

# Chang Wen Chen

## CONTACT INFORMATION:

- Professor Chang Wen Chen  
Dept. of Computer Science and Engineering  
University at Buffalo, The State University of New York  
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## EDUCATION:

- Doctor of Philosophy (October 1992),  
Advisor: Professor Thomas S. Huang,  
Department of Electrical and Computer Engineering,  
University of Illinois at Urbana-Champaign (UIUC)
- Master of Science in Electrical Engineering (December 1986),  
Department of Electrical Engineering - Systems,  
University of Southern California (USC), Los Angeles
- Bachelor of Science in Electrical Engineering (July 1983),  
Department of Electrical Engineering,  
University of Science and Technology of China, Hefei, China,

## CURRENT RESEARCH INTERESTS:

- Reliable and secure multimedia streaming over P2P, wireless and ad hoc networks
- Mobile multimedia systems – processing, and analysis for mobile systems & devices
- Medical image analysis and biomedical information processing
- Distributed source coding for distributed systems and DSP for communications
- Collaborative signal processing and data aggregation for sensor networks

## EXPERIENCE:

### Academic Experience

- Professor of Computer Science and Engineering  
Director, UBMM – Ubiquitous Multimedia Laboratory at UB  
State University of New York at Buffalo — January 2008 – Present
- Allen S. Henry Distinguished Professor of Engineering  
Director, Wireless Center of Excellence (WiCE)  
Florida Institute of Technology — July 2003 – December 2007

- Assistant/Associate Professor of Electrical and Computer Engineering (Tenured)  
University of Missouri – Columbia — September 1996 – June 2003
- Research Assistant Professor of Electrical and Computer Engineering  
University of Rochester — August 1992 – September 1996

### **Industrial and Consulting Experience**

- Head, Interactive Media Group  
(On-leave from University of Missouri-Columbia)  
David Sarnoff Research Laboratories — September 2000 - October 2002
- Senior Technical Advisor  
Media Communications Laboratory  
Huawei Technologies Co, LTD — May 2008 – May 2011
- Senior Visiting Researcher  
Mobile and Internet Multimedia Group  
Microsoft Beijing Research Center — 1999, 2000, 2004, 2006, 2007, 2008, 2009
- Image Compression Consultant  
Multimedia Technology Laboratory  
David Sarnoff Research Laboratories — 06-08/1998.
- Imaging Science Consultant  
Imaging Science Research Laboratory  
Eastman Kodak Company — 10/1995-09/1996, 05-08/1995

### **DISTINCTIONS:**

- **Fellow, IEEE (Institute of Electrical and Electronics Engineers)**, for contributions to digital image and video processing, analysis and communications
- **Fellow, SPIE (International Society for Optical Engineering)**, for contributions to electronic imaging and visual communications
- **Editor-in-Chief, IEEE Trans. Circuits and Systems for Video Technology**, 2006 – 2009
- **Honorary Professor**, XiDian University, Xi'an, China, 2008 –
- **Grand Master Distinguished Visiting Professor**, University of Science and Technology of China, 2006 – 2012
- **Alexander von Humboldt Research Award**, US Senior Scientist category, 2009
- Graduate Student Ms. Jinrong Zhang received the **Best Student Paper Award** from *MobiMedia 2009* (J. Zhang, H. Li and C. W. Chen, “Progressive Distributed Coding of Multispectral Images” Presented at *5th International Mobile Multimedia Communication Conference*, September 2009, London, UK)
- **IEEE ComSoc Multimedia Communications TC 2008 Best Paper Award**, (Z. Li, Q. Sun, Y. Lian and C. W. Chen, “Joint source-channel-authentication resource allocation and unequal authenticity protection for multimedia over wireless networks,” *IEEE Trans. Multimedia*, Vol. 9, No. 4, pp. 837-850, June 2007)
- **Distinguished Invited Talk**, *International Conference on Computer Communications and Networks*, August 6, 2008

- **Invited Panelist** on Scalable Video Coding, 2005 *SPIE Conf. Visual Communication and Image Processing*, July 2005, Beijing, China
- Recipient of 2005 **Outstanding Supervisor Award** at Florida Institute of Technology
- Recipient of 2003 **Sigma Xi Excellence in Graduate Research Mentoring Award** at the University of Missouri-Columbia
- **Invited Panelist** on Mobile and Internet Video, *1999 International Workshop on Very Low Bit-rate Video Coding*, October 1999, Kyoto, Japan.
- Ph.D. student Ms. Li FAN was chosen as Runner-up to the **Michael B. Merickel Award for Best Student Paper** at the *1999 SPIE Medical Imaging International Symposium* (L. Fan and C.W. Chen, "3D warping and registration from lung images," Presented at *SPIE Medical Imaging '99*, February 1999, San Diego, CA.)
- Recipient, Whitaker Foundation **Biomedical Engineering Research Award**, 1996.
- Ph.D. student Dr. Jiebo Luo was the recipient of **Best Student Paper Award** at *1994 SPIE Visual Communication and Image Processing*. (J. Luo, C.W. Chen and K. J. Parker, "On the application of Gibbs random field in image processing: from segmentation to enhancement," Presented at *VCIP '94*, September 1994, Chicago, IL.)
- Member, **Tau Beta Pi**, an engineering honor society, since 1988.

#### **KEYNOTE SPEECHES:**

- **Keynote Speaker**, *2009 Pacific-Rim Conference on Multimedia*, December 16, 2009
- **Keynote Speaker**, *2009 ACM International Conference on Internet Multimedia Computing and Service*, November 23, 2009
- **Keynote Speaker**, *2009 Asia Pacific Conference on Postgraduate Research in Microelectronics & Electronics*, November 20, 2009
- **Keynote Speaker**, *2009 International Conference on Multimedia Information Networking and Security*, November 18, 2009
- **Keynote Speaker**, *5th International Mobile Multimedia Communication Conference*, September 8, 2009, London, UK
- **Keynote Speaker**, *IEEE International Multimedia Signal Processing Workshop*, October 10, 2008
- **Keynote Speaker**, *The 14th Chinese National Conference on Image and Graphics*, May 17, 2008
- **Keynote Speaker**, *The 4th International Forum of Digital TV & Wireless Multimedia Communication*, October 16, 2007
- **Keynote Speaker**, *Mid-South Area Engineering & Sciences Conference*, May 17, 2007
- **Keynote Speaker**, *International Computer Symposium*, December 6, 2006
- **Keynote Speaker**, *2<sup>nd</sup> International Computational Intelligence and Security*, November 5, 2006
- **Keynote Speaker**, *The 3rd International Forum of Digital TV & Wireless Multimedia Communication*, November 3, 2006
- **Keynote Speaker**, *25<sup>th</sup> Picture Coding Symposium*, April 26, 2006
- **Keynote Speaker**, *2005 International Forum on Technology and Economy*, June 2005
- **Keynote Speaker**, *2002 International Conference on Communications, Circuits, and Systems*, July 2002

#### **MAJOR PROFESSIONAL SERVICES:**

##### **1. Editorial Services**

- **Editor-in-Chief**, *IEEE Trans. Circuits and Systems for Video Technology*, 2006 – 2009
- **Chair, Advisory Board**, *Journal of Multimedia*, Academy Publishers, 2008 –
- **Editorial Board Member** (Media Review Column Editor), *IEEE MultiMedia Magazine*, January 2003 – 2006.
- **Associate Editor**, *IEEE Trans. Multimedia*, January 2002 – 2005.
- **Associate Editor**, *IEEE Trans. Circuits and Systems for Video Technology*, 1997 – 2005
- **Editorial Board Member**, *Journal of Visual Communication and Image Representation*, January 2000 – 2006.
- **Editorial Board Member**, *Journal of Computerized Medical Imaging and Graphics*, January 2000 – December 2002.
- **Chief Guest Editor**, *Proceedings of IEEE* special issue on Recent Advances in Distributed Multimedia Communications, January 2008
- **Guest Editor**, *Journal of China Communications* special issue on emerging topics in multimedia communications, 2006
- **Guest Editor**, *IEEE Journal on Selected Areas in Communications* special issue on Cross-Layer Optimized Wireless Multimedia Communications, 2006
- **Guest Editor**, *Journal of Visual Communication and Image Representation* special issue on Visual Communications in the Ubiquitous Era, 2005
- **Guest Editor**, *Signal Processing: Image Communication* special issue on Recent Advances in Wireless Video, 2003
- **Guest Editor**, *IEEE Trans. Circuits and Systems for Video Technology* special issue on Wireless Video, 2002.
- **Guest Editor**, *Journal of Wireless Communication and Mobile Computing* special issue on Multimedia Over IP, 2002
- **Guest Editor**, *IEEE Journal on Selected Areas in Communications* special issue on Error-Resilient Image and Video Transmission, 2000.

## 2. Conference Organizations

- **Panel Co-Chair**, ACM Multimedia 2009, Beijing, China, October 2009
- **Chair, Best Paper Award Committee**, SPIE Conference on Visual Communications and Image Processing, San Jose, CA, January 2009
- **General Co-Chair**, 2008 IEEE International Conference on Communications, Communication Software and Services Symposium, Beijing, China, May 2008
- **Chair, Best Paper Award Committee**, IEEE International Conference on Multimedia and Expo. Hannover, Germany, June 2008
- **Chair, Best Paper Award Committee**, SPIE Conference on Visual Communications and Image Processing, San Jose, CA, January 2008
- **General Co-Chair**, 2007 IEEE International Workshop on Signal Processing Systems, Shanghai, China, October 2007
- **Co-Chair**, ACM Multimedia 2007 Workshop on Mobile Video, Augsburg, Germany, September 2007
- **Program Committee Chair**, 2007 Visual Communication and Image Processing, San Jose, CA January 2007
- **Technical Program Committee Chair**, 2006 IEEE International Conference on Multimedia and Expo, Toronto, Canada, July 2006
- **Program Committee Chair**, 2006 SPIE Conf. Multimedia on Mobile Devices, San Jose, CA January 2006
- **Program Committee Chair**, 2005 SPIE IT Com: Multimedia Systems and Applications, Boston, MA, October 2005

- **Program Committee Chair**, 2004 SPIE IT Com: Multimedia Systems and Applications, Philadelphia, PA, October 2004
- **Plenary Chair** and Member, Technical Program Committee, 2003 IEEE International Conference on Information Technology: Research and Education, Newark, NJ, August 2003
- Member, Technical Program Committee, 2004 IEEE International Conference on Sensors, Vienna, Austria, October 2004
- Member, Technical Program Committee, 2004 IEEE International Conference on Image Processing, Singapore, October 2004
- Member, Technical Program Committee, 2004 IEEE International Conference on Communication, Paris, France, June 2004
- Member, Technical Program Committee, 2004 IEEE International Symposium on Circuits and Systems, Vancouver, Canada, May 2004
- Member, Technical Program Committee, 2003 IEEE International Conference on Multimedia and Exposition, Baltimore, MD, July 2003
- Member, Technical Program Committee, 2003 International Packet Video Workshop, Nantes, France, April 2003
- Member, Technical Program Committee, 2002 IEEE International Conference on Image Processing, Rochester, NY, September 2002
- Organizer and Chair, Special Session on ‘Wireless Imaging,’ 2002 IEEE International Conference on Image Processing, Rochester, NY, September 2002
- Member of TPC and Session Chair for numerous IEEE and other conferences from 1993 to 2002, including ICASSP, ICIP, ISCAS, WCNC, VCIP, ICPR, ICCV, and SPIE BIP.

### 3. International and National Professional and Advisory Services

- **European Research Council, Advanced Grant International Panelist** on Systems and Communication Engineering, 2008 – 2012
- **Panelist and Evaluator, China Ministry of Education**, National ChangJiang Chair Professor Program, 2007 – Present
- **Panelist and Senior Advisor, Singapore ASTAR** (Agency for Science, Technology and Research), Mobile Media Research Initiative, 2006 – 2010
- **Evaluator, Singapore National Medal of Technology** evaluation committee, 2007 – Present
- **Panelist, German Research Foundation DFG** (NSF equivalent), Center of Excellence Initiative International Panel (Electrical Engineering), 2006, 2007
- Panelist, US NSF Biomedical Engineering Program Review Panel, 2000, 2005
- Panelist, US NSF ITR Program Wireless Communications Review Panel, 2000, 2001
- **Senior Advisor**, Chinese NSF Information and Electronics Division, June 1997 – Present
- Proposal Reviewer, US NSF equivalent of Norway, Austria, Australia, Canada and Korea
- **Member, IEEE Fellow Evaluation Committee**, IEEE Broadcasting Tech. Society, 2007
- **Chair, Fellow Nomination Committee**, IEEE Communications Society Technical Committee on Multimedia Communications, March 2006 – Present
- Member, IEEE Signal Processing Society Technical Committee on Multimedia Signal Processing, January 2003 – 2006
- Member, IEEE Circuits and Systems Society Technical Committee on Visual Signal Processing and Communications, July 2002 – Present.
- Member, IEEE Circuits and Systems Society Technical Committee on Visual Signal Processing and Communications, July 1997 – Present.

- Member, IEEE Communications Society Technical Committee on Multimedia Communications, January 1999 – Present.
- Member, IEEE Communications Society Technical Committee on Personal Communications, January 1999 – Present.
- Member, Board of Directors, University of Science and Technology of China Alumni Foundation, 1997 – 1998.

#### **4. University, College, and Department Service Activities**

- Member, School of Engineering and Applied Sciences Promotion Committee, SUNY at Buffalo, 2009
- Chair, Dept of Computer Science and Engineering Course Load Policy Committee, SUNY at Buffalo, 2009
- Member, Dept of Computer Science and Engineering Distinguished Speaker Committee, SUNY at Buffalo, 2008
- Director, Wireless Center of Excellence, Florida Institute of Technology (FIT)
- Member, FIT College of Engineering Promotion Committee, 2004, 2005
- Member, FIT College of Engineering ECE Department Head Search Committee, 2006
- Member, FIT ECE Department Computer Engineering Curriculum Committee
- Chair, FIT ECE Department Comprehensive Exam Committee
- Technical Reviewer, University Patents and Licensing, University of Missouri System, February 1998 – January 2001.
- Technical Reviewer, Research Board Grant Program, University of Missouri System, February 1998 – June 2003.
- Member, MU Life Science Mission Enhancement Fellowship Committee, 1999 – 2001.
- Member, MU College of Engineering International Engineering Committee, 1997 - 2000.
- Member, MU College of Engineering Annual Lectureship Committee, 1997 – 2001
- **First Place Winner**, MU College of Engineering Engineers Week Lab Exhibit Competition, 2000
- Chair, MU ECE Department Faculty Search Committee, 2002 – 2003
- Member, MU COE LaPierre Chair Professor Search Committee, 2000 – 2001
- Member, MU ECE Department Graduate Program Committee, Fall 1998 – Winter 2001.
- Chair, MU COE LaPierre Chair Professor Search Committee, 1999 – 2000
- Member, Department Ph.D. Qualifying Exam Committee for Communication and Signal Processing Area, September 1997 – December 2000
- Chair, Department Course and Curriculum Committee Subcommittee on Communications Elective Courses, 1996 – 2001.
- Member, 10 Ph.D. and 16 M.S. thesis committees, September 1996 – June 2003

### **MAJOR TEACHING ACTIVITIES**

#### **1. Teaching Activities at the State University of New York at Buffalo**

- CSE 714 — Seminar: Advances in Multimedia Communications and Networking — Newly developed course, Spring 2008
- CSE 634 — Advanced Multimedia Systems — Newly updated course, Fall 2008
- CSE 701 — Seminar: Advances in Distributed Multimedia Communications — Newly developed course, Spring 2009
- CSE 534 — Introduction to Multimedia Systems — New course, Fall 2009

## **2. Teaching Activities at the Florida Institute of Technology**

- ECE 5238 — Error Control Coding —(Text: Lin and Costello), Fall 2003
- ECE 5118 — Wireless Sensor Networks — Newly developed course, Spring 2004, 2005, 2006, 2007
- ECE 5117 — Multimedia Communications — Newly course, Fall 2004, 2005, 2007
- ECE 3222 — Signals and Systems — (Text: Oppenheim and Willsky), Fall 2004, 2005, 2006, 2007

## **3. Teaching Activities at the University of Missouri-Columbia**

- ECE 216 — Signals and Systems — (Text: Oppenheim and Willsky), Spring 2003
- ECE 301 — Introduction to Digital Communication — Newly developed course, Spring 1997, 1998
- EE 372 — Introduction to Communication Systems — Newly revised course, Winter 1998, 1999, 2000
- EE 401 — Wireless Multimedia Communications — Newly developed course, Winter 1999
- EE 472 — Advanced Communication Systems — Newly revised course, Fall 2000
- EE 477—Digital Signal Processing in Telecommunications —Newly developed course, (Text: Chen – Lecture Notes), Fall 1997, 1998, 1999, 2000
- EE 478 — Coding Theory and Applications — New course, Fall 1999, Winter 2000

## **4. Teaching Activities at the University of Rochester**

- EE 447 — Digital Image Processing —(Text: Gonzalez & Woods), Springs 1993, 1994, 1995, 1996
- EE 547 — Seminars on Advanced Image Processing — (Lecture notes and journal papers), Falls 1993, 1994, 1995

## **5. Graduated Ph.D. & M.S. Students**

Ph.D. Graduates: (9)

- Jiebo Luo, Ph.D. Degree, Fall 1995, University of Rochester (Fellow, IEEE & SPIE)  
Thesis: Low Bit-rate Wavelet-based Image and Video Compression with Adaptive Quantization, Coding and Postprocessing  
Current Employer: Kodak, Imaging Science Research Lab. (Senior Principal Scientist), Rochester, NY
- Li Fan, Ph.D. Degree, Fall 2000, University of Missouri-Columbia  
Thesis: 3D Reconstruction and Deformation Analysis from Medical Image Sequences with Applications in Left Ventricle and Lung  
Current Employer: EDDA Technology Inc. (Vice President), Princeton, NJ
- Lei Cao, Ph.D. Degree, Spring 2002, University of Missouri-Columbia  
Thesis: Error Resilient Image Coding and Wireless Communications  
Current Employer: University of Mississippi (Associate Professor), University, MS
- Jianfei Cai, Ph.D. Degree, Spring 2002, University of Missouri-Columbia  
Thesis: Robust Error Control and Optimal Bit Allocation for Image and Video Transmission over Wireless Channels  
Current Employer: Nanyang Technological University (Associate Professor), Singapore

- Min Wu, Ph.D. Degree, Fall 2005, University of Missouri-Columbia  
Thesis: Multimedia Data Transmission for Mobile Wireless Applications  
Current Employer: MAKO Surgical Inc., (Research Engineer) Fort Lauderdale, FL
- Daewon Song, Ph.D. Degree, Fall 2007, Florida Institute of Technology  
Thesis: Multimedia Communications over MIMO Systems  
Current Employer: LG Electronics Research Laboratory, (Research Engineer) Korea
- Guogang Hua, Ph.D. Degree, Spring 2008, Florida Institute of Technology  
Thesis: Distributed Source Coding and Its Applications in Wireless Sensor Networks and Video Compression  
Current Employer: Qualcomm Inc., (Research Engineer) San Diego, CA
- Byung Jung Oh, Ph.D. Degree, Fall 2008, Florida Institute of Technology  
Thesis: Supporting Multimedia Quality of Services in Wireless Networks  
Current Employer: Link Communications, (Research Engineer) Annapolis Junction, MD
- Chaorong Peng, Ph.D. Degree, Fall 2008, Florida Institute of Technology  
Thesis: Intelligent Routing Protocols for Mobile Ad Hoc Wireless Networks

M.S. Graduates: (15)

- Whitfield R. Thompson ('95), University of Rochester
- Weiwen Lai ('95), University of Rochester
- Xiaohui Wang ('95), University of Rochester
- Jose Tamez-Pena ('96), University of Rochester
- Zhaohui Sun ('96), University of Rochester
- Songling Hu ('97), University of Missouri-Columbia
- Hongzhi Li ('98), University of Missouri-Columbia
- Jenny Gu ('99), University of Missouri-Columbia
- Yanfeng Xu ('00), University of Missouri-Columbia
- Ursula Washington ('00), University of Missouri-Columbia
- Jian Wang ('02), University of Missouri-Columbia
- Jie Gao ('04), University of Missouri-Columbia
- Sami Almalfouh ('05), Florida Institute of Technology
- Ji Sun Lee ('05), Florida Institute of Technology
- Gonzalo Cabrera ('06), Florida Institute of Technology

**6. Ph.D. Students Currently under Supervision**

- Xinglei Zhu, Thesis: Secure and Reliable Multimedia over Wireless Networks, Expected degree date: May 2012 (SUNY-Buffalo)
- Shujie Liu, Thesis: Scalable Video over MIMO Wireless Networks, Expected degree date: May 2012 (SUNY-Buffalo)
- Wenyuan Yin, Thesis: Semantic-based Video Adaptation for Mobile Networks, Expected degree date: May 2012 (SUNY-Buffalo)
- Qian Liu, Thesis: Next Generation Smart Antenna for Broadband Wireless Video, Expected degree date: May 2013 (SUNY-Buffalo)
- Jingteng Xue, Thesis: Video Streaming under Resource Constrained Environment, Expected degree date: May 2013 (SUNY-Buffalo)

**7. Post-Doctoral Fellow Supervision**

- Dr. Lulin Chen, May 1995 - December 1996, Research in Image Enhancement and Image and Video Coding, Current Position: Principal Research Engineer and Manager, Omneon Video Networks, Beaverton, OR

- Dr. Yue Yu, November 1998 - April 2001, Research in Texture Image Analysis and Synthesis, Current Position: Senior Researcher, Motorola Broadband Research, San Diego, CA
- Dr. Yu Wang, September 2003 – November 2004, Research in Novel Routing and MAC Protocols for Wireless Sensor Networks, Current Position: Motorola Research Labs, Chicago, IL

## 8. Visiting Researchers

- Prof. Fuqiang Yao, September 2000 – March 2001, Research in Broadband Communication, Current Position: Director, Nanjing Institute of Science and Technology, Nanjing China
- Prof. Guorui Jiang, September 2000 – September 2001, Research in Information Technology, Current Position: Deputy Dean, School of Business Management, Beijing University of Technology, Beijing China
- Prof. Peter Reamy, September 2004 – March 2005, Research in Broadband Communication, Current Position: Professor at Berne University of Applied Sciences, Switzerland
- Prof. Rongke Liu, April 2005 – April 2006, Research in Video Communication, Current Position: Deputy Dean, School of Information Technology, Beihang University, Beijing China
- Mr. Tao Sheng, November 2007 – November 2008, Research in Distributed Video Coding, Current Position: Ph.D. student at Huazhong University of Science and Technology, Wuhan, China
- Ms. Zhenyu Wu, July 2009 – July 2010, Research in Video Transcoding for Mobile Transmission, on leave from University of Electronic Science and Technology
- Ms. Lifang Wu, September 2009 – August 2010, Research in Video Analysis for Tracking Articulated Objects, on leave from Beijing University of Technology

## 9. Graduate Research Mentoring Recognitions

- Recipient of 2005 **Outstanding Supervisor Award** at Florida Institute of Technology
- Recipient of 2003 **Sigma Xi Excellence in Graduate Research Mentoring Award** at the University of Missouri-Columbia, March 2003
- Finalist for 2000 **Sigma Xi Excellence in Graduate Research Mentoring Award** at the University of Missouri-Columbia
- Ph.D. Student Min Wu, Finalist of **AAMI Young Investigator Competition**, June 2003.
- Ph.D. Student Lei Cao, Recipient of **Superior Graduate Achievement Award**, (2000), University of Missouri-Columbia Graduate College.
- Ph.D. Student Li Fan, Recipient of **SPIE Educational Scholarship Award**, (1999), and **Outstanding Graduate Student Award**, (1999), College of Engineering, University of Missouri-Columbia.
- Ph.D. Student Jianfei Cai, Recipient of **Superior Graduate Achievement Award**, (1998), University of Missouri-Columbia Graduate College.

## PUBLICATIONS (3 Books, 9 Book Chapters, 58 Journal Articles, 147 Conf. Papers)

### Books:

1. A. Bovik, C.W. Chen and D. Goldgof, *Advances in Image Processing and Understanding: A Festschrift for Thomas S. Huang*, World Scientific Publisher, June, 2001.
2. C.W. Chen and Y. Q. Zhang, editors, *Visual Information Representation, Communication, and Image Processing*, Marcel Dekker Publisher, New York, NY, May, 1999.
3. S. Lian, Z. Li and C. W. Chen, editors, *Intelligent Multimedia Transmission: Techniques and Applications*, Springer Verlag Publisher, Heidelberg, Germany, July 2009

#### **Book Chapters:**

1. C. W. Chen and Z. He, "Wireless Video Communication under Resource Constraints," in *Encyclopedia of Multimedia*, Edited by B. Furht, Springer Publisher, 2006
2. M. Wu and C. W. Chen, "Multiple bitstream image transmission over wireless sensor networks," in *Sensor Network Operations*, S. Phooha, T. F. La Porta and C. Griffin, Editors, Wiley, John & Sons, 2006
3. C. W. Chen, Z. Sun, H. Li, J. Cai and L. Cao, "Image transmission over noisy channels: TCQ-based coding schemes," *Advances in Image Processing and Understanding: A Festschrift for Thomas S. Huang*, A. Bovik, C. W. Chen and D. Goldgof, editors, World Scientific Publisher, June, 2001.
4. L. Fan and C. W. Chen, "Telemedicine: A multimedia communication perspective," in *Multimedia Image and Video Processing*, edited by Ling Guan, Sun-Yuan Kung and Jan Larsen, CRC Press, Boca Raton, FL, 1999.
5. C. W. Chen and Y. Q. Zhang, "Recent advances in visual communication and image processing" in *Visual Information Representation, Communication, and Image Processing*, C. W. Chen and Y. Q. Zhang, editors, Marcel Dekker Publisher, New York, NY, May, 1999.
6. J. Luo and C. W. Chen, "Adaptive quantization in wavelet-based image and video coding" in *Visual Information Representation, Communication, and Image Processing*, C. W. Chen and Y. Q. Zhang, editors, Marcel Dekker Publisher, New York, NY, May, 1999.
7. C. W. Chen, "Telemedicine" in *Wiley Encyclopedia of Electrical and Electronics Engineering*, J. G. Webster, editor, John Wiley & Sons, Inc., Publishers, New York, NY, 1998.
8. L. Chen and C. W. Chen, "A cellular connectionist architecture for clustering-based adaptive quantization with application to video coding," in *Multimedia Communication & Video Coding*, Y. Wang, S. Panwar, S-P Kim and H. L. Bertoni, editors, Plenum Press, New York, NY, pp. 333-340, 1996.
9. C. W. Chen and T. S. Huang, "A new algorithm for motion/structure estimation using error probability," in *Time-varying Image Processing and Moving Object Recognition*, 2, V. Cappellini, editor, Elsevier Science Publishers B. V. Amsterdam, pp. 250-257, 1990.

#### **Journal Editorials:**

1. C. W. Chen, W. Zeng and R. Steinmetz, "Scanning the Issue: Recent Advances in Distributed Multimedia Communications," *Proceedings of IEEE*, Vol. 96, No. 1, January 2008
2. C. W. Chen, "Multimedia Communications: Paradigm Shifting Technologies and Applications," *China Communications Journal*, Vol. 3, pp. 5, October 2006

3. C. W. Chen, "Message from the Editor-in-Chief," *IEEE Trans. Circuits and Systems for Video Technology*, Vol. 16, pp. 321, March 2006
4. C. W. Chen, "Message from Incoming Editor-in-Chief," *IEEE Trans. Circuits and Systems for Video Technology*, Vol. 16, pp. 1, January 2006
5. C. W. Chen, M. Ghanbari and K. N. Ngan, "Guest Editorial: Visual Communication in the Ubiquitous Era," *Journal of Visual Communication and Image Representation*, Vol. 16, pp. 393-396, June 2005.
6. C. W. Chen, "Panorama of Multimedia Coding and Processing," *IEEE MultiMedia Magazine*, Vol. 11, No. 3, pp. 111- 112, July 2004.
7. Y. Altunbasak, C. W. Chen, M. R. Civanlar and K. N. Ngan, "Guest Editorial: Recent advances in wireless video," *Signal Processing: Image Communication*, Vol. 18, No. 10, pp. 857-860, November 2003.
8. C. W. Chen and J. Luo, "Guest Editorial: Special Issue on Multimedia over Mobile IP," *Journal of Wireless Communications and Mobile Computing*, Vol. 2, No. 6, pp. 549-552, September 2002.
9. C. W. Chen, R. L. Lagenduk, A. Reibman and W. Zhu, "Guest Editorial: Introduction to the special issue on wireless video," *IEEE Trans. Circuits and Systems for Video Technology* special issue in wireless video, Vol. 12, No. 6, pp. 511-523, June 2002.
10. C. W. Chen, P. Cosman, N. Kingsbury, J. Liang and J. Modestino, "Guest Editorial: Error Resilient Image and Video Transmission," *IEEE Journal on Selected Areas in Communications*, Vol. 18, No. 6, pp. 809-812, June 2000.

### Journal Papers

1. W. Pu, C. Luo, F. Wu and C. W. Chen, "QoS-driven network coded wireless multicast," *IEEE Trans. Wireless Communications*, In Press, 2009
2. W. Yang, J. Zheng, J. Cai, S. Rahardja and C. W. Chen, "Natural and seamless image composition with color control," *IEEE Trans. Image Processing*, Vol. 18, No. 11, pp. 2584-2592, November 2009
3. B. J. Oh and C. W. Chen, "A Cross-Layer Approach to Multichannel MAC Protocol Design for Video Streaming Over Wireless Ad Hoc Networks," *IEEE Trans. Multimedia*, Vol. 11, No. 6, pp. 1052-1061, October 2009
4. G. T. Chen, L. Cao, L. Yu and C. W. Chen, "Test-pattern-reduced decoding for turbo product codes with multi-error-correcting eBCH codes," *IEEE Trans. Communications*, Vol. 57, No. 2, pp. 307-310, February 2009
5. D. Song and C. W. Chen, "Maximum-throughput delivery of SVC-based video over MIMO systems with time-varying channel capacity," *Journal of Visual Communication and Image Representation*, Vol. 19, No. 8, pp. 520-528, December 2008
6. C. W. Chen and Y. Wang, "Chain-type long range wireless sensor networks for monitoring long range infrastructures: Architecture and protocols," *International Journal of Distributed Sensor Networks*, Vol. 4, No. 4, pp. 287-314, November 2008
7. W. Guan, J. Cai, J. Zheng, and C. W. Chen, "Segmentation-based view-independent 3D graphics model transmission," *IEEE Trans. Multimedia*, Vol. 10, No. 5, pp. 724-734, August 2008
8. D. Song, L. Cao and C. W. Chen, "A new robust multiple description image coding over wireless networks base on wavelet tree coding, EREC, and error concealment," *Journal of Visual Communication and Image Representation*, Vol. 19, No. 5, pp. 311-319, July 2008
9. D. Gao, J. Cai and C. W. Chen, "Admission control based on rate-variance envelop for VBR traffic over IEEE 802.11e HCCA WLANs," *IEEE Trans. Vehicular Technology*, Vol. 57, No. 3, pp. 1778-1788, May 2008

10. G. Hua and C. W. Chen, "Correlated data gathering in wireless sensor networks based on distributed source coding" *International Journal of Sensor Networks*, Special issue on Energy-Efficient Algorithm and Protocol Design in Sensor Networks, Vol. 4, Nos. 1/2, pp. 13-22, 2008
11. Q. Sun, J. Apostolopoulos, S.-F. Chang and C. W. Chen, "Quality-optimized and secure end-to-end authentication for media stream," Invited Paper in *Proceedings of IEEE* special issue on Recent Advances in Distributed Multimedia Communications, Vol. 96, No. 1, pp. 97-111, January 2008
12. Y. Chen, Y. Hu, O. C. Au, H. Li, and C. W. Chen, "Video error concealment using spatio-temporal boundary matching and partial differential equation," *IEEE Trans. Multimedia*, Vol. 10, No. 1, pp. 2-15, January 2008
13. J. Wu, J. Cai and C. W. Chen, "Single-pass rate-smoothed video encoding with quality constraint," *IEEE Signal Processing Letters*, Vol. 14, No. 10, pp. 715-718, October 2007
14. D. Song and C. W. Chen, "Scalable H.264/AVC video transmission over MIMO wireless systems with adaptive channel selection based on partial channel information," *IEEE Trans. Circuits and Systems for Video Technology*, Vol. 17, No. 9, pp. 1218-1226, September 2007
15. L. Cao, L. Yao and C. W. Chen, "MAP decoding of variable length codes with self-synchronization strings," *IEEE Trans. Signal Processing*, Vol. 55, No. 8, pp. 4325-4330, August 2007
16. Z. Li, Q. Sun, Y. Lian and C. W. Chen, "Joint source-channel-authentication resource allocation and unequal authenticity protection for multimedia over wireless networks," *IEEE Trans. Multimedia*, Vol. 9, No. 4, pp. 837-850, June 2007
17. G. T. Chen, L. Cao, L. Yu and C. W. Chen, "An efficient stopping criterion for Turbo product codes," *IEEE Communications Letters*, Vol. 11, No. 6, pp. 525-527, June 2007
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