

Curriculum Vitae

Pao-Ann Hsiung

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1 Short Biography

Pao-Ann Hsiung, Ph.D., received his B.S. in Mathematics and his Ph.D. in Electrical Engineering from the National Taiwan University, Taipei, Taiwan, ROC, in 1991 and 1996, respectively. From 1996 to 2000, he was a post-doctoral researcher at the Institute of Information Science, Academia Sinica, Taipei, Taiwan, ROC. From February 2001 to July 2002, he was an assistant professor and from August 2002 to July 2007 he was an associate professor in the Department of Computer Science and Information Engineering, National Chung Cheng University, Chiayi, Taiwan, ROC. Since August 2007, he has been a full professor. From May 2008 to July 2011, he was the division chief of the division of information management, computer centre, National Chung Cheng University. From August 2011 to January 2016, he was the department chair. From February 2016 to July 2017, he was the Dean of International Affairs at the National Chung Cheng University. From April 2018 to December 2018, he was the Director-General of Intelligence Technologies Department at the Chiayi City Government. From August 2015 to March 2022, he was the Director of the Smart Living Technology Research Center, National Chung Cheng University. From December 2018, he is the Director of the Taiwan-India Joint Research Center on Artificial Intelligence, National Chung Cheng University. From March 2022, he is the Director of the Research Center on AI and Sustainable Development, National Chung Cheng University.

Dr. Hsiung has been listed among the World Top 2% Scientists Ranking by Stanford University for career-long impact (1960–2023) in the fields of Artificial Intelligence and Image Processing, and Computer Architecture and Systems. Dr. Hsiung has also been listed as a top scholar by ScholarGPS, a reputed world ranking, within 0.5% lifetime world ranking for the area of hardware-software codesign. Dr. Hsiung has published more than 300 papers in international journals and conferences. He was the recipient of the 2010 Outstanding Research Award given by the National Chung Cheng University to three faculty members only. He received the 2001 ACM Taipei Chapter Kuo-Ting Li Young Researcher for his significant contributions to design automation of electronic systems. He was also a recipient of the 2004 Young Scholar Research Award given by National Chung Cheng University to five young faculty members per year. He received several advisor awards for Best Master Theses, embedded system competitions, and RFID design competitions. As a director-general, he helped the Chiayi City to achieve 2018 TOP7 Smart City in the Intelligence Community Forum (ICF) worldwide competition. He has also helped obtain huge financial budget in the amount of NT\$300 million dollars. **Dr. Hsiung has built AI teams in both Taiwan and India. In Taiwan, it was mostly in the government and across universities under top national projects on AI for Sustainable Smart Cities. In India, he has setup the Taiwan-India Joint Research Center on AI at IIT, Ropar, India, the Taiwan-India Joint Research Lab on Sustainable Smart City Development at the Chitkara University, Punjab, India, and the Taiwan-India Joint Research Lab on Big Data Analytics at the SRM Institute of Science and Technology, Chennai, India. Under these initiatives, Dr. Hsiung has collaborated worldwide with top universities and companies such as Tata Consultancy Services, Tech Mahindra and top industry federations such as NASSCOM in India.**

Dr. Hsiung is a fellow of the IET, a senior member of the IEEE, a senior member of the ACM, and a life member of the IICM. He has been included in several professional listings such as Marquis' Who's Who in the World, Marquis' Who's Who in Asia, Outstanding People of the 20th Century by International Biographical Centre, Cambridge, England, Rifacimento International's Admirable Asian Achievers (2006), Afro/Asian Who's Who, and Asia/Pacific Who's Who. Dr. Hsiung is the editor-in-chief for the software engineering topic of the *International Journal of Advancements in Computing Technology* (IJACT), Advanced Institute of Convergence IT, and the editor-in-chief for the automated control systems topic of the *International Journal of Intelligent*

Information Processing (IJIIP), Human and Sciences Publication, since 2011. He is an editor of *The Scientific World Journal (TSWJ)*, Hindawi Publishing Corporation, since 2012. He is also an editor for the *International Journal of Next Generation Information Technology (JNIT)*, Human and Sciences Publication, the *International Journal of Advances in Information Sciences and Service Sciences (AISS)*, Advanced Institute of Convergence IT, the *International Journal of Advancements in Computing Technology (IJACT)*, Advanced Institute of Convergence IT, Korea; the *International Journal of Embedded Systems (IJES)*, Inderscience Publishers, USA; the *International Journal of Multimedia and Ubiquitous Engineering (IJMUE)*, Science and Engineering Research Center (SERSC), USA; an associate editor of the *Journal of Software Engineering (JSE)*, Academic Journals, Inc., USA; an editorial board member of the *Open Computer Science Journal*, Bentham Science Publishers, Ltd., USA; an international editorial board member of the *International Journal of Patterns (IJOP)*. Dr. Hsiung has been on the program committee of more than 232 international conferences. He served as organizer, program chair, steering committee member for more than 300 international conferences. He has taken an active part in paper refereeing for international journals and conferences.

Dr. Hsiung's main research interests include generative AI, AIoT, image processing, smart city technology such as smart traffic and smart grid, reconfigurable computing and system design, multi-core programming, cognitive radio architecture, System-on-Chip design and verification, embedded software synthesis and verification, real-time system design and verification, hardware-software codesign and coverification, and component-based object-oriented application frameworks for real-time embedded systems.

2 Personal Information

Name	Pao-Ann Hsiung
Sex	Male
Date of birth	January 1, 1967
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3 Education

Sept. 1992 – July 1996	Ph.D.	Graduate Institute of Electrical Engineering, National Taiwan University, Taipei, TAIWAN.
Sept. 1991 – July 1992	Master	Graduate Institute of Electrical Engineering, National Taiwan University, Taipei, TAIWAN. (direct doctorate after 1 year)
Sept. 1987 – June 1991	B.S.	Department of Mathematics, National Taiwan University, Taipei, TAIWAN.

4 Professional Memberships

1. Fellow, IET (The Institution of Engineering and Technology), UK,
2. Senior Member, IEEE (The Institute of Electrical and Electronics Engineers), USA,
3. Senior Member, ACM (Association of Computing Machinery), USA, and
4. Life Member, IICM (Institute of Information and Computing Machinery), Taiwan.

5 Professional Listings

Dr. Hsiung has been either invited for inclusion or automatically included in the following professional listings.

1. *Marquis' Who's Who in the World*, since the 17th Millenium Edition, 2000.
“<http://www.marquiswhoswho.com/>”
2. *Marquis' Who's Who in Asia*, 1st Edition, 2007.
“<http://www.marquiswhoswho.com/>”
3. *Outstanding People of the 20th Century*,
Second Edition, 2000, International Biographical Centre, Cambridge, England.
4. *Outstanding People of the 21st Century*,
First Edition, 2008, International Biographical Centre, Cambridge, England.
5. *Admirable Asian Achievers*,
First Edition, 2006, Rifacimento International, India.
6. *Afro/Asian Who's Who*, Volume 1, 2007, Rifacimento International, India.
7. *Asia/Pacific Who's Who*, Volume VII, 2007, Rifacimento International, India.
8. *Who's Who in Formal Methods*
“<http://www.comlab.ox.ac.uk/archive/formal-methods/whos-who.html>”
9. *SIGACT TCS Virtual Address Book of Theoretical Computer Scientists*
“<http://sigact.acm.org/tcs-address/woody.html>”
10. *HPSearch: Home Pages of Computer Scientists*
“<http://pranger.uni-trier.de/hp/a-tree/141.html>”
11. *Home Pages of researchers in semantics, proofs and abstract interpretation*
“<http://www.di.ens.fr/~cousot/researchers.shtml>”

6 Employment

August 2007 – now	Professor, Department of Computer Science and Information Engineering, National Chung Cheng University, Taiwan.
September 2022 – now	Director, Taiwan-India Joint Research Center on AI, IIT Ropar and National Chung Cheng University, Taiwan
April 2022 – now	Director, Resarch Center on AI and Sustainability, National Chung Cheng University, Taiwan.
August 2022 – January 2024	Dean of Information Technology, National Chung Cheng University, Taiwan.
August 2015 – March 2022	Director, Smart Living Technology Research Center, National Chung Cheng University, Taiwan.
November 2018 – August 2022	Deputy Director, Taiwan-India Joint Research Center on AI, IIT Ropar and National Chung Cheng University, Taiwan
April 2018 – December 2018	Director-General, Intelligence Technologies Department, Chiayi City Government, Taiwan
February 2016 – July 2017	Dean, International Affairs, National Chung Cheng University, Taiwan.
May 2015 – January 2016	Vice Dean, College of Engineering, National Chung Cheng University, Taiwan.
August 2011 – January 2016	Department Chair, Department of Computer Science and Information Engineering, National Chung Cheng University, Taiwan
May 2008 – July 2011	Division Chief, Division of Information Management, Computer Center, National Chung Cheng University, Taiwan
August 2002 – July 2007	Associate Professor, Department of Computer Science and Information Engineering, National Chung Cheng University, Taiwan.
February 2001 – July 2002	Assistant Professor, Department of Computer Science and Information Engineering, National Chung Cheng University, Taiwan.
October 1996 – January 2001	Postdoctoral Fellow, Institute of Information Science, Academia Sinica, Taipei, Taiwan.
August 1993 – July 1996	Teaching Assistant and System Manager, Department of Mathematics, National Taiwan University, Taipei, Taiwan.

7 Courses Taught

Graduate Level	Undergraduate Level
Course Name	Course Name
Introduction to Deep Learning	System Programming
RFID System and Appl.	Software Engineering
R Programming	Intro. to Comp. Sci.
Precision Agriculture	Program Design
Operating System	Operating System
Reconfigurable Computing	CS Seminar
Embedded Software Design	
Computer-Aided Verification	(bold : currently being
SoC Design Flow and Tools	taught)
Software Engineering	
Hardware-Software Co-design	

8 Research Interests

Applications	Sustainable Smart City Applications, Smart Traffic, Smart Grid, Landslide Prediction, Driver Fatigue Predictions, Precision Agriculture
Theory	Formal Verification of Concurrent Real-Time Systems, Formal Verification/Design of Safety-Critical Systems, Hardware-Software and SoC Coverification,
Hardware/Software	Codesign Methodology for Embedded Systems and SoC, Reconfigurable Systems and SoC, Coverification Techniques,
System Design	Smart Systems Design, System-Level Design Automation, Multiprocessor Architecture Design, Smart Grid System Design, Smart Traffic System Design
Software	Multi-core Programming for Embedded Systems, Embedded Software Synthesis, Model-Checking Tool Development, Real-Time Application Development, Object-Oriented Application Framework Design
Communication	Reasoning and Learning in Cognitive Radios, Low-Power Wide-Area Networking (LPWAN) such as LoRa, NB-IoT, etc.

9 Honors and Awards

- *2024 World's Top 2% Scientists Ranking*, Stanford University and Elsevier, in the areas of Artificial Intelligence and Image Processing, and Computer Architectures and Systems.
- *2024 World's Top Scholar, top 0.5% in hardware-software codesign*, ScholarGPS, California, USA.
- *2010 Outstanding Research Award*, National Chung Cheng University, (three faculty members awarded in 2010).
- *2004 Young Scholar Research Award*, National Chung Cheng University, (four faculty members awarded in 2004, NT\$400,000 research fund and NT\$60,000 cash awarded to each person).
- *2001 Kuo-Ting Li Young Researcher Award*, sponsored by the *ACM Taipei Chapter* and the *Institute of Information and Computing Machinery*, 2001 (one recipient in the whole country per year).
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Feng-Shi Su, Thesis Title: "Formal Synthesis and Code Generation of Embedded Software Using Extended Quasi-Static Scheduling," Dept of Computer Science and Information Engineering, National Chung Cheng University, June 2002, awarded by the *Institute of Information and Computing Machinery*, 2002.
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Cheng-Yi Lin, Thesis Title: "Quasi-Dynamic Scheduling for the Synthesis of Real-Time Embedded Software with Local and Global Deadlines," Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2003, awarded by the *Institute of Information and Computing Machinery*, 2003.
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Wen-Hsiu Liao, Thesis Title: "Infrastructure of a Formal Verification Platform for SoC," Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2004, awarded by the *Institute of Information and Computing Machinery*, 2004.
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Chih-Hao Tseng, Thesis Title: "UML-Based Rapid Prototyping Design Flow for Dynamically Reconfigurable Computing Systems," Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2005, awarded by the *Institute of Information and Computing Machinery*, 2005.
- *Contest Winning Team Advisor Award*, Third Prize, National Contest on Embedded Software Design, sponsored by the Ministry of Education, Taiwan, 2005, (Title: RFID: Airport Luggage Automation, Members: Chien Rong-Yin, Wu Cheng-Yang, and Lin Gen-Hsien)
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Yean-Ru Chen, Thesis Title: "Automatic Failure Analysis using Extended Safecharts," Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2006, awarded by the *Institute of Information and Computing Machinery*, 2006 (acceptance rate: 12%).

- *Advisor of one of the best Master Thesis in Computer Science*, Student: Hsian-Win Liao, Thesis Title: “Multi-Objective Placement of Reconfigurable Hardware Tasks in Real-Time Systems,” Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2007, awarded by the *Institute of Information and Computing Machinery*, 2007.
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Kuo-Cherng Chiang, Thesis Title: “Predictable and Adaptive Reconfigurable Network-on-Chip,” Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2008, awarded by the *Institute of Information and Computing Machinery*, 2008.
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Wei-Wen Lin, Thesis Title: “An Efficient Hardware/Software Communication Mechanism for Reconfigurable Network-on-Chip,” Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2009, awarded by the *Institute of Information and Computing Machinery*, 2009. (acceptance rate: $23/133 = 17.3\%$)
- *Advisor of one of the best Master Thesis in Computer Science*, Student: Shih-Shen Lu, Thesis Title: “Congestion- and Energy-Aware Run-time Task Mapping for Network-on-Chip Architecture,” Dept of Computer Science and Information Engineering, National Chung Cheng University, July 2010, awarded by the *Institute of Information and Computing Machinery*, 2010.
- *Contest Winning Team Advisor Award*, Third Prize, RFID Tendency Cup, sponsored by the Ministry of Economics and Ministry of Education, Taiwan, 2007 (Title: RFID-based R-Generation Postal System, Members: Li Shih-Chiang, Chiu Meng-Chieh, and Hsu Chi-Ying)
- *Contest Winning Team Advisor Award*, Second Prize, Hardware-Software Integration Group, National Contest on Embedded System Design, sponsored by the Ministry of Education, Taiwan, 2008, (Title: UML-based Hardware-Software Codesign Platform for Dynamically Partially Reconfigurable Network Security Systems, Members: Chun-Hsian Huang, Kenshing Huang, Chun-Ting Lan)
- *Contest Winning Team Advisor Award*, Third Prize, Hardware-Software Integration Group, National Contest on Embedded System Design, sponsored by the Ministry of Education, Taiwan, 2009, (Title: Hierarchical Operating System Model for Dynamically Self-Reconfigurable Systems, Member: Chun-Hsian Huang)
- *Contest Winning Team Advisor Award*, Third Prize, Hardware-Software Integration Group, National Contest on Embedded System Design, sponsored by the Ministry of Education, Taiwan, 2009, (Title: Reliable and Power-Aware Reconfigurable Network-on-Chip with Operating System Management, Member: Jih-Sheng Shen)
- *Contest Winning Team Advisor Award*, Merit Award, 3G Mobile Campus Group, National Contest on Telecommunication Value-Added Application, Taiwan November 2009, (Title: RFID 3G Mobile Campus Network, Group Leader: Shih-Shen Lu)

- *Best Paper Award*, C.-H. Huang, J.-S. Shen, and P.-A. Hsiung, “Model-Based Verification and Estimation Framework for Dynamically Partially Reconfigurable System,” National Computer Symposium, Workshop on Computer Architecture, Embedded Systems, and VLSI/EDA, Taiwan, December 2009.
- *Best Paper Award*, J.-S. Shen, C.-H. Huang, and P.-A. Hsiung, “PRESSNoC: Power-Aware and Reliable Encoding Schemes Supported Reconfigurable Network-on-Chip Architecture,” Fourth International Conference on Embedded and Multimedia Computing (EM-Com), Jeju, Korea, December 2009.
- *Contest Winning Team Advisor Award*, Finalist Award, National Yi-Shiou University U-RFID Contest, Kaoshiung, Taiwan, October 2010, (Title: The RFID Generation – Mobile RFID Technology for Outdoor Teaching, Members: Shu-Hwa Hwang, Ching-Chun Hwang, and Sheng-Wen Chen)
- *Contest Winning Team Advisor Award*, Merit Award, National RFID Design and Application Contest, Ming-Hsin University of Science and Technology, Taiwan, December 2010, (Title: Mobile RFID Technology for Outdoor Teaching, Members: Shu-Hwa Hwang, Ching-Chun Hwang, and Sheng-Wen Chen)
- *Creative Innovation Award*, Y.-R. Chen, P.-C. Hsieh, and P.-A. Hsiung, “Timing Optimization and Control for Smart Traffic,” Chiuan-Yan Technology Thesis Award (CYTTA), Kenting, Taiwan, November 2014.
- *Creative Innovation Award*, W.-H. Wu, C.-C. Tsai, H.-L. Chao, and P.-A. Hsiung, “Micro-grid Design Modeling and Prototyping,” Chiuan-Yan Technology Thesis Award (CYTTA), Kenting, Taiwan, November 2014.

10 Publication List

(A) International Journal Papers

- [1] **P.-A. Hsiung**, S.-J. Chen, T.-C. Hu, and S.-C. Wang, “PSM: An Object-Oriented Synthesis Approach to Multiprocessor System Design,” *IEEE Transactions on VLSI Systems*, Vol. 4, No. 1, pp. 83-97, March 1996. (SCI)
- [2] **P.-A. Hsiung**, T.-Y. Lee, and S.-J. Chen, “MOBnet: An Extended Petri Net Model for the Distributed Object-oriented System-level Synthesis of Multiprocessor Systems,” *IEICE Transactions on Information and Systems*, Vol. E80-D, No. 2, pp. 232–242, February 1997. (SCI)
- [3] **P.-A. Hsiung**, C.-H. Chen, T.-Y. Lee, and S.-J. Chen, “ICOS: An Intelligent Concurrent Object-Oriented Synthesis Methodology for Multiprocessor Systems,” *ACM Transactions on Design Automation of Electronic Systems*, Vol. 3, No. 2, pp. 109–135, April 1998. (SCI)
- [4] **P.-A. Hsiung**, “CMAPS: A Cosynthesis Methodology for Application-Oriented Parallel Systems,” *ACM Transactions on Design Automation of Electronic Systems*, Vol. 5, No. 1, pp. 51–81, January 2000. (SCI)

- [5] **P.-A. Hsiung**, “Hardware-Software Timing Coverification of Concurrent Embedded Real-Time Systems,” *IEE Proceedings on Computers and Digital Techniques*, Vol. 147, No. 2, pp. 81–90, March 2000. (SCI)
- [6] J.-M. Fu, T.-Y. Lee, **P.-A. Hsiung**, and S.-J. Chen, “Hardware-Software Timing Coverification of Distributed Embedded Systems,” *IEICE Transactions on Information and Systems*, Vol. E83-D, No. 9, pp. 1731–1740, September 2000. (SCI)
- [7] **P.-A. Hsiung**, “Embedded Software Verification in Hardware-Software Codesign,” *Journal of Systems Architecture — the Euromicro Journal*, Vol. 46, No. 15, pp. 1435–1450, Elsevier Science, the Netherlands, December 2000. (SCI)
- [8] **P.-A. Hsiung**, “POSE: A Parallel Object-Oriented Synthesis Environment,” *ACM Transactions on Design Automation of Electronic Systems*, Vol. 6, No. 1, pp. 67–92, January 2001. (SCI)
- [9] T.-Y. Lee, **P.-A. Hsiung**, and S.-J. Chen, “Hardware-Software Multi-Level Partitioning for Distributed Embedded Multiprocessor Systems,” *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, Vol. E48-A, No. 2, pp. 614–626, February 2001. (SCI)
- [10] T.-Y. Lee, **P.-A. Hsiung**, and S.-J. Chen, “DESC: A Hardware-Software Codesign Methodology for Distributed Embedded Systems,” *IEICE Transactions on Information and Systems* Vol. E84-D, No. 3, pp. 326–339, March 2001. (SCI)
- [11] F. Wang and **P.-A. Hsiung**, “Efficient and User-Friendly Verification,” *IEEE Transactions on Computers*, Vol. 51, No. 1, pp. 61–83, January 2002. (SCI)
- [12] T.-Y. Lee and **P.-A. Hsiung**, “Embedded Software Synthesis and Prototyping,” *IEEE Transactions on Consumer Electronics*, Vol. 50, No. 1, pp. 386–392, February 2004. (SCI)
- [13] **P.-A. Hsiung**, S.-W. Lin, C.-H. Tseng, T.-Y. Lee, J.-M. Fu, and W.-B. See, “VERTAF: An Application Framework for the Design and Verification of Embedded Real-Time Software,” *IEEE Transactions on Software Engineering*, Vol. 30, No. 10, pp. 656–674, October 2004. (SCI)
- [14] **P.-A. Hsiung**, T.-Y. Lee, J.-M. Fu, and W.-B. See, “Formal Verification of Real-Time Embedded Software in an Object-Oriented Application Framework,” *IEE Proceedings — Computers and Digital Techniques*, Vol. 151, No. 6, pp. 417–434, November 2004. (SCI)
- [15] **P.-A. Hsiung**, “Synthesis and Control of Soft Embedded Real-Time Systems,” *Annual Review of Communications*, International Engineering Consortium, USA, Vol. 57, November 2004.
- [16] **P.-A. Hsiung** and H.-C. Kao, “Device-Centric Low-Power Scheduling for Real-Time Embedded Systems,” *International Journal of Software Engineering and Knowledge Engineering (IJSEKE)*, Vol. 15, No. 2, pp. 461–466, World Scientific Publishing, Singapore, April 2005. (SCI)
- [17] **P.-A. Hsiung**, T.-Y. Lee, J.-M. Fu, and W.-B. See, “SESAG: An Object-Oriented Application Framework for Real-Time Systems,” *Software Practice and Experience*, Vol. 35, No. 10, pp. 899–921, John Wiley & Sons, August 2005. (SCI)

- [18] C.-H. Huang, S.-S. Chang, and **P.-A. Hsiung**, “Generic Wrapper Design for Dynamic Swappable Hardware IP in Partially Reconfigurable Systems,” *International Journal of Electrical Engineering*, Vol. 14, No. 3, pp. 229–238, June 2007. (EI)
- [19] Y.-R. Chen and **P.-A. Hsiung**, “Automatic Failure Analysis using Safecharts,” *International Journal of Software Engineering and Knowledge Engineering (IJSEKE)*, Vol. 17, No. 1, pp. 57-78, World Scientific Publishing, Singapore, February 2007. (an SEKE’2005 special issue, out of 225 submissions and 115 paper presentations, only 5 papers were published in this special issue) (SCI)
- [20] **P.-A. Hsiung**, Y.-R. Chen, and Y.-H. Lin, “Model Checking Safety-Critical Systems using Safecharts,” *IEEE Transactions on Computers*, Vol. 56, No. 5, pp. 692-705, May 2007. (SCI)
- [21] **P.-A. Hsiung** and S.-W. Lin, “Automatic Synthesis and Verification of Real-Time Embedded Software for Mobile and Ubiquitous Systems,” *Computer Languages, Systems & Structures*, Vol. 34, No. 4, pp. 153–169, Elsevier, The Netherlands, December 2008. (SCI)
- [22] C.-H. Huang and **P.-A. Hsiung**, “Software-Controlled Dynamically Swappable Hardware Design in Partially Reconfigurable Systems,” *EURASIP Journal on Embedded Systems*, Volume 2008, Article ID 231940, 2008. (doi:10.1155/2008/231940) (EI)
- [23] K.-J. Shih, C.-C. Hung, and **P.-A. Hsiung**, “Reconfigurable Hardware Module Sequencer for Dynamically Partially Reconfigurable Systems,” *International Journal of Electrical Engineering (IJEE)*, Vol. 15, No. 2, pp. 87–96, April 2008. (invited for publication in this VLSI Design/CAD Symposium 2007 special issue) (EI)
- [24] **P.-A. Hsiung**, C.-S. Lin, and C.-F. Liao, “Perfecto: A SystemC-based Design Space Exploration Framework for Dynamically Reconfigurable Architectures,” *ACM Transactions on Reconfigurable Technology and Systems (TRETS)*, Vol. 1, No. 3, Article 17, September 2008.
- [25] **P.-A. Hsiung**, C.-H. Huang, and Y.-H. Chen, “Hardware Task Scheduling and Placement in Operating Systems for Dynamically Reconfigurable SoC,” *Journal of Embedded Computing (JEC)*, Vol. 3, No. 1, pp. 53–62, IOS Press, The Netherlands, 2009. (an EUC’2005 special issue, out of 376 submissions and 114 paper presentations, only 7 papers were invited for publication in this special issue)
- [26] C. Shih, **P.-A. Hsiung**, T.-K. Liu, Y. Yang, C.-H. Lin, C.-H. Wan, C.-S. Koong, and W. C. Chu, “The Integration of a Vision based Tracking Platform, Visual Instruction and Error Analysis Models for an Efficient Billiard Training System,” *Optical Engineering*, Vol. 48, No. 2, February 2009. (SCI)
- [27] **P.-A. Hsiung**, S.-W. Lin, Y.-R. Chen, C.-H. Huang, and W.C. Chu, “Modeling and Verification of Real-Time Embedded Systems with Urgency,” *Journal of Systems and Software*, Vol. 82, No. 10, pp. 1627–1641, Elsevier Inc., October 2009. (SCI)
- [28] C.-H. Huang and **P.-A. Hsiung**, “Hardware Resource Virtualization for Dynamically Partially Reconfigurable Systems,” *Embedded Systems Letters*, Volume 1, Issue 1, pp. 19–23, IEEE Press, USA, 2009. (EI)

- [29] C.-S. Lin, **P.-A. Hsiung**, S.-W. Lin, Y.-R. Chen, C.-H. Lu, S.-Y. Tong, W.-T. Su, W. C. Chu, C.-H. Shih, N.-L. Hsueh, C.-H. Chang, and C.-S. Koong, “VERTAF/Multi-Core: A SysML-based Application Framework for Multi-Core Embedded Software Development,” *Journal of the Chinese Institute of Engineers*, Vol. 32, No. 7, pp. 985-991, November 2009 (SCI).
- [30] **P.-A. Hsiung**, S.-W. Lin, and C.-S. Lin, “Real-Time Embedded Software Design for Mobile and Ubiquitous Systems,” *Journal of Signal Processing Systems (JSPS)*, Vol. 59, No. 1, pp. 13, Springer, April 2010 (SCI).
- [31] C.-H. Huang, **P.-A. Hsiung**, and J.-S. Shen, “UML-Based Hardware/Software Co-Design Platform for Dynamically Partially Reconfigurable Network Security Systems,” *Journal of Systems Architecture*, Vol. 56, Nos. 2-3, pp. 88–102, February 2010. (SCI)
- [32] C.-H. Lu, H.-W. Liao, and **P.-A. Hsiung**, “Multi-objective placement of reconfigurable hardware tasks in real-time system,” *International Journal of Embedded Systems*, Vol. 4, No. 3/4, pp. 195–203, Inderscience Publishers, 2010. (EI)
- [33] C.-H. Huang, **P.-A. Hsiung**, and J.-S. Shen, “Model-Based Platform-Specific Co-Design Methodology for Dynamically Partially Reconfigurable Systems with Hardware Virtualization and Preemption,” *Journal of Systems Architecture*, Vol. 56, No. 11, pp. 545–560, November 2010. (SCI)
- [34] **P.-A. Hsiung**, C.-H. Huang, J.-S. Shen, and C.-C. Chiang, “Scheduling and Placement of Hardware/Software Real-Time Relocatable Tasks in Dynamically Partially Reconfigurable Systems,” *ACM Transactions on Reconfigurable Technology and Systems (TRETS)*, Vol. 4, No. 1, Article 9, December 2010.
- [35] C.-H. Chang, C.-W. Lu, and **P.-A. Hsiung**, “Pattern-based Framework for Modularized Software Development and Evolution Robustness,” *Information and Software Technology (IST)*, Vol. 53, No. 4, pp. 307–316, April 2011. (SCI impact factor: 1.821)
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11 Tool and Software Developments

Dr. Hsiung has designed and implemented various system design and verification tools, including SGM, VERTAF, PLX OS, and FVP. SGM is a compositional model checker for real-time systems, including both hardware and software. VERTAF is an application framework for the design and verification of real-time embedded software. PLX OS is a simple operating system for the PLX processor. FVP is a formal verification platform for Systems-on-Chip (SoC) based on the SGM model checker.

1. **SGM**: (State-Graph Manipulators) The development of SGM, a compositional model checker for concurrent real-time systems, started from July 1997. It was a three year project in collaboration with Dr. Farn Wang, who was with Academia Sinica, Taipei at that time and is currently with the National Taiwan University. SGM has undergone various development phases, including its adaptation for assume-guarantee reasoning, for SoC verification, for multi-clock synchronization semantics, for mutation coverage, and for priority systems. The tool now

consists of more than 45,000 lines of C code, with a user-friendly graphical interface. It is currently licensed for use by more than 350 parties from more than 30 countries around the world. Both industry and academia people are using the tool for technology experiments and verification research. It has also been included in various popular known tool lists such as the *Formal Methods Virtual Library*. Current version SGM v2.0 can be downloaded at

"<http://www.cs.ccu.edu.tw/~pahsiung/sgm/>".

2. **VERTAF**: (Verifiable Embedded Real-Time Application Framework) VERTAF is a component-based application framework for the modeling, design, and verification of real-time embedded software. Three technologies are integrated in VERTAF, namely software component reuse, formal synthesis, and formal verification. This is a 3-year long-term project spanning years 2002 to 2005, funded by the National Science Council, Taiwan. The results of this project has been published in the *IEEE Transactions on Software Engineering*, Vol. 30, No. 10, October 2004, and other well-known journals. The tool is currently available as open source at the Open Foundry website

"<http://of.openfoundry.org/projects/610/download>".

The tool is now being extended to support multicore processor programming.

3. **PLX OS**: This is a simple operating system for the PLX processor. It consists a priority scheduler with round-robin scheduling for equal priority tasks. It has a memory manager, a locator, and a loader. It is available in open source from "<http://www.cs.ccu.edu.tw/~pahsiung/plxos/>".
4. **FVP**: (Formal Verification Platform) A model-checking platform for Systems-on-Chip (SoCs). Currently, FVP supports ARM's AMBA and IBM's Coreconnect bus-based SoC architectures. Implemented technologies include extended timed automata models for each bus component (master, slave, arbiter, bridge), compositional model checking, functional abstraction, transaction-level verification, semi- or dynamic formal verification, and coverage estimations for a set of TCTL properties in model checking. This platform is based on SGM and has been successfully applied to SoCs.

12 Invited Tutorials and Short Courses

1. "Fundamentals of Deep Learning," Chitkara University, India, October 9–10, 2020 (online 2-day course).
2. "Fundamentals of Deep Learning," Indian Institute of Technology (IIT) Ropar, India, August 15–17, 2020 (online 3-day course).
3. "Application of RFID Technology to Special Education," National Chiayi School of Special Education, Chiayi, Taiwan, November 5 and 7, 2008 (Invited 5 hours Short Course).
4. "Formal Verification," National Taichung University, Department of Computer and Information Science, Taichung, Taiwan, August 28 and September 4, 2008 (Invited 10 hours Short Course).
5. "Embedded Operating System Design for SIMD Processors," IEEE SoC Conference (SOCC), Invited Tutorial, Hsinchu, Taiwan, September 28, 2007.

6. “Embedded Software Design,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, March 4, 5, 18, 19, 2006 (Invited 24-hours Tutorial Course).
7. “Embedded Software Design,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, January 7, 8, 21, 22, 2006 (Invited 24-hours Tutorial Course).
8. “Embedded Software Design,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, June 18, 19, July 2, 3, 2005 (Invited 30-hours Tutorial Course).
9. “Digital Camera Chipset Design and Verification,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, January 7, 2005 (Invited Full-Day Tutorial).
10. “Design and Verification of Digital Camera SoC,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, June 29, 2004 (Invited Full-Day Tutorial).
11. “Introduction to Hardware-Software Codesign,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, February 29, 2004 (Invited Full-Day Tutorial).
12. “Design Verification for System-on-Chip,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, January 31, February 10, and February 28 2004 (Invited 3-Day Tutorials).
13. “System-on-Chip Design,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, January 10, 2004 (Invited Full-Day Tutorial).
14. “Verification and Validation of Mobile Applications,” Summer Course on Wireless Mobile Applications, Department of Electrical Engineering, National Chung Cheng University, Chiayi, Taiwan, July 28, 29, 2003.
15. “Embedded Software Design,” Tecom Company Ltd., Hsin-Chu, Taiwan, March 28, 2003 (Invited Half-Day Tutorial).
16. “Embedded Software Design,” Tze-Chiang Foundation of Science and Technology, Hsin-Chu, Taiwan, February 21, 2003 (Invited Full-Day Tutorial).
17. “Hardware-Software Co-design,” Tze-Chiang Foundation of Science and Technology, Educational Training Center, Taipei, Taiwan, October 4, 2002 (Invited Full-Day Tutorial).
18. “Embedded System Design,” Tze-Chiang Foundation of Science and Technology, Educational Training Center, Taipei, Taiwan, September 27, 2002 (Invited Full-Day Tutorial).

13 Invited Talks

1. “Deep Learning Applications”, Keynote Speech, WECON’2021 (*7th International World Engineering Conference on Contemporary Technologies*), Chitkara University, India, April 16–17, 2021.

2. “Deep Neural Network-based Detection of Human and Luggage Interactions ”, Keynote Speech, 4th International Conference on Informatics, Computing and Big Data Technology (ICICBDT), Singapore, April 2–3, 2021.
3. “Efficient Detection of Human Object Interactions ”, Tunghai University, November 30, 2020.
4. “Smart City Development in Taiwan,” GIA session, Bengaluru Tech Summit, November 20, 2020.
5. “Deep Neural Network-based Detection of Human and Luggage Interactions ”, National Ilan University, November 20, 2020.
6. “Introduction to Deep Learning,” School of Data Science, Symbiosis Skills and Professional University, Pune, India, November 4, 2020.
7. “Deep Neural Network-based Detection of Human and Luggage Interactions ”, Nehru Institute of Engineering and Technology, Coimbatore, Tamil Nadu, India, October 17, 2020.
8. “Deep Neural Network-based Detection of Human and Luggage Interactions ”, ABHAV Foundation, India, October 16, 2020.
9. “Deep Neural Network-based Detection of Human and Luggage Interactions ”, Faculty Development Program, Panimalar Engineering College, India, September 9, 2020.
10. “Deep Neural Network-based Data Reconstruction for Landslide Prediction,” Keynote Speech, National Conference on Web Intelligence and Applications, July 31–August 1, 2020.
11. “Deep Neural Network-based Data Reconstruction for Landslide Prediction,” Keynote Speech, International Faculty Development Program, Raj Kumar Goel Institute of Technology (RKGIT), Department of Computer Science and Engineering, India, International Association of Professionals & Fellow Engineers, Delaware, USA, and Indo-UK Confederation of Science, Technology & Research, LTD., London, UK, July 13, 2020.
12. “Deep Neural Network-based Data Reconstruction for Landslide Prediction,” Keynote Speech, International e-Conference on Information, Communication and Networking (IECICN), Easwari Engineering College, Anna University, India, July 10, 2020.
13. “Deep Neural Network-based Data Reconstruction for Landslide Prediction,” International Webinar, IEEE and Computer Society of India, Karunya Institute of Technology and Sciences, India, June 24, 2020.
14. “The Future of AI Collaboration between India and Taiwan,” International Webinar, Carnegie India, June 11, 2020.
15. “Deep Neural Network-based Data Reconstruction for Landslide Prediction,” Keynote Speech, International Conference on Advances in Computing, Communication, Embedded and Secure Systems (ACCESS), ADI Shankara Institute of Engineering and Technology, Kalady, Ernakulam, India, May 28–30, 2020.
16. “Deep Neural Network-based Data Reconstruction for Landslide Prediction,” Keynote Speech, International Conference on Computing, Analytics and Networks (ICAN), Chitkara University, India, February 2020.

17. "Deep Neural Network-based Data Reconstruction for Landslide Prediction," Department of Computer Science and Information Engineering, I-Shou University, Taiwan, December 2019.
18. "Industrial AI – From a Smart City Perspective," International Winter School, College of Engineering, National Chung Cheng University, Taiwan, December 2019.
19. "AI+1," AI Talks Forum, Tunghai University and Asia University, November 2019.
20. "Industrial AI from a Smart City Perspective," Expert Forum, October 2019.
21. "Effects of AI on our Industry," Labour Ministry, Taiwan, August and September, 2019.
22. "Smart City," Panimalar College of Engineering, India, March 2019.
23. "Deep Neural Network-based Data Reconstruction for Landslide Detection," Department of Electronic Engineering, National Taipei University of Technology, Taiwan, February 2019.
24. "People-Centred Smart Soft Power," AI Computing Workshop, July 2018.
25. "Model Predictive Optimization for Smart Grid Design," Department of Software Engineering and Management, National Kaohsiung Normal University, June 2017.
26. "The 3Rs of Internationalization," English Language Teaching and Learning Conference, May 20, 2017.
27. "The Rise of Artificial Intelligence," National Chung Cheng University, May 2017.
28. "The Return of Artificial Intelligence," Examination Ministry, Taiwan, August 2015.
29. "Reconfigurable Network-on-Chip Design," Department of Computer Science, National University of Singapore, August 2013.
30. "SAT-based Formal Verification of Security Systems," Temasek Laboratories, National University of Singapore, August 2013.
31. "Reconfigurable Network-on-Chip Design," Temasek Laboratories, National University of Singapore, August 2013.
32. "Reconfigurable Network-on-Chip Design," Electronic Design Automation Workshop, Taoyuan, Taiwan, December 2012.
33. "SAHA: A Self-Adaptive Hardware-Software System Architecture for Ubiquitous Computing Applications," International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA), Las Vegas, Nevada, USA, July 2011.
34. "Model-driven Development of Multi-core Embedded Software," Department of Computer Science and Information Engineering, National Central University, Taiwan, April 2011.
35. "Model-driven Development of Multi-core Embedded Software," Department of Computer Science, National Cheng-Chi University, Taipei, Taiwan, March 2011.

36. "Learning-based Assume Guarantee Synthesis," 1st Workshop on Automated Verification, Analysis and Synthesis (WAVAS), Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, February 2011.
37. "Reconfigurable System Design," National Taipei University of Technology, Department of Electronic Engineering, Taipei, Taiwan, October 2010.
38. "Reconfigurable Network-on-Chip Design," National Tai-Tung University, Department of Computer Science and Information Engineering, Taitung, Taiwan, May 2010.
39. "Reconfigurable Network-on-Chip," National Chiao Tung University, Department of Computer Science and Information Engineering, Hsinchu, Taiwan, May 2010.
40. "Model-Driven Multi-Core Embedded Software Design," Feng Chia University, Department of Computer Science and Information Engineering, Taichung, Taiwan, April 2010.
41. "Reconfigurable Computing," National Taipei University of Technology, Department of Electronic Engineering, Taipei, Taiwan, November 5, 2009.
42. "Low Power Scheduling for Embedded Systems using Real-Time Petri Nets," Artificial Intelligence Forum, Taipei, Taiwan, May 16, 2009.
43. "Model Checking Safety-Critical Systems using Safecharts," National Taiwan Normal University, Department of Computer Science and Information Engineering, Taipei, Taiwan, December 17, 2008.
44. "Reconfigurable System Design using FPGA," Kun Shan University, Department of Electronic Engineering, Tainan, Taiwan, November 25, 2008.
45. "Reconfigurable System Design using FPGA," National Taiwan University of Science and Technology, Department of Electronics Engineering, Taipei, Taiwan, November 24, 2008.
46. "Synchronous Distance Learning Techniques," Workshop on Distance Learning Course Design and Certification, E-Learning Center, National Chung Cheng University, July 16, 2008.
47. "Information Engineering and Me!" CCU-CSIE Camp, National Chung Cheng University, July 7, 2008.
48. "Modeling and Formal Analysis of Safety-Critical Systems using Extended Safecharts," The 4th Taiwanese-French Conference on Information Technology (TFIT), Taipei, Taiwan, March 3, 2008.
49. "VERTAF: Verifiable Embedded Real-Time Application Framework," Tung-Hai University, Department of Computer Science and Information Engineering, Taichung, Taiwan, January 18, 2008.
50. "Reconfigurable System Design," National Pingtung Institute of Commerce (NPIC), Department of Information Technology, Pingtung, Taiwan, November 30, 2007.
51. "Reconfigurable System Design and Verification," National Taiwan University of Science and Technology, Taipei, Taiwan, October 22, 2007.
52. "Reconfigurable Hardware Design," National Changhua University of Education, Department of Electronics Engineering, Changhua, Taiwan, June 22, 2007.

53. "System-Level Design using SystemC," Graduate Institute of Electronic Engineering, National Taiwan University, Taipei, Taiwan, April 3, 2007.
54. "Dynamically Reconfigurable Hardware-Software Systems," Department of Computer Science and Information Engineering, National Changhua University of Education, Changhua, Taiwan, April 18, 2006.
55. "Dynamically Reconfigurable Hardware-Software Systems," Department of Computer Science and Information Engineering, Chao-Yang Technical University, Taichung, Taiwan, March 28, 2006.
56. "Hardware-Software Codesign Techniques for Reconfigurable Systems," Department of Computer Science and Engineering, National Sun Yat Sen University, Kaohsiung, Taiwan, March 10, 2006.
57. "Case Studies on Software Failures," Software Engineering and Quality Workshop, Southern Taiwan University of Technology, Department of Computer Science and Information Engineering, Tainan, Taiwan, December 2, 2005.
58. "Hardware-Software Codesign of Dynamically Reconfigurable Systems," National Taipei University of Technology, Department of Electronic Engineering, Taipei, Taiwan, November 16, 2005.
59. "Dynamically Reconfigurable System-on-Chip Hardware-Software Codesign," National Taiwan University, Department of Computer Science and Information Engineering, Taipei, Taiwan, November 4, 2005.
60. "Hardware-Software Codesign of Dynamically Reconfigurable System-on-Chip," Fu-Jen University, Department of Electronic Engineering, Taipei, Taiwan, September 28, 2005.
61. "Reconfigurable System-on-Chip Design," SoC Design Workshop, Institute of Applied Electronic Technology, National Taiwan Normal University (NTNU), Taiwan, December 31, 2004.
62. "Automatic Synthesis and Verification of Real-Time Embedded Software," National Huwei University of Science and Technology, Department of Computer Science and Information Engineering, Hu-Wei, Taiwan, September 30, 2004.
63. "A Formal Verification Platform for SoC," National Chiao Tung University, Department of Computer and Information Science, Hsinchu, Taiwan, May 25, 2004.
64. "Framework-based Formal Design and Verification of Real-Time Embedded Software," Taiwan-France Research and Technology Collaboration Workshop, Paris, France, April 14–16, 2004.
65. "A Formal Verification Platform for SoC," 3rd Annual Emerging Information Technology Conference (EITC), Princeton University, USA, October 31, 2003.
66. "Co-design Models, Architectures, and Specification Languages," Department of Electrical Engineering, National Taiwan University, Taipei, February 25, 2003.
67. "Formal Methods for Real-Time Embedded Software Engineering," Department of Computer Science, National Tsing-Hua University, Hsinchu, May 22, 2002.
68. "Automatic Synthesis and Code Generation of Real-Time Embedded Software," Department of Electrical Engineering, National Cheng-Kung University, Tainan, April 26, 2002.

69. "Formal Verification of SoC," Department of Electrical Engineering, National Taiwan University, Taipei, March 25, 2002.
70. "Real-Time Embedded Software Synthesis," Department of Electrical Engineering, Da-Yeh University, Chang-Hua, March 18, 2002.
71. "Current Research Work," IICM Annual Meeting, K.T. Li Research Awarding Ceremony, National Taiwan University, Taipei, January 26, 2002.
72. "Real-Time Embedded Software Synthesis," Department of Electrical Engineering, Chung Cheng Institute of Technology, National Defense University, Taoyuan, November 29, 2001.
73. "Compositional Verification of Concurrent Real-Time Systems," Department of Computer Science and Information Engineering, Fu-Jen Catholic University, Hsin-chuang, Taiwan, May 17, 2000.
74. "Compositional Verification of Concurrent Real-Time Systems," Department of Computer Science and Information Engineering, National Chung-Cheng University, Chiayi, Taiwan, May 3, 2000.
75. "Compositional Verification of Concurrent Real-Time Systems," Department of Computer Science and Information Engineering, Tatung University, Taipei, Taiwan, April 17, 2000.
76. "Compositional Verification of Concurrent Real-Time Systems," Department of Computer Science and Information Engineering, National Chi-Nan University, Nantou, March 16, 2000.
77. "Compositional Verification of Concurrent Real-Time Systems," *Graduate Seminar Talk*, Graduate Institute of Computer Science and Information Engineering, National Taiwan University, Taipei, March 10, 2000.
78. "A Case Study in Hardware-Software Codesign – Vehicle Parking Management System," *Graduate Seminar Talk*, Graduate Institute of Electrical Engineering, Tamkang University, Taipei, December 6, 1999.
79. "User Friendly Verification," *Graduate Seminar Talk*, Graduate Institute of Electrical Engineering, Tamkang University, Taipei, December 6, 1999.
80. "Hardware-Software Codesign and Coverification," *Graduate Seminar Talk*, Graduate Institute of Electrical Engineering, Chang-Keng University, Kwei-Shan, Taiwan, March 15, 1999.
81. "User-Friendly Verification," *Graduate Seminar Talk*, Graduate Institute of Computer Science and Information Engineering, National Chiao-Tung University, Hsin-Chu, Taiwan, March 9, 1999.
82. "SGM: A User-Friendly Verification Environment," *3rd Joint Seminar on Programming Languages and Systems*, National Taiwan University and Institute of Information Science, Academia Sinica, March 5, 1999.

14 Journal Editorships

14.1 Editorial Board Member of several journals

1. Editorial Board Member, IEEE Consumer Electronics Magazine, IEEE, since 2022.
2. Editorial Board Member, Advances in Computer Science and Engineering, Pushpa Publishing House, India, since 2022.
3. Editorial Board Member, Bulletin of Engineering & Technology & Application, OJS/PKP, since 2021.
4. Editorial Board Member, Advances in Computer Sciences, Boffin Access Limited, London, UK, since 2020.
5. Editorial Board Member, Vehicles, MDPI, from 2020.
6. Editorial Board Member, Journal of Electronic and Information Systems, Bilingual Publishing Company, Singapore.
7. Editorial Board Member, Artificial Intelligence Evolution (AIE), Universal Wiser Publisher, Singapore.
8. Editorial Board Member, Cloud Computing and Data Science (CCDS), Universal Wiser Publisher, Singapore.
9. Advisory Board, The Journal of Technology Management for Growing Economies (JTMGE), Chitkara University Publications, India, since 2019.
10. Editor, Annals of Reviews and Research (ARR), Juniper Publishers, since 2019.
11. Associate Editor, Journal of Green Engineering, since 2019.
12. Editorial Board Member, Journal of Computer Hardware Engineering, EnPress Publisher LLC, USA, since 2018.
13. Editorial Board Member, Journal of Computer Software and Media Applications, EnPress Publisher LLC, USA, since 2018.
14. Editorial Board Member, Computer System Networking and Telecommunications, Whioce Publications, Singapore, since 2018.
15. Editorial Board Member, Advance in Environmental Waste Management and Recycling (AEWMR), OPAST Group LLC, since 2018.
16. Associate Editor for Far East, International Journal of Computational Complexity and Intelligent Algorithms (IJCCIA), since 2017.
17. Topics Editor-in-Chief, Automated Control Systems, *International Journal of Intelligent Information Processing* (IJIIP), Human and Sciences Publication, since 2011.
18. Editor, *International Journal of Advancements in Computing Technology* (IJACT), Advanced Institute of Convergence IT, since 2011 (topic editor-in-chief for software engineering from 2011 to 2017).
19. Editorial Board Member, *Open Conference Proceedings Journal*, Bentham Open, USA, since 2014.

20. Editorial Board Member, *Current Advances in Artificial Intelligence* (CAAI), American V-King Scientific Publishing, LTD, USA, since 2013.
21. Associate Editor, *Aloy Journal of Soft Computing and Applications* (AJSCA), Aloy Publishers, USA, since 2013.
22. Editorial Board Member, *International Journal of Circuits and Architecture Design* (IJCAD), Inderscience Publishers, USA, since 2013.
23. Editor, *Universal Journal of Software Engineering*, Prakriti Publications, India, 2013 ~ 2016.
24. Editor, *Journal of Circuit, Architecture and Design*, IDOSI, India, since 2012.
25. Editor, *Conference Papers in Computer Science*, Hindawi Publishing Corporation, USA, (<http://www.cpis.com/journals/cs/>), since 2012.
26. Editor, *International Journal of Next Generation Information Technology* (JNIT), Human and Sciences Publication, since 2011.
27. Editor, *International Journal of Advances in Information Sciences and Service Sciences* (AISS), Advanced Institute of Convergence IT, since 2011.
28. Editor, *International Journal of Embedded Systems* (IJES), Inderscience Publishers, USA, (<http://www.inderscience.com>), since 2003.
29. Associate Editor, *Journal of Software Engineering* (JSE), Academic Journals, Inc., USA, (<http://www.academicjournals.net>), since 2006.
30. Editorial Board Member, *Open Computer Science Journal*, Bentham Science Publishers, Ltd., USA, (<http://www.bentham.org/>) since 2014.
31. International Editorial Board Member, *International Journal of Patterns* (IJOP), USA, (<http://www.ijop.org/>), June 2007 ~ now.
32. Editorial Board Member, *International Journal of Multimedia and Ubiquitous Engineering* (IJMUE), Science and Engineering Research Center (SERSC), USA, (<http://www.sersc.org/>) since 2007.

14.2 Guest Editing Journal Special Issues

1. Editorial Member, Special Issue on “Hardware/Software Support for High Performance Scientific and Engineering Computing,” *IEICE Transactions on Information and Systems*, 2004.
2. Guest Editor, Special Issue on “Hardware-Software Codesign of System-on-Chips,” *International Journal of Embedded Systems* (IJES), Vol. 1, No. 1/2, Inderscience Publishers, USA, 2005.
3. Guest Editor, Special Issue on “Real-Time Embedded Software,” *International Journal of Embedded Systems* (IJES), Vol. 2, No. 3/4, Inderscience Publishers, USA, 2006.
4. Guest Editor, Special Issue on “Reconfigurable and Multi-Core Embedded Systems,” *International Journal of Embedded Systems* (IJES), Vol. 4, No. 3/4, Inderscience Publishers, USA, 2010.
5. Guest Editor, Special Issue on “Embedded Multicore Systems: Architecture, Performance and Application,” *Microprocessors and Microsystems*, Elsevier, 2012.

6. Guest Editor, Special Issues for The International Workshop on Bioinformatics and Ubiquitous Computing, *Computers and Electrical Engineering*, Computing and Informatics (SCI journals), 2013.
7. Guest Co-Editor, Special Issue on Programming and Architecture Support for Embedded Multicore SoC Systems, *International Journal of Adaptive and Innovative Systems* (IJ AIS) InderScience publishers, 2014.
8. Guest Co-Editor, Special issue on Embedded Multicore and Many-core Architectures, *International Journal of Embedded Systems* (IJES), Inderscience publishers, 2014.
9. Guest Co-Editor, Special issue on Next Generation Technologies for Building Sustainable Smart Cities, *Sustainability*, MDPI, 2021.

15 Conference Program Committee Member

Dr. Hsiung has served in several program committees of international conferences and workshops.

1. PDPTA'99 (*International Conference on Parallel and Distributed Processing Techniques and Applications*), Las Vegas, Nevada, USA, June-July 1999.
2. RTC'99 (International Workshop on Real-Time Constraints), Alexandria, Virginia, USA, October 1999.
3. DSVV'2000 (International Workshop on Distributed System Validation and Verification), Taipei, Taiwan, April 2000.
4. PDPTA'2000 (*International Conference on Parallel and Distributed Processing Techniques and Applications*), Las Vegas, Nevada, USA, June 2000.
5. SPDSEC'2002 (*The 1st Workshop on Hardware/Software Support for Parallel and Distributed Scientific and Engineering Applications*), PACT Workshop, USA, September 2002.
6. ICS'2002 (*International Computer Symposium*), International Workshop on Computer Systems, Taipei, December 2002.
7. RTCSA'2003 (*The 9th International Conference on Real-Time and Embedded Computing Systems and Applications*), Tainan, Taiwan, February 2003.
8. SHPSEC'2003, (*The 2nd Workshop on Hardware/Software Support for High Performance Scientific and Engineering Computing*), in conjunction with *The 12th International Conference on Parallel Architectures and Compilation Techniques* (PACT-03), USA, September 2003.
9. AANET'2003 (*International Workshop on Applications of Ad Hoc Networks*), Kaohsiung, Taiwan, October 2003.
10. ATVA'2003 (*The 1st Workshop on Automated Technology for Verification and Analysis*), National Taiwan University, Taipei, Taiwan, December 2003.
11. EC'2004 (*The 1st International Workshop on Embedded Computing*), In conjunction with ICDCS'2004, Tokyo, Japan, March 2004.
12. EUC'2004 (*International Conference on Embedded and Ubiquitous Computing*), Aizu, Japan, August 26-28, 2004.

13. ATVA'2004 (*The 2nd International Symposium on Automated Technology for Verification and Analysis*), National Taiwan University, Taipei, Taiwan, October 2004.
14. IEHSC'2005 (*International Embedded and Hybrid Systems Conference*), Singapore, International Scientific Committee Member, April 12–15, 2005.
15. EC'2005 (*The 2nd International Workshop on Embedded Computing*), Oslo, Norway, June 14–17, 2005.
16. PDES'2005 (*The 1st International Workshop on Parallel and Distributed Embedded Systems*), Fukuoka Institute of Technology, Japan, July 20–22, 2005.
17. CODES+ISSS'2005 (*The 3rd International Symposium on Hardware-Software Codesign and System Synthesis*), New York, USA, September 19-21, 2005.
18. ATVA'2005 (*The 3rd International Symposium on Automated Technology for Verification and Analysis*), National Taiwan University, Taipei, Taiwan, October 2005.
19. TFIT'2005 (*The 2nd Taiwanese-French Conference in Information Technologies*), National Cheng Kung University, Tainan, Taiwan, March 2005.
20. HPCC'2005 (*The 2005 International Conference on High Performance Computing and Communications*), Sorrento (Naples), Italy, September 2005.
21. EUC'2005 (*The 2005 IFIP International Conference on Embedded and Ubiquitous Computing*), Nagasaki, Japan, December 2005.
22. AINA'2006 (*The 20th IEEE Advanced Information Networking and Applications*), Vienna, Austria, April 2006.
23. EC'2006 (*The 3rd International Workshop on Embedded Computing*), Columbus, Ohio, USA, August 2006.
24. ESO'2006 (*The 1st International Workshop on Embedded Software Optimization*), Seoul, Korea, August 2006.
25. IWSE'2006 (*The 2006 International Workshop on Software Engineering*, Hong Kong, China, June 2006. (in conjunction with IMECS'2006))
26. EUC'2006 (*The 2006 IFIP International Conference on Embedded and Ubiquitous Computing*), Seoul, Korea, August 2006.
27. CODES+ISSS'2006 (*The 4th International Symposium on Hardware-Software Codesign and System Synthesis*), Seoul, Korea, October 23-25, 2006.
28. RTCSA'2006 (*The 12th IEEE International Conference on Embedded and Real-Time Computing and Applications*), Sidney, Australia, August 16-18, 2006.
29. SAPC'2006 (*The 1st International Workshop on Software and Algorithmic Aspects of Pervasive Computing*), Changsha, China, October 21-23, 2006.
30. SoC'2006 (*International Workshop on SoC and MCoS Design*, in conjunction with the 4th International Conference on Advances in Mobile Computing and Multimedia), Yogyakarta, Indonesia, December 4-6, 2006.
31. ICMUE'2007 (*The International Conference on Multimedia and Ubiquitous Engineering*), Cheju Island, Korea, November 9-11, 2007.

32. IRMA'2007 (*The Information Resources Management Association International Conference*), Vancouver, Canada, May 19-23, 2007.
33. ICSE'2007 (*IAENG International Conference on Software Engineering*), Hong Kong, March 21-23, 2007.
34. MCSoc'2007 (*International Workshop on Embedded Single and Multicore Systems on Chips*), XiAn, China, September 10–14, 2007.
35. ICESS'2007 (*International Conference on Embedded Software and Systems*), Korea, May 14–16, 2007.
36. SPAC'2007 (*The First IEEE International Workshop on Software Patterns: Addressing Challenges*), Beijing, China, July 24–27, 2007.
37. CODES+ISSS'2007 (*The 5th International Symposium on Hardware-Software Codesign and System Synthesis*), Salzburg, Austria, September 30-October 5, 2007.
38. IPC'2007 (*The 2007 International Conference on Intelligent Pervasive Computing*), Jeju Island, Korea, October 12–13, 2007.
39. USE'2007 (*The 1st IEEE/ACM International Workshop on Unified Software Engines for Any Domain: Addressing The Challenges*, Atlanta, Georgia, November 5-9, 2007.
40. IHS'2007 (*International Workshop on Intelligent Healthcare Systems*), in conjunction with IPC'2007 (*Intelligent Pervasive Computing*), Jeju Island, Korea, October 2007.
41. NCS'2007 (*National Computer Symposium*), Taichung Taiwan, December 2007.
42. ICMUE'2008 (*The International Conference on Multimedia and Ubiquitous Engineering*), Soeul, Korea, April 2008.
43. ISA'2008 (*The International Conference on Information Security and Assurance*), Busan, Korea, April 2008.
44. ICESS'2008 (*The 2008 International Conference on Embedded Software and Systems*), Sichuan, China, July 2008.
45. DIPES'2008 (*IFIP Working Conference on Distributed and Parallel Embedded Systems*), Milano, Italy, September 2008.
46. SEC'2008 (*5th IEEE International Symposium on Embedded Computing*), Beijing, China, October 2008.
47. TCSE'2008 (*4th Taiwan Conference on Software Engineering*), Tainan, Taiwan, June 2008.
48. CODES+ISSS'2008 (*The 5th International Symposium on Hardware-Software Codesign and System Synthesis*), Atlanta, Georgia, October 19-24, 2008.
49. EUC'2008 (*The 2008 IFIP International Conference on Embedded and Ubiquitous Computing*), Shanghai, China, December 17-20, 2008.
50. ESO'2008 (*The 3rd International Workshop on Embedded Software Optimization*), Shanghai, China, December 17-20, 2008.

51. PAL'2008 (*Conference on Innovative Application of System Prototyping and Circuit Design*), PAL Forum, Ministry of Education, National Chin-Yi University of Technology, Taiwan, October 2008.
52. ICESS'2009 (*The 2009 International Conference on Embedded Software and Systems*), Zhejiangan, China, May 2009.
53. MCSoc'2009 (*The 4th International Symposium on Embedded Multicore Systems-on-Chip*), Vienna, Austria, September 2009.
54. ISPAN'2009 (*The International Symposium on Pervasive Systems, Algorithms, and Networks*), Kaohsiung, Taiwan, December 2009.
55. CODES+ISSS'2009 (*The 6th International Conference on Hardware-Software Codesign and System Synthesis*), Grenoble, France, October 11-16, 2009.
56. EUC'2009 (*The 2009 IFIP International Conference on Embedded and Ubiquitous Computing*), Vancouver, Canada, August 29-31, 2009.
57. TCSE'2009 (*4th Taiwan Conference on Software Engineering*), Tainan, Taiwan, June 2009.
58. ICFPT'2009 (*The 2009 International Conference on Field-Programmable Technology*), Sydney, Australia, December 9–11, 2009.
59. EM-Com'2009 (*The 4th International Conference on Embedded and Multimedia Computing*), Jeju, Korea, December 10–12, 2009.
60. NCS'2009 (*National Computer Symposium*), Taiwan, December 2009.
61. MulGraB'2009 (*The 1st International Conference on Multimedia, Computer Graphics and Broadcasting*), Jeju Island, Korea, December 2009.
62. FPGA'2009 (*Workshop on Innovations and Applications in System Prototyping and Circuit Design*), Taiwan, October 16, 2009.
63. ITNG'2010 (*1st International Symposium on Networking and Wireless Communications*), Las Vegas, USA, April 12–14, 2010.
64. PDP'2010 (*The 18th Euromicro International Conference on Parallel, Distributed and Network-Based Computing*), Special session on On-Chip Parallel and Network-Based Systems, Pisa, Italy, February 17–19, 2010.
65. DIPES'2010 (*IFIP Working Conference on Distributed and Parallel Embedded Systems*), Brisbane, Australia, September 2010.
66. UCMA'2010 (*The 2010 International Conference Ubiquitous Computing and Multimedia Applications*), India, June 3–5, 2010.
67. UME'2010, 2010.
68. MulGraB'2010 (*The 2nd International Conference on Multimedia, Computer Graphics and Broadcasting*), Cebu Philipines, November 2010.
69. MCSoc'2010 (*The 5th International Symposium on Embedded Multicore Systems-on-Chip*), San Diego, California, USA, September 2010.
70. FPL'2010, (*The 20th International Conference on Field Programmable Logic and Applications*), Milano, Italy, August 31-September 2, 2010.

71. ICESS'2010, (*The 7th IEEE International Conference on Embedded Software and Systems*), Bradford, UK, 29 June - 1 July, 2010.
72. CODES+ISSS'2010 (*The International Conference on Hardware-Software Code-sign and System Synthesis*), Scottsdale, Arizona, USA, on October 24-29, 2010.
73. OOTA+TCSE'2010, (*2010 Joint Conference on Object-Oriented Technology and Applications (OOTA) and Software Engineering (TCSE)*), Taiwan, July 2010.
74. ReConFig'2010, (*2010 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 6–8, 2010.
75. FPT'2010 (*The 2010 International Conference on Field-Programmable Technology*), Beijing, China, December 8–10, 2010.
76. CUTE'2010 (*The 5th International Conference on Ubiquitous Information Technologies & Applications*), Sanya, China, December 2010.
77. UMCC'2010 (*The First International Workshop on Ubiquitous Multimedia Computing and Communication*), Xi'an, China, October 2010.
78. ITNG'2011 (*2nd International Symposium on Networking and Wireless Communications*), Las Vegas, USA, April 11–13, 2011.
79. CODES+ISSS'2011 (*The International Conference on Hardware-Software Code-sign and System Synthesis*), Taipei, Taiwan, on October 9-14, 2011.
80. UCMA'2011 (*The 2nd International Conference Ubiquitous Computing and Multimedia Applications*), Korea, April 13–15, 2011.
81. FPL'2011 (*The 21st International Conference on Field Programmable Logic and Applications*), Chania, Greece, September 5-7, 2011.
82. ICPP-EMS'2011 (*The 2011 International Workshop on Embedded Multicore Systems*), Taipei, Taiwan, September 13-16, 2011.
83. ATVA'2011 (*The 9th International Symposium on Automated Technology for Verification and Analysis*), Taipei, Taiwan, October 2011.
84. ERSA'2011 (*The International Conference on Engineering of Reconfigurable Systems and Algorithms*), Las Vegas, USA, July 18-22, 2011.
85. GreenCom'2011 (*The 2011 IEEE/ACM International Conference on Green Computing and Communications*), Chengdu, Sichuan, China, August 4-5, 2011.
86. ReConFig'2011, (*2011 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 6–8, 2011.
87. EUC'2011 (*The 9th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing*), Melbourne, Australia, October 24–26, 2011.
88. TCSE-OOTA'2011 (*2011 Joint Conference on Taiwan Software Engineering (TCSE) and Object-Oriented Technology and Applications (OOTA)*), Taiwan, July 8–9, 2011.
89. ICESS'2011 (*8th IEEE International Conference on Embedded Software and Systems*), Chang-Sha, China, November 16-18, 2011.
90. ESA'2011 (*2nd IEEE International Symposium on Advanced Topics on Embedded Systems and Applications*), Chang-Sha, China, November 16-18, 2011.

91. EmbeddedCom'2011 (*The 9th International Symposium on Embedded Computing*), Sydney, Australia, December 12-14, 2011.
92. ASP-DAC 2012 (*17th Asia and South Pacific Design Automation Conference*), Sydney, Australia, January 30 - February 2, 2012.
93. VLSI-DAT 2012 (*International Symposium on VLSI Design, Automation and Test*), Taiwan, April 2012.
94. MCSoc 2012 (*IEEE International Symposium on Embedded Multicore System-on-Chip*), Aizu-Wakamatsy, Japan, September 20-22, 2012.
95. EMC 2012 (*7th International Conference on Embedded and Multimedia Computing*), Korea, September 6–8, 2012.
96. GreenCom'2012 (*The 2012 IEEE/ACM International Conference on Green Computing and Communications*), Besancon, France, September 11-14, 2012.
97. FPL'2012 (*The 22nd International Conference on Field Programmable Logic and Applications*), Oslo, Norway, August 29-31, 2012.
98. ReCoSoC'2012 (*7th International Workshop on Reconfigurable Communication-Centric Systems-on-Chip*), York, UK, July 9-11, 2012.
99. CODES+ISSS'2012 (*The International Conference on Hardware-Software Code-sign and System Synthesis*), Tampere, Finland, on October 7-12, 2012.
100. ICPP-EMS'2012 (*The 2012 International Workshop on Embedded Multicore Systems*), Pittsburgh, USA, September 10-13, 2012.
101. EUC'2012 (*The 10th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing*), October 2012.
102. TCSE'2012 (*2012 Taiwan Conference on Software Engineering (TCSE)*), Taiwan, July 6–7, 2012.
103. ICS'2012 (*International Computer Symposium*), Workshop on Software Engineering and Programming Languages, 2012.
104. ReConFig'2012, (*2012 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 5–7, 2012.
105. APSEC'2012 (*The 19th Asia-Pacific Software Engineering Conference*), Emerging Research Track, Hong-Kong, December 4-7, 2012.
106. SmartIT'2012 (*International Workshop on Smart Devices, Applications, and Services*), Jeju, Korea, November 22-25, 2012.
107. WorldCIST'2013 (*The 2013 World Conference on Information Systems and Technologies*), Olhão, Algarve, Portugal , March 27-30, 2013.
108. VLSI-DAT'2013 (*International Symposium on VLSI Design, Automation and Test*), April 22-24, 2013.
109. ACCESS'2013 (*The International Congress on Advances in Citizen, Cyberspace & Environment Safety and Security*), Singapore, 5–7 June 2013.
110. RAW'2013 (*The 20th Reconfigurable Architecture Workshop*), Boston, USA, May 20-21, 2013.

111. MCSoc'2013 (*IEEE 7th International Symposium on Embedded Multicore SoCs*), Tokyo, Japan, September 26-28, 2013.
112. ICPP-EMS'2013 (*The 2013 International Workshop on Embedded Multicore Systems*), Lyon, France, October 1-4, 2013.
113. UCMA'2013 (*The 4th International Conference on Ubiquitous Computing and Multimedia Applications*), Xian China, May 23-25, 2013.
114. ePaMuS'2013(*The 6th International Workshop on Engineering Parallel and Multi-Core Systems*), Taichung, Taiwan, July 3-5, 2013.
115. NBS'2013 (*16th International Conference on Network-Based Information Systems*), Gwangju, Korea, September 4-6, 2013.
116. FPL'2013 (*23rd International Conference on Field Programmable Logic and Applications*), Porto, Portugal, September 2-4, 2013.
117. CODES+ISSS'2013 (*The International Conference on Hardware-Software Code-sign and System Synthesis*), Montreal, Canada, on September 29-October 4, 2013.
118. INTERNET'2013 (*The 5th International Conference on Evolving Internet*), Nice, France, July 21-26, 2013.
119. GreenCom'2013 (*IEEE International Conference on Green Computing and Communications*), Beijing, China, August 20-23, 2013.
120. ReCoSoC'2013 (*8th International Workshop on Reconfigurable Communication-Centric Systems-on-Chip*), Darmstadt, Germany, July 10-12, 2013.
121. EMC 2013 (*8th International Conference on Embedded and Multimedia Computing*), Taipei, Taiwan, August 22-24, 2013.
122. EITA 2013 (*Computers, Communications and IT Applications Conference*), Hong Kong, April 1-4, 2013.
123. SQHE 2013 (*International Workshop on Software Quality Assurance of Health-care System and Embedded System*), Nanjing, China, July 29-30, 2013.
124. EUC'2013 (*The 11th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing*), Zhangjiajie, China, November 2013.
125. TCSE'2013 (*2013 Taiwan Conference on Software Engineering (TCSE)*), Taiwan, July 5-6, 2013.
126. ICES'2013 (*The 10th IEEE International Conference on Embedded Software and Systems*), Sydney, Australia, December 3-5, 2013.
127. ReConFig'2013, (*2013 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 9-11, 2013.
128. APHC'2013 (*12th Asia-Pacific HL7 Conference on Health Care Information Standards*), Taipei, Taiwan, October 25-26, 2013.
129. NCS'2013 (*National Computer Symposium*), Workshop on Programming Language and Software Engineering, Taichung, December 13-14, 2013.
130. CECNet'2013 (*3rd International Conference on Consumer Electronics, Communications, and Networks*), Shenzhen, China, November 2013.

131. ICITCS'2013, (*International Conference on IT Convergence and Security*), Macau, China, December 16-18, 2013 .
132. HP3C'2014 (*International Conference on High Performance Compilation, Computing and Communications*), Aizu, Japan, September 24-26, 2014.
133. RAW'2014 (*The 21st Reconfigurable Architecture Workshop*), Phoenix, USA, May 18-19, 2014.
134. WRC'2014 (*8th HiPEAC Workshop on Reconfigurable Computing*), Vienna, Austria, January, 2014.
135. INTERNET'2014 (*The 6th International Conference on Evolving Internet*), Seville, Spain, June 22-26, 2014.
136. CISIS'2014 (*The 8th International Conference on Complex, Intelligent, and Software Intensive Systems*), Birmingham, UK, July 2–4, 2014.
137. ICPP-EMS'2014 (*The 2014 International Workshop on Embedded Multicore Systems*), USA, September 9-12, 2014.
138. COMPSAC'2014 (*38th IEEE International Computer Software and Applications Conference*), Västerås, Sweden, July 21-25 2014.
139. TSA'2014 (*1st International Conference on Trustworthy Systems and Applications*), Taichung, Taiwan, May 29-30, 2014.
140. FPL'2014 (*24th International Conference on Field Programmable Logic and Applications*), Munich, Germany, September 2-4, 2014.
141. EUC'2014 (*The 12th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing*), Milan, Italy, August 2014.
142. ICCESS'2014, (*11th IEEE International Conference on Embedded Software and Systems*), Paris, France, August 20-22, 2014.
143. EmbeddedCom'2014, (*12th IEEE International Conference on Embedded Computing*), Dalian, China, August 24-27, 2014.
144. SEC'2014 (*The International Conference on Smart Electronics and Communication*), Dalian, China, August 18-20, 2014.
145. EMC'2014 (*The 9th International Conference on Embedded and Multimedia Computing*), Ostrava, Czech Republic, August 25-17, 2014.
146. TCSE'2014 (*2014 Taiwan Conference on Software Engineering (TCSE)*), Taiwan, June 29-30, 2014.
147. VLSI Design'2014 (*The 25th VLSI Design/CAD Symposium*), Taichung, August 5–8, 2014.
148. CODES+ISSS'2014 (*The International Conference on Hardware-Software Code-sign and System Synthesis*), New Delhi, India, October 2014.
149. DASC'2014 (*12th IEEE International Conference on Dependable, Autonomic and Secure Computing*), Dalian, China, August 24–27, 2014.
150. ICS'2014 (*International Computer Symposium*), Taichung, Taiwan, December 2014.

151. INNOV'2014 (*The Third International Conference on Communications, Computation, Networks and Technologies*, Nice, France, October 12–16, 2014).
152. DEPEND'2014 (*The Seventh International Conference on Dependability*), Lisbon, Portugal, November 16-20, 2014.
153. ReConFig'2014, (*2014 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 8-10, 2014.
154. MulGraB'2014 (*The 6th International Conference on Multimedia, Computer Graphics and Broadcasting*), Hainan, China, December 2014.
155. INTERNET'2015 (*The 7th International Conference on Evolving Internet*), St. Julians, Malta, October 11-16, 2015.
156. ATVA'2015 (*The 13th International Symposium on Automated Technology for Verification and Analysis*), Shanghai, China, October 2015.
157. WRC'2015 (*9th HiPEAC Workshop on Reconfigurable Computing*), January 20, 2015, Amsterdam, The Netherlands.
158. CLOUD COMPUTING'2015 (*The 6th International Conference on Cloud Computing, GRIDs, and Virtualization*), Nice, France, March 2015.
159. iWAPT'2015 (*The Tenth International Workshop on Automatic Performance Tuning*), India, May 2015.
160. EMERGING'2015 (*The Seventh International Conference on Emerging Network Intelligence*), Nice, France, July 2015.
161. INNOV'2015 (*The Fourth International Conference on Communications, Computation, Networks and Technologies*, Spain, November 2015).
162. DEPEND'2015 (*The Eighth International Conference on Dependability*), Venice, Italy, August 23-28, 2015.
163. CODES+ISSS'2015 (*The International Conference on Hardware-Software Code-sign and System Synthesis*), Amsterdam, The Netherlands, October 2015.
164. ICITCS'2015 (*The 5th International Conference on IT Convergence and Security*), Kuala Lumpur, Malaysia, August 2015.
165. ReConFig'2015, (*2015 International Conference on Reconfigurable Computing and FPGAs*), Mayan Riviera, Mexico, December 7-9, 2015.
166. PICom'2015, (*The 13th IEEE International Conference on Pervasive Intelligence and Computing*), Liverpool, UK, October 2015.
167. GLOBAL TIE SUMMIT'2016 (*6th International Conference on Cloud System and Big Data Engineering*), UP, India, January 2016.
168. CLOUD COMPUTING'2016 (*The 7th International Conference on Cloud Computing, GRIDs, and Virtualization*), Rome, Italy, March 2016.
169. WRC'2016 (*10th HiPEAC Workshop on Reconfigurable Computing*), Amsterdam, The Netherlands, January 19, 2016.
170. ICC'2016 (*International Conference on Internet of Things and Cloud Computing*), Cambridge, UK, March 22-23, 2016.

171. PCom'2016, (*The 14th IEEE International Conference on Pervasive Intelligence and Computing*), Auckland, New Zealand, August 2016.
172. EMERGING'2016 (*The Eighth International Conference on Emerging Networks and Systems Intelligence*), Venice, October 2016.
173. DEPEND'2016 (*The Ninth International Conference on Dependability*), Nice, France, July 24-28, 2016.
174. ICMWT'2016 (*International Conference on Mobile and Wireless Technology*), Jeju, Korea, May 26, 2016.
175. INTERNET'2016 (*The 8th International Conference on Evolving Internet*), Barcelona, Spain, November 13-17, 2016.
176. PEC'2106 (*International Conference on Pervasive and Embedded Computing*), Lisbon, Portugal, July 25–27, 2016.
177. BICTA'2016 (*2nd International Conference on Big-data, IoT, Cloud Computing Technologies and Applications*), Jeju, Korea, March 24–26, 2016.
178. CODES+ISSS'2016 (*The International Conference on Hardware-Software Code-sign and System Synthesis*), Pittsburgh, USA, October 2–7, 2016.
179. INNOV'2016 (*The Fifth International Conference on Communications, Computation, Networks and Technologies*), Brussels, Belgium, August 21–25, 2016.
180. VLSI Design/CAD Symposium (*The 27th VLSI Design/CAD Symposium*), Hualien, Taiwan, August 4–7, 2016.
181. InCITe'2016 (*International Conference on Information Technology*), 2016.
182. TCSE'2016 (*2016 Taiwan Conference on Software Engineering*), Taiwan, July 8–9, 2016.
183. Internetware'2016 (*The Eighth Asia-Pacific Symposium on Internetware*), Beijing, China, September 18, 2016.
184. ReConFig'2016, (*2016 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 2, 2016.
185. TSA'2016 (*IEEE International Conference on Trustworthy Systems and Applications*), Wuhan, China, September 18-20, 2016.
186. ICCE'2017 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2017.
187. PEC'2107 (*International Conference on Pervasive and Embedded Computing*), Madrid, Spain, July 27–29, 2017.
188. WRC'2017 (*11th HiPEAC Workshop on Reconfigurable Computing*), Stockholm, Sweden, January 23, 2017.
189. ICATE'2017 (*International Conference on Advanced Technologies Enhancing Education*) Qingdao, China, March 18–20, 2017.
190. CSICT'2017 (*International Conference on Computer Science and Information Communication*), Qingdao, China, March 18–20, 2017.
191. PCom'2017, (*The 15th IEEE International Conference on Pervasive Intelligence and Computing*), Orlando, Florida, November 2017.

192. INTERNET'2017 (*The 9th International Conference on Evolving Internet*), Nice, France, July 23-27, 2017.
193. ICIIT'2017 (*International Conference on Intelligent Information Technology*), Chennai, India, December 20-22, 2017.
194. TCSE'2017 (*2017 Taiwan Conference on Software Engineering (TCSE)*), Taiwan, July 7-8, 2017.
195. DEPEND'2017 (*The Tenth International Conference on Dependability*), Rome, Italy, September 10–14, 2017.
196. iThings'2017 (*The 10th International Conference on Internet of Things*), Exeter, England, UK, June 21–23, 2017.
197. CEC'2017 (*7th International Conference on Electronics, Communications and Networks*), Hualien, Taiwan, Nov. 24–27, 2017.
198. EMERGING'2017 (*The Ninth International Conference on Emerging Networks and Systems Intelligence*), Barcelona, Spain, November 12–16, 2017.
199. ICITCS'2017 (*7th iCatse Conference on IT Convergence and Security*, South Korea, September 25–28, 2017)
200. ReConFig'2017, (*2017 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 4–6, 2017.
201. NCS'2017, (*National Computer Symposium*), Taiwan, December 2017.
202. SICBS'2017, (*International Conference on Security with Intelligent Computing and Big-data Services*), Taiwan, December 15–17, 2017.
203. NEXTCOM'2017 (*International Conference on Computational Strategies for Next Generation Technologies*), CT Institute of Engineering, Punjab, India, November 25–26, 2017.
204. Confluence'2018 (*The 8th International Conference on Cloud Computing, Data Science and Engineering*), Noida Uttar Pradesh, India, January 11-12, 2018.
205. ESG'2018 (*International Conference on Energy Engineering and Smart Grids*), Oxford, UK, June 4–5, 2018.
206. INTERNET'2018 (*The 10th International Conference on Evolving Internet*), Venice, Italy, June 24-28, 2018.
207. ICSC'2018 (*International Conference on Ingenious Computing and Smart Communication*), Tehri, Uttarakhand, India, March 20–25, 2018.
208. ICRIC'2018 (*International Conference on Recent Innovations in Computing*), J&K, India, March 5–6, 2018.
209. PEC'2018 (*International Conference on Pervasive and Embedded Computing*), Porto, Portugal, July 29–30, 2018.
210. WECON'2018 (*International Conference on Wireless Networks & Embedded Systems*), Chitkara University, India, November 16–17, 2018.
211. MCSoc'2018 (*IEEE 12th International Symposium on Embedded Multicore/Many-core Systems-on-Chips*), Vietnam, September 12-14, 2018.

212. PCom'2018, (*The 16th IEEE International Conference on Pervasive Intelligence and Computing*), Athens, Greece, August 2018.
213. FTNCT'2018, (*Futuristic Trends in Network and Communication Technology*), India, February 2018.
214. SmartCity'2018, (*16th IEEE International Conference on Smart City*), Exeter, England, UK, June 28–30, 2018.
215. ICPP-EMS'2018 *The 2018 International Workshop on Embedded Multicore Systems*, Eugene, Oregon, USA, August 13-16, 2018.
216. TCSE'2018 (*2018 Taiwan Conference on Software Engineering (TCSE)*), Taiwan, July 6-7, 2018.
217. ICCE'2018 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2018.
218. iThings'2018 (*The 11th International Conference on Internet of Things*), Halifax, Canada, July 30– August 3, 2018.
219. ICAICR'2018 (*2nd International Conference on Advanced Informatics for Computing Research*), Shimla, India, July 14–15, 2018.
220. ReConFig'2018, (*2018 International Conference on Reconfigurable Computing and FPGAs*), Cancun, Mexico, December 3–5, 2018.
221. NCS'2018, (*10th International Conference on Network and Communications Security*), Dubai, UAE, December 22–23, 2018.
222. PDGC'2018 (*Fifth IEEE International Conference on Parallel and Distributed Computing*), 2018.
223. ICCE'2019 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2019.
224. ASPAI'2019 (*The 1st International Conference on Advances in Signal Processing and Artificial Intelligence*), Barcelona, Spain, March 20–22, 2019.
225. CONFLUENCE'2019 (*9th International Conference on Cloud Computing, Data Science and Engineering*), January 10–11, 2019.
226. ICS'2019 (*International Computer Symposium*), Yunlin, Taiwan, December 2019.
227. INTERNET'2019 (*The 11th International Conference on Evolving Internet*), Rome, Italy, June 30 – July 4, 2019.
228. PEC'2019 (*International Conference on Pervasive and Embedded Computing and Computing Systems*), Vienna, Austria, September 19–20, 2019.
229. MIND'2019 (*International Conference on Machine Learning, Image Processing, Networks and Data Sciences*), NIT KRR, Haryana, India, March 3–4, 2019.
230. CSAI'2019, (*2nd International Conference on Computer Science and Artificial Intelligence*), Shenzhen University, Shenzhen, China, December 8–10, 2019.
231. ICCTRP'2019 (*International Conference on Computational Techniques & Tools for Research Problem Solving*), Bhopal, India, June 28–29, 2019.
232. ICETIT'2019 (*International Conference On Emerging Trends in Information Technology*), Delhi, India, June 21–22, 2019.

233. ScalCom'2019 (*The 19th IEEE International Conference on Scalable Computing and Communications*), Leicester, UK, August 19–23, 2019.
234. ICACCI'2019 (*8th International Conference on Advances in Computing, Communications and Informatics*), Kerala, India, December 18–21, 2019.
235. SASIMI'2019 (*22nd Workshop on Synthesis and System Integration of Mixed Information Technologies*), Tainan, Taiwan, October 21–22, 2019.
236. iThings'2019 (*The 12th International Conference on Internet of Things*), Atlanta, USA, July 14–17, 2019.
237. ICMWT'2019 (*The 6th International Conference on Mobile and Wireless Technology*, Seoul, Korea, December 16–18, 2019.)
238. ICCE'2019 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2019.
239. ICRIHE'2019 (*International Conference on Role of ICT in Higher Education: Trends, Problems and Prospects*), September 27–28, 2019.
240. NCS'2019 (*National Computer Symposium*), December 2019.
241. CSAI'2019 (*3rd International Conference on Computer Science and Artificial Intelligence*), Beijing, China, December 6–8, 2019.
242. SICBS'2019 (*3rd International Conference on Security with Intelligent Computing and Big-data Services*), New Taipei City, Taiwan, December 4–6, 2019.
243. ICACCT'2019 (*2nd International Conference on Advances in Computing & Communication Technology*), India, December 21–22, 2019.
244. ICCE'2020 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2020.
245. ETCCS'2020 (*Evolving Technologies in Computing, Communications and Smart-World*), C-DAC, Noida, India, January 31 to February 1, 2020.
246. ICRIHE'2020 (*Role of ICT in Higher Education: Trends, Problems and Prospects*), New Delhi, India, February 2020.
247. ICETIT'2020 (*International Conference On Emerging Trends in Information Technology*), Delhi, India, June 19–20, 2020.
248. MIND'2020 (*2nd International Conference on Machine Learning, Image Processing, Networks and Data Sciences*), NIT KRR, Haryana, India, April 23–24, 2020.
249. INTERNET'2020 (*The 12th International Conference on Evolving Internet*), Rome, Italy, June 30 – July 4, 2020.
250. ICICPS'2020 (*International Conference on Innovations in Cyber Physical Systems*), India, July 24–25, 2020.
251. ICIECT'2020 (*International Conference on Inventive Electronics and Computing Technologies*), India, June 17–18, 2020.
252. ICITCS'2020 (*8th International Conference on IT Convergence and Security*), Nha Trang, Vietnam, June 16–18, 2020.

253. CHSN'2020 (*International Conference on Computer Vision, High Performance Computing, Smart Devices and Networks*), JNTU Kakinada, India, May 9–10, 2020.
254. PECCS'2020 (*10th International Conference on Pervasive and Parallel Computing, Communication and Sensors*), Budapest, Hungary, November 4–5, 2020.
255. MRCN'2020 (*1st International Conference on Mobile Radio Communications and 5G Networks*), Haryana, India, March 26–28, 2020.
256. COMS2'2020 (*International Conference on Computing Science, Communication and Security*), Gujarat, India, March 26–28, 2020.
257. FTNCT'2020 (*Futuristic Trends in Networks and Computing Technologies*), Russia, October 14–16, 2020.
258. ICRIC'2020 (*International Conference on Recent Innovations in Computing*), Central University of Jammu Campus, India, March 20–21, 2020.
259. ICISA'2020 (*11th International Conference on Information Science and Application*), Bali, Indonesia, December 16–18, 2020.
260. ICFEM'2020 (*22nd International Conference on Formal Engineering Methods*), Singapore, November 2–6, 2020.
261. TCSE'2020 (*Taiwan Conference on Software Engineering*), Chiayi, Taiwan, July 16–17, 2020.
262. ICIC'2020 (*4th International Conference on Innovations in Computing*), Punjab, India, October 14–15, 2020.
263. CSAI'2020 (*4th International Conference on Computer Science and Artificial Intelligence*), Zhuhai, China, December 11–13, 2020.
264. NICS'2020 (*The 7th NAFOSTED Conference on Information and Computer Science*), Ho Chi Minh City, Vietnam, November 26–27, 2020.
265. SocialCom'2020 (13th IEEE International Symposium on Social Computing and Networking), Exeter, England, UK, October 15–17, 2020.
266. ADCOM'2020 (*26th International Conference on Advanced Computing and Communications*), National Institute of Technology, Silchar, December 16–18, 2020.
267. ScalCom'2020 (*The 20th IEEE International Conference on Scalable Computing and Communications*), Melbourne, Australia, December 8–10, 2020.
268. SASIMI'2021 (*23rd Workshop on Synthesis and System Integration of Mixed Information Technologies*), March 29–30, 2021.
269. ICCE'2021 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2021.
270. ScalCom'2021 (*The 21st IEEE International Conference on Scalable Computing and Communications*), Atlanta, USA, October 18–21, 2021.
271. ICITCS'2021 (*9th International Conference on IT Convergence and Security*), Virtual Conference, May 15–17, 2021.
272. ICIECT'2021 (*International Conference on Inventive Electronics and Computing Technologies*), October 8–9, 2021, Krishna Engineering College, UP, India.

273. ICICT'2021 (International Conference on "Issues and Challenges in Intelligent Computing Techniques), November 26–27, 2021, KIET Group of Institutions, India.
274. ICPP-EMS'2021 *The 2021 International Workshop on Embedded Multicore Systems*, 2021.
275. ICCE-TW'2021 (*International Conference on Consumer Electronics - Taiwan*), Penghu, Taiwan, June 2021.
276. ICISA'2021 (*12th International Conference on Information Science and Applications*), Virtual Conference, November 2021.
277. ICE3IS'2021 (*International Conference on Electronic and Electrical Engineering and Intelligent System*), 2021.
278. ICITAMEE'2021 (*2nd International Conference on Information Technology, Advanced Mechanical and Electrical Engineering*), Indonesia.
279. CSAI'2021 (5th International Conference on Computer Science and Artificial Intelligence), Beijing, China, December 2021.
280. CHSN'2021 (*International Conference on Computer Vision, High Performance Computing, Smart Devices and Networks*), August 2021.
281. ETCCS'2021 (*International Conference on Emerging Technologies for Computing, Communication and Smart Cities*), August 2021.
282. IC4S'2021 (*Fourth International Conference on Computing, Communications and Cyber Security (IC4S-2021)*), October 2021.
283. DSCI'2021 (*4th International Conference on Data Science and Computational Intelligence*), December 2021.
284. SmartCNS'2021 (*11th International Conference on Smart Computing, Networking and Services*), London, UK, December 2021.
285. DSCI'2021 (*4th International Conference on Data Science and Computational Intelligence*), London, UK, December 2021.
286. ETTIS'2021 (*2nd International Conference on "Emerging Trends and Technologies on Intelligent Systems*), online 2021.
287. ICCIDS'2022 (*International Conference on Computational Intelligence and Data Science*), Dehradun, India, April 2022.
288. ICFEM'2022 (*23rd International Conference on Formal Engineering Methods*), Madrid, Spain, October 2022.
289. IC4S'2022 (*Fourth International Conference on Computing, Communication and Cyber-Security*), 2022.
290. IVCMAASM'2022 (*International Virtual Conference on Machine Learning Applications in Applied Sciences and Mathematics*), March 2022.
291. ETTIS'2022 (*2nd International Conference on Emerging Trends and Technologies on Intelligent Systems*), March 2022.
292. ICRAEECE'2022 (*IEEE-International Conference on Recent Advances in Electrical, Electronics and Computer Engineering*), April 2022.

293. ICE3IS'2022 (*International Conference on Electronic and Electrical Engineering and Intelligent System*), Indonesia, 2022.
294. ICITAMEE'2022 (*2nd International Conference on Information Technology, Advanced Mechanical and Electrical Engineering*), Indonesia, 2022.
295. ICICSA'2022 (*Intelligent Computing Systems and Applications*), India, September 2022.
296. SASIMI'2022 (*24th Workshop on Synthesis and System Integration of Mixed Information Technologies*), October 24–25, 2022.
297. ICPP-EMS'2022 *International Workshop on Embedded Multicore Systems*, 2022.
298. ADSSS'2022 (*International Conference on “Applied Data Science and Smart Systems*), November 2022.
299. ICRIC'2022 (*5th International Conference on Recent Innovations in Computing*), India, 2022.
300. IWAIP'2023 (*International Workshop on Artificial Intelligent and Image Processing*), Indonesia, 2023.
301. ETTIS'2023 (*3rd International Conference on Emerging Trends and Technologies on Intelligent Systems*), 2023.
302. ICISA'2023 (*12th International Conference on Information Science and Application*), 2023.
303. ScalCom'2023 (*The 23rd IEEE International Conference on Scalable Computing and Communications*), Portsmouth, UK, August 25–28, 2023.
304. AMMES'2023 (*International Conference on Applied Mechatronics, Manufacturing and Electrical System*), Indonesia, December 1–2, 2023.

16 Conference Organization and Chairing

Dr. Hsiung has been actively seeking to organize conference sessions and international workshops in his fields of research interests.

1. **Session Organizer/Program Chair**, PDPTA'99 (*International Conference on Parallel and Distributed Processing Techniques and Applications*), *Special Session on Hardware-Software Codesign of Parallel and Distributed Systems*, Las Vegas, Nevada, USA, June-July 1999.
2. **Workshop Organizer and Program Chair**, RTC'99 (*International Workshop on Real-Time Constraints*), Alexandria, Virginia, USA, October 1999.
3. **Workshop Organizer and Program Chair**, DSVV'2000 (*International Workshop on Distributed System Validation and Verification*), Taipei, Taiwan, April 2000.
4. **Session Chair**, OOTSIG 2000 (*11th OOTSIG Workshop on Object-Oriented Technology and Applications*), Taichung, Taiwan, September 2000.
5. **Session Chair**, RTCSA 2000 (*7th International Conference on Real-Time Computing Systems and Applications*), Cheju Island, South Korea, December 2000.

6. **Session Chair**, TANET 2001 (*Workshop on Taiwan Academic Network and E-Learning*), Chiayi, Taiwan, November 2001.
7. **Session Chair**, RTCSA 2003 (*9th International Conference on Real-Time Computing Systems and Applications*), Tainan, Taiwan, February 2003.
8. **Program Vice-Chair for HW-SW Codesign and SoC**, EUC'2004 (*International Conference on Embedded and Ubiquitous Computing*), Aizu, Japan, August 26-28, 2004.
9. **Special Track Chair for Hardware-Software Coverification and Cosynthesis**, ATVA'2004 (*International Symposium on Automated Technology for Verification and Analysis*), National Taiwan University, Taipei, Taiwan, October 2004.
10. **Program Co-Chair**, PDES'2005 (*The 1st International Workshop on Parallel and Distributed Embedded Systems*), Fukuoka Institute of Technology, Japan, July 20-22, 2005.
11. **Session Chair**, VLSI Design/CAD'2005 (*VLSI Design / CAD Symposium*), Taiwan, August 2005.
12. **Panel Chair**, EUC'2005 (*The 2005 IFIP International Conference on Embedded and Ubiquitous Computing*), Nagasaki, Japan, December 2005.
13. **Session Chair**, VLSI Design/CAD'2007 (*VLSI Design / CAD Symposium*), Taiwan, August 2007.
14. **Track Co-Chair**, System-Level Design, SOCC 2007 (*IEEE International SoC Conference*), Taiwan, September 2007.
15. **Program Vice-Chair, Track Chair, Panelist** for Embedded Systems and Hardware-Software Co-design, EUC'2009 (*The 2009 IFIP International Conference on Embedded and Ubiquitous Computing*), Vancouver, Canada, August 2009.
16. **Workshop Organizer and Program Chair**, *International Workshop on Reconfigurable and Multicore Embedded Systems (WoRMES)*, August 2009.
17. **Track Chair**, Dynamic Spectrum Access Track, *1st International Symposium on Networking and Wireless Communications*, Las Vegas, USA, April 2010.
18. **Track Chair** for Embedded Systems and Hardware-Software Co-design, EUC'2010 (*The 2010 IFIP International Conference on Embedded and Ubiquitous Computing*), Hong Kong, China SAR, December 2010.
19. **Advisory Committee Member**, *Workshop on FPGA System Prototyping and Circuit Design Innovation*, 2010.
20. **Track Chair**, Dynamic Spectrum Access Track, *2nd International Symposium on Networking and Wireless Communications*, Las Vegas, USA, April 2011.
21. **Program Co-chair**, ATVA'2011 (*The 9th International Symposium on Automated Technology for Verification and Analysis*), Taipei, Taiwan, October 2011.
22. **Conference Co-chair**, ERSAs'2011 (*The International Conference on Engineering of Reconfigurable Systems and Algorithms*), Las Vegas, Nevada, USA, July 18-21, 2011.
23. **Publicity Co-Chair**, FPT'2012 (*International Conference on Field-Programmable Technology*), Seoul, Korea, December 2012.

24. **Program Chair**, HMC'2013 (*The 1st International Workshop on Heterogeneous Multi-Core Computing*), Japan, September 2013.
25. **Local Organizing Chair**, ePaMuS'2013 (*The 6th International Workshop on Engineering Parallel and Multi-Core Systems*), Taichung, Taiwan, July 2013.
26. **Steering Committee Member**, MCSoc'2014 (*IEEE 8th International Symposium on Embedded Multicore/Many-core SoCs*), September 2014.
27. **Steering Committee Member**, HP3C'2014 (*International Conference on High Performance Compilation, Computing and Communications*), University of Aizu, Japan, September 2014.
28. **Publicity Chair**, EUC'2014 (*International Conference on Embedded and Ubiquitous Computing*), 2014.
29. **Track Chair**, CISIS'2014 (*The 8th International Conference on Complex, Intelligent, and Software Intensive Systems*), July 2014.
30. **Workshop Chair**, Workshop on Computer Architecture, Embedded Systems, SoC, and VLSI/EDA, International Computer Symposium (ICS), December 2014.
31. **Program Chair**, 39th Annual International Computers, Software & Applications Conference (COMPSAC), Taichung, Taiwan, July 2015.
32. **Publicity Chair**, EUC'2015 (*International Conference on Embedded and Ubiquitous Computing*), 2015.
33. **Program Co-Chair**, ICS'2016 (*International Computer Symposium*), December 2016.
34. **Track Chair**, ICCE'2017 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2017.
35. **Advisory Committee**, IDEA'2017 (*International Conference on Data Engineering and Applications*), Bhopal, India, October 2017.
36. **Conference Chair**, ICAICR'2017 (*1st International Conference on Advanced Informatics for Computing Research*), India, March 17–18, 2017.
37. **Conference Chair**, NEXTCOM'2017 (*International Conference on Computational Strategies for Next Generation Technologies*), CT Institute of Engineering, Punjab, India, November 25–26, 2017.
38. **Advisory Committee**, TMSI'2018 (*International Conference on Technology, Management and Scientific Innovation towards Skill, Startup and Industrial Growth*), Bhopal, India, February 2018.
39. **Advisory Committee**, PDGC'2018 (*Fifth International Conference on Parallel, Distributed and Grid Computing*), Delhi, India, December 20–22, 2018.
40. **Advisory Committee**, ICSC'2018 (*International Conference on Ingenious Computing and Smart Communication*), Tehri, Uttarakhand, India, March 20–25, 2018.
41. **Program Chair**, CNC-2018 (*1st International Conference on Communication, Networks and Computing*), ITM University, India, March 22–24, 2018.
42. **Conference General Chair**, ICAICR'2018 (*2nd International Conference on Advanced Informatics for Computing Research*), India, July 2018.

43. **Track Chair**, ICCE'2018 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2018.
44. **Track Chair**, NICS'2018 (*The 5th NAFOSTED Conference on Information and Computer Science*), Ho Chi Minh City, Vietnam, November 23–24, 2018.
45. **Track Chair**, ICCE'2019 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2019.
46. **Honorary Chair**, FTNCT'2019 (*2nd International Conference on Futuristic Trends in Networks and Computing Technologies*), Waknagat, India, October 11–12, 2019.
47. **Organizing Chair**, ICRIC'2019 (*2nd International Conference on Recent Innovations in Computing*), Central University of Jammu, J&K, India, March 8–9, 2019.
48. **International Advisory Committee**, ICSC'2019 (*International Conference on Intelligent Computing and Smart Communication*), THDC-IHET, Tehri, India, April 20–21, 2019.
49. **International Advisory**, ICAICR'2019 (*3rd International Conference on Advanced Informatics for Computing Research*), India, June 2019.
50. **Program Chair**, CNC'2019 (*2nd International Conference on Communication, Networks and Computing*), ITM University, Gwalior, India, April 18–20, 2019.
51. **Track Chair**, NICS'2019 (*The 6th NAFOSTED Conference on Information and Computer Science*), Hanoi, Vietnam, December 12–13, 2019.
52. **Conference Chair and Co-Organizer**, IC-TECS'2019 (*International Conference for Top and Emerging Computer Scientists*), Taipei, Taiwan, December 20–23, 2019.
53. **Advisory Committee**, ETCCS'2020 (*Evolving Technologies in Computing, Communications and Smart-World*), C-DAC, Noida, India, January 31 to February 1, 2020.
54. **Track Chair**, ICCE'2020 (*International Conference on Consumer Electronics*), Las Vegas, USA, January 2020.
55. **International Advisory Committee**, ICETIT'2020 (*International Conference On Emerging Trends in Information Technology*), Delhi, India, June 19–20, 2020.
56. **Program Chair**, CSSE'2020 (*3rd International Conference on Computer Science and Software Engineering*), Beijing, China, May 22–24, 2020.
57. **International Advisory Committee**, COMS2'2020 (*International Conference on Computing Science, Communication and Security*), Gujarat, India, March 26–28, 2020.
58. **Organizing Committee Member**, Data Science'2020 (*2nd International Conference on Big Data Analytics and Data Science*), Paris, France, September 24–25, 2020.
59. **Honorary Chair**, FTNCT'2020 (*Futuristic Trends in Networks and Computing Technologies*), Russia, October 14–16, 2020.
60. **Advisory Committee Member**, ISCON'2021 (*5th International Conference on Information Systems and Computer Networks*), October 2021.

61. **Advisory Committee Member**, ICAMSER'2021 (*International Conference on Advances in Multi-Disciplinary Sciences and Engineering Research*), July 2–4, 2021.
62. **Advisory Committee Member**, WECON'2021 (*7th International World Engineering Conference on Contemporary Technologies*), Chitkara University, India, April 16–17, 2021.
63. **Advisory Committee Member**, ICCICT'2021 (*International Conference on Communication, Information and Computer Technology*), India, June 25–27, 2021.
64. **Advisory Committee Member**, *International Conference on Computational methods and Data Engineering*, Vellore, India.
65. **International Advisory Committee Member**, ICRIMB-2022 (*Conference on Role of ICT in Management and Business: Practices, Trends and Prospects*), Janakpuri, New Delhi, India, 2022.
66. **Advisory Committee Member**. ICCISC-2022 (*International Conference on Computational Intelligence and Smart Communication*), Dev Bhoomi Uttarakhand University, India, June 9–11, 2022.
67. **TPC Chair**, AIDE'2022 (*3rd International Conference on Artificial Intelligence and Data Engineering*), NMAM Technology, Nitte, Udupi, Karnataka, India, December 22–23, 2022..
68. **International Advisory Board Committee Member**, ICICSE'2022 (*10th International Conference on Innovations in Computer Science and Engineering*), Guru Nanak Institute of Technology, Hyderabad, Telangana, India, September 16–17, 2022.
69. **Advisory Committee Member**, iQC-CHESS'2023 (*IEEE International conference on Quantum Communications, Computing, Hardware and Embedded Secure Systems*), IIIT Kottayam, February 16–17, 2023.
70. **Advisory Committee Member**, UTCA'2023 (*International Conference on Ubiquitous Technology in Communication and Artificial Intelligence*), March 2023, Kurukshetra University, India.

17 Students Advised

17.1 Doctoral Students

1. See, Win-Bin, Ph.D., National Taiwan University, Department of Electrical Engineering, July 2003. (co-advised with Prof. Sao-Jie Chen)
2. Lin, Shang-Wei, Ph.D., “Counterexample-Guided Assume-Guarantee Synthesis Through Learning,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2010.
3. Huang, Chun-Hsian, Ph.D. “Model-Based Platform-Specific Co-Design Methodology for Dynamically Partially Reconfigurable Systems with Hardware Virtualization and Preemption,” National Chung Cheng University, Department of Computer Science and Information Engineering, January 2011.

4. Shen, Jih-Sheng, Ph.D., "Learning-based Reconfiguration of Network-on-Chip for Varying Processing Requirements," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2013.
5. Shih, Kai-Jung, Ph.D., "Application Acceleration Using Dynamically Partially Reconfigurable System Infrastructure," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2013.
6. Lin, Chao-Sheng, Ph.D., "Model-Driven Framework for Multicore Software Development," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2014.
7. Lin, Chih-Sheng, Ph.D., "Application Synthesis and Optimization on Heterogeneous Parallel Processing Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2014.
8. Chao, Hung-Lin, Ph.D., "Model-Predictive Optimization for Smart Grid Design," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
9. Lu, Chun-Hsien, Ph.D., "Landslide Prediction – A Cyber-Physical System Design," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
10. Huang, Ken-Shin, Ph.D., "Adaptive Reasoning and Learning Framework for Cognitive Radio," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.

17.2 Master Students

(Theses available: http://embedded.cs.ccu.edu.tw/~esl_web/Ch/masterPaper.php)

1. Su, Feng-Shi, "Formal Synthesis and Code Generation of Embedded Software Using Extended Quasi-Static Scheduling," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2002. (**Merit Award from IICM, 2002**)
2. Gau, Chuen-Hau, "Time-Memory Scheduling and Code Generation for Real-Time Embedded Software," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2002.
3. Jeng, Shu-Yu, "Automating Assume-Guarantee Reasoning for Model Checking Real-Time Embedded Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2002.
4. Shen, Tzu-Yung, "Assume-Guarantee Formal Verification of Component-Based Hierarchical Software," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2003.
5. Lin, Cheng-Yi, "Quasi-Dynamic Scheduling for the Formal Synthesis of Real-Time Embedded Software," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2003. (**Merit Award from IICM, 2003**)

6. Chen, Li-Ming, "Interface Synthesis of Real-Time Embedded Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2003.
7. Sun, Ming-Huang, "Formal Specification Generation by Applying Error Trace Analysis for Semi-Formal Verification," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2003.
8. Chang, Yu-Ming, "CORBA-based Distributed Formal Verification," National Chung Cheng University, Department of Computer Science and Information Engineering, January 2004.
9. Liao, Wen-Shiu, "Infrastructure of a Formal Verification Platform for SoC," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2004. (**Merit Award from IICM, 2004**)
10. Kao, Hsin-Chieh, "Device-Centric Energy-Optimal Scheduling for Low-Power Real-Time Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2004.
11. Li, Te-Chang, "Mutation Coverage Estimation for Symbolic Model Checking," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2004.
12. Wu, Chan-Chi, "An Assertion-based Dynamic Formal Verification Methodology for Hardware Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2004.
13. Chao, Wei-Cheng, "Transaction-Level Modeling for Modeling Checking," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2004.
14. Tsai, Wei-Yu, "Formal Verification of Safety-Critical Systems with Safecharts," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2004.
15. Chiu, Kuan-Lun, "An Efficient Coverage Estimation Methodology for Model Checking," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2005.
16. Chen, Yuan-Hsiu, "Hardware Scheduling and Placement in Operating Systems for Reconfigurable SoC," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2005.
17. Liao, Chih-Feng, "A SystemC Based Performance Evaluation Framework for Dynamically Reconfigurable SoC," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2005.
18. Tseng, Chih-Hao, "UML-Based Rapid Prototyping Design Flow for Dynamically Reconfigurable Computing Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2005. (**Merit Award from IICM, 2005**)

19. Wang, Hung-Ren, "Hardware-Software Codesign for Programmable SoC," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2005.
20. Yeh, Jia-Jen, "An Efficient Coverage Estimation Methodology for Model Checking," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2006.
21. Chen, Yean-Ru, "Automatic Failure Analysis using Extended Safecharts," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2006. (**Merit Award from IICM, 2006**)
22. Liu, Chih-Wen, "Energy Efficient Hardware/Software Co-scheduling in Reconfigurable Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2006.
23. Chang, Shih-Hsueh, "Hardware/Software Communication in the Dynamically Partially Reconfigurable Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2006.
24. Lu, Pin-Hsian, "Dynamically Switching Between Hardware Abstraction Models for Rapid Embedded Software Development," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2006.
25. Hsu, Shu-Yu, "Integration of Household Network Gateway and Remote Monitor System based on Embedded System," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2006.
26. Lin, Chao-Sheng, "IP-based Resource Management in Reconfigurable Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2007.
27. Liao, Hsiao-Win, "Multi-Objective Placement of Reconfigurable Hardware Tasks in Real-Time Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2007. (**Merit Award from IICM, 2007**)
28. Chiang, Cheng-Chi, "Hardware/Software Real-Time Relocatable Task Scheduling and Placement in Dynamically Partial Reconfigurable Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2007.
29. Hung, Chin-Chieh, "Reconfigurable Hardware Module Sequencer for Dynamically Partially Reconfigurable Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2007.
30. Sun, Hong-Yu, "Dynamic Hardware-Software Task Switching and Relocation for Reconfigurable Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2007.
31. Chiang, Kuo-Cheng, "Predictable and Adaptive Reconfigurable Network-on-Chip," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2008. (**Merit Award from IICM, 2008**)

32. Tsao, Chih-Chieh, "An Efficient Collaborative Verification Methodology for Multiprocessor SoC with Run-Time Task Migration," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2008.
33. Lin, Yi-Hsun, "Quality-of-Service Optimization for Multiple Multimedia Tasks in Real-Time Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2008.
34. Chiu, Jying-Lwen, "On-line Scheduling of Real-Time Tasks and Compact Placement Method for Dynamically Partially Reconfigurable System," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2008.
35. Lin, Wei-Wen, "An Efficient Hardware/Software Communication Mechanism for Reconfigurable Network-on-Chip," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2009. (**Merit Award from IICM, 2009**)
36. Lan, Chun-Ting, "Dynamic Hardware-Software Task Migration and Relocation Coordinator for Partially Reconfigurable Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2009.
37. Pan, Shen-Yang, "Dynamically Adaptive Arbitration in Network-on-Chip for Streaming Applications," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2010.
38. Lu, Shih-Shen, "Congestion- and Energy-aware Run-time Task Mapping for Network-on-Chip Architecture," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2010. (**Merit Award from IICM, 2010**)
39. Su, Wan-Ting, "Buffer-Stealing Router Design for Improved Communication Efficiency in Network-on-Chip," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2010.
40. Tung, Sheng-Ya, "Dynamic Task Scheduling with Congestion Speculation for Network-on-Chip," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2010.
41. Chen, Li-Chi, "Power Monitoring and Demand Control System Research and Design," National Chung Cheng University, Department of Communication Engineering, January 2011.
42. Chang, Yi-Luen, "An Efficient and Robust Solver for Multi-Objective Constraints-Satisfaction Problem in Cognitive Radio Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2011.
43. Ho, Chia-Chiao, "Dynamic Application Scheduling on Heterogeneous Multi-core Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2011.
44. Lin, Yu-Shin, "Multi-Objective Exploitation of Pipeline Parallelism using Clustering, Replication, and Duplication in Embedded Multicore Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2011.

45. Wang, Bo-Hsuan, "Synchronization-Aware Dynamic Thread Scheduling for Improving Performance and Saving Energy in Multi-Core Embedded Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2011.
46. Shiu, Huei-Min, "RFID-based Roll-Call System for School Campus," National Chung Cheng University, Department of Communication Engineering, July 2011.
47. Shih, Chun-Yi, "Communication Bottleneck Analysis for Improving the Performance of Multicore Software," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2012.
48. Hu, Ya-Ping, "Robust Solution Space Prediction and Optimization for Cognitive Radios," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2012.
49. Wu, Chia-En, "A Study on the Critical Success Factors of Initiating Information Security Management System: Take a University in Northern Taiwan as a Sample," National Chung Cheng University, Department of Communication Engineering, July 2012.
50. Chang, Chun-Chin, "The Research of Radio Frequency Identification Technology for the Family Violence Prevention," National Chung Cheng University, Department of Communication Engineering, July 2012.
51. Chen, Ying-Yu, "RFID-based Roll-Call System Study for Field Trips," National Chung Cheng University, Department of Communication Engineering, January 2013.
52. Yu, Ming-Yu, "Hidden Markov Model-based Bandwidth Selection for Cognitive Network," National Chung Cheng University, Department of Communication Engineering, January 2013.
53. Ko, Yung-Ming, "UHF Bi-directional Tracking System Design by Integrating GPS and Radar Transponder," National Chung Cheng University, Department of Communication Engineering, June 2013.
54. Liao, Wei-Chih, "A Study on the Use of Miracast Supported Devices for Distance Learning," National Chung Cheng University, Department of Communication Engineering, June 2013.
55. Wu, Cheng-Chien, "FPGA-based High Applicability Reconfigurable FFT Processor for Multi-standard Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2013.
56. Perng, Jun-Yang, "Spatio-Temporally-Shared Reconfigurable Fast Fourier Transform Architecture Design," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2013.
57. Teng, Shih-Meng, "Auto-tuning on GPGPU by using Performance and Power Estimation Model," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2013.
58. Chen, Yen-Ting, "Workload Partitioning and Scheduling on Heterogeneous Multi-Core Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2013.

59. Kuo, Hui-Min, "Zigbee-based Roadside Parking System," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2014.
60. Wu, Wen-Yi, "Using Smart Meters for Home Energy Saving," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2014.
61. Yao, Jui-Lung, "SAT-based Verification of Role-based Access Control Systems with Slicing method," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2014.
62. Liu, Po-Ting, "Feedback Control Optimization for Performance and Energy Efficiency on CPU-GPU Heterogeneous Systems," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2014.
63. Soong, Yi-Chien, "Interference-aware Batch Memory Scheduling in Heterogeneous Multi-core Architecture," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2014.
64. Wang, Jien-Yu, "Elastic Superposition Mapping for Heterogeneous Tasks in Reconfigurable Multicore Architecture," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2014.
65. Tsai, Chen-Chou, "Hierarchical Optimization of Smart Grids with Energy Storage Systems - A Model-Predictive Control and Auction-based Method," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2014.
66. Liu, Yan-Dun, "Smart Photovoltaic Power Generation System Design," National Chung Cheng University, Department of Computer Science and Information Engineering, January 2014.
67. Wu, Tsung-Tien, "Software-Defined Network Interface Design Performance and Security Oriented," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2015.
68. Chen, You-Ren, "Dynamic Traffic Light Optimization and Control System using Model-Predictive Control Method," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2015.
69. Hsieh, Pei-Chi, "Model Predictive Optimization for Distribution Management in Smart Grid," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2015.
70. Wu, Wen-Hao, "Adaptive Timing Optimization for Cyber Physical Signal Control System," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2015.
71. Lee, Hsuan-Ru, "Software-Defined Monitoring for High Speed Network Flow Analysis in Network-on-Chip," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2015.

72. Tseng, Kwan-Wei, "Virtualization Architecture for Application-Oriented Reconfigurable Network-on-Chip System," National Chung Cheng University, Department of Computer Science and Information Engineering, June 2015.
73. Hsu, Wei, "Urban Traffic Information Prediction using Elmann Neural Network and Traffic Network Models," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
74. Yang, Tsai-Chen, "Model Predictive Optimization for Energy Storage based Smart Grids," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
75. Lin, Chih-Chen, "Data Reconstruction for Cyber-Physical Landslide Detection System," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
76. Mai, Chao-Wen, "PV-based Power Charger for Motorcycle Batteries," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
77. Sun, Jin-Liang, "Smart Green Uninterruptible Power System," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
78. Lee, Tien-Chieh, "Prediction of Electric Power Consumption in Taiwan by Back Propagation Neural Network," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
79. Lin, Chia-Ching, "Improving Efficiency of Domestic Power Demand by Using Orderly Power Utilization," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
80. Lin, Shi-Chan, "Application of RFID Technology to Emergency Traffic Signal Design," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2016.
81. Hendrik, Tampubolon, "Supervised Deep Learning Based for Traffic Flow Prediction," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
82. Wang, Hua-Hsin, "Program Trading System of Taix Futures – By Strategy of Virtual Trade," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
83. Dao, Thi Thanh, "Face and Hand Gesture Recognition for Secure Control of Equipments," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
84. Wang, Yuan-Ho, "Creativity and its Social Factors," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
85. Chen, Keng-Pin, "Predictive Collision Warning System with Visibility Considerations," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.

86. Chen, Shi-Feng, "Landslide Prediction with Modal Computations," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
87. Lin, Chin-Hsuan, "Cost Optimization of Electrical Usage with Customizable Comfort Considerations," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
88. Lin, Yu-Yao, "Predictive Driver Fatigue Warning System Design," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
89. Lin, Fang-Yu, "Multiple sensor-based vehicle driver fatigue detection," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
90. Huang, Chung-Ing, "Influence of Solar Radiation on Solar Power Generation - Research on Residential Application," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
91. Tsai, Cheng-Min, "Automatically Optimize TV Commercials Strategies System," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
92. Tsai, Han-Chun, "Application of Mechanical Deflection Technique in Ultrasonic Smart Assisted Blind Cane," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
93. Lai, Chien-Hung, "Intelligent Driving Condition Monitoring System," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
94. Guo, Yeh-Fu, "Using Drone and RFID Readers to improve Warehouse Inventory," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2017.
95. Chang, Wei-Kai, "Portable Intellignet Sensor System Design for Rental Apartments," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
96. Liao, Hsiang-Yun, "An Exploration on the Status of Automated Testing," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
97. Lin, Pan-Yin, "Using Google Trends to Analyze Central Bank Interest Rate Decision Making: Taiwan Case Study," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
98. Tseng, Kwan-Ping, "Material Management System Design based on RFID and Cloud Reply Mechanism," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
99. Lin, Chih-Hua, "Dynamic Estimation of Vehicle Safety Distance under Low Visibility," National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.

100. Hu, Liang-Chen, “Deep Neural Network-based Landslide Data Reconstruction for Landslide Detection,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
101. Chen, Wei-Lun, “Intersection Crossing for Autonomous Vehicles based on Reinforcement Learning,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
102. Yang, Tzu-Hsuan, “Driver Fatigue Prediction using Heterogeneous Sensor Data with Deep Learning,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
103. Lu, Te-Hsiu, “Anomaly Prediction in Smart Substation with Deep Learning,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
104. Hsieh, Ming-Chih, “Ultrasonic and Infrared Human Body Sensing Applied to Industrial Robot Arms,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
105. Lin, Tai-Cheng, “Universal Blind Spot Assist System for Motorcycles,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
106. Yu, Ya-Hsuan, “Analysis of Online Customer-based Chatbot Service Quality in PZB Model,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
107. Huang, Tien-Wei, “Bluetooth Device Locating and Navigation using a Smart Phone,” National Chung Cheng University, Department of Computer Science and Information Engineering, July 2018.
108. ... and many more, current total is 176, please check at <https://etds.ncl.edu.tw/cgi-bin/gs32/gsweb.cgi/ccd=rxeyfx/webmge?switchlang=en>.

18 Research Grants

18.1 Research Project Grants

1. *Formal Verification Methodology and Tool Design for System-on-a-Chip*, August 2001 to July 2002, Project Grant NSC 90-2215-E-194-009, NT\$438,400.
2. *Design of a Synthesis Tool for Real-Time Embedded Software Development (1/3)*, August 2002 to July 2003, Project Grant NSC 91-2213-E-194-008, NT\$776,600.
3. *Design of a Formal Verification Tool for SoC*, August 2002 to July 2003, Project Grant NSC 91-2215-E-194-008, NT\$597,200.
4. *Design of a Synthesis Tool for Real-Time Embedded Software Development (2/3)*, August 2003 to July 2004, Project Grant NSC 92-2213-E-194-003, NT\$744,200.

5. *Hardware-Software Codesign and Coverification of a Tunable SoC platform (I)*, August 2003 to July 2004, Project Grant NSC 92-2218-E-194-009, NT\$559, 400.
6. *Design of a Synthesis Tool for Real-Time Embedded Software Development (3/3)*, August 2004 to July 2005, Project Grant NSC 93-2213-E-194-002, NT\$725, 800.
7. *Design and Implementation of a Real-Time Operating System for Scalable Low-Power Custom Embedded Systems*, August 2005 to July 2006, Project Grant NSC 94-2215-E-194-005, NT\$822, 000.
8. *Design and Implementation of a Synthesis and Verification Tool for Real-Time Embedded Software*, February 2006 to January 2007, Project Grant NSC 95-3113-P-194-002, NT\$863, 000.
9. *Design and Implementation of an Operating System for Reconfigurable Systems (I)*, August 2006 to July 2007, Project Grant NSC 95-2221-E-194-095, NT\$789, 000.
10. *Design and Implementation of an Operating System for Reconfigurable Systems (II)*, August 2007 to July 2009, Project Grant NSC 96-2221-E-194-065-MY2, NT\$2, 356, 000.
11. *Synthesis and Code Generation of Multi-Core Embedded Software*, August 2008 to July 2009, Project Grant NSC 97-2218-E-194-002, NT\$906, 000.
12. *REALIFE-CR: A REasoning And Learning with Intelligent FPGA Embedded CR Platform*, Sub-Project 4: Design and Implementation of a REasoning And Learning (REAL) Framework for Cognitive Radio, November 2007 to October 2010, Project Grant NSC 96-2220-E-002-032.
13. *Synthesis and Code Generation of Multi-Core Embedded Software (VMC_SYN)*, August 2009 to July 2011, Project Grant NSC 98-2220-E-194-008, NT\$1, 858, 000.
14. *Design and Implementation of Architecture and Programming Models for Dynamically Reconfigurable Hardware-Software Systems*, August 2009 to July 2012, Project Grant NSC 98-2221-E-194-049-MY3, NT\$2, 853, 000.
15. *Safety and Security Analysis of Safety-Critical Systems*, January 2010 to December 2010, INER, NT\$630, 000.
16. *Design and Implementation of a Reconfigurable Multicore Architecture*, August 2012 to July 2015, Project Grant NSC 101-2221-E-194-060-MY3, NT\$3, 843, 000.
17. *Design and Implementation of an Application Framework for Model-Driven Development of Heterogeneous Multi-Core Software*, August 2012 to July 2013, Project Grant NSC 101-2221-E-194-023, NT\$483, 000.
18. *Smart City Virtualization and Modeling*, August 2013 to July 2014, Project Grant NSC 102-2221-E-194-038, NT\$800, 000.
19. *Micro Grid System Design Modeling and Simulation*, September 2013 to May 2014, INER, NT\$700, 000.
20. *Model-Predictive Control and Optimization Design for Smart Grids*, August 2014 to July 2015, MOST 103-2221-E-194 -035, NT\$706, 000.

21. *Integrating Creative Teaching into Capstone Course*, December 2014 to November 2017, MOST 103-2511-S-194-004-MY3, NT\$2, 632, 000.
22. *Design and Implementation of a Smart Development Platform for Cyber-Physical Systems*, August 2015 to July 2016, MOST 104-2221-E-194-064, NT\$903, 000.
23. *Design and Implementation of a Smart Development Platform for Cyber-Physical Systems (II)*, August 2016 to July 2017, MOST 105-2221-E-194-059, NT\$796, 000.
24. *Design of Cyber-Physical System Software Kernels*, August 2017 to July 2018, MOST 106-2221-E-194-010, NT\$836, 000.
25. *Design of Fog-based Internet-of-Things using Blockchain and Deep Neural Network Models*, August 2018 to July 2021, MOST 107-2221-E-194-001-MY3, NT\$2, 272, 000.
26. *Design of an Integrated Command and Control Center for Sustainable Smart Cities*, November 2021 to October 2025, NSTC 111-2634-F-194-003, NSTC 112-2634-F-194-001 NT\$48 million (3 year budget, 4th year not yet granted).
27. *Design of a Federated Multimodal AIoT Platform with Real-Time Awareness*, August 2024 to July 2025, NSTC 113-2221-E-194-038.

18.2 Construction Project Grants

- *RFID-based Campus Security for Special Education School*, Ministry of Education, December 2008 to December 2009, NT\$4, 010, 000.
- *RFID-based Campus Security for Elementary and Special Education Schools*, Ministry of Education, December 2009 to December 2010, NT\$5, 328, 000.
- *Taiwan-India Joint Research Center on Artificial Intelligence Project*, Ministry of Science and Technology, November 2018 to October 2024, NT\$3, 000, 000 per year.

18.3 Educational Reform Project Grants

- *System-on-Chip Design Flow and Tools*, SoC System-Level Design (SLD) Consortium, Ministry of Education, Taiwan, Course Planning and Development, since 2004.
- *Software Quality Management*, Software Engineering Consortium, Ministry of Education, Taiwan, Course Planning and Development, since 2005.
- *Software Engineering*, Software Engineering Consortium, Ministry of Education, Taiwan, Course Reformation, 2005.
- *Embedded Software Laboratories for Undergraduates*, Embedded Software Consortium, Ministry of Education, Taiwan, Course Planning and Development, 2005 ~ 2007.
- *Embedded System Programming*, Embedded Software Consortium, Ministry of Education, Taiwan, Course Reformation, 2006/12 ~ 2008/01.
- *System-on-Chip SoC Consortium*, Ministry of Education, Taiwan, Course Reformation, 2007–2009.

- *Reconfigurable System Prototype Design and Applications*, Prototyping and Layout Consortium, Ministry of Education, Taiwan, Course Planning and Development, 2008/3 ~ 2009/02.
- *Reconfigurable System Prototype Design and Applications*, ATP Consortium, Ministry of Education, Distance Learning Course Materials, Taiwan, 2009/3 ~ 2010/02.
- *Internet of Things*, Network Communications Consortium, Ministry of Education, Taiwan, 2012/02~2014/01.
- *Software Personnel Training in Cloud Computing and Service*, Ministry of Education, Taiwan, 2012/02~2014/01.
- *Intelligent Electronics Training and Education in Medical Imaging Systems*, Ministry of Education, Taiwan, 2011/09~2014/01.
- *LoRaWAN Course Module Promotion*, Ministry of Education, Taiwan, 2018/12~2020/01.
- *Deep Learning Course Module Promotion*, Ministry of Education, Taiwan, 2018/12~2020/01.
- *Series Course on Artificial Intelligence with focus on Precision Agriculture, Medical Imaging, and Autonomous Driving*, Ministry of Education, Taiwan, 2018/12~2020/7.
- *Series Course on Medical Imaging*, Ministry of Education, Taiwan, 2023/02~2025/01.

18.4 Workshop Organization Grant

- *International Workshop on Distributed System Validation and Verification*, April 2000, Taipei, Taiwan, NSC Grant NT\$400,000.

18.5 Travel Grants

1. *24th International Conference on Technology of Object-Oriented Languages and Systems (TOOLS'97)*, September 1997, Beijing, China, Academia Sinica Grant NT\$35,000.
2. *International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'98)*, July 1998, Las Vegas, USA, Academia Sinica Grant.
3. *International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'99)*, June 1999, Las Vegas, USA, Academia Sinica Grant.
4. *7th IEEE/ACM International Workshop on Hardware-Software Codesign (CODES'99)*, May 1999, Rome, Italy, Academia Sinica Grant.
5. *3rd IEEE International Symposium on High-Assurance Systems Engineering (HASE'98)*, November 1998, Washington D.C., USA, NSC Grant NT\$60,000.
6. *5th International Conference on Principles and Practice of Constraint Programming (CP'99)*, October 1999, Alexandria, Virginia, USA, NSC Grant NT\$69,000.
7. *7th IEEE International Conference on Real-Time Computing Systems and Applications (RTCSA'00)*, December 2000, Cheju Island, Korea, Academia Sinica Grant NT\$11,500.

8. *9th ACM/IEEE International Conference on Hardware-Software Codesign (CODES'01)*, April 2001, Copenhagen, Denmark, NCCU-CSIE Grant NT\$15,000.
9. *21st IFIP International Conference on Formal Techniques for Networked and Distributed Systems (FORTE'01)*, August 2001, Cheju Island, Korea, NSC Grant NT\$27,000.
10. *8th Asia-Pacific Software Engineering Conference (APSEC'01)*, December 2001, Macau SAR, China, CCU Grant NT\$30,000.
11. *8th International Conference on Real-Time Computing Systems and Applications (RTCSA'02)*, March 2002, Tokyo, Japan, MOE Grant NT\$18,000.
12. *5th IEEE International Symposium on Object-Oriented Real-Time Distributed Computing (ISORC'02)*, April 2002, Washington D.C., USA, NSC Grant NT\$39,000.

18.6 Speaker Grants

1. *7th IEEE/ACM International Workshop on Hardware-Software Codesign (CODES'99)*, May 1999, Rome, Italy, IEEE Grant US\$ 660.
2. *9th ACM/IEEE International Conference on Hardware-Software Codesign (CODES'01)*, April 2001, Copenhagen, Denmark, IEEE/ACM Grant US\$ 820.

19 Paper Refereeing

Pao-Ann Hsiung has been taking an active part in reviewing papers for international conferences and journals for quite a few years.

19.1 International Conferences

1. *Asian Conference on Computer Science (ASIAN)*,
2. *International Symposium on Hardware-Software Codesign and System Synthesis (CODES-ISSS)*,
3. *Design Automation Conference (DAC)*,
4. *European Conference on Real-Time Systems (ECRTS)*,
5. *International Conference on Distributed Computing Systems (ICDCS)*,
6. *International Conference on Real-Time Computing Systems and Applications (RTCSA)*,
7. *International Conference on Real-Time Applications and Systems (RTAS)*,
8. *Real-Time Systems Symposium (RTSS)*,
9. *International Workshop on Parallel and Distributed Real-Time Systems (WP-DRTS)*,
10. *International Conference on Parallel and Distributed Systems (ICPADS)*,
11. *International Symposium on Automated Techniques in Verification and Analysis (ATVA)*,

12. *Asia-Pacific Design Automation Conference (ASPDAC)*,
13. *Embedded and Ubiquitous Computing (EUC)*,
14. *Asian Symposium on Programming Languages and Systems (APLAS)*,
15. *VLSI Design / CAD Symposium (VLSI/CAD)*,
16. ..., *and all those conferences in which I am a program committee member!*

19.2 International Journals

1. *ACM Transactions on Reconfigurable Technology and Systems (TRETs)*,
2. *ACM Transactions on Design Automation of Electronic Systems (TODAES)*,
3. *ACM Transactions on Embedded Computing Systems (TECS)*,
4. *IEEE Transactions on Computers (TC)*,
5. *IEEE Transactions on Computer-Aided Design (TCAD)*,
6. *IEEE Transactions on Parallel and Distributed Systems (TPDS)*,
7. *IEEE Transactions on Robotics and Automation (TRA)*,
8. *IEEE Transactions on VLSI Systems (TVLSI)*,
9. *IEEE Transactions on Systems, Man, and Cybernetics (TSMC)*,
10. *INFORMS Journal on Computing (JoC)*,
11. *International Journal of System Architecture (JSA)*,
12. *Journal of Computer Science and Technology (JCST)*,
13. *Journal of Information Science and Engineering (JISE)*, Taiwan,
14. *Journal of Signal Processing Systems (JSPS)*,
15. *Journal of Supercomputing*, Kluwer Academic Publishers,
16. *Journal of Systems and Software (JSS)*,
17. *Journal of Electronic Testing – Theory and Applications (JETTA)*,
18. *IT Professional*,
19. *Formal Methods in System Design (FMSD)*,
20. *International Journal of Foundations of Computer Science (IJFCS)*,
21. *Design Automation for Embedded Systems (DAES)*,
22. *Engineering Applications of Artificial Intelligence (EAAI)*, Elsevier,
23. *The Computer Journal*, Oxford Journals, Oxford University Press, UK.