSc, SMA)
2. Teo Kwong Ming Over-constrained Vehicle Routing with Time Windows Part II (MSc, SMA)
3. Song Huawei Corrective Maintenance of Military Systems (MSc, SOC)
4. Sankaran Sri Nivas Transportation Planning and Modeling of SembLog India Operations (MSc, TLI-AP)
5. Lim Min Kwang Ant-Colony Meta-Heuristics: Schemes and Software Framework (MSc, SOC)
6. Wu Xiaotao Transport Planning with Service Constraints (MSc, SOC)
7. Wang Hui Two Agent-Based Approaches for Solving Multi-Objective Optimization Problems (MSc, SOC)
8. Ng Yong Jin Stolt Tank Containers: Best Route Solutions (MSc, TLI-AP)
9. Que Youguang Transportation Management and Modeling of SembLog China Operations (MSc, TLI-AP)
10. Soh Guan Li A Pickup and Delivery Problem in a Military Transportation Context (MSc, TLI-AP)
11. Wan Wee Chong Meta-Heuristics Development Framework: Design and Applications (MSc, SOC)
12. Li Jia Robust Controllability of Temporal Constraint Network Under Uncertainty (MSc, SOC)
13. Feng Guang Algorithms for Scheduling Problems with Weighted Earliness/Tardiness Penalty (MSc, SOC)
14. Thomas Ou Robust Meta-Heuristics Framework (MSc, TLI-AP)
15. Lucas Agussurja Scheduling Games Complexity and Algorithms (MSc, SOC)
16. Ngyuen Duc Thien, To be determined (MSc, SMU), 2011 - 2013