

## Publication List:

### A. Book Chapter

1. **Ray-Guang Cheng** and Chung-Ju Chang, "CAC and Computational Intelligence," Chapter 3 of the book "Computational Intelligence in Telecommunications Networks," pp. 59~86, CRC Press LLC, Sep. 2000.

### B. Journal Papers

1. Jen-Shun Yang, Chien-Chao Tseng, and **Ray-Guang Cheng**, "Dynamic scheduling framework on a RLC/MAC layer for General Packet Radio Service," to be appeared in the *IEEE Transactions on Wireless Communications*.
2. Fang-Ching Ren, Chung-Ju Chang, and **Ray-Guang Cheng**, "A QoS-guaranteed fuzzy transmission controller for dynamic TDMA protocol in multimedia communication systems," *IEE Proceedings – Communications*, vol. 149, no. 6, pp. 292~298, Dec. 2002.
3. Chung-Ju Chang, Li-Fong Lin, Song-Yaor Lin, and **Ray-Guang Cheng**, "Power-spectrum-based neural-net connection admission control for multimedia networks," *IEE Proceedings – Communications*, vol. 149, no. 2, pp. 70~76, April 2002.
4. **Ray-Guang Cheng**, Chung-Ju Chang, and Li-Fong Lin, "A QoS-provision neural fuzzy connection admission controller for multimedia high-speed networks," *IEEE/ACM Trans. Networking*, vol. 7, no. 1, pp. 111-121, Feb. 1999.
5. Chung-Ju Chang, Chih-Hen Lin, Dah-Sheng Guan, and **Ray-Guang Cheng**, "Design of a power-spectrum-based ATM connection admission controller for multimedia communications," *IEEE Trans. Industrial Electronics*, vol. 45, no. 1, pp. 52~59, Feb. 1998.
6. **Ray-Guang Cheng** and Chung-Ju Chang, "Neural-network connection-admission control for ATM networks," *IEE Proceeding Communications*, vol. 144, no. 2, pp. 93~98, April 1997.
7. **Ray-Guang Cheng** and Chung-Ju Chang, "Design of a fuzzy traffic controller for ATM networks," *IEEE/ACM Trans. Networking*, vol. 4, no. 3, pp. 460~469, June 1996.

### C. Conference Papers:

1. Chih-Yung Shih, **Ray-Guang Cheng**, and Chung-Ju Chang, "Achieving Weighted Fairness for Wireless Multimedia Services," accepted by VTC Fall 2003.
2. Yu-Fu Fan, S. Wang, Chi-An Su, and **Ray-Guang Cheng**, "3G Node B developing experience," *Mobile Computing 2002*.
3. Jen-Shun Yang, Chien-Chao Tseng, and **Ray-Guang Cheng**, "Dynamic scheduling framework on RLC/MAC layer for General Packet Radio Service," *IEEE International Conference on Distributed Computing System*, pp. 441~447, Apr 2001
4. **Ray-Guang Cheng** and Phone Lin, "OVSF code channel assignment for IMT-2000," *IEEE VTC2000-Spring*, vol.3, pp. 2188~2192, May 2000.
5. **Ray-Guang Cheng**, "A code management mechanism for WCDMA mobile communication

- networks," 1999 International Workshop on Mobile Communications," pp. 348~353, June 1999.
6. Li-Fung Chang, Vijay Varma, and **Ray-Guang Cheng**, "Architecture alternatives for PCS-to-internet protocol interworking," *WCNC 1999 - IEEE Wireless Communications and Networking Conference*, no. 1, pp. 766~770, Sep. 1999.
  7. Fang-Ching Ren, Chung-Ju Chang, and **Ray-Guang Cheng**, "An intelligent transmission controller for TDMA/PRMA wireless multimedia communication systems," *IEEE VTC'99 Fall*, pp. 406-410, Sep. 1999.
  8. **Ray-Guang Cheng**, Chiung-Shien Wu, Ming-Hung Lin, Mei-Chian Liu, Jiann-Hung Lin, Haung-Ru Lan, and Chih-Chin Liu, "BMW overall architecture and prototyping," *IEEE VTC'99*, vol. 2, pp. 1350~1354.
  9. Chiung-Shien Wu and **Ray-Guang Cheng**, "Performance of GPRS MAC protocol in dynamic TDD mode," *IEEE VTC'99*, vol. 1, pp. 332~336.
  10. **Ray-Guang Cheng**, Fang-Ching Ren, and Chung-Ju Chang, "Single reservation v.s multiple reservation schemes for multiple channel slotted ALOHA system," *ICOIN-13*, pp. 6D-3.1~6D-3.5, Cheju, Jan. 1999.
  11. Ming-Hung Lin, **Ray-Guang Cheng**, and Chiung-Shien Wu, "Supporting broadband, mobile, high-speed multimedia services based on TDMA MAC protocol," *IEEE International Conference on Systems, Man, and Cybernetics*, vol. 1, pp. 992~997, 1999.
  12. **Ray-Guang Cheng** and Chiung-Shien Wu, "General packet radio service - A packet switched technology for data communication over GSM network," *Fourth International Symposium on Real-Time and Media System*, pp. 153~160, 1998.
  13. Li-Fong Lin, Zohn-Shiun Eul, and **Ray-Guang Cheng**, and Chung-Ju Chang, "Implementation of an admission controller for high-speed multimedia networks," *IEEE International Conference on Consumer Electronics*, pp. 254~255, May 1998.
  14. Chung-Ju Chang, Song-Yaor Lin, **Ray-Guang Cheng**, and Yow-Ren Shiue, "PSD-based neural-net connection admission control," *IEEE INFOCOM'97*, vol. 3, pp. 955~962, Kobe, April 1997.
  15. Chung-Ju Chang, Chih-Feng Juan, Yung-Chih Lin, and **Ray-Guang Cheng**, "Design of a fuzzy usage parameter controller (FUPC) for ATM networks," *IEEE ICC'97*, vol. 1, pp. 215~219, Montreal, June 1997.
  16. Chung-Ju Chang, Song-Yoar Lin, Yow-Ren Shiue, and **Ray-Guang Cheng**, "A power-spectrum based neural fuzzy connection admission mechanism for ATM networks," *IEEE ICC'97*, vol. 3, pp. 1709~1713, Montreal, June 1997.
  17. **Ray-Guang Cheng** and Chung-Ju Chang, "A neural-net based fuzzy admission controller for an ATM network," *IEEE INFOCOM'96*, vol. 2, pp. 777~784, SanFrancisco, March 1996.
  18. Chung-Ju Chang, Hung-Ming Chi, and **Ray-Guang Cheng**, "A power-spectrum based connection admission control for ATM networks," *IEEE ICC'96*, vol. 2, pp. 637~641, Dallas, June 1996.
  19. Chung-Ju Chang and **Ray-Guang Cheng**, "Traffic control in an ATM network using fuzzy set theory," *IEEE INFOCOM'94*, vol. 3, pp. 1200~1207, Toronto, June 1994.

20. Chung-Ju Chang and **Ray-Guang Cheng**, "Congestion control in ATM networks using fuzzy set theory," *Proc. Of 1993 International Symposium on Communications*, vol. 1, pp. 2-19~2-26, Hsinchu, Taiwan.

#### **D. Patents**

1. "Arranging data ciphering in a dual-mode wireless communication systems," BENQ Mobile System Inc., patent filed for R.O.C., China, and U.S.A.
2. "Automatic Diagnostic Information Gathering Mechanism," BENQ Mobile System Inc., patent filed for R.O.C., China, and U.S.A.
3. "Overflow control schemes for high-speed downlink packet access (HSDPA) in WCDMA mobile systems," BENQ Mobile System Inc., patent filed for R.O.C., China, and U.S.A.
4. "An interference based scheduling scheme for WCDMA mobile communication system," BENQ Mobile System Inc., patent filed for R.O.C., China and U.S.A.
5. "Method for relay signal transmission for use in a mobile communication system," BENQ Mobile System Inc., patent filed for R.O.C., China and U.S.A.
6. "Dynamic scheduling for packet data network," CCL/ITRI, **R.O.C. Patent No.: 155247**, patent filed for U.S.A.
7. "Code management system and method for CDMA communication networks," CCL/ITRI, **R.O.C. Patent No.: 130172I**; **U. S. Patent No.: 6,526,065** (this patent has been included in Sec. 8.1 of 3GPP TS. 25.922)
8. "Power-spectrum-based connection admission control for ATM networks," CCL/ITRI, **R.O.C. Patent No.: 091844I**; **U. S. Patent No.: 6,075,770**
9. "Neural fuzzy connection admission controller and method in a node of an asynchronous transfer mode (ATM) communication network," Accton Technology, **R.O.C. Patent No.:089949I**; **U. S. Patent No.: 6,067,287**.
10. "Traffic control mechanism in ATM communications network," CCL/ITRI, **R.O.C. Patent No.: 081238I**; **U.S. Patent No.:5,812,526**
11. "Method and apparatus used in hashing algorithm reducing conflict probability," Accton Technology, **R.O.C. Patent No.071199I**; **U.S. Patent No.:5,633,858**.