Rocky K. C. Chang

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PROFESSIONAL EXPERIENCE

Professor, Department of Computer Science, Calvin University, Grand Rapids, MI, USA	Aug. 2023-Present
Associate Professor, Department of Information and Computer Engineering (ICE), Chung Yuan Christian University (CYCU), Zhongli, Taoyuan City, Taiwan (ROC)	Feb. 2022-Jun 2023
Visiting Associate Professor, Department of Information and Computer Engineering, CYCU	Feb. 2020-Jan. 2022
Principal Researcher, Huawei Technologies, Future Network Theory Lab, 2012 Labs, Shatin, Hong Kong	Jan. 2018-Aug. 2018
Key Technology Partner Visiting Fellow, University of Technology/ Sydney, Sydney, Australia	3-14 Oct. 2016
Associate Professor, Department of Computing, The Hong Kong Polytechnic University (PolyU), Hunghom, Kowloon, Hong Kong	Apr. 2002-Jan. 2020
Assistant Professor, Department of Computing, PolyU	Sep. 1993-Mar. 2002
Advisory Programmer, IBM Thomas J. Watson Research Center, Yorktown Heights, New York, USA	Apr. 1991- Jul. 1993

EDUCATION

PhD in Computer and Systems Engineering, Rensselaer Polytechnic Institute (RPI), Troy, New York, USA	Dec. 1990
MSc in Operations Research and Statistics, RPI	May 1987
MEngr in Electrical Engineering, RPI	May 1985
BSc in Electrical Engineering, Virginia Tech, Blacksburg, Virginia, USA	May 1983

TEACHING

LEADERSHIP

Chairman, Departmental Undergraduate Program Committee	2015-2017
Founding Course Leader, MSc program on Software Technology	1994
Founding Course Leader, BSc (Hons) in Information Technology	1993-1996

TEACHING AWARDS

First Runner-up for the Faculty of Engineering's Best Teacher Award	2001/2002

EXTRA-CURRICULAR ACTIVITIES (AS A FOUNDING MEMBER)

PolyHack (the first hackathon event at PolyU)	2016-2017
Computing Solved it! (CSI!) competition for PolyU's CS Freshmen	2014-2018
Python Programming Contest	2014
Summer workshops on C programming, Python programming, Android programming, Raspberry Pi, GO, Linux system programming, and drone	2014-2015

TEACHING GRANTS

"A Pilot Study of Self-Paced Subject Learning Based on Hypermedia Environment" Funded by the PolyU's Modern Education Technologies Fund (HKD $237,680)	1995-1998
"Learning Computer Communication Networks Through Software-Based Experiments" Funded by the Action Learning Project (HKD $98,000)	1995-1997
"Design and Development of Laboratory Material on Networking Software" Funded by PolyU EDU grant (HKD $89,160)	1995

SEMINARS

1.	"How to Engage Students' Minds in Our Teaching?" A COMP departmental seminar, PolyU	27 Sep. 2019
2.	"What Can and Should We Do About Academic Dishonesty?" A COMP departmental seminar, PolyU	16 Jan. 2015
3.	"On Our 16-week Teaching and Learning Experience in COMP1001," A departmental seminar, PolyU	12 Dec. 2014
4.	Panel on "Experience Sharing on Deepening Computer Network Teaching with Network-based Information Platform" (基于网络信息平台深化计算机网络课程教学的经验体会)" in the Sixth National Workshop on Teaching Computer Networks (第六届全国高校计算机网络教学暨网络工程专业建设研讨会), Huhhot, PRC	3-4 Aug. 2013
5.	"My Research Students and I," A seminar in the School of Computer, National University of Defense Technology, Changsha, PRC	9 Jul. 2013
6.	"My Reflections on What to Teach in Computer Networking," A keynote speech on in the Fifth National Workshop on Teaching Computer Networks, (第五届全国高校计算机网络教学研讨会), Wenzhou, PRC	26-28 Oct. 2012
7.	"WIE@COMP: Managing the Diversity of WIE Activities," A Work-In-Education Seminar Series (with Dick Mau), PolyU	21 Apr. 2009
8.	"Active Learning Experience in a Year-long Placement Programme," A Thematic Workshop on Active Classrooms (with Fred Liu and Eddie Chan), PolyU	11 May 2005
9.	"Believing in Our Teaching and Our Students," A Thematic Workshop on Active Classrooms, PolyU	22 Sep. 2004
10.	"The Role of Student Feedback in Active Learning," A Thematic Workshop on Active Classrooms (with Eric Tsang), PolyU	30 Mar. 2004
11.	"Architecting an Active Classroom: An Integrative Approach," A Thematic Workshop on Active Classrooms, PolyU	16 Jan. 2004

12. "Open Book Examinations: What It Is and What It Is Not," A Learning and Teaching Luncheon Forum, PolyU   15 Oct. 2003

13. Panel Session on "What Works and What Doesn't Work: Tips for New Networking Educators," ACM Workshop on Networking Education, Germany   25 Aug. 2003

14. "Trading Teaching for Research? A Personal Testimony," A Learning and Teaching Luncheon Forum, PolyU   18 Feb. 2003

15. "Assessing the Impact of Our Teaching," A Mini-Learning and Teaching Conference, PolyU   6 Jan. 2003

16. "Transparent Teaching," A Mini-Learning and Teaching Conference, PolyU   9 Nov. 2002

17. "Sharing of Some Personal Thoughts on Teaching," A Departmental Learning and Teaching Seminar, PolyU   3 May 2001

PUBLICATIONS

1. Rocky K. C. Chang, "Using Problem-Driven Learning to Teach Computational Thinking in CS1," *Proc. Consortium for Computing Sciences and Colleges: MidWest Conf.*, Sept. 2024.

2. Rocky K. C. Chang, "Teaching Computer Networking with the Help of Personal Computer Networks," *Proc. 9th Annual ACM Conf. Innovation and Technology in Computer Science Education*, Jun. 2004.

3. Rocky K. C. Chang, "An Integrated View of Teaching and Learning for a Foundational Course on Computer Networking," *Proc. ACM Workshop on Networking Education*, 25 Aug. 2003.

4. Rocky K. C. Chang and Man K. Lee, "Learning Computer Communication Network Through Software-based Experiments." *Case Studies of Improving Teaching and Learning from the Action Learning Project*, D. Kember, B. Lam, L. Yan, J. Yum and S. Liu (editors), pp. 429-438, 1997.

OTHER WRITE-UPS

1. Rocky K. C. Chang, " A Two-Year Experience on a Problem-Driven Approach to Teaching Computational Thinking," A working paper, 2019.

2. Rocky K. C. Chang, "My Beliefs in Teaching and Students," 3 Jun. 2003.

3. Rocky K. C. Chang, "My Teaching Philosophy, Approaches, and Effectiveness," Dec. 2001.

COURSE DEVELOPMENT

Introduced a new series of experiments on Git, Github and GitPi and MQTT for "Introduction to Embedded Systems," CYCU   2022

Introduced a new component on individual presentations for "English Presentation Skills" for year-three ICE students, CYCU   2021

Introduced five new modules to the Engineering Ethics class for year-three ICE students, CYCU   2021

Introduced a new general education course on "Guided Exploration of the Internet," CYCU   2020-2021

Introduced a new course on "Computational Thinking and Program Design" for Freshmen, CYCU   2021

Authored the syllabus for "Introduction to EE and CS" for the Wisconsin-CYCU joint program, CYCU	2021
Developed the curriculum and an innovative lecture-lab integrated teaching approach for "Problem-Solving Methodology in Information Technology" (COMP1001), PolyU	2014-2018
Developed an innovative lecture-lab integrated teaching approach for "Computer Networking" (COMP2322), PolyU	2018
Introduced two new security courses for the four-year curriculum: Computer Systems Security (COMP3334) and Principles and Practice for Internet Security (COMP4334), PolyU	2012
Introduced a new research course "System Modeling and Evaluation," PolyU	2012
Introduced a new MSc course "Internet Security: Principles and Practice," PolyU	2010
Introduced a new final-year elective "Internet Infrastructure Security" (COMP444), PolyU	2006
Introduced a new MSc course "Internetworking Protocols and Software II" (COMP555), a sequel to COMP516, PolyU	1998
Updated the syllabus of an MSc subject "Selected Areas in Computer Networks" (COMP530) to more up-to-date topics, such as ATM technology, IP over ATM networks, and label switching networks, PolyU	1998
Promptly re-aligned the focus of an undergraduate course on "Computer Communication Networks" (COMP312) to an Internet-centric approach, PolyU	1996
Introduced a new MSc course "Internetworking Protocols and Software" (COMP526, COMP5311), PolyU	1993

SUBJECTS TAUGHT

1. Introduction to Computing (CS 108), the first CS course for CS majors at Calvin
2. Computational Thinking and Program Design, a Freshman subject at CYCU
3. Introduction to Embedded Systems, a lab-based Freshman subject at CYCU
4. Introduction to Electrical Engineering and Computer Science, a Freshman subject at CYCU
5. Internet Infrastructure Security, a senior elective at CYCU
6. Principles of Internetworking Protocols, a senior elective at CYCU
7. Advanced Internet Infrastructure, an elective for research students at CYCU
8. Engineering Ethics, a core subject at CYCU
9. Guided Exploration of the Internet, a general education subject at CYCU
10. English Presentation Skills, a core subject at CYCU
11. Problem-Solving Methodology in Information Technology (COMP1001), a first COMP technical subject for COMP Freshmen at PolyU
12. Foundation of Computing, a first-year course on computer programming at PolyU
13. Principles of Programming, a first-year course on computer programming at PolyU
14. Computer Programming (ENG236), a common subject for the first-year Faculty of Engineering students at PolyU
15. Computer Organization (COMP2421), a COMP core subject at PolyU
16. Data Structure and Algorithms (COMP305), a COMP core subject at PolyU

17. Computer Networking (COMP312, COMP2322), a COMP core subject at PolyU
18. Internetworking Protocols and Software (COMP416), a COMP final-year elective at PolyU
19. Internet Infrastructure Security on the BSc level (COMP444), a COMP final-year elective at PolyU
20. Internet Infrastructure and Protocols (COMP5311), a COMP MSc subject at PolyU
21. Internet Infrastructure Security on the MSc level (COMP5351), a COMP MSc subject at PolyU
22. Internetworking Protocols and Software II (COMP555), a COMP MSc subject at PolyU
23. Selected Topics in Computer Network (COMP530), a COMP MSc subject at PolyU

RESEARCH

RESEARCH INTERESTS

Internet infrastructure and security with specialization on network quality measurement and monitoring, network monitoring platforms, quality-of-experience measurement, denial-of-service attacks and defenses, Android security, and performance modeling

LEADERSHIP

Founding Director, the Cyber Security and Privacy Laboratory, Departmentof Computing	2016-2017
Leader of a research group on Internet Services Monitoring and Diagnostics in the Division of Smart Cities under PolyU's Research Institute for Sustainable Urban Development	Sep. 2015-2020
Leader of the Internet Infrastructure and Security Research Group, Department of Computing	2003-2020

RESEARCH AWARDS

Most Active New Consultant Award (Merit)	2015
The Faculty's Industrial and Engineering Services Grant Achievement Award	2009, 2012
Best Student Paper Award (Xiapu Luo and Edmond Chan) in the 22nd TC-11 IFIP Intl. Information Security Conf. (May 2007) for "Crafting Web Counters into Covert Channels''	May 2007
Honorable Mention Award (Yi Xie) in the BJ-HK International Doctoral Forum for "Optimizing Energy Efficiency in Polling-Based Wireless Networks with Stability Constraints"	Jul. 2007

FUNDED RESEARCH PROJECTS (AS CHIEF INVESTIGATOR)

Externally funded:

1. "Trial: A Platform for Residential Broadband Network Monitoring," Funded by the Hong Kong Innovation and Technology Commission (under the Public Sector Trial Scheme), 2020 to 2021 (total project cost: HKD $1,014,000)

2. "Research on OTT Traffic Modeling and its Impact on Network Architecture,"Funded

by Huawei's HIRP, 1 Jan. to 31 Dec. 2016 (total project cost: HKD $615,000)

3. "A Novel System for Assessing the Security of Android Apps," Funded by the Hong Kong Innovation and Technology Commission (under the ITSP tier-three programme), Nov. 2012 to Apr. 2013 (total project cost: HKD $997,625)

4. "Design and Implementation of a Unified Box for Offering Network Path Measurement as a Service," Funded by the Hong Kong Innovation and Technology Commission (under the Guangdong-Hong Kong Technology Cooperation Funding Scheme, Platform Research), Jun. 2012 to Nov. 2014 (total project cost: HKD $4,963,700)

5. "A Novel System for Assessing the Security of Android Apps," Funded by the Hong Kong Innovation and Technology Commission (under the ITSP tier-three programme), Nov. 2012 to Apr. 2014 (total project cost: HKD $997,625)

6. "Reliable and Accurate Bandwidth Measurement of Asymmetric Network Paths," Funded by the Hong Kong Innovation and Technology Commission (under the ITSP tier-three programme), Mar. 2010 to Aug. 2011 (total project cost: HKD $967,150)

7. "Uncooperative Measurement and Monitoring of Internet Path Quality with Applications," Funded by the Hong Kong Innovation and Technology Commission (under the ITSP tier-three programme), Sep. 2008 to Feb. 2010 (total project cost: HKD $999,350)

8. "Analyzing the Impact of Smart Denial-of-Service Attacks on TCP and Queue Management Scheme." Funded by Cisco CCRP, Aug. 2005 to Dec. 2006 (total project cost: USD $4,500)

9. "Area of Excellence in Information Technology (Network Security)," Funded by the University Grants Council of Hong Kong, Dec. 2004 to Dec. 2005 (total project cost: HKD $900,000)

10. "A Distributed Detection Approach to Flooding-based Distributed Denial-of-service Attack Prevention," Funded by the Competitive Earmarked Research Grant, Dec. 2002 to Nov. 2005 (total project cost: HKD $440,000)

11. "Toward a General Approach to Per-queue Stability Problems with Applications in Wireless Communications," Funded by the Competitive Earmarked Research Grant, Dec. 2001 to Nov. 2004 (total project cost: HKD $400,000)

Internally funded:

1. "Practical Monitoring and Troubleshooting Cross-domain Network Paths with a Single Monitor," Funded by the PolyU Central Research Grant (for GRF 3.5 proposal), Dec. 2014 to May 2016 (total project cost: HKD $150,000)

2. "Understanding the Global Internet's Vulnerability to Submarine Cable Faults," Funded by the PolyU Central Research Grant (for GRF 3.5 proposal), Sep. 2011 to Aug. 2013 (total project cost: HKD $105,000)

3. "Modeling the False Feedback Injection Attacks with Switched Systems," Funded by the PolyU Central Research Grant (for GRF 3.5 proposal), Sep. 2010 to Aug. 2012 (total project cost: HKD $105,000)

4. "Is Covert Timing Communication a Real Threat to the Internet?" Funded by the PolyU Central Research Grant (for GRF 3.5 proposal), Sep. 2007 to Aug. 2009 (total project cost: HKD $150,000)

5. "BGP-based Inbound Traffic Engineering for Multihomed Autonomous Systems: A Measurement-based Analysis." Funded by the PolyU Central Research Grant (for GRF 3.5 proposal), Sep. 2004 to Aug. 2006 (total project cost: HKD $150,000)

6. "Early Detection of Flash Crowds: A Nonparametric Approach," Funded by the PolyU

Central Research Grant (for GRF 3.5 proposal), Aug. 2003 to Aug. 2006 (total project cost: HKD $170,000)

7. "Multicast Tree Aggregation in MPLS Networks: Protocol Design and Performance Analysis," Departmental General Research Fund, Jun. 2000 to Jun. 2004 (total project cost: HKD $450,000)

8. "Deadlock-free Silly Window Syndrome Avoidance Algorithms for High-speed Internet," Funded by the PolyU Central Research Grant, Nov. 1998 to May 2002 (total project cost: HKD $240,000)

9. "An Empirical Study of the Impact of Self-Similar Traffic Sources on the Stability of Multiaccess Networks," Departmental General Research Fund, Jun. 1997 to Mar. 1999 (total project cost: HKD $31,000)

10. "The Study of High-speed LAN based on MPP Technology," Funded by the PolyU Central Research Grant, Mar. 1996 to Dec. 1998 (total project cost: HKD $186,000)

11. "Capacity Modelling of Individual Hosts on Multi-access Networks," Departmental General Research Fund, Oct. 1994 to May 1997 (total project cost: HKD $467,000)

FUNDED GROUP RESEARCH PROJECTS (AS CO-INVESTIGATOR)

1. (With Prof. Zhou Shuigeng of Fudan University as the PI and Haibo Hu and Allen Au of PolyU as co-PIs) "Privacy Preservation Techniques for Query Processing in Big Data," (大数据查询处理的隐私保护技术), NSFC, 1 Jan. 2017 to 31 Dec. 2020 (total project cost: RMB 2.52 MILLION)

CONSULTANCY

1. "Performance Monitoring and Measurement of HARNET," Funded by the Joint Universities Computer Centre, Jan. 2009 to 2019 (total project cost: over HKD 2 million).

2. A Hong Kong Government Department (a confidential project) 2013 to 2019(total project cost: over HKD 1.5 million)

US PATENTS

1. (With Edmond Chan and Xiapu Luo) METHOD FOR MEASUREMENT OF ASYMMETRIC NETWORK PATH CAPACITIES (US Patent 8,885,473 B2)

REFEREED JOURNAL PUBLICATIONS, MAGAZINE PAPERS, AND BOOK CHAPTERS

1. Weichao Li, Daoyuan Wu, Rocky K. C. Chang, and Ricky Mok, "Toward Accurate Network Delay Measurement on Android Phones," *IEEE Trans. Mobile Computing*, Aug. 2017.

2. Ricky Mok, Rocky K. C. Chang, and Weichao Li, "Detecting Low-quality Workers in QoE Crowdtesting: A Worker Behavior Based Approach," *IEEE Trans. Multimedia*, Oct. 2016.

3. Ricky K. P. Mok, Weichao Li, and Rocky K. C. Chang, "IRate: Initial Video Bitrate Selection System for HTTP Streaming," *IEEE J. Sel. Areas in Communications* (SI on Measuring and Troubleshooting the Internet: Algorithms, Tools and Applications), Jun. 2016.

4. Peng Zhou, Rocky K. C. Chang, Xiaojing Gu, Minrui Fei and Jianying Zhou, "Magic Train: Design of Measurement Methods Against Bandwidth Inflation Attacks," *IEEE Trans. Dependable and Secure Computing*, Dec. 2015.

5. Peng Zhou, Xiaojing Gu, and Rocky K. C. Chang, "Harvesting File Download Exploits in the Web: A Hacker's View," *The Computer Journal*, Sep. 2015.

6. Yajuan Tang, Xiapu Luo, Qing Hui, and Rocky K. C. Chang, "Modeling the Vulnerability of Feedback-control Based Internet Services to Low-rate DoS Attacks," *IEEE Trans. Information Forensics and Security*, Mar. 2014.

7. Peng Zhou, Xiapu Luo, and Rocky K. C. Chang, "Inference Attacks against Trust-based Onion Routing: Trust Degree to the Rescue," *Computer & Security*, Nov. 2013.

8. Peng Zhou, Xiapu Luo, Ang Chen, and Rocky K. C. Chang, "SGor: Trust Graph based Onion Routing," *Computer Networks*, Dec. 2013.

9. Yujing Liu, Xiapu Luo, Rocky K. C. Chang, and Jinshu Su, "Characterizing Inter-domain Rerouting by Betweenness Centrality after Disruptive Events," in *IEEE J. Sel. Areas in Communications* (a special issue on Network Science), Jun. 2013.

10. Matthew Roughan and Rocky K. C. Chang (editors), *Passive and Active Measurement* (Proc. 14th PAM Conf.), *Springer's Lecture Notes in Computer Science*, Volume 7799, 2013.

11. Xiapu Luo, Edmond W. W. Chan, Peng Zhou, and Rocky K. C. Chang, "Robust Network Covert Communications Based on TCP and Enumerative Combinatorics," *IEEE Trans. Dependable and Secure Computing*, vol. 9, pp. 890-902, Nov.-Dec. 2012.

12. Yi Xie, Xiapu Luo and Rocky K. C. Chang, "Centralizing the Power Saving Mode for 802.11 Infrastructure Networks," A book chapter in *Energy Technology and Management*, Tauseef Aized (Ed.), InTech, Oct. 2011.

13. Xiapu Luo, Edmond W. W. Chan, and Rocky K. C. Chang, "Detecting Pulsing Denial-of-Service Attacks with Nondeterministic Attack Intervals," *EURASIP Journal on Advances in Signal Processing* (A Special Issue on Signal Processing Applications in Network Intrusion Detection Systems), 2009.

14. Yajuan Tang, Xiapu Luo and Rocky K. C. Chang, "Protecting Internet Services from Low-Rate DoS Attacks," A book chapter in *Critical Infrastructure Protection* (editors: E. Goetz and S. Shenoi), Springer, Nov. 2007.

15. Hui Wang, Dah-Ming Chiu, John Lui, and Rocky K. C. Chang, "Inter-AS Inbound Traffic Engineering via ASPP," *IEEE Trans. Network and Service Management*, vol. 4, pp. 62-70, Jun. 2007.

16. Rocky K. C. Chang and Michael Lo, "Inbound Traffic Engineering for Multihomed ASs Using AS Path Prepending," *IEEE Network*, pp. 18-25, Mar./Apr. 2005.

17. Rocky K. C. Chang, Ho Y. Chan, and Adam W. Yeung, "Deadlock-Free TCP Over High-Speed Internet," (invited) a book chapter in *Deadlock Resolution in Computer- Integrated Systems* (Editors: Meng Chu Zhou and Maria Pia Fanti), CRC Press, Dec. 2004.

18. Rocky K. C. Chang, "Defending Against Flooding-Based, Distributed Denial-of-Service Attacks: A Tutorial," *IEEE Communications Magazine* (A Special Issue on Telecommunication Network Security), vol. 40, no. 10, pp. 42-51, 2002.

19. Fai Siu and Rocky K. C. Chang, "Effectiveness of Optimal Node Assignments in WDM Networks with Fixed Regular Virtual Topologies," *Computer Networks,* vol. 38, pp. 61-74, Jan. 2002.

20. Rocky K. C. Chang and Sum Lam, "Per-queue Stability Analysis of a Random Access System," *IEEE Trans. Automatic Control*, vol. 46, no. 9, pp. 1466-1470, Sep. 2001.

21. Rocky K. C. Chang and Hong Y. Wang, "Routing Properties of a Recursive Interconnection Network," *J. Parallel and Distributed Computing*, vol. 61, no. 6, pp. 838-849, Jun. 2001.

22. King P. Fung and Rocky K. C. Chang, "A Transport-Level Proxy for Secure Multimedia Streams," *IEEE Internet Computing* (A Special Issue on Widely Deployed Security Solutions), pp. 57-67, Nov./Dec., 2000.

23. Rocky K. C. Chang and Sum Lam, "A Novel Approach to Queue Stability Analysis of Polling Models," *Performance Evaluation*, vol. 40, issues 1-3, pp. 27-46, Mar. 2000.

24. Rocky K. C. Chang and D. Sandhu, "Delay Analysis of Token-Passing Protocols with Limited Token Holding Times," *IEEE Trans. Communications*, vol. 42, no. 10, pp. 2833-2842, Oct. 1994.

25. Rocky K. C. Chang, R. F. Gordon and E. A. MacNair, "An Architecture for Integrating Logical and Physical Animations for General-Purpose Graphical Simulation Systems," *Annals of Operations Research: Simulation and Modeling,* vol. 53, 1994.

26. Rocky K. C. Chang, "Stability Conditions of a Pipeline Polling Scheme in Satellite Communications," *Queueing Systems*, vol. 14, no. 4, pp. 339-348, 1993.

27. Rocky K. C. Chang and D. Sandhu, "Pseudo-Conservation Laws in Cyclic-Service Systems with a Class of Limited Service Policies," *Annals of Operations Research: Stochastic Modeling of Telecommunication Systems*, no. 35, pp. 209-229, May 1992.

REFEREED CONFERENCE AND WORKSHOP PUBLICATIONS

1. Daoyuan Wu, Debin Gao, Robert H. Deng, and Rocky K. C. Chang, "When Program Analysis Meets Bytecode Search: Targeted and Efficient Inter-procedural Analysis of Modern Android Apps in BackDroid," *Proc. DSN*, 2021.

2. Daoyuan Wu, Debin Gao, Rocky K. C. Chang, En He, Eric K. T. Cheng, and Robert H. Deng, "Understanding Open Ports in Android Applications: Discovery, Diagnosis, and Security Assessment," in *Proc. ISOC Network and Distributed System Security Symposium (NDSS)*, San Diego, USA, 2019.

3. Shiwei Zhang, Weichao Li, Daoyuan Wu, Bo Jin, Rocky K. C. Chang, Debin Gao, Yi Wang, and Ricky K. P. Mok, "An Empirical Study of Mobile Network Behavior and Application Performance in the Wild," in *Proc. IEEE/ACM International Symposium on Quality of Service (IWQoS)*, Phoenix, USA, 2019.

4. Steven Lee and Rocky K. C. Chang, "Enhancing the Experience of Multiplayer Shooter Games via Advanced Lag Compensation," *Proc. ACM MMSys*, Jun. 2018.

5. Steven Lee and Rocky K. C. Chang, "On 'Shot Around a Corner' in First-Person Shooter Games," *Proc. NetGames*, Jun. 2017.

6. Daoyuan Wu, Rocky K. C. Chang, Weichao Li, Eric K. T. Cheng, and Debin Gao, "MopEye: Opportunistic Monitoring of Per-app Mobile Network Performance," *Proc. USENIX Annual Technical Conference*, Jul. 2017.

7. Weichao Li, Daoyuan Wu, Rocky K. C. Chang, and Ricky Mok, "Demystifying and Puncturing the Inflated Delay in Smartphone-based WiFi Network Measurement," *Proc. ACM CoNEXT* (short paper), Dec. 2016.

8. Peter Membrey, Darryl Veitch, and Rocky K. C. Chang, "Time to Measure the Pi," *Proc. ACM IMC* (short paper), Oct. 2016.

9. Steven Lee and Rocky K. C. Chang, "Evaluation of Lag-Related Configurations in First-Person Shooter Games," *Proc. NetGames* (short paper), Dec. 2015.

10. Ricky K. P. Mok, Weichao Li, and Rocky K. C. Chang, "Detecting Low-quality Crowdtesting Workers," *Proc. IWQoS* (short paper), Jun. 2015.

11. Ricky K. P. Mok, Weichao Li, Rocky K. C. Chang, Kwok-Wun Yung, Ching-Ho Chan and Yat-Sing Poon, "An Automated Testbed for Profiling the Packet Send-time Accuracy of

Embedded Devices," *Proc. Tridencom*, Jun. 2015.

12. Weichao Li, Ricky K. P. Mok, Daoyuan Wu, and Rocky K. C. Chang, "On the Accuracy of Smartphone-based Mobile Network Measurement," in *Proc. IEEE INFOCOM*, Apr. 2015.

13. Ricky K. P. Mok, Weichao Li, and Rocky K. C. Chang, "Improving the packet send-time accuracy in embedded devices," in *Proc. PAM*, Mar. 2015.

14. Daoyuan Wu and Rocky K. C. Chang, "Analyzing Android Browser Apps for file:// Vulnerabilities," *Proc. Information Security Conf.*, Oct. 2014.

15. Weichao Li, Ricky K. P. Mok, Rocky K. C. Chang, and Waiting W. T. Fok, "Appraising the Delay Accuracy in Browser-based Network Measurement," in *Proc. ACM/USENIX IMC* (short paper), Oct. 2013.

16. Ang Chen, Edmond W. W. Chan, Xiapu Luo, Waiting W. T. Fok, and Rocky K. C. Chang, "An Efficient Approach to Multi-level Route Analytics," in *Proc. IFIP/IEEE IM*, May 2013.

17. Waiting W. T. Fok, Xiapu Luo, Ricky Mok, Weichao Li, Yujing Liu, Edmond W. W. Chan, and Rocky K. C. Chang, "MonoScope: Automated Network Faults Diagnosis Based on Active Measurements," in *Proc. IFIP/IEEE IM*, May 2013.

18. Peng Zhou, Xiapu Luo, and Rocky K. C. Chang, "More Anonymity Through Trust Degree in Trust-based Onion Routing," in *Proc. SecureComm*, Sep. 2012.

19. Yujing Liu, Xiapu Luo, Rocky K. C. Chang, and Jinshu Su, "Characterizing Inter- domain Rerouting after Japan Earthquake," in *Proc. IFIP NETWORKING 2012*, May 2012.

20. Ricky K. P. Mok, Xiapu Luo, Edmond W. W. Chan, and Rocky K. C. Chang, "QDASH: A QoE-Aware DASH System," in *Proc. ACM Multimedia Systems Conf.*, Feb. 2012.

21. Edmond W. W. Chan, Ang Chen, Xiapu Luo, Ricky K. P. Mok, Weichao Li, and Rocky K. C. Chang, "TRIO: Measuring Asymmetric Capacity with Three Minimum Round-Trip Times," in *Proc. ACM CoNEXT Conf.*, Dec. 2011.

22. Xiapu Luo, Peng Zhou, Junjie Zhang, Roberto Perdisci, Wenke Lee, and Rocky K.C. Chang, "Exposing Invisible Timing-based Traffic Watermarks with BACKLIT," in *Proc.ACSAC,* Dec. 2011.

23. Ricky K. P. Mok, Edmond W. W. Chan, Xiapu Luo, and Rocky K. C. Chang, "Inferring the QoE of HTTP Video Streaming from User-Viewing Activities," in *Proc. ACM SIGCOMM Workshop on Measurements Up the STack (W-MUST)*, Aug. 2011.

24. Xiapu Luo, Peng Zhou, Edmond W. W. Chan, Rocky K. C. Chang, and Wenke Lee, "A Combinatorial Approach to Network Covert Communications with Applications in Web Leaks," in *Proc. IEEE/IFIP DSN*, Jun. 2011.

25. Edmond W. W. Chan, Xiapu Luo, Waiting W. T. Fok, Weichao Li, and Rocky K. C. Chang, "Non-cooperative Diagnosis of Submarine Cable Faults," in *Proc. PAM*, Mar. 2011.

26. Ricky K. P. Mok, Edmond W. W. Chan, and Rocky K. C. Chang, "Measuring the quality of experience of HTTP video streaming," in *Proc. IEEE/IFIP IM (Pre-Conf Session)*, May 2011.

27. Weichao Li, Waiting W. T. Fok, Edmond W. W. Chan, Xiapu Luo, and Rocky K. C. Chang, "Planetopus: A System for Facilitating Collaborative Network Monitoring,"in *Proc. IEEE/IFIP IM* (Application Session), May 2011.

28. Xiapu Luo, Peng Zhou, Edmond W. W. Chan, Wenke Lee, Rocky K. C. Chang, and Roberto Perdisci, "HTTPOS: Sealing Information Leaks with Browser-side Obfuscation of Encrypted Flows," in *Proc. Network and Distributed System Security Symp.*, Feb. 2011.

29. Rocky K. C. Chang, Waiting W. T. Fok, Weichao Li, Edmond W. W. Chan, and Xiapu Luo, "Neighbor-Cooperative Measurement of Network Path Quality," in *Proc. IEEE*

GLOBECOM, Dec. 2010.

30. Edmond W. W. Chan, Xiapu Luo, Weichao Li, Waiting W. T. Fok, and Rocky K. C. Chang, "Measurement of Loss Pairs in Network Paths," in *Proc. ACM/USENIX IMC*, Nov. 2010.

31. Edmond W. W. Chan, Xiapu Luo, and Rocky K. C. Chang, "A Minimum-Delay- Difference Method for Mitigating Cross-Traffic Impact on Capacity Measurement,"in *Proc. ACM CoNEXT*, Dec. 2009.

32. Yajuan Tang, Xiapu Luo, and Rocky K. C. Chang, "On Generalized Low-Rate Denial-of-Quality Attack Against Internet Services," in *Proc. IEEE IWQoS* (short paper), Jul. 2009.

33. Xiapu Luo, Edmond W. W. Chan and Rocky K. C. Chang, "CLACK: A Network Covert Channel Based on Partial Acknowledgment Encoding," in *Proc. IEEE ICC*, Jun. 2009.

34. Xiapu Luo, Edmond W. W. Chan and Rocky K. C. Chang, "Design and Implementation of TCP Data Probes for Reliable and Metric-rich Network Path Monitoring," in *Proc. USENIX Annual Tech. Conf.*, Jun. 2009.

35. Rocky K. C. Chang, Edmond W. W. Chan, Waiting W. T. Fok, and Xiapu Luo, "Sampling TCP Data-Path Quality with TCP Data Probes," in *Proc. PFLDNet*, May 2009.

36. Yi Xie, Xiapu Luo, and Rocky K. C. Chang. "Centralized PSM: An AP-centric Power Saving Mode for 802.11 Infrastructure Networks," in *Proc. IEEE Sarnoff Symp.*, Mar. 2009.

37. Xiapu Luo, Edmond W. W. Chan and Rocky K. C. Chang, "TCP Covert Timing Channels: Design and Detection," in *Proc. IEEE/IFIP DSN,* Jun. 2008.

38. Xiapu Luo, Edmond W. W. Chan and Rocky K. C. Chang, "Cloak: A Ten-fold Way for Reliable Covert Communications," in *Proc. ESORICS*, Sep. 2007.

39. Samantha Lo, Rocky K. C. Chang, and Lorenzo Colitti, "An Active Approach to Measuring Routing Dynamics Induced by Autonomous Systems,'' in *Proc. ACM Workshop on Experimental Computer Science*, Jun. 2007.

40. Samantha Lo and Rocky K. C. Chang, "Measuring the Effects of Route Prepending for Stub Autonomous Systems,'' in *Proc. ICC Workshop on Traffic Engineering in Next Generation IP Networks*, Jun. 2007.

41. Xiapu Luo, Edmond W. W. Chan and Rocky K. C. Chang, "Crafting Web Counters into Covert Channels," in *Proc. The 22nd TC-11 IFIP Intl. Information Security Conf.*, May 2007. (**Best Student Paper Award**)

42. Yi Xie and Rocky K. C. Chang, "Optimizing Energy Efficiency in Polling-Based Wireless Networks with Stability Constraints," in *Proc. IEEE GLOBECOM*, 2006.

43. Jun Gao, Guangmin Hu, Xingmiao Yao, and Rocky K. C. Chang, "Anomaly Detection of Network Traffic based on Wavelet Packet," in *Proc. IEEE Asia-Pacific Conf. Communications*, Aug. 2006.

44. Yi Xie and Rocky K. C. Chang, "Stability-Constrained Optimization for Energy Efficiency in Polling-Based Wireless Networks," in *Proc. VALUETOOLS,* 2006.

45. Sum Lam, Rocky K. C. Chang, and Yi Xie, "Relative stability analysis of multiple queues," in *Proc. VALUETOOLS*, 2006.

46. Xiapu Luo, Edmond W. W. Chan, and Rocky K. C. Chang, "Vanguard: A New Detection Scheme for a Class of TCP-targeted Denial-of-service Attacks," in *Proc. IEEE/IFIP NOMS*, Apr. 2006.

47. Xiapu Luo and Rocky K. C. Chang, "Novel Approaches to End-to-End Packet Reordering Measurement," in *Proc. ACM/USENIX Conf. Internet Measurement,* Oct. 2005.

48. Xiapu Luo and Rocky K. C. Chang, "Optimizing the Pulsing Denial-of-Service Attacks," in

Proc. IEEE/IFIP DSN, Jun. 2005.

49. Guangmin Hu and Rocky K. C. Chang, "Forwarding State Scalability-Aware Multicast Routing," *Proc. IEEE ISCC*, Jun. 2005.

50. Xiapu Luo, Rocky K. C. Chang, and Edmond W. W. Chan, "Performance Analysis of TCP/AQM Under Denial-of-Service Attacks," in *Proc. IEEE MASCOTS*, Sep. 2005.

51. Hui Wang, Rocky K. C. Chang, Dah-Ming Chiu, and John C. S. Lui, "Characterizing the Performance and Stability Issues of the AS Path Prepending Method: Taxonomy, Measurement Study and Analysis," in *Proc. ACM SIGCOMM Asia Conf.*, Apr. 2005.

52. Xiapu Luo and Rocky K. C. Chang, "On a New Class of Pulsing Denial-of-Service Attacks and the Defense," in *Proc. Network and Distributed System Security Symp*. (NDSS), Feb. 2005.

53. Hang T. Chan and Rocky K. C. Chang, "Strifeshadow Fantasy: A Massive Multi-Player Online Game," in *Proc. IEEE Consumer Commun. and Networking Conf.*, Jan. 2004.

54. Wing W. Y. Ng, Rocky K. C. Chang, and Daniel S. Yeung, "Dimensionality Reduction for Denial of Service Detection Problems Using RBFNN Output Sensitivity," in *Proc. IEEE Intl. Conf. Machine Learning and Cybernetics*, Nov. 2003.

55. Rocky K. C. Chang and Sum Lam, "Per-Queue Stability Analysis of a Dynamic Quota Sharing Scheme for Wireless Networks," *ACM Performance Evaluation Review* (*Proc. Workshop on Mathematical Performance Modeling and Analysis*), Jun. 2003.

56. Kalman K. K. Wan and Rocky K. C. Chang, "Engineering of a Global Defense Infrastructure for DDoS Attacks," in *Proc. IEEE ICON*, pp. 419-427, Aug. 2002.

57. Rocky K. C. Chang and King P. Fung, "Transport Layer Proxy for Stateful UDP Packet Filtering," *Proc. IEEE ISCC*, pp. 595-600, Jul. 2002.

58. Estella Tsang and Rocky K. C. Chang, "A Simulation Study on the Throughput Fairness of TCP Vegas," in *Proc. IEEE ICON*, Oct. 2001.

59. Sum Lam and Rocky K. C. Chang, "Stability Comparison in Single-server-multiple- queue Systems," in *Proc. Workshop on Mathematical Performance Modeling and Analysis*, Jun. 2001.

60. Rocky K. C. Chang and Ho Y. Chan, "A Throughput Deadlock-free TCP for High-speed Internet," in *Proc. IEEE ICON*, 2000.

61. Filli Cheng and Rocky K. C. Chang, "A Tree Switching Protocol for Multicast State reduction," in *Proc. IEEE ISCC*, Jul. 2000.

62. A. W. Yeung and Rocky K. C. Chang, "Improving TCP Throughput Performance on High-speed Networks with a Receiver-side Adaptive Acknowledgment Algorithm," in *Proc. SPIE's Intl. Symp. Voice, Video, and Data Commun*. (Internet Routing and Quality of Service), Dec. 1998.

63. Fai Siu and Rocky K. C. Chang, "Improving the Performance of Reconfigurable WDM Lightwave Networks with Deflection Routing Via Node Reassignment," in *Proc. IEEE ISCC,* Jun. 1998.

64. Fai Siu and Rocky K. C. Chang, "Optimal Node Assignment in Reconfigurable WDM Lightwave Networks with Regular Virtual Topologies," in *Proc. IEEE ISCC,* Jun. 1998.

65. Simon Wong and Rocky K. C. Chang, "Design and Analysis of a Bypass Construction Algorithm for Highly Survivable End-to-end ATM Connections," in *Proc. IEEE ISCC*, Jun. 1998.

66. Kow C. Chang, "A Hybrid Analytic-Simulation Approach to Compute Throughput for FDDI Networks," in *Proc. Communication Networks Modeling and Simulation Conference,*

pp. 233-238, Jan. 1996.

67. Fai Siu and Kow C. Chang, "A Source-Routing Algorithm for Lightwave Manhattan Street Network," in *Proc. Communication Networks Modeling and Simulation Conference*, pp. 189-194, Jan. 1996.

68. Kow C. Chang, Robert F. Gordon, Paul G. Loewner, and Edward A. MacNair, "The Research Queuing Package Modeling Environment (RESQME)," in *Proc. Winter Simulation Conference* pp. 294-302, Dec. 1993.

69. Kow C. Chang, Robert F. Gordon, and Paul G. Loewner, "The Research Queueing Package Modeling Environment," in *Proc. MASCOTS*, pp. 361-362, Jan. 1993.

70. Kow C. Chang and D. Sandhu, "Delay Analysis of Token-Passing Protocols with Limited Token Holding Times," in *Proc. IEEE INFOCOM*, pp. 2299-2305, 1992.

71. Kow C. Chang and D. Sandhu, "Mean Waiting Time Approximations in Cyclic-Service Systems with Exhaustive Limited Service Policy," in *Proc. IEEE INFOCOM*, pp. 1168-1177, 1991.

72. Kow C. Chang and D. Sandhu, "Pseudo-Conservation Laws in Cyclic-Service Systems with a Class of Limited Service Policies," in *Proc. IEEE INFOCOM*, pp. 260-267, 1990.

73. Kow C. Chang and D. Sandhu, "Mean Waiting Time Approximations in Cyclic-Service Systems with Exhaustive Limited Service Policy," in *Proc. IEEE INFOCOM*, pp. 1168-1177, 1991.

74. Kow C. Chang and D. Sandhu, "Pseudo-Conservation Laws in Cyclic-Service Systems with a Class of Limited Service Policies," in *Proc. IEEE INFOCOM*, pp. 260-267, 1990.

POSTERS

1. Daoyuan Wu, Weichao Li, Rocky K. C. Chang, and Debin Gao, "MopEye: Monitoring Per-app Network Performance with Zero Measurement Traffic," *ACM CoNEXT* poster, Dec. 2015.

2. Ricky K. P. Mok, Weichao Li, and Rocky K. C. Chang, "A User Behavior Based Cheat Detection Mechanism for Crowdtesting," *ACM SIGCOMM Conf.* poster and demo, Aug. 2014.

3. Lei Xue, Ricky K. P. Mok, and Rocky K. C. Chang. "OMware: An Open Measurement Ware for Stable Residential Broadband Measurement," in *ACM SIGCOMM Conf. poster and demo*, Aug. 2013.

4. Ricky K. P. Mok, Weichao Li, and Rocky K. C. Chang, "IRate: Initial Video Bitrate Selection System for HTTP Streaming," in *USENIX NSDI poster and demo*, Apr. 2013.

5. Ang Chen, Edmond W. W. Chan, Xiapu Luo, and Rocky K. C. Chang, "An Integrative Multi-level Analysis of Internet Path Changes," in *ACM CoNEXT Conf. poster*, Dec. 2011.

6. Rocky K. C. Chang, Edmond W. W. Chan, Weichao Li, Waiting W. T. Fok, and Xiapu Luo, "Could Ash Cloud or Deep-Sea Current Overwhelm the Internet?" in *USENIX HotDep Workshop poster*, Oct. 2010.

7. Samantha Lo and Rocky K. C. Chang, "Active measurement of the AS path prepending method," in *IEEE ICNP Conf. poster*, Nov. 2005.

8. Steve Poon and Rocky K. C. Chang, "Robust Forwarding in Structured Peer-to-peer Overlay Networks," in *ACM SIGCOMM poster*, Aug. 2004.

9. Rocky K. C. Chang. A Multicast-on-large-demand Approach to the Flash Crowd Problem," in *Twelfth Intl. WWW Conf. poster*, May 2003.

INVITED PRESENTATIONS

1. "Toward Scalable and Reliable Campus Wi-Fi Performance Monitoring," Huawei's Future Network Theory Laboratory, 13 Jul. 2018.

2. "Quality of Presentation," Research Forum, South China University of Technology, 8 Apr. 2018.

3. "How to Crowdsource Mobile Users' Network Experience at Scale and with High Accuracy?" Department of Computer Science and Engineering, HKUST, 26 Mar. 2018.

4. "Crowdsourcing Mobile Users' Per-App Network Performance," University of Technology Sydney, 13 Oct. 2016.

5. "Measurement-Driven Network Analytics," HKNOG 17, Apr. 2015.

6. "Making Network Measurement Accurate Everywhere," Xiamen University, 23 Apr. 2015.

7. "Quality of Presentation," COMP's Annual Research Day, 13 Dec. 2013.

8. "Internet Intelligence (網絡智慧)," HOTPICKS: Talk Series for Alumni, PolyU, 18 Sep. 2013.

9. "Network Measurement Research in a Complex Networked World (在複雜網絡世界中的網絡測量研究)," A keynote speech at Internet Conference of China (第二屆中国互联网学术年会), 10 Jul. 2013.

10. "My Research Students and I," School of Computer, National University of Defense Technology, 9 Jul. 2013.

11. "Measuring Internet Performance: Challenges and Opportunities," School of Information Science and Technology, Xiamen University, 4 Jul. 2013.

12. "Four-Year Experience of Coordinated Network Performance Monitoring and Diagnosis from Academic Nodes," An International Conference of Networking Experts, 13-17 Jan. 2013.

13. "Towards the science of network measurement," The Network Research Center, Tsinghua University, 21 Nov. 2012.

14. "Measuring and Understanding Internet Performance: A Personal View," Graduate Forum, Sun Yat-sen University, Jul. 2012.

15. "Non-cooperative Diagnosis of Submarine Cable Faults," Department of Computer Science and Engineering, Beijing University of Aeronautics and Astronautics, 19 Jan. 2011.

16. "Measurement of Loss Pairs in Network Paths," Institute of Computing Technology, Chinese Academy of Sciences, 18 Jan. 2011.

17. "Active Measurement of Data-Path Quality in a Non-cooperative Internet," The Network Research Center, Tsinghua University, 18 Jan. 2011.

18. "Active Measurement of Data-Path Quality in a Non-cooperative Internet," Simon Fraser University, Oct. 2010.

19. "Recent Advances in Active Internet Path Measurement," Sichuan University, Dec. 2009 and National University of Defense Technology, Jun. 2010.

20. "A Tutorial on OneProbe," presented at a JUCC Network Taskforce seminar, 26 Jun. 2009.

21. "An Active Approach to Measuring Routing Dynamics Induced by Autonomous Systems," Computer Science Department at the National Taiwan University, Jul. 2007.

OTHER CONFERENCE PRESENTATIONS (REFERRED BASED ON SLIDES)

1. "Improving the accuracy of non-cooperative active measurement," AIMS-7, 31 Mar. 2015.

2. "OneProbe: Measuring Network Path Quality with TCP data-packet pairs," AIMS-3, 11 Feb. 2011.

3. "Measuring the Performance and Fairness of a Shared Network Infrastructure," APRICOT, Feb. 2010.

4. "Lessons Learnt from the Beijing Olympic Games Website Measurement," Closing Plenary session, APRICOT, February 2009 and a special session in APNOMS, Sep. 2008.

5. "An Active Approach to Measuring Routing Dynamics Induced by Autonomous Systems," A plenary presentation, APRICOT, Taipei, Feb. 2008.

EXHIBITS

"Measuring the Quality of Experience of Residential Broadband Services" at the ICT Expo, Apr. 2014.

"Measuring the Quality of Experience of Residential Broadband Services" at the HKIE HI-Tech Fiesta, Jun. 2014.

RESEARCH STUDENT SUPERVISIONS (AS CHIEF SUPERVISOR)

1. Dr. Peter Membrey (EngD, May 2020)

2. Steven Lee (MPhil, Dec. 2018)

3. Dr. Weichao Li (PhD, Apr. 2017)

4. Dr. Ricky Mok (PhD, Jun. 2016)

5. Daoyuan Wu (MPhil, Dec. 2014)

6. Dr. Peng Zhou (PhD, Jun. 2014)

7. Dr. Edmond W. W. Chan (PhD 2010)

8. Dr. Sam Lam (PhD 2009)

9. Dr. Grace Xie (PhD 2008)

10. Samantha Lo (MPhil 2008)

11. Dr. Xiapu Luo (PhD 2007)

12. Filli Cheng (MPhil 2000)

13. Dr. Hong Y. Wang (PhD, Tianjin University, PRC, 1997)

14. Sam Lam (MPhil 1997)

15. Fai Siu (MPhil 1997)

16. Simon Wong (MPhil 1997)

PROFESSIONAL ACTIVITIES

Memberships

Member of the IEEE	1987-present
Member of the ACM	1997-present

Member of the Institute for Operations Research and the Management Sciences	1987-1997

Editorials

Associate Editor, International Journal of Network Management	Since 2009
Guest Editor (with Chin-Tser Huang and Polly Huang) for a special issue on Signal Processing Applications in Network Intrusion Detection Systems, EURASIP Journal on Applied Signal Processing	Mar. 2009

Conference organizations

Steering committee member, Passive and Active Measurement (PAM) Conference	2013-2020
Co-Chair, CoNEXT Student Workshop	2016
General Chair, 14th Passive and Active Measurement (PAM) Conference	Mar. 2013
TPC member of 4th ACM Workshop on QoE-based Analysis and Management of Data Communication Networks	2019
TPC member of ACM IMC	2016-2017, 2019-2020
TPC member of IEEE INFOCOM	2015-2017
TPC member of PAM	2015
TPC member of DRCN	2011, 2013-2014
TPC member of PIMRC	2013
TPC member of APNOMS	2007-2009, 2011-2014
TPC member of WiNMee	2008, 2013
TPC member of IEEE PIMRC	2013
TPC member of ITC	2010, 2013
TPC member of ICCC	2012
TPC member of ICAC	2012
TPC member of MobiSec	2009, 2011, 2012
TPC member of IEEE WCNC	2012
TPC member of IEEE CNSM	2010-2012
TPC member of ACM CoNEXT	2011
TPC member of CQR	2007-2009, 2011
TPC member of VTC	2011
TPC member of ECMCS	2011
TPC member of WiMob	2011
TCP member of IEEE/IFIP NOMS	2008, 2010, 2016
TPC member of SECMCS	2010
TPC member of IEEE IM	2009, 2015
TPC member of Chinacom	2008
TPC member MUSIC	2008
TPC member of IEEE ISCC	2000-2003, 2005-2006, 2009

TPC member of IEEE GLOBECOM	2006, 2008
TPC member of E2EMON	2008
TPC member of QShine	2007-2008
TPC member of IEEE ICON	2002, 2004, 2006

Others

Member of the Areas of Excellence on Information Technology (Network Security)	2004-2005
Representative in IEEE ICC 2008 and 2009 for the IEEE Technical Committee on Network Operations and Management	2008-2009
Member of the Hong Kong Focus Group for the IEEE Communications Society Wireless Communications Engineering Technology (WCET) Certification Program	2007
Member of the Organizing Committee for Forum on Linux and Open Source, Its Now and Future, Hong Kong	1999
External project assessor for the Applied Research Council Co.Ltd., Hong Kong	
Held an internal training workshop on the RESQME packages for various departments in IBM	1992

UNIVERSITY AND DEPARTMENTAL SERVICES

STRATEGIC PLANNING AND ADVISORY

Member of the Departmental Management Committee	2013-2018
Member of the Departmental Advisory Committee	1996-2000
Program Restructuring and Development Leader	1999-2000
Acting Resource and Support Coordinator	1996-1998

ACADEMIC PROGRAM PLANNING AND MANAGEMENT

Member, Curriculum Committee of CS Dept, Calvin University	2023-2024
Elected member, Departmental Staffing Committee, PolyU	2017-2019
Member, Departmental Management Committee	2017-2018
Chairman of the Departmental Undergraduate Program Committee	2013-2018
Member of the Challengers Program Subcommittee	2013-2016
Member of the Departmental Teaching and Learning Committee	2013-2018
Academic Advising Coordinator	2013-2015
Industrial Placement Officer	1999-2013
Examination Officer	1998-1999
Final Year Project Coordinator for BSc (Hons) in Information Technology	1997-1999
Chairman of the Revalidation Committee for BSc (Hons) in Information Technology	1996-1997

Founding Award Coordinator for MSc in Software Technology	1995-1996
Chairman of the Program Planning Committee for MSc in Software Technology	1994-1995
Founding Program Leader for BSc (Hons) in Information Technology	1993-1996

RESEARCH-RELATED SERVICES

Founding coordinator of the COMP's Annual Research Day (CARD)	2012
Member of the Departmental Research Committee	2010-2012
Member of the FBIS Research Committee	1996-1997
Member of the Departmental Research Committee	1993-1996

PROFESSIONAL TRAINING

Conducted a summer course on Internet Protocols for the Office of the Communications Authority, Hong Kong SAR	2014
Conducted a two-day internal training course on "TCP/IP Networks" for Digital Equip. Corp./Hong Kong	1995

OTHER SERVICES

Advisor, Chung Yuan Christian University's Student Fellowship	2021-2023
Warden, LiZhi Hall, The Student Hall of Residence, Hunghom, Kowloon, Hong Kong	2008-2013
Member of the Subject Committee of HK Examinations Authority on CE Computer Studies	1999-2001
Participated in the Ad Hoc Committee discussion for the S4-5 Computer and Information Technology Curriculum Framework	2001
Elected as a Nonhead Committee representative for the Department of Computing	1994-1995