

Yeh-Ching Chung, Professor
Department of Computer Science, National Tsing Hua University
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Research Interests

- Cloud Computing: Virtualization Techniques (CPUs, GPUs, Memory, Storage, and Network), Big Data, 5G/IoT Cloud Platform
 - Embedded Systems: Tool-Chain for Heterogeneous System Architecture (Compilers, Emulators, and Debuggers), Virtualization for Heterogeneous System Architecture, Embedded Virtual Platform
 - Parallel and Distributed Systems: Parallelizing Compilers, Parallel I/O and File Systems, P2P, HLA, and Grid Computing
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Education

- Ph.D. in Computer and Information Science (December 1992), Syracuse University
 - M.S. in Computer Science (December 1988), Syracuse University
 - B.S. in Computer Science (June 1983), Chung-Yuan Christian University
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Experience

- Professor – Department of Computer Science, National Tsing Hua University, Hsinchu, Taiwan 30013, ROC (Since August 2002)
 - Deputy Director – Library, National Tsing Hua University, Hsinchu, Taiwan 30013, ROC (December 2003 – July 2012)
 - Deputy Director – Computer and Communication Research Center, National Tsing Hua University, Hsinchu, Taiwan 30013, ROC (Since August 2008)
 - Director General – Taiwan Association of Cloud Computing (March 2007 – February 2011)
 - Professor – Department of Information Engineering and Computer Science, Feng Chia University, Taichung, Taiwan 407, ROC (July 1999 – July 2002)
 - Associate Professor – Department of Information Engineering and Computer Science, Feng Chia University, Taichung, Taiwan 407, ROC (August 1992 – June 1999)
 - Director – Networking Division, Computer Center, Feng Chia University, Taichung, Taiwan 407, ROC (January 1994 – July 1997)
 - Director – Education Division, Computer Center, Feng Chia University, Taichung, Taiwan 407, ROC (August 1993 – December 1993)
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Professional Societies Membership

- IEEE Senior Member, IEEE Computer Society
 - ACM, ACM SIGBED
 - Taiwan Association Cloud Computing (TACC)
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Grants (Since 2003)

- Smart City (MoST)
Date of the award: August 2014
Amount of the award: NT\$5,000,000 (with CT King et al)
- 5G/ToT Cloud Platform (ITRI)
Date of the award: October 2014
Amount of the award: NT\$2,000,000
- High-Performance Big Data Appliance (NSC)
Date of the award: February 2014
Amount of the award: NT\$8,000,000
- A Hybrid Just-in-Time Compilation for Android System (NSC)
Date of the award: August 2013
Amount of the award: NT\$800,000
- The Automatic workflow Deployment on Cloud Platform (III)
Date of the award: April 2013
Amount of the award: NT\$800,000
- Virtualization Techniques for ARM Processors (NSC)
Date of the award: December 2012 (4 years)
Amount of the award: NT\$26,000,000
- Cloud Platforms for HPC Applications (Quanta Computer Corporation)
Date of the award: August 2012
Amount of the award: NT\$7,900,000
- Distributed File System (NSC)
Date of the award: August 2012
Amount of the award: NT\$761,000
- DCloud - A Distributed Cloud Middleware (Delta Electronic Corporation)
Date of the award: August 2011 (3 years)
Amount of the award: NT\$36,000,000
- Development of HLA-based Simulation System using Distributed Computing Techniques (NSC)
Date of the award: January 2011
Amount of the award: NT\$797,000

- UniCloud: A Distributed Cloud Computing Middleware (NSC)
Date of the award: August 2010
Amount of the award: NT\$1,349,000
- UniCloud-Subproject C1: Storage Virtualization (NSC)
Date of the award: August 2010
Amount of the award: NT\$945,000
- A Volunteer Computing System for Computer Games and its Applications (NSC)
Date of the award: August 2010 (3 years)
Amount of the award: NT\$2,528,000 (with I.C. Wu et al.)
- The Design of Desktop Grids in the Volunteer Computing System (NSC)
Date of the award: August 2010 (3 years)
Amount of the award: NT\$2,206,000 (with I.C. Wu)
- Ontology on Monte Carlo Tree Search and Applications (NSC)
Date of the award: January 2010 (3 years)
Amount of the award: NT\$7,181,000 (with C.S. Lee)
- A P2P HLA RTI Design (NSC)
Date of the award: January 2009
Amount of the award: NT\$851,000
- Home-Grid: A Pervasive P2P Based Personal Health-Care Grid System (NSC)
Date of the award: November 2008 (3 years)
Amount of the award: NT\$20,171,000
- NTHU-MTK Embedded System Lab (MediaTek Corporation)
Date of the award: August 2008 (5 years)
Amount of the award: NT\$60,000,000 (with J.M. Shyu)
- ESL Based Developing and Verification Environment for Embedded Multicore Systems (NSC)
Date of the award: August 2008 (2 years)
Amount of the award: NT\$3,226,000 (with J.M. Shyu)
- Pisces: A P2P Meta-Grid System (NSC)
Date of the award: August 2007 (3 years)
Amount of the award: NT\$3,260,000
- Virtual Battlefield (Chung-Shang Institute of Science and Technology)
Date of the award: January 2007 (2 years)
Amount of the award: NT\$4,342,000
- A Wireless Sensor Network for Landslides Monitoring (NSC)
Date of the award: November 2006 (3 years)
Amount of the award: NT\$12,884,000 (with Pai Chou et al.)

- MultiFed – A Scalable HLA RTI System (Chung-Shang Institute of Science and Technology)
Date of the award: January 2006 (3 years)
Amount of the award: NT\$4,220,000
- Medicare Grid – A Grid Based E-health System (NSC)
Date of the award: November 2005 (3years)
Amount of the award: NT\$20,802,000
- Design a Fat-Tree Based Cluster System (NSC)
Date of the award: August 2005 (2years)
Amount of the award: NT\$1,221,000
- An Intelligent Sensor Network and its Applications (Ministry of Economic Affairs)
Date of the award: June 2005 (3 years)
Amount of the award: NT\$69,000,000 (with C.T. King et al.)
- StarFish – An Ultralow power DSP (Ministry of Economic Affairs)
Date of the award: June 2005 (3 years)
Amount of the award: NT\$55,000,000 (with Y.L. Lin et al.)
- Taiwan UniGrid – A University Grid In Taiwan (NCHC)
Date of the award: January 2005 (2years)
Amount of the award: NT\$4,040,000
- A general Purpose Sensor Platform Design (NSC)
Date of the award: August 2004 (3years)
Amount of the award: NT\$4,821,100
- Overlay Network Technology and Applications (NSC)
Date of the award: April 2004 (4 years)
Amount of the award: NT\$27,042,400 (with C.T. King et al.)
- A Data Grid System for Data Streaming Applications Based on Microsoft Windows (Microsoft)
Date of the award: January 2004
Amount of the award: NT\$1,800,000
- HPC Technology and Applications Based on Microsoft Windows (Microsoft)
Date of the award: January 2003
Amount of the award: NT\$2,400,000

Awards

- 2014 NTHU Distinguished Industry-Academy Cooperation Award for excellent contribution to the Big Data

- 2012 NTHU Distinguished Industry-Academy Cooperation Award for excellent contribution to the Cloud Computing
- 2012 NCHC Student Cluster Competition Champion
- 2011 ICPADS best paper award. Paper title "PQEMU: A Parallel System Emulator Based on QEMU"
- 2011 ACM/IEEE Supercomputing conference (SC'11) Student Cluster Competition overall winner
- 2011 NCHC Student Cluster Competition Champion
- 2010 ACM/IEEE Supercomputing Conference (SC'10) Student Cluster Competition overall winner
- 2010 Embedded System – Hardware/Software Co-Design Contest Champion, Ministry of Education of ROC
- 2008 Chung-Shang Institute of Science and Technology Distinguished Academy Cooperation Award for excellent contribution to the High Level Architecture System Design

Book Chapters

1. Kuo-Chan Huang, Po-Chi Shih, and **Yeh-Ching Chung**, "Effective Resource Allocation and Job Scheduling Mechanisms for Load Sharing in a Computational Grid", *Handbook of Research on Grid Technologies and Utility Computing: Concepts for Managing Large-Scale Applications*, Edited by Emmanuel Udoh and Frank Zhigang Wang, pp. 31-40, Information Science Publishing, May 31, 2009, (ISBN: 978-1605661841).
 2. Kuo-Chan Huang, Po-Chi Shih, and **Yeh-Ching Chung**, "QoS-based Job Scheduling and Resource Management Strategies for Grid Computing," *Quantitative Quality of Service for Grid Computing: Applications for Heterogeneity, Large-Scale Distribution, and Dynamic Environments*, Edited by Lizhe Wang, Jinjun Chen, and Wei Jie, pp. 110-127, Information Science Publishing, May 5, 2009 (ISBN: 978-1605663708).
 3. William C. Chu, Chih-Hong Chang, Chih-Wei Lu, H. Yang, H.C. Jiau, **Yeh-Ching Chung**, and B. Qiao, "Enhanceing Software Maintainability by Unifying and Integrating Standards," *Advances in Software Maintenance Management: Technologies and Solutions*, pp. 114-150, Idea Group Publishing, 2002.
 4. Chih-Wei Lu, William C. Chu, Chih-Hong Chang, **Yeh-Ching Chung**, X. Liu, and H. Yang, "Reverse Engineering," *Handbook of Software Engineering and Knowledge Engineering*, Vol. 2, pp. 447-466, 2002.
 5. William C. Chu, Chih-Wei Lu, Chih-Hong Chang, and **Yeh-Ching Chung**, "Pattern-Based Software Reengineering," *Handbook of Software Engineering and Knowledge Engineering*, Vol. 1, pp.767-786, 2001.
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Journal Publications

- J1. Kenn Slagter, Ching-Hsien Hsu, and **Yeh-Ching Chung**, "SmartJoin: A Network-Aware Multiway Join for MapReduce," To appear in *Cluster Computing*. (SCI, EI)
- J2. Yu-Shiang Lin, Chun-Yuan Lin, Che-Lun Hung, **Yeh-Ching Chung**, and Kual-Zheng Lee, "GPU-UPGMA: High-Performance Computing for UPGMA Algorithm Based on Graphics Processing Units," Accepted by *Concurrency and Computation: Practice and Experience*. (SCI, EI)
- J3. Ssu-Hsuan Lu, Kuan-Chou Lai, Kuan-Ching Li, and **Yeh-Ching Chung**, "A Scalable P2P Overlay Based on Arrangement Graph with Minimized Overhead," *Peer-to-Peer Networking and Applications*, Vol. 7, No. 4, December 2014, pp. 497-510. (SCI, EI)
- J4. Wu-Chun Chung, Hung-Pin Lin, Shih-Chang Chen, Mon-Fong Jang, and **Yeh-Ching Chung**, "JackHare: A Framework for SQL to NoSQL Translation Using MapReduce," *Automated Software Engineering*, Vol. 21, No. 4, December 2014, pp. 489-508. (SCI, EI)
- J5. Ching-Jung Hsu, Wu-Chun Chung, Kuan-Chou Lai, Kuan-Ching Li, and **Yeh-Ching Chung**, "On Maintenance of Cooperative Overlays in Multi-Overlay Networks," *IET Communications*, Vol. 8, No. 15, October 2014, pp. 2676-2683. (SCI, EI)
- J6. Shih-Hsiang Lo, Che-Rung Lee, Quey-Liang Kao, I-Hsin Chung, and **Yeh-Ching Chung**, "Improving GPU Memory Performance with Artificial Barrier Synchronization," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 25, No. 9, September 2014, pp. 2342-2352. (SCI, EI)
- J7. Kenn Slagter, Ching-Hsien Hsu, and **Yeh-Ching Chung**, "SmartJoin: A Network-Aware Multiway Join for MapReduce," *Cluster Computing*, Vol. 17, No. 3, September 2014, pp. 629-641. (SCI, EI)
- J8. Xuan-Yi Lin and **Yeh-Ching Chung**, "Master-Worker Model for MapReduce Paradigm on the TILE64 Many-Core Platform," *Future Generation Computer Systems*, Vol. 36, July 2014, pp. 19-30. (SCI, EI)
- J9. Jiun-Hung Ding, Roger Chien, Shih-Hao Hung, Yi-Lan Lin, Che-Yang Kuo, Ching-Hsien Hsu, and **Yeh-Ching Chung**, "A Framework of Cloud-based Virtual Phones for Secure Intelligent Information Management," *International Journal of Information Management*, Vol. 34, June 2014, pp. 329-335. (SCI, EI)
- J10. Ssu-Hsuan Lu, Kuan-Chou Lai, Kuan-Ching Li, and **Yeh-Ching Chung**, "Effectiveness of a Replica Mechanism to Improve Availability with Arrangement Graph-Based Overlay," *Journal of Network and Computer Applications*, Vol. 41, May 2014, pp. 441-450. (SCI, EI)
- J11. Jiun-Hung Ding, Ya-Ting Chang, Zhoudong Kuo, Kuan-Ching Li, and **Yeh-Ching Chung**, "An Efficient and Comprehensive Scheduler on Asymmetric Multicore Architecture Systems," *The Journal of System Architecture*, Vol. 60, No. 3, March 2014, pp. 305-314. (SCI, EI)
- J12. Ding-Yong Hong, Jan-Jan Wu, Pen-Chung Yew, Wei-Chung Hsu, Chun-Chen Hsu, Pangfeng Liu, Chien-Min Wang, and **Yeh-Ching Chung**, "Efficient and Retargetable Dynamic Binary Translation on Multicores," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 25, No. 3, March 2014, pp. 622-632. (SCI, EI)

- J13. Ching-Hsien Hsu, Kenn Slagter, Shih-Chang Chen, **Yeh-Ching Chung**, "Optimizing Energy Consumption with Task Consolidation in Clouds," *Information Sciences*, Vol. 258, February 2014, pp. 452–462. (SCI, EI)
- J14. Po-Chi Shih, Kuo-Chan Huang, Che-Rung Lee, I-Hsin Chung, and **Yeh-Ching Chung**, "TLA: Temporal Look-Ahead Processor Allocation Method for Heterogeneous Multi-Cluster Systems," *Journal of Parallel and Distributed Computing*, Vol. 73, No. 12, December 2013, pp. 1661-1672. (SCI, EI)
- J15. Kenn Slagter, Ching-Hsien Hsu, and **Yeh-Ching Chung**, Daqiang Zhang, "An Improved Partitioning Mechanism for Optimizing Massive Data Analysis Using MapReduce," *The Journal of Supercomputing*, Vol. 66, No. 1, October 2013, pp. 539-555. (SCI, EI)
- J16. Wu-Chung Chung, Kuan-Chou Lai, Kuan-Ching Li, and **Yeh-Ching Chung**, "Direction-Aware Resource Discovery in Large-Scale Distributed Computing Environments," *The Journal of Supercomputing*, Vol. 66, No. 1, October 2013, pp. 229-248. (SCI, EI)
- J17. Yu-Wei Chan, Feng-Tsun Chien, Ronald Y. Chang, Min-Kuan Chang, **Yeh-Ching Chung**, "Spectrum Sharing in Multi-Channel Cooperative Cognitive Radio Networks: A Coalitional Game Approach," *ACM/Springer Wireless Networks*, Vol. 19, No. 7, October 2013, pp. 1553-1562. (SCI, EI)
- J18. Xuan-Yi Lin, Kuan-Chou Lai, Kuan-Ching Li, and **Yeh-Ching Chung**, "Efficient Programming Paradigm for Video Streaming Processing on TILE64 Platform," *The Journal of Supercomputing*, Vol. 65, No. 2, August 2013, pp. 823-847. (SCI, EI)
- J19. Shih-Hsiang Lo, Che-Rung Lee, I-Hsin Chung, and **Yeh-Ching Chung**, "Optimizing Pairwise Box Intersection Checking on GPUs for Large-Scale Simulations," *ACM Transactions on Modeling and Computer Simulation*, Vol. 23, No. 3, Article 19, July 2013. (SCI, EI)
- J20. Wu-Chun Chung, Yi-Hsiang Lin, Kuan-Chou Lai, Kuan-Ching Li, and **Yeh-Ching Chung**, "SARIDS: A Self-Adaptive Resource Index and Discovery System," *International Journal of Ad Hoc and Ubiquitous Computing*, Vol. 10, No. 2, July 2012, pp. 74-83(10). (SCI, EI)
- J21. Po-Chi Shih, Kuo-Chan Huang, and **Yeh-Ching Chung**, "Improving Processor Allocation in Heterogeneous Computing Grid through Considering Both Speed Heterogeneity and Resource Fragmentation," *The Journal of Supercomputing*, Vol. 60, No. 3, May 2012, pp. 311-337. (SCI, EI)
- J22. Jiazheng Zhou, Shen-En Liu, and **Yeh-Ching Chung**, "A Hardware Supported Multicast Scheme Based on XY Routing for 2-D Mesh InfiniBand Networks," *The Journal of Supercomputing*, Vol. 59, No. 2, February 2012, pp. 901-919. (SCI, EI)
- J23. Jiazheng Zhou and **Yeh-Ching Chung**, "Tree-Turn Routing: An Efficient Deadlock-Free Routing Algorithm for Irregular Networks," *The Journal of Supercomputing*, Vol. 59, No. 2, February 2012, pp. 882-900. (SCI, EI)
- J24. Wei-Chung Shia, Tien-Hsiung Ku, Yu-Ming Tsao, Chien-Hsun Hsia, Yung-Ming Chang, Ching-Hui Huang, **Yeh-Ching Chung**, Shih-Lan Hsu, Kae-Woei Liang, and Fang-Rong Hsu, "Genetic Copy Number Variants in Myocardial Infarction Patients with Hyperlipidemia," *BMC Genomics*, Vol. 12 (Suppl 3):S23, November 2011. (SCI, MEDLINE)

- J25. I-Hsin Chung, Che-rung Lee, Jiazheng Zhou, and **Yeh-Ching Chung**, "Hierarchical Mapping for HPC Applications," *Parallel Processing Letter*, Vol. 21, No. 3, 2011, pp. 279-299. (SCI, EI)
- J26. Chin-Jung Hsu, Wu-Chun Chung, Kuan-Chou Lai, Kuan-Ching Li, and **Yeh-Ching Chung**, "Cooperative Failure Detection in Multi-Overlay Environments," *Journal of Internet Technology*, Vol. 12, No. 2, March 2011, pp. 259-267. (SCI, EI)
- J27. Che-Lun Hung, Chihan Lee, Chun-Yuan Lin, Chih-Hung Chang, Yeh-Ching Chung, and Chuan Yi Tang, "Feature Amplified Voting Algorithm for Functional Analysis of Protein Superfamily," *BMC Genomics*, Vol. 11 (Suppl 3):S14, December 2010. (SCI, MEDLINE)
- J28. Wu-Chun Chung, Chin-Jung Hsu, Yi-Shiang Lin, Kuan-Chou Lai, and **Yeh-Ching Chung**, "G2G: A Meta-Grid Framework for the Convergence of P2P and Grids," *International Journal of Grid and High Performance Computing*, Vol. 2, No. 3, July-September 2010, pp. 1-16.
- J29. Yu-Wei Chan, Tsung-Hsuan Ho, and **Yeh-Ching Chung**, "Malugo: A Peer-to-Peer Storage System," *International Journal of Ad Hoc and Ubiquitous Computing*, Vol. 5, No. 4, April 2010, pp. 209-218. (SCI, EI)
- J30. Yu-Wei Chan, Chih-Han Lai, and **Yeh-Ching Chung**, "A Construction of Peer-to-Peer Streaming System Based on Flexible Locality-Aware Overlay Networks," *International Journal of Pervasive Computing and Communications*, Vol. 6, No. 1, January-March 2010, pp. 104-124.
- J31. Chun-Hsien Wu and **Yeh-Ching Chung**, "A Polygon Model for Wireless Sensor Network Deployment with Directional Sensing Areas," *Sensors*, Vol. 9, No. 12, December 2009, pp. 9998-10022. (SCI, EI, NSC 98-2218-E-007-005, MOEA 96-EC-17-A-04-S1-044)
- J32. Kuo-Chan Huang, Po-Chi Shih, and **Yeh-Ching Chung**, "Adaptive Processor Allocation for Moldable Jobs in Computational Grid," *International Journal of Grid and High Performance Computing*, Vol. 1, No. 1, January-March 2009, pp. 10-21.
- J33. Chun-Hsien Wu, Kuo-Chuan Lee, and **Yeh-Ching Chung**, "A Delaunay Triangulation Based Method for Wireless Sensor Network Deployment," *Computer Communications*, Vol. 30, No. 15, October, 2007, pp. 2744-2752. (SCI, EI, NSC94-2213-E-007-037, MOEA 94-EC-17-A-04-S1-044)
- J34. Chun-Yuan Lin and **Yeh-Ching Chung**, "Data Distribution Schemes of Sparse Arrays on Distributed Memory Multicomputers," *The Journal of Supercomputing*, Vol. 41, No. 1, July 2007, pp. 63-87. (SCI, EI, NSC90-2213-E-035-019)
- J35. Jiazheng Zhou, Xuan-Yi Lin, and **Yeh-Ching Chung**, "Hardware Supported Multicast for Fat-Tree-Based InfiniBand Networks," *The Journal of Supercomputing*, Vol. 40, No. 3, June 2007, pp. 333-352. (SCI, EI, NSC93-2213-E-007-100)
- J36. Chin-Feng Lin, **Yeh-Ching Chung**, and Don-Lin Yang, "TRLE - An Efficient Data Compression Scheme for Image Composition of Volume Rendering on Distributed Memory Multicomputers," *The Journal of Supercomputing*, Vol. 39, No.3, March 2007, pp. 321-345. (SCI, EI)
- J37. Jen-shiuh Liu, Zhi-Jian Lee, and **Yeh-Ching Chung**, "Dynamic Probabilistic Packet Marking for Efficient IP Traceback," *Computer Networks*, Vol. 51, March 2007, pp. 866-882. (SCI, EI)

- J38. Chun-Yuan Lin and **Yeh-Ching Chung**, "Efficient Data Distribution Schemes for Multi-Dimensional Sparse Arrays," *Journal of Information Science and Engineering*, Vol. 23, No. 1, January 2007, pp. 315-327. (SCI, EI, NSC91-2213-E-007-104)
- J39. Chi-Sheng Shih, Shiao-Li Tsao, **Yeh-Ching Chung**, and Shyh-In Hwang, "Toward HW/SW Integration: a Networked Embedded System Course in Taiwan," *ACM SIGBED Review*, Vol. 4, No. 1, January 2007, pp. 36-54.
- J40. Tai-Yi Huang, Kuang-Li Huang, and **Yeh-Ching Chung**, "Performance Analysis of Hard-Real_time Embedded Software," *International Journal on Embedded Systems*, Vol. 2, No. 3/4, 2006, pp. 209-221.
- J41. Min-Hsuan Fan Chua-Huang Huang, **Yeh-Ching Chung**, Jen-Shiuh Liu, and Jei-Zhii Lee, "A Programming Methodology for Designing Block Recursive Algorithms", *Journal of Information Science and Engineering*, Vol. 22, No. 1, January 2006, pp. 95-121. (SCI, EI)
- J42. Chun-Yuan Lin, **Yeh-Ching Chung**, and Jen-Shiuh Liu, "Efficient Data Distribution Schemes for *EKMR*-based Sparse Arrays on Distributed Memory Multicomputers," *The Journal of Supercomputing*, Vol. 34, No. 3, December 2005, pp. 291-313. (SCI, EI, NSC91-2213-E-007-104)
- J43. Ching-Feng Lin, Shih-Kuan Liao, **Yeh-Ching Chung**, and Don-Lin Yang, "A Rotate-Tiling Image Composition Method for Parallel Volume Rendering on Distributed Memory Multicomputers," *Journal of Information Science and Engineering*, Vol. 20, No. 4, July 2004, pp. 643-664. (SCI, EI, NSC89-2213-E-035-032)
- J44. Shih-Kuan Liao, Jim Z.C. Lai, and **Yeh-Ching Chung**, "Time-Critical Rendering for Time-Varying Volume Data," *Computers & Graphics*, Vol. 28, No. 2, April 2004, pp. 279-288. (SCI, EI)
- J45. Chun-Yuan Lin, **Yeh-Ching Chung**, and Jen-Shiuh Liu, "Efficient Data Compression Methods for Multi-Dimensional Array Operations Based on the *EKMR* Scheme," *IEEE Transactions on Computers*, Vol. 52, No. 12, December 2003, pp. 1640-1646. (SCI, EI, NSC90-2213-E-035-019)
- J46. Chun-Yuan Lin, Jen-Shiuh Liu, and **Yeh-Ching Chung**, "Efficient Data Parallel Algorithms for Multi-Dimensional Array Operations Based on the *EKMR* Scheme for Distributed Memory Multicomputers," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 14, No. 7, July 2003, pp. 625-639. (SCI, EI, NSC89-2213-E-035-007)
- J47. Shih-Kuan Liao, Chin-Feng Lin, **Yeh-Ching Chung**, and Jim Z.C. Lai, "A Differential Volume Rendering Method with Second-Order-Difference for Time-Varying-Volume-Data," *International Journal of Visual Languages and Computing*, Vol. 14, No. 3, June 2003, pp. 233-254. (SCI, EI)
- J48. Chin-Feng Lin, **Yeh-Ching Chung**, and Don-Lin Yang, "Parallel Shear-Warp Factorization Volume Rendering Using Efficient 1-D and 2-D Partitioning Schemes on Distributed Memory Multicomputers," *The Journal of Supercomputing*, Vol. 22, No. 3, July 2002, pp. 277-302. (SCI, EI, NSC89-2213-E-035-032)
- J49. Chun-Yuan Lin, Jen-Shiuh Liu, and **Yeh-Ching Chung**, "Efficient Representation Scheme for Multi-Dimensional Array Operations," *IEEE Transactions on Computers*, Vol. 51, No. 3, March 2002, pp. 327-345. (SCI, EI, NSC89-2213-E-035-007)

- J50. Shih-Kuan Liao, **Yeh-Ching Chung**, and Jim Z.C. Lai, "A Two-Level Differential Volume Rendering Method for Time-Varying-Volume-Data," *The Journal of WSCG*, Vol. 10, No. 1, February 2002, pp. 287-294.
- J51. Ching-Hsien Hsu, **Yeh-Ching Chung**, Don-Lin Yang, and Chyi-Ren Dow, "A Generalized Processor Mapping Technique for Array Redistribution," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 12, No. 7, July 2001, pp. 743-757. (SCI, EI, NSC88-2213-E-035-002)
- J52. William C. Chu, Don-Lin Yang, Jen-Chih Yu, and **Yeh-Ching Chung**, "UMPAL-An Unstructured Mesh Partitioner and Load Balancer on World Wide Web," *Journal of Information Science and Engineering*, Vol. 17, No. 4, July 2001, pp. 595-614. (SCI, EI, NSC87-2213-E-035-010)
- J53. Don-Lin Yang, Jen-Chih Yu, and **Yeh-Ching Chung**, "Efficient Compositing Methods for the Sort-Last-Sparse Parallel Volume Rendering System on Distributed Memory Multicomputers," *The Journal of Supercomputing*, Vol. 18, No. 2, February 2001, pp. 201-220. (SCI, EI, NSC89-2213-E-035-032)
- J54. Ching-Hsien Hsu, Sheng-Wen Bai, **Yeh-Ching Chung**, and Chu-Sing Yang "A Generalized Basic-Cycle Calculation Method for Array Redistribution," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 11, No. 12, December 2000, pp. 1201-1216. (SCI, EI, NSC87-2213-E-035-011)
- J55. Don-Lin Yang, **Yeh-Ching Chung**, Chih-Chang Chen, and Ching-Jung Liao, "A Dynamic Diffusion Optimization Method for Irregular Finite Element Graph Partitioning," *The Journal of Supercomputing*, Vol. 17, No. 1, August 2000, pp. 91-110. (SCI, EI, NSC87-2213-E-035-010)
- J56. Ching-Hsien Hsu, **Yeh-Ching Chung**, and Chyi-Ren Dow, "Efficient Methods for Multidimensional Array Redistribution," *The Journal of Supercomputing*, Vol. 17, No. 1, August 2000, pp. 23-46. (SCI, EI, NSC87-2213-E-035-011)
- J57. Don-Lin Yang, Ming-Hui Liu, **Yeh-Ching Chung**, and Chia-Hsien Wen, "Hybrid Interpolations to Enhance 3D Medical Image Reconstruction," *Chinese Journal of Medical and Biological Engineering*, Vol. 20, No. 1, March 2000, pp. 7-12. (NSC89-2213-E-035-032)
- J58. **Yeh-Ching Chung**, Ching-Jung Liao, and Don-Lin Yang, "A Prefix Code Matching Parallel Load Balancing Method for Solution-Adaptive Unstructured Finite Element Models on Distributed Memory Multicomputers," *The Journal of Supercomputing*, Vol. 15, No. 1, January 2000, pp. 25-50. (SCI, EI, NSC87-2213-E-035-010)
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- C81. Don-Lin Yang, Jen-Chih Yu, Chih-Chang Chen, and **Yeh-Ching Chung**, "UMPAL-An Unstructured Mesh Partitioner and Load Balancer on World Wide Web," *Proceedings of The Sixth National Computational Fluid Dynamics Conference*, Taiwan, Aug. 1999, pp. 136-143.

- C82. William C. Chu , Chih-Wei Lu , Chih-Hung Chang , Ching-Jung Liao , and **Yeh-Ching Chung**, "A Parallel Program Generation Environment for Solving PDEs on Distributed Memory Computing Environments," *Proceedings of International Conference on Software Engineering and Knowledge Engineering*, USA, June 1999, pp. 142-147.

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- C84. Ching-Hsien Hsu, **Yeh-Ching Chung**, and Chyi-Ren Dow, "A Generalized Processor Mapping Technique for Array Redistribution," *Proceedings of Workshop on Compiler Techniques for High-Performance Computing*, Taiwan, March 1999, pp. 83-92. (NSC88-2213-E-035-002)

- C85. Ching-Hsien Hsu, **Yeh-Ching Chung**, and Chyi-Ren Dow, "Packing/Unpacking Information for Efficient Generalized $kr \rightarrow r$ and $r \rightarrow kr$ Array Redistribution," *Proceedings of IEEE Symposium on the Frontiers of Massively Parallel Computation*, USA, Feb. 1999, pp.89-97. (NSC87-2213-E-035-011)

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- C87. J.-S. Liu and **Yeh-Ching Chung**, "Lottery Drawing," *Proceedings of International Computer Symposiums on Algorithms (ICS)*, Taiwan, Dec. 1998, pp. 75-82.
- C88. **Yeh-Ching Chung**, Ching-Hsien Hsu, Sheng-Wen Bai, and Chu-Shing Yang "A Generalized Basic-Cycle Calculation Technique for Array Redistribution," *Proceedings of IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, Taiwan, Dec. 1998, pp. 640-647. (NSC87-2213-E-035-011)
- C89. **Yeh-Ching Chung**, Ching-Jung Liao, Chih-Chang Chen, and Don-Lin Yang "A Dynamic Diffusion Optimization Method for Irregular Finite Element Graph Partitioning", *Proceedings of IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN)*, Australia, Dec. 1998, pp. 423-428. (NSC87-2213-E-035-010)
- C90. **Yeh-Ching Chung** and Ching-Hsien Hsu, "Efficient Methods for Multidimensional Array Redistribution," *Proceedings of IEEE International Conference on Parallel Architectures and Compilation Techniques (PACT)*, France, Oct. 1998, pp. 410-417. (NSC87-2213-E-035-011)
- C91. **Yeh-Ching Chung** and Ching-Jung Liao, "A Prefix Code Matching Parallel Load Balancing Method for Solution-Adaptive Unstructured Finite Element Models on Distributed Memory Multicomputers," *Proceedings of IEEE International Conference on Parallel Processing (ICPP)*, USA, August 1998, pp. 510-517. (NSC87-2213-E-035-010)
- C92. **Yeh-Ching Chung** and Ching-Jung Liao, "Tree-Based Load Balancing Methods for Solution-Adaptive Unstructured Finite Element Models on Distributed Memory Multicomputers," *Lecture Notes in Computer Science 1457* (Proceedings of Irregular'98), USA, August 1998, pp. 92-103. (NCHC-86-08-021)
- C93. D.L. Yang, C.C. Liu, **Yeh-Ching Chung**, J.S. Liu, C.R. Dow, C.F. Lin, 1998, "A Multicomputer System on Campus Networks", *Proceedings of Workshop on Distributed System Technologies & Applications*, Taiwan, May 1998, pp. 275-279.
- C94. **Yeh-Ching Chung** and Ching-Hsien Hsu, "Efficient Methods for $kr \rightarrow r$ and $r \rightarrow kr$ Array Redistribution," *Proceedings of IEEE International Computer Software and Applications Conference (COMPSAC)*, USA, August 1997, pp. 82-87. (NSC86-2213-E-035-23)
- C95. **Yeh-Ching Chung** and Ching-Hsien Hsu, "Message Encoding Techniques for Efficient Array Redistribution," *Proceedings of IEEE International Conference on Parallel Processing (ICPP)*, USA, August 1997, pp. 150-153. (NSC86-2213-E-035-23)
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- C97. Ching-Jung Liao, Chin-Feng Lin, and **Yeh-Ching Chung**, "A Parallel Recursive H/V Partitioning Method for Mapping Unstructured Finite Element Graphs on Processor Meshes," *Proceedings of International Computer Symposium on Distributed Systems, Software Engineering, and Database Systems (ICS)*, Taiwan, Dec. 1996, pp. 232-239. (NCHC-86-08-021)
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- C99. Chia-Cheng Liu, Yue-Che Chuang, Ching-Jung Liao, and **Yeh-Ching Chung**, "A LogP Model Implementation of the Collective Communication of MPI on A Cluster of Workstations," *Proceedings of The Second Workshop on Compiler Techniques for High Performance Computing (CTHPC)*, Taiwan, March 1996, pp. 87-95. (NSC85-2213-E-035-018)
- C100. **Yeh-Ching Chung**, Ching-Jung Liao, Shih-Jey Chen, and Chia-Cheng Liu, "A Prototype of Message-Passing Compiler with MPI standard for a Cluster of Workstations," *Proceedings of The First Workshop on Compiler Techniques for High Performance Computing (CTHPC)*, Taiwan, February 1995, pp. 24-29.
- C101. **Yeh-Ching Chung**, Yaa-Jyun Yeh, and J.-S.Liu, "A Parallel Dynamic Load Balancing Algorithm for Solution-Adaptive Finite Element Meshes on 2D-Tori," *Proceedings of International Computer Symposiums (ICS)*, Taiwan, Dec. 1994, pp.967-972. (NSC84-408-E-035-005)
- C102. **Yeh-Ching Chung**, Yaa-Jyun Yeh, and Chia-Cheng Liu, "A Parallel Run-Time Iterative Load Balancing Algorithms for Solution-Adaptive Finite Element Meshes on Hypercubes," *Proceedings of IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, Taiwan, Dec. 1994, pp.210-215. (NSC84-408-E-035-005)
- C103. **Yeh-Ching Chung** and Sanjay Ranka, "A Compile-Time Optimization Approach for Scheduling of Tasks on Distributed Memory Multiprocessors," *Proceedings of IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, Taiwan, Dec. 1993, pp.87-91.
- C104. **Yeh-Ching Chung** and Sanjay Ranka, "A Parallel Program Design Tool for Single Program Multiple Data Model on Distributed Memory Multiprocessors," *Proceedings of IEEE Hawaii International Conference on System Sciences*, USA, Jan. 1993, pp.433-434.
- C105. **Yeh-Ching Chung** and Sanjay Ranka, "Applications and Performance Analysis of A Compile-Time Optimization Approach for List Scheduling Algorithms on Distributed Memory Multiprocessors," *Proceedings of IEEE Supercomputing*, USA, Nov. 1992, pp. 512-521.
- C106. Roger Chen and **Yeh-Ching Chung**, "Embedding Networks with Ring Connections in Hypercube Machine," *Proceedings of IEEE International Conference on Parallel Processing (ICPP)*, Vol. III, USA, August 1990, pp. 327-334.
- C107. **Yeh-Ching Chung** and Sanjay Ranka, "Mapping Finite Element Graphs onto Hypercubes," *Proceedings of IEEE Symposium on the Frontiers of Massively*

Ph.D. Students Graduated

- Ching-Hsien Hsu, January 1999
Dissertation Title – Efficient Methods for Run-Time Array Redistribution
- Ching-Jung Liao, June 1999
Dissertation Title – Efficient Partitioning and Load Balancing Methods for Finite Element Graphs on Distributed Memory Multicomputers
- Chun-Yuan Lin, June 2003
Dissertation Title – Efficient Data Parallel Program Design for Multi-Dimensional Array Operations Based on the Extended Karnaugh Map Representation Scheme
- Chin-Feng Lin, January 2004
Dissertation Title – Efficient Parallel Volume Rendering Methods on Distributed Memory Multicomputers
- Shih-Kuan Liao, June 2004
Dissertation Title – Time Varying Volume Data Rendering
- Che-Lun Hung, March 2010
Dissertation Title – Efficient Algorithms for Triple-wise Alignment and its Applications
- Chun-Hsien Wu, June 2010
Dissertation Title – Deployment Strategies for Wireless Sensor Networks
- Jia-Zheng Zhou, March 2011
Dissertation Title – Routing in Interconnection Networks and Its Applications
- Po-Chi Shih, July 2012
Dissertation Title – Improving Parallel Job Scheduling Performance in Multi-Cluster through Look-Ahead Processor Allocation
- Shih-Hsiang Lo, March 2013
Dissertation Title – Optimization Techniques for Reducing Data Communication Costs on GPU Systems
- Wu-Chun Chung, April 2013
Dissertation Title – Decentralized Management of Resource Information and Discovery in Large-Scale Distributed Computing
- Ding-Yong Hong, April 2013
Dissertation Title – Efficient and Retargetable Dynamic Binary Translation
- Xuan-Yi Lin, June 2013
Dissertation Title – Master-Worker Paradigm on TILE64 Many-Core Platform
- Yu-Wei Chan, June 2013
Dissertation Title – Resource Sharing Strategies for Wide-Area Fusing Locality-Aware and Game Theoretic Approaches
- Kenn Slagter, November 2013
Dissertation Title – Load Balancing and Data Placement in MapReduce
- Ssu-Hsuan Lu, January 2014

Master Students Graduated

- Yaa-Jyun Yeh, June 1994
Thesis Title – Parallel Dynamic Load Balancing Algorithms for Solution-Adaptive Finite Element Graphs on Distributed Memory Multiprocessors
- Wu-Hsun Ho, June 1995
Thesis Title – PPT: A Parallel Programming Tool for Distributed Memory Multiprocessors
- Shih-Jey Chen, June 1996
Thesis Title – HCL: An Implementation of Message Passing Interface on Workstation Clusters
- Sheng-Wen Bai, June 1998
Thesis Title – A Generalized Basic-Cycle Calculation Technique for Efficient Array Redistribution
- Jen-Chih Yu, June 1999
Thesis Title – Efficient Compositing Methods for the Sort-Last-Sparse Parallel Volume Rendering System on Distributed Memory Multicomputers
- Chih-Chang Chen, June 1999
Thesis Title – A Dynamic Diffusion Optimization Method for Irregular Finite Element Graph Partitioning
- Chao-Jen Lee, June 2000
Thesis Title – A Web-Based Parallel PDE Solver Generation System for Distributed Memory Computing Environments
- Chun-Yuan Lin, June 2000
Thesis Title – Efficient Algorithms for Multi-Dimensional Matrix Operations
- Ching-Ting Pan, June 2001
Thesis Title – An Efficient Hash Based Method for Discovering the Maximal Frequent Set
- Su-Ming Yang, June 2001
Thesis Title – The Design and Implementation of an IAM2000s C Compiler
- Wu-Hong Chen, June 2001
Thesis Title – A Real-Time Flight Control Embedded System Based on mC/OS-II Kernel
- Ching-Jung Long, January 2002
Thesis Title – Efficient Load Balancing Methods for Cellular Mobile Networks
- Chun-Hsing Chang, June 2002
Thesis Title – A Configurable Hard Real-Time Operating System Based on uC/OS-II Kernel for Flight Controls
- Yuan-Chang Tsai, June 2002
Thesis Title – An Integrated Design for Automatic System Development Tool Kits Generation

- Chun-Hsien Wu, June 2002
Thesis Title – A Service Composition Framework for Service Discovery/Delivery Based on SLP
- Kuen-Lin Cheng, June 2002
Thesis Title – The Integration of GPS and GIS on PDAs
- Jen-Shen Lin, June 2002
Thesis Title – Image Compression by Adjacent Decomposed Bit-Plane Substitution
- Xuan-Yi Lin, June 2003
Thesis Title – An Efficient Communication Scheme for Fat-Tree Topology on InfiniBand Networks
- Yao-Ming Sun, July 2004
Thesis Title – An Efficient Deadlock-Free Tree-Based Routing Algorithm for Irregular Wormhole-Routed Networks Based on the Turn Model
- Jia-Zheng Zhou, July 2004
Thesis Title – Multicast in Fat-Tree-Based InfiniBand Networks
- Chang-Yi Lin, July 2004
Thesis Title – An Adaptive Migratory Home Protocol for Software Distributed Shared Memory Systems
- Yun-Chan Lee, July 2005
Thesis Title – A Hybrid Wavelet-Based Video Codec with Low Computational Complexity, Memory Efficiency, and Scalability
- Ssu-Chun Tseng, July 2005
Thesis Title – A Scalable and Robust Scheme Based on the Multiple Description Coding for Low Bit-Rate Speech Coders
- Tse-Ming Kao, July 2005
Thesis Title – A Multithreaded DSM System with Thread Migration for Memory Locality over InfiniBand
- Kuo-Chuan Lee, July 2005
Thesis Title – A Delaunay Triangulation Based Method for Wireless Sensor Network Deployment
- Hsien-Ting Kuo, July 2005
Thesis Title – An Efficient and Low Overhead Random Forwarding Table Construction Method for Deadlock-Free Routing Algorithms in InfiniBand Networks
- Ding-Yong Hong, July 2005
Thesis Title – An Efficient MPI-IO for Noncontiguous I/O over InfiniBand
- Shen-En Liu, July 2005
Thesis Title – Hardware Supported Multicast in Two-Dimensional Mesh InfiniBand Networks
- Wei-ching kao, September 2005
Thesis Title – An embedded Print Server
- Yang-Ping Cheng, September 2005
Thesis Title – A Performance-Efficient Task Duplication- Based Scheduling Algorithm for Heterogeneous Computing
- Tse-Yu Hsu, June 2006

Thesis Title – A Register Allocation Algorithm for Shared and Clustered Hybrid Register File Organization

- Meng-Ru Lin, June 2006
Thesis Title – CFR: A Peer-to-Peer Collaborative File Repository System
- Ching-Wen Yu, June 2006
Thesis Title – SPE: A Programming Environment for Wireless Sensor Networks
- Yi-Kai Pong, June 2006
Thesis Title – Applying Curve Fitting Techniques to Construct the Synopsis of Data Streams
- Jiun-Hung Ding, June 2006
Thesis Title – SEMU: A Framework of Simulation Environment for Wireless Sensor Networks
- Shih-Hsiang Lo, June 2006
Thesis Title – Cooperative Localization with Pre-Knowledge using Bayesian Network for Wireless Sensor Networks
- Wen-Li Tang, June 2006
Thesis Title – A Fast, Flexible, and Precise Simulation Framework for Starfish DSP Architecture
- Chih-Han Lai, June 2007
Thesis Title – A Construction of Peer-to-Peer Streaming System Based on Flexible Locality-Aware Overlay Networks
- Tun-Yi Chang, June 2007
Thesis Title – Taking Advantage of Multi-Core Architecture in Disk Array
- Yu-Chen Wu, July 2007
Thesis Title – Dynamic Helper Threaded Prefetching on the Multi-Core Software RAID
- Chin-Wei Tang, July 2007
Thesis Title – A System-Level Simulation Framework for Performance Evaluation of Hardware-Based Network Intrusion Detection Systems
- Meng-Hsuan Cheng, July 2007
Thesis Title – A VLIW-Based Post Compilation Framework for Multimedia Embedded DSPs with Hardware Specific Optimizations
- Wei-Lun Tsai, July 2007
Thesis Title – A Tag-Based Overlay Network for Defending Against DDoS Attack
- Yan-Zu Wu, July 2007
Thesis Title – A Extended Shared and Clustered Register Files Organization – Wired SCRF Architecture
- Chung Han Lin, July 2007
Thesis Title – M-Ring : A Distributed, Self-Organize, Load Balancing Communication Method on Super Peer Network
- Sheng-Je Hung, July 2007
Thesis Title – A Pipeline and Macroblock-Level Parallelism Architecture Design for H.264/AVC Baseline Decoder
- Yi-Hsin Lin, July 2008
Thesis Title – Reduce Leakage Power of JPEG Image on Asymmetric SRAM

- Chung-Hsuan Ho, July 2008
Thesis Title – Malugo: A Peer-to-Peer Storage System
- Meng-Ju Hsieh, July 2008
Thesis Title – Minimize The Distance of Failure Location for Automatic Debugging Technique with Improved State-Coverage mechanism
- Chih-Chen Chen, July 2008
Thesis Title – Using parity cache to reduce overhead of small write requests under Linux software RAID-5 system
- Hao Yuan, July 2008
Thesis Title – Profile Based Trace Selection of Code Layout Optimizations in Open64 Compiler
- Cheng-Tin Tsai, July 2008
Thesis Title – A Parallel Algorithm of H.264/AVC Encoder on Multi-Core Systems
- Cheng-An Chiu, July 2008
Thesis Title – An Adaptive Method for Distributed Data Management in High Level Architecture
- Fu-Mao Chen, July 2008
Thesis Title – A Peer-to-Peer High Level Architecture
- Chih-Chien Chang, June 2009
Thesis Title – Helper Threaded Shadow Paging on Multi-Core Virtualization Processors
- Chin-Jung Hsu, June 2009
Thesis Title – Cooperative Maintenance in Multi-Overlay Environments
- Yi-Hsiang Lin, June 2009
Thesis Title – SARIDS : A Self-Adaptive Resource Index and Discovery System
- Ze-Chuan Yeh, June 2009
Thesis Title – A Power-Efficient and High-Throughput Deblocking Filter Hardware Architecture for H.264/AVC
- Chia-Dar Tsai, July 2009
Thesis Title – A Low-Power Hardware Design for H.264/AVC Baseline Decoder
- Chih-Yin Wu, July 2009
Thesis Title – Dryad: An Ahead of Time Compiler Optimization Framework for Android
- Min-Chuan Hung, July 2009
Thesis Title – A Time/Space Balanced Flash Translation Layer for Embedded Systems
- Shuo-Hung Chen, July 2010
Thesis Title – HW/SW Co-Design of High-Performance Multi-Core Vector Graphics System
- Wei-Chao Chang, July 2010
Thesis Title – A Locality-based Multicast Scheme on Structured Peer-to-peer Overlay for High Level Architecture
- Chia-Hong Chien, September 2010
Thesis Title – A Separate Code Cache Model for a Parallel Multi-Core System Emulator Based on QEMU
- Hsiang-Wei Sung, September 2010
Thesis Title – Processor virtualization and optimization for KVM-ARM

- Fan-Lei Liao, July 2011
Thesis Title – Memory Virtualization Design for KVM-ARM
- Tai-Wen Lung, July 2011
Thesis Title – Data Locality Optimizations for Multi-Level Caches in Java Multi-Core Compiler
- Chih-Sheng Wang, July 2011
Thesis Title – An Ahead-of-Time compilation and optimization framework based on LLVM for Google Android
- Moise Convolbo, July 2011
Thesis Title – Rsvg: Display Big size Vector Map on Mobile Device
- Ya-Ting Chang, May 2012
Thesis Title – NUMA-Aware Scheduler for Asymmetric Multicore Processors
- Guillermo A. Perez, May 2012
Thesis Title – A Hybrid Just-In-Time Compiler for Android
- Ming-Hsuan Lee, June 2012
Thesis Title – he Scheduling and Timer Interrupt Mechanism for PQEMU
- Chao-Chu Wang, June 2012
Thesis Title – Implementation of x86 Atomic Instruction Emulation in PQEMU
- Jia-Wang Chung, June 2012
Thesis Title – Interrup Controller Design Based on PQEMU
- Chang-Jung Lin, June 2012
Thesis Title – I/O Performance Optimization and Analysis for ARMvisor Using Virtio and Irqchip
- Yu-Ying Chen, June 2012
Thesis Title – Improve 3D Performance of Qemu-Spice
- Shih-Wei Li, June 2012
Thesis Title – Memory Virtualization for ARMvisor
- Hung-Ping Lin, June 2012
Thesis Title – Structured Data Processing on MapReduce in NoSQL Database
- Yi-Man Ma, July 2012
Thesis Title – InfiniBand Virtualization for Kernel-based Virtual Machine
- Zhoudong Guo, June 2013
Thesis Title – HSA Emulator Design Based on QEMU
- Sheriffo Ceesay, June 2013
Thesis Title – Moving Towards Pure ANSI SQL in NoSQL
- Chih-Hao Chang, July 2013
Thesis Title – Memory Virtualization on ARM Architecture with Virtualization Hardware Extension
- Chung-Min Kao, July 2013
Thesis Title – The LLVM Based GPU Compiler in Heterogeneous System Architecture Emulator: HTranslator
- Ping-Hao Chang, July 2013
Thesis Title – CPU Virtualization with ARM Virtualization Extension on ARMvsior
- Shu-Ming Chang, July 2014
Thesis Title – Adaptive Fusion SQL Engine on Hadoop Framework
- Ying-Ti Liao, July 2014
Thesis Title – Data Adapter for Querying and Transformation Between SQL and NoSQL Databases

- Su-Shien Ho, July 2014
Thesis Title – Distributed Metaserver Mechanism and Recovery Mechanism Support in Quanteast File System
 - Yi-chen Yang, July 2014
Thesis Title – CSCJ: Star Join Processing on HBase Using Hadoop MapReduce
 - Intan Maghfirah, July 2014
Thesis Title – Constraints Preserving in Schema Transformation to Enhance Database Migration from MySQL to HBase
 - Ngo-Thi Nha, July 2014
Thesis Title – MTSH: Multi-Tenant Web-based Management System on SSDB and HDFS
 - Kuo-Min Lin, July 2014
Thesis Title – A Compilation Framework for HSA
 - Bai-Cheng Jeng, July 2014
Thesis Title – HSAemu Framework
-

Teaching Activities

- Taught at NTHU several instances of
 - CS5422 Parallel Programming (graduate level)
 - CS5104 Embedded Software for Networked SoC Systems (graduate level)
 - CS5429 Introduction to the Design of Enterprise Mainframe Computers (graduate level)
 - CS3404 Compiler Construction (undergraduate level)
 - CS2422 Assembly Languages and System Programming (undergraduate level)
 - CS2351 Data Structure (undergraduate level)
-

Conference Chairmanships (Since 2006)

- General Co-Chair of International Conference on Big Data Intelligence and Computing (DataCom) 2015, December 19-21, 2015
- Program Co-Chair of IEEE International Conference on Cloud Computing and Big Data (CCBD), December 4 – 6, 2015
- Program Co-Chair of IEEE International Conference on Parallel and Distributed Systems (ICPADS), December 16 – 19, 2014
- General Co-Chair of IEEE International Conference on Cloud Computing Technology and Science (CloudCom), December 3-6, 2012
- Track Co-Chair of International Conference on Parallel Processing (ICPP), September 13-16, 2011
- Track Co-Chair of International Conference on Contemporary Computing (IC3), August 8-10, 2010
- General Co-Chair of International Symposium on Information Assurance and Security Management (IASM), December 14-16, 2009

- Track Co-Chair of International Symposium on Pervasive Systems, Algorithms, and Networks (I-SPAN), December 14-16, 2009
- Workshop Co-Chair of National Computer Symposium (NCS) 2009, November 27-28, 2009
- Track Co-Chair of International Conference on Contemporary Computing (IC3), August 17-19, 2009
- Program Co-Chair of International Symposium on Grid and Distributed Computing (GDC), December 13-15, 2008
- Award Chair of IEEE Asia-Pacific Services Computing Conference (APSCC), December 09-12, 2008
- Program Co-Chair of IEEE Asia-Pacific Computer Systems Architecture Conference (ACSAC), August 20-22, 2008
- Program Co-Chair of International Conference on Grid and Pervasive Computing (GPC 2006), May 2-4, 2006

Program Committee memberships (Since 2007)

- International Conference on Smart Grids and Green IT Systems (SMARTGREENS-2013), May 9-10, 2013
- International Conference on Grid and Pervasive computing (GPC-2013), May 9-11, 2013
- IEEE Asia Pacific Cloud Computing Congress (APCloud-2012), November 14-17, 2012
- IEEE International Parallel & Distributed Processing Symposium (IPDPS-2012) May 21-25, 2012
- International Conference on Grid and Pervasive computing (GPC-2012), May 11-13, 2012
- IEEE International Conference on High Performance Computing (HiPC-2011), December 19-22, 2011
- International Symposium on Grid and Distributed Computing (GDC-2011), December 8-10, 2011
- International Conference on Network and Parallel Computing (NPC-2011), October 21-23, 2011
- International Conference on Contemporary Computing (IC3-2011), August 8-10, 2011
- IEEE/ACM International Conference on Green Computing and Communications (GreenCom-2011), August 4-5, 2010.
- IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA-2011), May 26-28, 2011.
- International Conference on Grid and Pervasive computing (GPC-2011), May 11-13, 2011
- International Symposium on Grid and Distributed Computing (GDC-2010), November 11-13, 2010
- IEEE/ACM International Conference on Green Computing and Communications (GreenCom-2010), October 30-November 1, 2010.

- International Conference on Advances in P2P Systems (AP2PS-2010), October 25 - 30, 2010.
- IEEE International Conference on Embedded Software and Systems (ICCESS-2010) June 29-July 1, 2010.
- International Conference on Grid and Pervasive computing (GPC-2010), May 10-13, 2010
- International Conference on Frontier of Computer Science and Technology (FCST-2009), December 17-19, 2009
- IEEE International Conference on High Performance Computing (HiPC-2009), December 16-19, 2009
- International Symposium on Grid and Distributed Computing (GDC-2009), December 10-12, 2009
- International Conference on Embedded and Multimedia Computing (EM-Com-2009), December 10 - 12, 2009
- International Conference on Computer Science and its Applications (CSA-2009), December 10 - 12, 2009
- International Conference on Parallel and Distributed Systems (ICPADS-2009), December 9 – 11, 2009
- International Conference on Network and Parallel Computing (NPC-2009), October 19-21, 2009
- International Conference on Advances in Peer-to-Peer Systems (AP2PS-202009), October 11-16, 2009
- International Conference on Embedded Software and Systems (ICCESS-2009), May 25-27, 2009
- International Workshop on Service-Oriented P2P Networks (ServP2P-2009), May 18-21, 2009
- International Conference on Grid and Pervasive computing (GPC-2009), May 4-8, 2009
- International Conference on Information Systems, Technology and Management (ICISTM-2009), March 12-13, 2009
- High Performance Computing Asia 2009, March 2-6, 2008
- IEEE International Conference on High Performance Computing (HiPC-2008), December 17-20, 2008
- International Conference on Embedded and Ubiquitous Computing Conference (EUC-2008), December 17-20, 2008
- International Symposium on Ubiquitous Multimedia Computing (UMC-2008), October 14-16, 2008
- IEEE International Symposium on Embedded Computing (SEC-2008), October 6-8, 2008
- International Conference on Network and Parallel Computing (NPC-2008), September 18-21, 2008
- International Conference on Contemporary Computing (IC3-2008), August 7-9, 2008
- International Conference on Embedded Software and Systems (ICCESS-2008), July 28-31, 2008

- International Conference on Computational Science and Engineering (CSE-2008), June 25-27, 2008
 - International Conference on Communications, Circuits, and Systems (ICCCAS-2008), May 25-27, 2008
 - International Conference on Grid and Pervasive computing (GPC-2008), May 25-28, 2008
 - International Conference on Advanced Information Networking and Applications (AINA-2008), March 25-28, 2008
 - International Conference on Information Systems, Technology and Management (ICISTM-2008), March 6-8, 2008
 - International Conference on Embedded and Ubiquitous Computing Conference (EUC-2007), December 10-13, 2007
 - International Conference on Grid and Pervasive computing (GPC-2007), May 2-4, 2007
-

University and Department Service at NTHU

- Deputy director of library since December 2003
 - Deputy director of computer and communication research center since August 2008
 - Ph.D admissions (since 2002)
 - Mater admissions (since 2002)
 - Faculty recruiting committee member 2002 - 2009
-

University and Department Service at FCU

- Chairman of Department of Information Engineering and Computer Science, 1998/8 – 2001/7
 - Network Division Director of Computer Center, 1994/1 – 1997/7
 - Education Division Director of Computer Center, 1993/8 – 1993/12
 - Ph.D admissions (1994 - 2002)
 - Mater admissions (1992 - 2002)
-