

# David N.C. Tse

## Curriculum Vitae

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**Research interests:** Wireless communications, information theory, networking.

### Education:

- M.S. (1991), Ph.D. (1994) in electrical engineering, Massachusetts Institute of Technology, Cambridge, MA.
- B.A.Sc. (1989) in systems design engineering, University of Waterloo, Canada.

### Positions Held:

- Professor, Dept. of EECS, U.C. Berkeley, July, 2002 - present.
- Visiting Professor, Dept. of EE, Stanford University, May 2011 - present.
- Associate Professor, Dept. of EECS, U.C. Berkeley, July, 2000 - June 2002.
- Assistant Professor, Dept. of EECS, U.C. Berkeley, Nov. 1995 - June 2000.
- System engineer, Qualcomm Inc., San Diego, Jan.-May, 1999.
- postdoctoral member of technical staff, A.T. & T. Bell Laboratories, Oct. 1994- Oct. 1995.

### Awards:

- 2009 Frederick Emmons Terman Award from the American Society for Engineering Education.
- 2008 Outstanding Teaching Award, Department of Electrical Engineering and Computer Sciences, U.C. Berkeley
- 2003 IEEE Information Theory Society Paper Award (for [J41]).
- 2001 IEEE Communications and Information Theory Societies' Joint Paper Award (for [J54]).
- Best Paper Awards in 1998 and 2001 IEEE INFOCOM conferences (for [C104] and [C83]).
- 2000 Erlang Prize from the INFORMS Applied Probability Society for researchers under the age of 35.
- 1998 Early Faculty CAREER Award from National Science Foundation

- Canadian Natural Science and Engineering Research Council 1967 Graduate Fellowship (1989-1993)
- University of Waterloo Alumni Gold Medal for top graduate in engineering school (1989)

## Professional Activities:

- Fellow, IEEE, 2009 to present.
- Associate Editor, *IEEE Transactions on Information Theory*, 2001-2003.
- Technical program committee co-chair, IEEE International Symposium on Information Theory, 2004.
- Board of Governors, IEEE Information Theory Society, 2003 to 2008, 2010 - present.
- Guest editor: *IEEE Transactions on Information Theory* special issue on Multiscale Signal Analysis and its Applications, April 1999; *Automatica* special issue on Control Methods for Communication Networks, December 1999.
- Program committee member: 1999 and 2000 INFOCOM conferences, 2000, 2001, 2002, 2003, 2008 International Symposia on Information Theory.
- Session chair: 1997 INFORMS conference, 1997 Asilomar conference, 1999 Information theory workshops in South Africa and in Greece, 2001 International Symposium on Information Theory.
- Plenary speaker for international conferences and workshops:
  - IEEE International Conference on Acoustics, Speech and Signal Processing 2006
  - ACM International Conference on Mobile Computing and Networking (MobiCom) 2007
  - Conference on Information Sciences and Systems (CISS) 2008
  - IEEE International Symposium on Information Theory (ISIT) 2009
  - Workshop on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt), 2003
  - IEEE Workshop on Signal Processing Advances for Wireless Communications (SPAWC) 2003 and 2008
  - IEEE Communication Theory Workshop (CTW) 2009
  - IEEE Information Theory Workshop, Cairo, 2010
  - Tutorial speaker, IEEE International Symposium on Information Theory, 2009.
  - Canadian Information Theory Workshop, 2011.
- Member, Chair Professor Group in Wireless Communication, Tsinghua University, Beijing, China, 2009-present.

## Teaching:

Taught undergraduate and graduate courses in communication networks, digital communications, information theory, random processes, probability, discrete mathematics and signals and systems. Developed a new graduate course in wireless communications. Coauthored a textbook, "Fundamental of Wireless Communication", used in over 60 institutions around the world.

**Former Ph.D. students and Postdoctoral researchers:**

- Pramod Viswanath (Associate Professor, UIUC, USA)
- Lizhong Zheng (Associate Professor, MIT, USA)
- Xia Ye (Assistant Professor, University of Florida, Gainesville, USA)
- Kiran (Qualcomm Inc., USA)
- Ada Poon (Assistant Professor, Stanford University, USA)
- Raul Etkin (Researcher, Hewlett-Packard Labs, USA)
- Vinod Prabhakaran (Tata Institute, India)
- Amir Salman Avestimehr (Assistant Professor, Cornell University, USA)
- Leonard Gropop (Qualcomm Inc., USA)
- Matthias Grossglauser (Assistant Professor, EPFL, Switzerland)
- Jamie Evans (Associate Professor, University of Melbourne, Australia)
- David Starobinski (Associate Professor, Boston University, USA)
- Massimo Francheschetti (Associate Professor, University of California at San Diego, USA)
- Dana Porrat (Lecturer, Hebrew University, Israel)
- Mohammad Ali Maddah-Ali (Alcatel-Lucent Bell Laboratories)
- Changho Suh (KAIST, South Korea)

# Publications

## Patents

- [P1] "Methods and apparatus for transmitting information between a basestation and multiple mobile stations" , U.S. Patent #6694147, February 17, 2004.
- [P2] "Transmitter directed, multiple receiver system using path diversity to equitably maximize throughput", U.S. Patent #6449490, September 10, 2002. (patent filed, May 24, 1999.)
- [P3] "Renegotiated bit-rate service system and method", U.S. Patent #5604731, Feb. 18, 1997.
- [P4] "Data segmentation within a renegotiated bit-rate service transmission system", U.S. Patent #5559798, Sept. 24, 1996.

## Books

- [B1] D. Tse and P. Viswanath, *Fundamentals of Wireless Communication*, Cambridge University Press, 2005.

## Journal (In Review)

- [S1] B. Zhang and D. Tse, "Geometry of Injection Region of Power Networks", submitted to *IEEE Trans. Power Systems*, October 2011.
- [S2] D. Tse and M. Maddah-Ali, "Completely Stale Transmitter Channel State Information is still very useful", submitted to *IEEE Transactions on Information Theory*, Sept. 2011.
- [S3] Venkat Chandar, Aslan Tchamkerten, D.Tse, "Asynchronous Capacity per Unit Cost", submitted to the *IEEE Transactions on Information Theory*, July 2010.
- [S4] Paolo Minero, Massimo Franceschetti, D. Tse, "Random Access: An Information-Theoretic Perspective", submitted to the *IEEE Transactions on Information Theory*, December, 2009.
- [S5] L. Gropop, D. Tse and R. Yates, "Interference Alignment for Line-of-Sight Channels" submitted to the *IEEE Transactions on Information Theory*, 2009.
- [S6] L. Gropop and D. Tse, " Spectrum Sharing Between Wireless Networks", submitted to *ACM/IEEE Transactions on Networking*, 2008.

## Journal (In Print or In Press)

- [J1] Devavrat Shah, D. Tse, John Tsitsiklis, "Hardness of low delay network scheduling", to appear in *IEEE Transactions on Information Theory*, 2011.
- [J2] D. Tse and R. Yates, "Fading Broadcast Channels with State Information at the Receivers", to appear in *IEEE Transactions on Information Theory*, 2011.
- [J3] Francois Bacelli, Abbas El Gamal, D. Tse, "Interference Networks with Point-to-point Codes", *IEEE Transactions on Information Theory*, vol. 57(5), May 2011.
- [J4] Soheil Mohajer, Suhas N. Diggavi, Christina Fragouli, D. Tse, "Approximate Capacity of Gaussian Interference-Relay Networks with Weak Cross Links", *IEEE Transactions on Information Theory*, vol. 57(5), May 2011.
- [J5] I-Hsiang Wang, D. Tse, "Interference Mitigation Through Limited Receiver Cooperation", *IEEE Transactions on Information Theory*, vol. 57(5), May 2011.
- [J6] I-Hsiang Wang, D. Tse, "Interference Mitigation through Limited Transmitter Cooperation", *IEEE Transactions on Information Theory*, vol. 57(5), May 2011.
- [J7] Changho Suh, Minnie Ho, D. Tse, "Downlink Interference Alignment", to appear in *IEEE Transactions on Communications*, 2011.
- [J8] S. Avestimehr, S. Diggavi and D. Tse, "Wireless network information flow: a deterministic approach", *IEEE Transactions on Information Theory*, vol. 57(4), April, 2011.
- [J9] Randall A. Berry, D. Tse, "Shannon Meets Nash on the Interference Channel", *IEEE Transactions on Information Theory*, vol. 57(5), May 2011.
- [J10] Changho Suh, D. Tse, "Feedback Capacity of the Gaussian Interference Channel to within 2 Bits", *IEEE Transactions on Information Theory*, vol. 57(5), May 2011. (Conference version of this paper won the Best Student Paper Award.)
- [J11] G. Bresler, A. Parekh and D. Tse, "Approximate Capacity of Many-to-One and One-to-Many Interference Channels", *IEEE Transactions on Information Theory*, vol. 56(9), Sept. 2010, pp. 4566-4592.
- [J12] D. Tse, "It's Easier to Approximate", *Information Theory Society Newsletter*, March 2010, pp. 6-11. (This is an invited paper for the plenary talk I gave at the 2009 International Symposium on Information Theory.)
- [J13] A. Ozgur, R. Johari, D. Tse and O. Leveque, "Information Theoretic Operating Regimes for Large Wireless Networks", *IEEE Transactions on Information Theory*, vol. 56(1), Jan. 2010, pp. 427-437.
- [J14] L. Gropop and D. Tse, "Diversity-Multiplexing Tradeoff of ISI Channels", *IEEE Transactions on Information Theory*, VOL. 55(1), Jan. 2009, pp. 109-135.

- [J15] R. Etkin, D. Tse and H. Wang, "Gaussian Interference Channel Capacity to Within One Bit", *IEEE Transactions on Information Theory*, vol 54(12), Dec. 2008, pp. 5534 - 5562.
- [J16] Ye Xia and D. Tse, "On the Large Deviations of Resequencing Queue Size: 2-M/M/1 Case" . *IEEE Transactions on Information Theory*, vol. 54, no. 9, September 2008. Page 4107-4118.
- [J17] G. Bresler and D. Tse, "The Two-User Gaussian Interference Channel: A Deterministic View", vol 19, *European Transactions in Telecommunications*, pp. 333-354, April 2008.
- [J18] A. Ozgur, O. Leveque and D. Tse, "Hierarchical Cooperation Achieves Optimal Capacity Scaling in Ad Hoc Networks", *IEEE Transactions on Information Theory*, vol 53, no. 10, pp. 3549 - 3572, October 2007.
- [J19] J. Tsao, D. Porrat and D. Tse, "Prediction and Modeling for the Time-Evolving Ultra-Wideband Channel" *IEEE Journal of Selected Topics in Signal Processing*, Volume 1, Issue 3, pp. 340-356, Oct. 2007.
- [J20] R. Wilson, D. Tse and R. Scholtz, "Channel Identification: Secret Sharing using Reciprocity in UWB Channels", *IEEE Transactions on Information Forensics and Security*, pp. 364-375, September 2007.
- [J21] A. S. Avestimehr and D. Tse, "Outage capacity of the fading relay channel in the low-SNR regime," *IEEE Trans. Information Theory*, vol. 53, no. 4, pp. 1401-1415, April 2007.
- [J22] R. Etkin, A. Parekh, and D. Tse, "Spectrum sharing for unlicensed bands," *IEEE J. Selected Areas in Communications*, vol. 25, no. 3, pp. 517-528, April 2007.
- [J23] L. Zheng, D. Tse, and M. Medard, "Channel coherence in the low-SNR regime," *IEEE Trans. Information Theory*, vol. 53, no. 3, pp. 976-997, March 2007.
- [J24] M. Franceschetti, O. Dousse, D. Tse, and P. Thiran, "Closing the gap in the capacity of wireless networks via percolation theory," *IEEE Trans. Information Theory*, vol. 53, no. 3, pp. 1009-1018, March 2007.
- [J25] D. Porrat, D. Tse, and S. Nacu, "Channel uncertainty in ultra-wideband communication systems," *IEEE Trans. Information Theory*, vol. 53, no. 1, pp. 194-208, Jan. 2007.
- [J26] Y. Xia and D. Tse, "Inference of link delay in communication networks," *IEEE J. Selected Areas in Communications*, vol. 24, no. 12, pp. 2235-2248, Dec. 2006.
- [J27] M. Chen and D. Tse, "An upper bound on the convergence rate of uplink power control in DS-CDMA systems," *IEEE Communications Letters*, vol. 10, no. 4, pp. 231-233, April 2006.

- [J28] A. Poon, D. Tse and R. Brodersen, "Impact of Scattering on the Capacity, Diversity and Propagation Range of Multiple Antenna Channels", *IEEE Transactions on Information Theory*, vol. 52(2), March 2006.
- [J29] R. Etkin and D. Tse, "Degrees of Freedom in Underspread MIMO Fading Channels", *IEEE Transactions on Information Theory*, vol 52(3) March 2006.
- [J30] S. Diggavi, M. Grossglauser and D. Tse, "Even One-Dimensional Mobility Increases Adhoc Wireless Capacity", *IEEE Transactions on Information Theory*, vol 51(11), Nov. 2005.
- [J31] Ada Poon, R. Brodersen and D. Tse, "Degrees of Freedom in Multiple Antenna Channels: A Signal Space Approach", *IEEE Transactions on Information Theory*, vol.51, no.2, February 2005, pp. 523-536.
- [J32] N. Laneman, D. Tse and G. Wornell, "Cooperative Diversity in Wireless Networks: Efficient Protocols and Outage Behavior", *IEEE Transactions on Information Theory*, vol.50, no. 11, November 2004.
- [J33] D. Tse, P. Viswanath and L. Zheng "Diversity-Multiplexing Tradeoff in Multiple Access Channels", *IEEE Transactions on Information Theory*, vol.50, no.9, Sept. 2004, pp.1859-74.
- [J34] A. Poon, D. Tse and R. Brodersen, "An Adaptive Multi-antenna Transceiver for Slowly Flat Fading Channels", *IEEE Transactions on Communications*, vol.51, no.11, Nov. 2003, pp.1820-7.
- [J35] M. Grossglauser and D. Tse, "A Time-Scale Decomposition Approach to Measurement-Based Admission Control", *IEEE/ACM Transactions on Networking*, vol.11, no.4, Aug. 2003, pp.550-63.
- [J36] P. Viswanath and D. Tse, "Sum Capacity of the Multiple Antenna Gaussian Broadcast Channel and Uplink-Downlink Duality", *IEEE Transactions on Information Theory*, vol 49(8), August, 2003, pp. 1912-1921.
- [J37] L. Zheng and D. Tse, "Diversity and Multiplexing: A Fundamental Tradeoff in Multiple Antenna Channels" *IEEE Transactions on Information Theory*, vol. 49(5), May 2003.
- [J38] M. Grossglauser and D. Tse, "Mobility Increases the Capacity of Adhoc Wireless Networks", *IEEE/ACM Transactions on Networking*, August 2002.
- [J39] P. Viswanath, D. Tse and R. Laroia, "Opportunistic Beamforming using Dumb Antennas", *IEEE Transactions on Information Theory*, vol. 48(6), June, 2002.
- [J40] C. Chuah, D. Tse, J. Kahn and R. Valenzuela, "Capacity Scaling in MIMO Wireless Systems under Correlated Fading", *IEEE Transactions on Information Theory*, vol. 48(3), March 2002, pp. 637-650.

- [J41] L. Zheng and D. Tse, "Communicating on the Grassmann Manifold: A Geometric Approach to Noncoherent Multi-antenna Channels", *IEEE Transactions on Information Theory*, vol. 48(2), February 2002, pp. 359-383.
- [J42] D. Starobinski, Tse D. Probabilistic methods for Web caching. *Performance Evaluation*, vol.46, no.2-3, Oct. 2001, pp.125-37.
- [J43] S. Hanly and D. Tse, "Resource Pooling and Effective Bandwidths in CDMA Systems with Multiuser Receivers and Spatial Diversity", *IEEE Transactions on Information Theory*, vol. 47(4), May 2001, pp. 1328-1351.
- [J44] J. Zhang, E. Chong and D. Tse, "Output MAI Distributions of Linear MMSE Multiuser Receivers in CDMA Systems", *IEEE Transactions on Information Theory*, vol. 47(3), March 2001, pp. 1128-1144.
- [J45] P. Viswanath, D. Tse and V. Anantharam, "Asymptotically Optimal Waterfilling in Vector Multiple Access Channels", *IEEE Transactions on Information Theory*, vol. 47(1), January 2001, pp. 241-267.
- [J46] D. Tse and S. Verdú, "Optimum Asymptotic Multiuser Efficiency for Randomly Spread CDMA", *IEEE Transactions on Information Theory*, vol. 46(7), November 2000, pp. 2718-2722.
- [J47] J.S. Evans and D. Tse, "Large System Performance of Linear Multiuser Receivers in Multipath Fading Channels", *IEEE Transactions on Information Theory*, vol. 46(6), Sept 2000, pp. 2059-2078.
- [J48] Kiran and D. Tse, "Effective Bandwidths and Effective Interference for Linear Multiuser Receivers in Asynchronous CDMA Systems", *IEEE Transactions on Information Theory*, vol 46(4), July 2000, pp. 1426-1447.
- [J49] E. Telatar and D. Tse, "Capacity and Mutual Information of Wideband Multipath Fading Channels", *IEEE Transactions on Information Theory*, vol 46(4), July 2000, pp. 1384-1400.
- [J50] D. Tse and O. Zeitouni, "Linear Multiuser Receivers in Random Environments", *IEEE Transactions on Information Theory*, vol 46(1), Jan., 2000, pp. 171-188.
- [J51] S. Hanly and D. Tse, "Power Control and Capacity of Spread-Spectrum Wireless Networks", *Automatica*, vol.35, (no.12), Dec. 1999. p.1987-2012.
- [J52] M. Grossglauser and D. Tse, "A Framework for Robust Measurement-Based Admission Control", *IEEE/ACM Transactions on Networking*, v. 7, No. 3, June 1999, pp. 293-309.
- [J53] P. Viswanath, V. Anantharam and D. Tse, "Optimal Sequences, Power Control and Capacity of Synchronous CDMA Systems with Linear MMSE Multiuser Receivers", *IEEE Transactions on Information Theory*, v. 45(6), Sept., 1999, pp. 1968-1983.

- [J54] D. Tse and S. Hanly, "Linear Multiuser Receivers: Effective Interference, Effective Bandwidth and User Capacity", *IEEE Transactions on Information Theory*, v.45, No. 2, Mar. 1999, pp. 641-657.
- [J55] D. Tse and S. Hanly, "Multi-Access Fading Channels: Part I: Polymatroid Structure, Optimal Resource Allocation and Throughput Capacities", *IEEE Transactions on Information Theory*, v. 44, No. 7, Nov., 1998, pp. 2796-2815.
- [J56] S. Hanly and D. Tse, "Multi-Access Fading Channels: Part II: Delay-Limited Capacities", *IEEE Transactions on Information Theory*, v. 44, No. 7, Nov., 1998, pp. 2816-2831.
- [J57] M. Grossglauser, S. Keshav and D. Tse, "RCBR: A Simple and Efficient Service for Multiple Time-Scale Traffic ", *IEEE/ACM Transactions on Networking*, December 1997, pp. 741-755.
- [J58] A. Elwalid, G. Freundlich, P. Gerhardt, H. Hagirahim, K.G. Ramakrishnan and D. Tse, "An Overview of the Multimedia Communications Exchange (MMCX) and its Performance Characterization", *Bell Laboratories Technical Journal*, vol. 2, no. 2, 1997, pp. 15-30.
- [J59] D. Tse, R.G. Gallager and J.N. Tsitsiklis, "Statistical Multiplexing of Multiple Time-scale Markov Streams", *IEEE Journal on Selected Areas in Communications*, special issue on Advances in the Fundamentals of Networking, vol. 13, no. 6., Aug. 1995, pp. 1028-1039.
- [J60] M.A. Dahleh, E.D. Sontag, D. Tse, J.N. Tsitsiklis, "Worst-Case Identification of Nonlinear Fading Memory Systems", *Automatica*, vol.31, no. 3, Mar. 1995, pp. 503-508.
- [J61] S.R. Kulkarni and D. Tse, "A Paradigm for Class Identification Problems", *IEEE Transactions on Information Theory*, vol.40, no.1, May 1994, pp. 696-705.
- [J62] D. Tse, M.A. Dahleh, J.N. Tsitsiklis, "Optimal Asymptotic Identification Under Bounded Disturbances", *IEEE Transactions on Automatic Control*, vol.38, no.8, Aug. 1993, pp. 1176-90.
- [J63] D. Tse and G.R. Heppler, "Shape Determination for Large Flexible Satellites via Stereo Vision", *AIAA Journal of Spacecraft and Rockets*, vol. 29, no. 1, Jan-Feb. 1992.

## Conference

- [C1] Mohammad Ali Maddah-Ali, D. Tse, "Completely Stale Transmitter Channel State Information is Still Very Useful", Allerton Conference, Sept. 2010.

- [C2] Mohammad Ali Maddah-Ali, D.Tse, "Interference Neutralization in Distributed Lossy Source Coding", IEEE International Symposium on Information Theory, June, 2010.
- [C3] Venkat Chandar, Aslan Tchamkerten, D.Tse, "Asynchronous Capacity per Unit Cost", IEEE International Symposium on Information Theory, June, 2010.
- [C4] Oliver Kosut, Lang Tong, D.Tse, "Polytope Codes Against Adversaries in Networks", IEEE International Symposium on Information Theory, June, 2010.
- [C5] I-Hsiang Wang, D.Tse, "Interference Mitigation Through Limited Transmitter Cooperation", IEEE International Symposium on Information Theory, June, 2010.
- [C6] Urs Niesen, Piyush Gupta, D.Tse, " On the Optimality of Multi-Hop Communication in Large Wireless Networks", IEEE International Symposium on Information Theory, June, 2010.
- [C7] Ozgur, A., Leveque, O. and Tse, D., "Linear capacity scaling in wireless networks: Beyond physical limits?" Information Theory and Applications Workshop (ITA), Jan. 2010 , pp. 1-10
- [C8] I-Hsiang Wang; Tse, D., "Interference mitigation through limited receiver cooperation: Symmetric case", IEEE Information Theory Workshop 2009, pp. 579-583.
- [C9] Minero, P.; Tse, D.; Franceschetti, M.; "A broadcast approach to random access", IEEE Information Theory Workshop 2009, pp. 615-619.
- [C10] Bresler, G. and Tse, D., "3 User interference channel: Degrees of freedom as a function of channel diversity", 47th Annual Allerton Conference on Communication, Control, and Computing, 2009, pp. 265 - 271.
- [C11] Kosut, O.; Lang Tong; Tse, D, "Nonlinear network coding is necessary to combat general Byzantine attacks", 47th Annual Allerton Conference on Communication, Control, and Computing, 2009, pp. 593-599.
- [C12] Mohajer, S.; Diggavi, S.N.; Fragouli, C.; Tse, D., "Capacity of deterministic Z-chain relay-interference network", IEEE Information Theory Workshop on Networking and Information Theory, 2009, pp. 331 - 335.
- [C13] Berry, R.A.; Tse, D., "Information theory meets game theory on the interference channel", IEEE Information Theory Workshop on Networking and Information Theory, 2009, pp. 140-144.
- [C14] Changho Suh; Tse, D., "Symmetric feedback capacity of the Gaussian interference channel to within one bit" IEEE International Symposium on Information Theory, 2009, pp. 1609 - 1613. (**This paper won the Best Student Paper Award of the conference.**)
- [C15] Maddah-Ali, M.A. and Tse, D., "Approximating the rate-distortion region of the distributed source coding for three jointly Gaussian tree-structured sources", IEEE International Symposium on Information Theory, 2009, pp. 1468-1472.
- [C16] Mohajer, S., Tse, D. and Diggavi, S.N., "Approximate capacity of a class of Gaussian relay-interference networks", IEEE International Symposium on Information Theory, 2009, pp.31-35.

- [C17] Nagpal, V.; Pawar, S.; Tse, D.; Nikolic, B., "Cooperative multiplexing in the multiple antenna half duplex relay channel", IEEE International Symposium on Information Theory, 2009, pp. 1438 - 1442.
- [C18] A. Ozgur and D. Tse , "Achieving linear scaling with interference alignment", IEEE International Symposium on Information Theory, 2009, pp. 1754-58.
- [C19] Mohajer, S.; Diggavi, S.N.; Fragouli, C.; Tse, D., "Transmission techniques for relay-interference networks", 46th Annual Allerton Conference on Communication, Control, and Computing, 2008, pp. 467 - 474.
- [C20] Changho Suh; Tse, D., "Interference Alignment for Cellular Networks", 46th Annual Allerton Conference on Communication, Control, and Computing, 2008, pp. 1037-1044.
- [C21] I-Hsiang Wang; Tse, D., "Gaussian interference channels with multiple receive antennas: Capacity and generalized degrees of freedom", 46th Annual Allerton Conference on Communication, Control, and Computing, 2008, pp. 715-722.
- [C22] Avestimehr, A.S.; Sezgin, A.; Tse, D., "Approximate capacity of the two-way relay channel: A deterministic approach", 46th Annual Allerton Conference on Communication, Control, and Computing, 2008, pp.1582-89.
- [C23] Pawar, S.; Avestimehr, A.S.; Tse, D., "Diversity-multiplexing tradeoff of the half-duplex relay channel", 46th Annual Allerton Conference on Communication, Control, and Computing, 2008, pp. 27-33.
- [C24] Tse, D.; Yates, R.; Zang Li, "Fading broadcast channels with state information at the receivers" 46th Annual Allerton Conference on Communication, Control, and Computing, 2008, pp. 221-227.
- [C25] Ayfer Ozgur, Ramesh Johari, D.Tse, Olivier Leveque, "Information Theoretic Operating Regimes of Large Wireless Networks", IEEE International Symposium on Information Theory, Toronto, Canada, July 2008
- [C26] R. Berry and D.Tse, "Information Theoretic Games on Interference Channels", IEEE International Symposium on Information Theory, Toronto, Canada, July 2008
- [C27] A.S. Avestimehr, S. Diggavi and D. Tse, "Approximate Capacity of Gaussian Relay Channels", IEEE International Symposium on Information Theory, Toronto, Canada, July 2008
- [C28] R.D. Yates, D. Tse and Z. Li, , "Secrecy Capacity of Interference Channels", IEEE International Symposium on Information Theory, Toronto, Canada, July 2008
- [C29] A. Poon and D.Tse, "Polarization Degrees of Freedom", IEEE International Symposium on Information Theory, Toronto, Canada, July 2008
- [C30] Avestimehr, S.; Diggavi, S.N.; Tse, D., "Information flow over compound wireless relay networks", IEEE International Zurich Seminar on Communications, 2008, pp. 92-92.
- [C31] L. Grokop and D. Tse, " Spectrum Sharing Between Wireless Networks", IEEE Infocom Conference, Phoenix, April 2008.

- [C32] A.S. Avestimehr, S. Diggavi and D. Tse, "Wireless Network Information Flow", Allerton Conference, Sept. 2007.
- [C33] A.S. Avestimehr, S. Diggavi and D. Tse, "A Deterministic Approach to Relay Networks", Allerton Conference, Sept. 2007.
- [C34] V. Prabhakaran, S. Diggavi and D. Tse, "Broadcasting with Common Messages: A Deterministic Approach", Allerton Conference, Sept. 2007.
- [C35] G. Bresler, A. Parekh, D. Tse, "Approximate Capacity of the Many-to-One Interference Channel", Allerton Conference, Sept. 2007.
- [C36] L. Gropop, D. Tse, "Fundamental Constraints of Multicast Capacity Regions", Allerton Conference, Sept. 2007.
- [C37] D. Tse, "A Deterministic Model for Wireless Channels and its Applications", Information Theory Workshop, Lake Tahoe, Sept 2007.
- [C38] A.S. Avestimehr, S. Diggavi and D. Tse, "A Deterministic Model for Wireless Relay Networks and its Applications", Information Theory Workshop, Bergen, Norway, July 2007.
- [C39] S. Jing, D. Tse, J. Soriaga, J. Hou, J. Smee, R. Padovani, "Downlink Macro-Diversity in Cellular Networks", IEEE International Symposium on Information Theory, June 2007.
- [C40] V. Prabhakaran, D. Tse and K. Ramchandran, "Channel coding with strictly-causal colored side-information at transmitter", IEEE International Symposium on Information Theory, June 2007.
- [C41] A. Ozgur, O. Leveque and D. Tse, "Exact Capacity Scaling of Extended Wireless Networks", IEEE International Symposium on Information Theory, June 2007.
- [C42] R. Etkin, D. Tse and H. Wang, "Gaussian Interference Channel Capacity to Within One Bit: the General Case", IEEE International Symposium on Information Theory, June 2007.
- [C43] P. Minero and D. Tse, "A Broadcast Approach to Multiple Access with Random States", IEEE International Symposium on Information Theory, June 2007.
- [C44] E. Telatar and D. Tse, "Bounds on the capacity region of a class of interference channels", IEEE International Symposium on Information Theory, June 2007.
- [C45] Yang, J.; Brodersen, R. W.; Tse, D., "Addressing the Dynamic Range Problem in Cognitive Radios" ICC '07 IEEE International Conference on Communications, 24-28 June 2007 Page(s):5183 - 5188.
- [C46] Ozgur, A.; Leveque, O.; Tse, D., "Hierarchical Cooperation Achieves Linear Capacity Scaling in Ad Hoc Networks", INFOCOM 2007. 26th IEEE International Conference on Computer Communications. IEEE May 2007 Page(s):382 - 390
- [C47] Etkin, R.; Tse, D.; Hua Wang, Gaussian Interference Channel Capacity to Within One Bit: the Symmetric Case Information Theory Workshop, 2006. ITW '06 Chengdu. IEEE, 22-26 Oct. 2006 Page(s):601 - 605

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