

Raymond Wai Ho Yeung

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Education

1985-1988	Cornell University, Ithaca, NY	Ph.D. (Elec. Engr.)
1984-1985	Cornell University, Ithaca, NY	M.Eng. (Elec. Engr.)
1981-1984	Cornell University, Ithaca, NY	B.S. (Elec. Engr.)

(on leave at Ecole Nationale Supérieure des Telecommunications, Paris in Fall 1986)

Research Interests

Information theory, network coding

Job Experience

1991-	<i>Choh-Ming Li Professor of Information Engineering (2013) Chair Professor (2005), Professor (1998), Senior Lecturer (1993) Lecturer (1991) Department of Information Engineering The Chinese University of Hong Kong</i>
2010-	<i>Co-Director, Institute of Network Coding The Chinese University of Hong Kong</i>
2007-2009	<i>Co-Director, Network Coding and Information Research Centre The Chinese University of Hong Kong</i>
1988-1991	<i>Member of Technical Staff Performance Analysis Department AT&T Bell Laboratories, Holmdel, NJ</i>

Honorary/Visiting Appointments

2015 –	Guest Professor, Southeast University
2012 – 2014	Adjunct Professor, Institute for Interdisciplinary Information Sciences, Tsinghua University
2009 – 2012	Changjiang Chair Professor, Xidian University
2008 – 2011	Advisory Professor, Beijing University of Post and Telecommunication
2006 – 2009	Visiting Professor, Xidian University
Summer 2005	Visiting Professor, Technical University of Munich
Fall 2003	Visiting Professor, University of Copenhagen
Summer 1994	Visiting Assistant Professor, Cornell University

Consultancy

- Jet Propulsion Laboratory for salvaging the Galileo spacecraft (his 25-bit synchronization marker for image transmission is currently being used in the Galileo spacecraft).
- NEC, USA for performance analysis of computer communication systems
- Zeta Technologies, Hong Kong for development of a network switch

Professional Societies and Organizations

2015 – 2016	Member, James L. Massey Research and Teaching Award for Young Scholars Selection Subcommittee
2013 – 2015	Member, Fellows Committee, IEEE Information Theory Society
2012 – 2014	Member, Shannon Award Committee, IEEE Information Theory Society
2010 – 2011	Member, Membership and Chapters Committee, IEEE Information Theory Society
2008 – 2010	Member, IEEE Hamming Medal Committee
2005	Member, Awards Committee, IEEE Information Theory Society
2004	Member, Fellows Subcommittee, IEEE Information Theory Society
2004	Committee Member, IEEE Information Theory Hong Kong Chapter
2003	Member, Awards Committee, IEEE Information Theory Society, 2003.
2001 – 2003	Founding Chairman, IEEE Information Theory Hong Kong Chapter
1999 – 2001	Member, Board of Governors, IEEE Information Theory Society

Conference Organizations

- Member, International Advisory Committee, 2017 IEEE Information Theory Workshop, Taiwan.
- Member, Advisory Committee, NetCod 2016.
- Member, International Advisory Committee, 2016 International Symposium on Information Theory and its Applications, Monterey, CA, USA, Oct 30 - Nov 2, 2016.
- Technical Program Committee, 2016 IEEE International Symposium on Information Theory, Bachelona, Spain, Jul 10-15, 2016.
- General Co-Chair, 2015 IEEE International Symposium on Information Theory, Hong Kong.
- Technical Program Committee, 2013 IEEE Information Theory Workshop, Hobart, Tasmania, Nov 2-5, 2014.
- Member, International Advisory Committee, 2014 International Symposium on Information Theory and Its Applications, Melbourne, Australia, Oct 26-29, 2014.
- Technical Program Committee, 2013 IEEE Information Theory Workshop, Seville, Spain, Sept 9-13, 2013.
- General Co-Chair, First Workshop on Entropy and Information Inequalities, The Chinese University of Hong Kong, Apr 15-17, 2013.
- International Advisory Committee, 2012 International Symposium on Information Theory and Its Applications, Honolulu, Hawaii, USA, Oct 28-31, 2012.
- Technical Program Chair, Network Science Workshop, The Chinese University of Hong Kong, Jul 25-27, 2012.
- Steering Committee, 2011 IEEE International Conference on Information Theory and Information Security, Hangzhou, China, Nov 5-7, 2011.
- Technical Program Committee, 2011 IEEE International Symposium on Information Theory, St. Petersburg, Russia, Jul 31-Aug 5, 2011.
- General Co-Chair, First Workshop on Network Coding and Data Storage (NCDS 2011), Hong Kong, Jul 21-22, 2011.
- Technical Program Committee, 2009 IEEE International Symposium on Information Theory, Seoul, Korea, Jun 28-Jul 3, 2009.
- Technical Program Committee, NetCod 2009, Lausanne, Switzerland, Jun 15-16, 2009.
- Technical Program Committee, 2008 International Symposium on Information Theory and its Applications (ISITA 2008), Auckland, New Zealand, Dec 7-10, 2008.
- General Co-Chair, NetCod 2008, Hong Kong, Jan 3-4, 2008.
- Technical Program Committee, NetCod 2007, University of California, San Diego, Jan 29, 2007.
- International Advisory Committee, The 2006 International Symposium on Information Theory and its Applications, Seoul, Korea, Oct 29-Nov 1, 2006.

- Technical Program Co-Chair, 2006 IEEE Information Theory Workshop, Chengdu, China, Oct 22-26, 2006.
- Technical Program Co-Chair, 2006 IEEE International Symposium on Information Theory, Seattle, USA, Jul 9-14, 2006.
- Technical Program Committee, NetCod 2006, Boston, MA, Apr 7, 2006.
- Technical Program Committee, 2005 IEEE International Symposium on Information Theory, Adelaide, Australia, Sept 4-9, 2005.
- Technical Program Committee, 2005 AGM SIGCOMM Asia Workshop, Beijing, China, Apr 11-13, 2005.
- General Chair, 2005 Workshop on Network Coding, Theory, and Applications (NetCod 2005), Riva del Garda, Italy, Apr 7, 2005.
- International Liaison, 2004 IEEE International Symposium on Information Theory, Chicago, USA, Jun 27 – Jul 2, 2004.
- General Co-Chair, 2003 International Information Theory Workshop, Hong Kong, Jul 6 – 10, 2003 (cancelled due to SARS).
- Technical Program Committee, 2003 IEEE International Symposium on Information Theory, Yokohama, Japan, Jun 29 – Jul 4, 2003.
- Workshop Chairman, 3rd Asia-Europe Workshop on Information Theory, Kamogawa, Japan, Jun 25 – 28, 2003.
- Technical Program Committee, 2002 IEEE International Symposium on Information Theory, Lausanne, Switzerland, Jun 30 – Jul 5, 2002.
- Technical Program Committee, 2000 International Symposium on Information Theory and Its Applications, Honolulu, Hawaii, Nov 5 – 8, 2000.
- Organizing Committee, 2000 Cornell Summer Workshop on Information Theory, Ithaca, NY, Aug 18 – 19, 2000.
- Organizing Committee, IMS Workshop on Applied Probability, The Chinese University of Hong Kong, May 31 – Jun 11, 1999.

Editorship for Academic Journals

- Member, Advisory Committee, IEICE Communications Express, 2012-2016.
- Guest Editor, special issue on “Network coding and its applications to wireless communications,” *Physical Communication*, Elsevier, Mar 2013.
- Guest Editor, special issue on “Networking and Information Theory,” *IEEE Transactions on Information Theory and IEEE/ACM Transactions on Networking*, Jun 2006.
- Editor, *Foundation and Trends in Networking*, since 2004
- Editor, *Foundation and Trends in Communications and Information Theory*, since 2003
- Associate Editor for Shannon Theory, *IEEE Transactions on Information Theory*, 2003-2005
- Editor-at-Large, *Communications in Information and Systems*, since Jan 2000

Short Courses and Tutorials

- Mini-course entitled *Shannon’s Information Measures and Markov Structures*, Nexus of Information and Computation Theories, Institut Henri Poincare, Jan 25 – Apr 1, 2016.
- Tutorial entitled *Shannon’s Information Measures and Markov Structures* at 2014 Australian School of Information Theory, Adelaide, Nov 10–13, 2014.
- Tutorial entitled *Network Coding: Theory and Applications* at Microsoft Research Asia, Beijing, Nov 14, 2011.
- Tutorial entitled *Network Coding for Error Correction and Security* at IIS, Tsinghua University, Sept 16, 2011.
- Tutorial entitled *Network Coding for Error Correction and Security* at University of Johannesburg, May 21, 2010.

- Tutorial entitled *Multi-Source Network Coding* at 2010 Information Theory and Applications Workshop at University of California, San Diego, Feb 1-5, 2010.
- Tutorial entitled *Network Coding* at 2009 IEEE Taiwan/Hong Kong/Macau Joint Workshop on Information Theory and Communications, Macau, Aug 10-11, 2009.
- Tutorial at ACoRN Network Coding School at University of South Australia, Adelaide, Dec 1-2, 2008 (with Terence Chan).
- Tutorial entitled *Network Coding for Error Correction and Security* at NetCod 2008, Jan 3-4, 2008.
- Two-month course entitled *Advanced Topics in Communications Engineering* for the Master of Science in Communication Engineering Program, Munich University of Technology, 2005.
- Short course entitled *Network Coding Theory* at University of Porto, Portugal, Jun 27, 2005.
- Short course entitled *Network Coding Theory* at Imperial College, UK, Jun 13, 2005.
- Tutorial entitled *Queueing Models for Communication Systems* at 1992 Singapore International Conference on Communication Systems and International Symposium on Information Theory and its Applications (ICCS/ISITA'92), Singapore, Nov 16-20, 1992.

Keynote/Plenary Speakers at Conferences

- Keynote speaker, 2016 Iran Workshop on Communication and Information Theory, Tehran, Iran, May 3–4, 2016.
- Keynote speaker, The 22nd Annual Conference on Information Theory of the Chinese Institute of Electronics, Xian, China, Oct 23–25, 2015.
- Keynote speaker, The 7th International Conference on Wireless Communications and Signal Processing (IC-WCSP 2015), Nanjing, China, Oct 15-17, 2015.
- Keynote speaker, IEEE 26th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), Hong Kong, Aug 30 – Sept 2, 2015.
- Plenary speaker, ICT Tech Forum, APAC Innovation Summit 2014, Hong Kong, Dec 2, 2014.
- Plenary speaker, The 14th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc 2013), Bangalore, India, Jul 29 – Aug 1, 2013.
- Plenary speaker, 2013 Communication Theory Workshop, Phuket, Thailand, Jun 23-26, 2013.
- Keynote speaker, 2012 International Conference on Advanced Technologies for Communications, Hanoi, Vietnam, Oct 10-12, 2012.
- Lunch Symposium, 2012 Asia Pacific Radio Spectrum Conference (APRSC 2010), Hong Kong, Apr 12-13, 2012.
- AK Choudhury Memorial Lecture, 13th International Conference on Distributed Computing and Networking (ICDCN 2012), Hong Kong, Jan 3-6, 2012.
- Plenary speaker, 2011 3rd IEEE International Conference on Communication Software and Networks (ICCSN 2011), Xi'an, China, May 27-29, 2011.
- Keynote speaker, The 6th International Conference on Mobile Ad-hoc and Sensor Networks (MSN 2010), Hangzhou, China, Dec 20-22, 2010.
- Plenary speaker, Networks and Coding Forum, InnoAsia 2010, Hong Kong Science Park, Nov 24-26, 2010.
- Plenary speaker, 2010 IEEE International Conference on Communications (ICC 2010), Cape Town, South Africa, May 23-27, 2010.
- Plenary speaker, 2009 IEEE International Symposium on Information Theory (ISIT 2009), Seoul, Jun 28 – Jul 3, 2009.
- Plenary speaker, 2008 International Symposium on Information Theory and its Applications (ISITA 2008), Auckland, New Zealand, Dec 7-10, 2008.
- Keynote speaker, 7th International ITG Conference on Source and Channel Coding (SCC '08), Ulm, Germany, Jan 14-16, 2008.
- Plenary speaker, International Conference on Information Theoretic Security (ICITS), Madrid, Spain, May 25-28, 2007.

- Main speaker, Workshop on Conditional Independence Structure and Graphical Models, Fields Institute, Sept 27 - Oct 1, 1999.
- Plenary speaker, The 3rd CAST (China Association for Science and Technology) Conference of Young Scientists (Information Science Group), Beijing, Aug 20-22, 1998.

Honors, Prizes and Awards

1998	Fellow, Hong Kong Institution of Engineers
2000	Nomination for IEEE Information Theory Society Best Paper Award
2000-01	The Croucher Foundation Senior Research Fellowship (Hong Kong)
2003	Fellow, IEEE. Citation: For contributions to network coding theory
2004	Best Paper Award (Communication Theory), 2004 International Conference on Communications, Circuits and Systems (with C.K. Ngai)
2005	2005 IEEE Information Theory Society Paper Award (with S.-Y. R. Li and N. Cai)
2006	Nomination for the Cheung Kong Scholar Program
2007	Friedrich Wilhelm Bessel Research Award, Alexander von Humboldt Foundation (Germany)
2007	Nomination for the Cheung Kong Scholar Program
2008	Nomination for the Cheung Kong Scholar Program
2011-12	Distinguished Lecturer, IEEE Information Theory Society
2016	IEEE Eric E. Sumner Award. Citation: For pioneering contributions to the field of network coding

Research Grants (as PI or Co-PI)

Direct Grants (CUHK)

1991-92	2205-00420(91/92)	Optimal cell assignment with constraints in cellular telephone systems	HKD 80K
2003-03	2050297	Quantum information theory	HKD 75K

SHIAE funded projects (CUHK)

2007-08	MMT – p2/07	Real-time Transmission of High Definition (HD) 3D Video and HD Audio in Gigabit-LAN	HKD 262K
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Earmarked Grants (Research Grant Council of Hong Kong)

2006-08	CUHK 418006	Non-linear network coding	HKD 688K
2003-06	CUHK 4214/03E	Network error correction	HKD 566K
2000-03	CUHK 4165/00E	Fundamental limits in information storage	HKD 636K
1998-00	CUHK 4342/98E	Network information flow theory	HKD 380K
1996-98	CUHK 332/96E	Multilevel diversity coding	HKD 410K
1994-96	CUHK 271/94E	Matrix-analytic methods in queueing analysis	HKD 303K

Central Allocation (Research Grant Council of Hong Kong)

2007	CUHK 2/06C 06C-2300016	New directions in network coding CUHK top-up	HKD 2.9M HKD 900K
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Area of Excellence (University Grants Committee of Hong Kong)

2010	AoE/E-02/08	Institute of Network Coding	HKD 103M
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Innovation and Technology Fund (Innovation and Technology Commission, Hong Kong)

2012	ITS/255/11	Network Coding Enabled Peer to Peer Networking	HKD 996K
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深圳市创新环境建设计划 (Shenzhen Municipal Government Funding)

2012		深圳网络编码关键技术及应用重点实验室	RMB 3M
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深圳市科創委技术攻关项目 (Shenzhen Municipal Government Funding)

2016		基于网络编码的云存储关键技术研究	RMB 5M
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Industrial Grants

2006	Microsoft Research	Gift for research on network coding	USD 40K
2007	Microsoft Research, Asia	Exploring new theory and applications of network coding	HKD 120K
2007-11	Qualcomm, China	Network coding with error correction and information security	USD 160K
2008	Cisco Systems	Re-engineering the network layer with network coding	USD 80K
2009	Cisco Systems	Two problems in network coding	USD 80K
2011-13	Qualcomm, China	Two problems in wireless network coding	USD 80K
2012	Cisco Systems	Enhancing the Fog Computing Environment via BATS Code	USD 100K
2012-15	Qualcomm, China	Applications of Network Coding Concepts	USD 120K
2014	北京跟踪与通信技术研究所	网络编码在航天测控通信领域的应用研究	RMB 600K

Research Grants (as Co-I)

2007	European Commission	Network coding for robust architecture in volatile environments	Euro 2.36M
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Patents

杨升浩，杨伟豪；用于通信系统的子集编码；no. CN103250463 A, 2013 (China).
Shenghao Yang, Raymond W. Yeung, "Subset coding for communication systems", no. US 8,693,501, 2014 (USA).

Books

1. *A First Course in Information Theory*, Kluwer Academic/Plenum Publishers, 2002; Asian edition, 2004 (http://www.ie.cuhk.edu.hk/IT_book/).
2. R. W. Yeung, S.-Y. R. Li, N. Cai, and Z. Zhang, *Network Coding Theory*, now Publishers, 2006.
3. *Information Theory and Network Coding*, Springer, 2008 (http://www.ie.cuhk.edu.hk/IT_book2/).

MOOC

Raymond W. Yeung, *Information Theory*, Coursera, Spring 2014, Fall 2014, Spring 2015.

Refereed Journal Papers

1. T. Berger and R. W. Yeung, "Multiterminal source coding with one distortion criterion," *IEEE Transactions on Information Theory*, vol. IT-35, pp. 228-236, Mar 1989.
2. T. Berger and R. W. Yeung, "Multiterminal source coding with encoder breakdown," *IEEE Transactions on Information Theory*, vol. IT-35, pp. 237-244, Mar 1989.
3. T. Berger and R. W. Yeung, "Optimum '1'-ended binary prefix code," *IEEE Transactions on Information Theory*, vol. IT-36, pp. 1435-1441, Nov 1990.
4. R. W. Yeung, "Alphabetic codes revisited," *IEEE Transactions on Information Theory*, vol. IT-37, pp. 564-572, May, 1991.
5. R. W. Yeung, "Local redundancy and new bounds on the expected length of a Huffman code," *IEEE Transactions on Information Theory*, vol. IT-37, pp. 687-691, May, 1991.
6. R. W. Yeung, "A new outlook on Shannon's information measures," *IEEE Transactions on Information Theory*, vol. IT-37, pp. 466-474, May, 1991.
7. Y. Lirov and R. W. Yeung, "Performance analysis of real time diagnostic expert systems," *Heuristics*, Fall 1991.
8. T. Kawabata and R. W. Yeung, "The structure of the I-Measure of a Markov chain," *IEEE Transactions on Information Theory*, vol. IT-38, pp. 1146-1149, May 1992.
9. K. K. Leung, B. Sengupta and R. W. Yeung, "A credit manager for traffic regulation in high speed networks: a queueing analysis," *IEEE/ACM Transactions on Networking*, vol. 1, no. 2, pp. 236-245, Apr 1993.
10. R. W. Yeung, "On noiseless diagnosis," *IEEE Transactions on Systems, Men, and Cybernetics*, vol. 24, no. 7, pp. 1074-1082, Jul 1994.
11. R. W. Yeung and B. Sengupta, "Matrix product-form solutions for Markov chains with a tree structure," *Advances in Applied Probability*, vol. 26, pp. 965-987, 1994.
12. R. W. Yeung, "Multilevel diversity coding with distortion," *IEEE Transactions on Information Theory*, vol. IT-41, pp. 412-422, Mar 1995.
13. T. Takine, B. Sengupta and R. W. Yeung, "A generalization of the matrix M/G/1 paradigm for Markov chains with a tree structure," *Stochastic Models*, 11(3), pp. 411-421, 1995.
14. J. R. Roche, R. W. Yeung and K. P. Hau, "Symmetrical multilevel diversity coding," *IEEE Transactions on Information Theory*, vol. 43, no. 3, pp. 1059-1064, May 1997.
15. R. W. Yeung, "A framework for linear information inequalities," *IEEE Transactions on Information Theory*, vol. 43, no. 6, pp. 1924-1934, Nov 1997.
16. Z. Zhang and R. W. Yeung, "A non-Shannon type conditional inequality of information quantities" *IEEE Transactions on Information Theory*, vol. 43, no. 6, pp. 1982-1986, Nov 1997.
17. Z. Zhang and R. W. Yeung, "On characterization of entropy functions via information inequalities," *IEEE Transactions on Information Theory*, vol. 44, no. 4, pp. 1440-1452, Jul 1998.
18. R. W. Yeung and Z. Zhang, "On symmetrical multilevel diversity coding," *IEEE Transactions on Information Theory*, vol. 45, pp. 609-621, Mar 1999.
19. R. W. Yeung and Z. Zhang, "Distributed source coding for satellite communications," *IEEE Transactions on Information Theory*, vol. 45, no. 4, pp. 1111-1120, May 1999.
20. R. W. Yeung and A. S. Alfa, "The quasi-birth-death type Markov chain with a tree structure," *Stochastic Models*, vol. 15, no. 4, pp. 639-660, 1999.
21. C.-n. Tang and R. W. Yeung, "A graph-theoretic approach to queueing analysis, Part I: Theory," *Stochastic Models*, vol. 15, no. 5, pp. 791-824, 1999.
22. C.-n. Tang and R. W. Yeung, "A graph-theoretic approach to queueing analysis, Part II: Applications," *Stochastic Models*, vol. 15, no. 5, pp. 825-870, 1999.
23. R. Ahlswede, N. Cai, S.-Y. R. Li and R. W. Yeung, "Network information flow," *IEEE Transactions on Information Theory*, vol. 46, no. 4, pp. 1204-1216, 2000.

24. F.-W. Fu and R. W. Yeung, "On the capacity and error-correcting codes of write-efficient memories," *IEEE Transactions on Information Theory*, vol. 46, no.7, pp. 2299-2314, Nov 2000.
25. F.-W. Fu, V. K. Wei and R. W. Yeung, "On the minimum average distance of binary codes: Linear programming approach," *Discrete Applied Mathematics*, vol. 111, pp. 263-281, 2001.
26. C. Ye and R. W. Yeung, "Some basic properties of fix-free codes," *IEEE Transactions on Information Theory*, vol. 47, no. 1, pp. 72-87, Jan 2001.
27. R. W. Yeung and Z. Zhang, "A class of non-Shannon-type information inequalities and their applications," *Communications in Information and Systems*, vol. 1, pp. 87-100, 2001.
28. T. H. Chan and R. W. Yeung, "On a relation between information inequalities and group theory," *IEEE Transactions on Information Theory*, vol. 48, no. 7, pp. 1992-1995, Jul 2002.
29. R. W. Yeung, T. T. Lee and Z. Ye, "Information-theoretic characterizations of conditional mutual independence and Markov random fields," *IEEE Transactions on Information Theory*, vol. 48, no. 7, pp. 1996-2011, Jul 2002.
30. F.-W. Fu and R. W. Yeung, "On the rate-distortion region for multiple descriptions," *IEEE Transactions on Information Theory*, vol. 48, no. 7, pp. 2012-2021, Jul 2002.
31. C. Ye and R. W. Yeung, "A simple upper bound on the redundancy of Huffman codes," *IEEE Transactions on Information Theory*, vol. 48, no. 7, pp. 2132-2137, Jul 2002.
32. S.-Y. R. Li, R. W. Yeung, and N. Cai, "Linear network coding," *IEEE Transactions on Information Theory*, vol. 49, no. 2, pp. 371-381, Feb 2003.
33. L. Song, R. W. Yeung and N. Cai, "Zero-error network coding for acyclic networks," *IEEE Transactions on Information Theory*, vol. 49, no. 12, pp. 3129-3139, Dec 2003.
34. F. Fu, A. J. H. Vinck, V. K.-W. Wei and R. W. Yeung, "On the capacity of write-unidirectional memories with nonperiodic codes," *IEEE Transactions on Information Theory*, vol. 50, no. 4, pp. 649-656, Apr 2004.
35. N. Cai, A. Winter, and R. W. Yeung, "Quantum privacy and quantum wiretap channels," *Problems of Information Transmission*, vol. 40, no. 4, pp. 318-336, 2004.
36. L. Song, R. W. Yeung, and N. Cai, "A separation theorem for single source network coding," *IEEE Transactions on Information Theory*, vol. 52, no. 5, pp. 1861-1871, 2006.
37. R. W. Yeung and N. Cai, "Network error correction, Part I: Basic concepts and upper bounds," *Communications in Information and Systems*, vol. 6, no. 1, pp. 19-36, 2006.
38. N. Cai and R. W. Yeung, "Network error correction, Part II: Lower bounds," *Communications in Information and Systems*, vol. 6, no. 1, pp. 37-54, 2006.
39. R. W. Yeung, "Avalanche: A network coding analysis," *Communications in Information and Systems*, vol. 7, no. 4, pp. 353-358, 2007.
40. S. Yang, R. W. Yeung, and Z. Zhang, "Weight properties of network codes," *European Transactions on Telecommunication*, 19: 371-383, 2008.
41. E.-h. Yang, D.-k. He, T. Uyematsu, and R. W. Yeung, "Universal Multiterminal Source Coding Algorithms With Asymptotically Zero Feedback: Fixed Database Case," *IEEE Transactions on Information Theory*, vol. 54, no. 12, pp. 5575-5590, 2008.
42. R. W. Yeung, N. Cai, S.-W. Ho, and A. B. Wagner, "Reliable communications in the absence of a common clock," *IEEE Transactions on Information Theory*, vol. 55, no. 2, pp. 700-712, 2009.
43. S.-W. Ho and R. W. Yeung, "On the discontinuity of the Shannon information measures," *IEEE Transactions on Information Theory*, IT-55, 5362-5374, 2009.
44. S. L. Fong and R. W. Yeung, "Variable-rate linear network coding," *IEEE Transactions on Information Theory*, IT-56, 2618-2625, 2010.
45. S.-W. Ho and R. W. Yeung, "On information divergence and a unified typicality," *IEEE Transactions on Information Theory*, IT-56, no. 12, pp. 5893-5905, 2010.
46. S.-W. Ho and R. W. Yeung, "The interplay between entropy and variational distance," *IEEE Transactions on Information Theory*, IT-56, no. 12, pp. 5906-5929, 2010.
47. M. Tan, R. W. Yeung, S.-T. Ho, and N. Cai, "A unified framework for linear network coding," *IEEE Transactions on Information Theory*, IT-57, no. 1, pp. 416-423, 2011.
48. N. Cai and R. W. Yeung, "Secure network coding on a wiretap network," *IEEE Transactions on Information Theory*, IT-57, no. 1, pp. 424-435, 2011.

49. C. K. Ngai, R. W. Yeung, and Z. Zhang, "Network generalized Hamming weight," *IEEE Transactions on Information Theory*, IT-57, no. 2, pp. 1136–1143, 2011.
50. S. Yang, R. W. Yeung, and C. K. Ngai, "Refined coding bounds and code constructions for coherent network error correction," *IEEE Transactions on Information Theory*, IT-57, no. 3, pp. 1409–1424, 2011.
51. X. Yan, R. W. Yeung, and Z. Zhang, "An implicit characterization of the achievable rate region for acyclic multisource multisink network coding," *IEEE Transactions on Information Theory*, IT-58, no. 9, pp. 5625–5639, 2012.
52. F. Cheng and R. W. Yeung, "Performance Bounds on a Wiretap Network with Arbitrary Wiretap Sets," *IEEE Transactions on Information Theory*, IT-60, no. 6, pp. 3345–3358, 2014.
53. S. Yang and R. W. Yeung, "Batched sparse code," *IEEE Transactions on Information Theory*, IT-60, no. 9, pp. 5322–5346, 2014.
54. F. Cheng, R. W. Yeung, and K. W. Shum, "Imperfect secrecy in wiretap channel II," *IEEE Transactions on Information Theory*, IT-61, no. 1, pp. 628–636, 2015.
55. S. L. Fong and R. W. Yeung, "Cut-set bounds for networks with zero-delay nodes," *IEEE Transactions on Information Theory*, IT-61, no. 7, pp. 3837–3850, 2015.
56. R. W. Yeung, "Facets of entropy," *Communications in Information and Systems*, vol. 15, pp. 87–117, 2015.
57. R. Wang, X. Yuan, and R. W. Yeung, "MIMO multipair two-way relaying with distributed relays: Joint signal alignment and interference neutralization," *IEEE Transactions on Information Theory*, vol. 62, pp. 1326–1343, 2016.
58. Q. Chen and R. W. Yeung, "Partition-symmetrical entropy functions," *IEEE Transactions on Information Theory*, vol. 62, pp. 5385–5402, 2016.
59. S. Yang, T.-C. Ng, and R. W. Yeung, "Finite-length analysis of BATS codes," submitted to *IEEE Transactions on Information Theory*.
60. R. W. Yeung, A. AlBashabsheh, C. Chen, Q. Chen, and P. Moulin, "On characterizations of Markov random fields and subfields," submitted to *IEEE Transactions on Information Theory*.

Invited Conference Papers/Talks

1. R. W. Yeung, "A conjecture on source coding," *Proceedings of 1990 IEEE Information Theory Workshop*, Veldhoven, the Netherlands, Jun 10–15, 1990.
2. R. W. Yeung, "Diversified coding with one distortion criterion," *Proceedings of 1993 IEEE Information Theory Workshop*, Susono-shi, Shizuoka, Japan, Jun 4–8, 1993.
3. B. Sengupta and R. W. Yeung, "Matrix product-form solutions in stochastic systems," *Proceedings of 1993 International Symposium on Communications*, Hsinchu, Taiwan, ROC, Dec 7–10, 1993.
4. R. W. Yeung and B. Sengupta, "Matrix product-form solutions and a LCFS queue," *Proceedings of the workshop on Stochastic Networks at the Institute of Mathematics and Its Applications*, Minneapolis, MN, Feb 28–Mar 4, 1994.
5. J. R. Roche, R. W. Yeung and K. P. Hau, "Multilevel diversity coding with symmetrical connectivity," *Proceedings of 1995 IEEE Information Theory Workshop*, Rydzyna, Poland, Jun 25–29, 1995.
6. R. W. Yeung and Z. Zhang, "A framework for information-theoretic inequalities with applications to source coding," *Proceedings of the 1996 IEEE Information Theory Workshop*, Haifa, Israel, Jun 9–13, 1996.
7. R. Alshwede, N. Cai and R. W. Yeung, "Network information flow theory," *International Conference on Statistical Inference, Combinatorics and Related Areas*, Varanasi, India, Dec 18–21, 1997.
8. Z. Zhang and R. W. Yeung, "A new unconditional information inequality," 1997 IEEE Information Theory Workshop, Killarney, Co. Kerry, Ireland, Jun 22–26, 1998.
9. R. W. Yeung, "Network information flow and its applications," *The 3rd CAST Conference of Young Scientists (plenary talk, Communication Science Group)*, Beijing, Aug 20–22, 1998.

10. S.-Y. R. Li and R. W. Yeung, "Linear codes for network information flow," 1999 IEEE Information Theory and Networking Workshop, Metsovo, Greece, Jun 27-Jul 1, 1999.
11. R. W. Yeung, "Entropy and Conditional Independence," (main speaker) Workshop on Conditional Independence and Graphical Models, the Fields Institute for Research in Mathematical Sciences, University of Toronto, Sept 27 - Oct 1, 1999.
12. Z. Zhang and R. W. Yeung, "On the characterization of entropy function via information inequalities," Workshop on Conditional Independence and Graphical Models, the Fields Institute for Research in Mathematical Sciences, University of Toronto, Sep 27 - Oct 1, 1999.
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