Suggested Background Papers

Area 1: Directed Information and Feedback:
1. J. L. Massey, "Causality, feedback, and directed information," in Proc. IEEE Int. Symp. Inf. Theory Appl., Honolulu, HI, Nov. 1990, pp. 303–305.
Link:http://csc.ucdavis.edu/~rgjames/static/pdfs/Massey_-_1990_-_Causality,_feedback_and_directed_information.pdf <http://csc.ucdavis.edu/%7Ergjames/static/pdfs/Massey_-_1990_-_Causality,_feedback_and_directed_information.pdf>
See also Massey's tutorial:http://dimacs.rutgers.edu/Workshops/NetworkInformation/slides/massey.pdf

2. J Schalkwijk, T Kailath, "A coding scheme for additive noise channels with feedback I: No bandwidth constraint", IEEE Transactions on Information
Theory, pp. 172–182, April 1966.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5714269

3. O. Shayevitz and M. Feder, "Optimal Feedback Communication Via Posterior Matching", IEEE Transactions on Information Theory, March 2011.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5714269

Area 2: Capacity of Wireless Channels and Networks
1. E. Biglieri, J. Proakis, S. Shamai, "Fading channels: information-theoretic and communications aspects ",
IEEE Transactions on Info. Theory, pp: 2619 -2692, Oct 1998.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=720551

2.P. Gupta and P.R. Kumar, "The capacity of wireless networks," IEEE Trans. on Information Theory, pp.388-404, March 2000.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=825799

3.V. R. Cadambe and S. Ali Jafar "Interference Alignment and Degrees of Freedom of the K-User Interference Channel", IEEE Trans Info. Theory, Aug. 2008
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4567443

See also the lecture notes by A. El Gamal and Y.H. Kim on Network Information Theory athttp://arxiv.org/abs/1001.3404
or their book on this topic: http://www.cambridge.org/9781107008731/

Area 3: Distributed source coding
1. D. Slepian and J. K. Wolf, "Noiseless Coding of Correlated Information Sources," IEEE Trans. Inform. Theory, pp. 471-480, July, 1973.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1055037

2. A. D. Wyner and J. Ziv, The rate-distortion function for source coding with side information at the decoder,"
IEEE Trans. Inform. Theory, vol. 22, no. 1, pp. 1-10, Jan. 1976.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1055508

3. S. S. Pradhan and K. Ramchandran, Distributed source coding using syndromes (DISCUS):
design and construction," IEEE Trans. Inform. Theory, vol. 49, no. 3, pp. 626-643, Mar. 2003.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1184140

Area 4: Universal compression and context-tree weighting
1. J. Ziv and A. Lempel, "Compression of individual sequences via variable-rate coding".
IEEE Transactions on Information Theory, pp. 530–536, Oct. 1978.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1055934

2. F. Willems, Y. Shtarkov, and T. Tjalkens, "The context-tree weighting method: Basic properties".
IEEE Transactions on Information Theory, pp. 653–664, June 1995.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=382012

3. M. Burrows and D.J. Wheeler, "A Block-sorting Lossless Data Compression Algorithm,"
Link:http://www.hpl.hp.com/techreports/Compaq-DEC/SRC-RR-124.pdf

Area 5: Information Theory in Biology and Neuroscience

1. A.G. Dimitrov, A.A. Lazar, and J.D. Victor, "Information Theory in Neuroscience", Journal of Computational Neuroscience, Vol. 30, No. 1, February 2011, pp. 1-5,
Link:http://www.springerlink.com/content/b0555078102k7767/fulltext.pdf

2. T. Berger and W.B. Levy, "A Mathematical Theory of Energy Efficient Neural Computation and Communication", IEEE Trans. Information Theory, pp. 852-874, Feb. 2010.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5420278

3. D. J. Galas, M. Nykter, G.W. Carter, N.D. Price, I. Shmulevich, "Biological Information as Set-Based Complexity,"
IEEE Trans. on Information Theory, pp.667-677, Feb. 2010.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5420290

4. R. Román-Roldán, P. Bernaola-Galván and J. L. Oliver, "Application of information theory to DNA sequence analysis: A review,"
Pattern Recognition, pp.1187-1194,
1996.
Link: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5420290

5. Nature Reviews Genetics 11, 31-46 (January 2010), "Sequencing
technologies — the next generation", Michael L. Metzker
Link: http://eebweb.arizona.edu/nachman/Further%20Interest/Metzker_2009.pdf

6. Bioinformatics (2009) 25 (17): 2157-2163, "SHREC: a short-read error
correction method" Jan Schröder, Heiko Schröder, Simon J. Puglisi,
Ranjan Sinha, and Bertil Schmidt
Link: http://bioinformatics.oxfordjournals.org/content/25/17/2157

Additional reading athttp://students.itsoc.org/BiologyIT/ and athttp://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=5420266