Curriculum Vitae

Chang, Hsuan-Ting

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Contact Information:

1. Address: Room EN307, Sixth Engineering Hall, Department of Electrical Engineering, National Yunlin University of Science and Technology (YunTech), 123, Section 3, University Road, Douliu Yunlin, Taiwan 64002 ROC

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6. Webpage: http://teacher.yuntech.edu.tw/htchang/

Education:

1. *Ph.D.*, Electrical Engineering, National Chung Cheng University, Taiwan, 1997

2. *M.E.*, Electrical Engineering, National Chung Cheng University, Taiwan, 1993

3. *B.E.*, Electronic Engineering, National Taiwan Institute of Technology, Taiwan, 1991

4. *Associate Degree*, Electrical Engineering, National Taipei Institute of Technology, Taiwan, 1986

Experiences:

1. *Professor*, Department of Electrical Engineering, YunTech, Taiwan, 2007/2–present

2. *Visiting Scholar & Fulbright Senior Rsearch Scholar*, Department of Medical Imaging, University of Arizona, Tucson USA, 2014/8–2015/7

3. *Deputy Dean*, College of Engineering, YunTech, 2012/8–2013/7

4. *Chairman*, Graduate School of Engineering Science and Technology (Ph.D Program), YunTech, 2012/8–2013/7

5. *Chairman*, Graduate Institute of Communication Engineering, YunTech, 2008/8–2011/7

6. *Deputy Chairman*, Department of Electrical Engineering, YunTech, Taiwan, 2008/8–2011/7

7. *Visiting Scholar*, Department of Electrical Engineering, University of Washington, USA, 2007/8–2008/7

8. *Associate Professor*, Department of Electrical Engineering, YunTech, Taiwan, 2003/2–2007/01

9. *Special Assistant*, Office of Dean of Engineering College, YunTech, Taiwan, 2004/8–2007/7

10. *Visiting Scholar*, Institute of Information Science, Academia Sinica, Taiwan, 2003/6–9

11. *Assistant Professor*, Department of Electrical Engineering, YunTech, Taiwan, 2001/8–2003/1

12. *Adjunct Assistant Professor*, Graduate Institute of Communication Engineering, National Chung Cheng University, Taiwan, 2000/8–2003/1.

13. *Assistant Professor*, Department of Information Management, Chaoyang University of Technology, Taiwan, 1999/2–2001/7.

14. *Assistant Professor*, Department of Electronic Engineering, Chien-Kuo College of Technology and Commerce, Taiwan, 1997/8–1999/2.

15. *Adjunct Assistant Professor*, Department of Electronic Engineering, Chinyi Institute of Technology, Taiwan, 1998/2–1999/8.

16. *Research Assistant*, Department of Electrical Engineering, National Chung Cheng University, Taiwan, 1991/7–1997/7.

17. *Visiting Researcher*, Laboratory for Excellence in Optical Data Processing, Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh USA, 1995/9–1996/5.

18. *Adjunct Lecture*, Department of Automatic Engineering, National Yun-Lin Polytech Collage, Taiwan, 1993/9–1994/1.

19. *Electronic Technician*, Cadtronics Corporation, Taiwan, 1988/9–1989/3.

20. *Electrical Assistant Corporal*, Air Force of Army, Taiwan, 1986/7–1987/5.

Research Interests:

1. **Optical Signal Processing**: 3D optical display, Optical security, Optical pattern recognition, Digital holography, and Fourier optics for image processing.

2. **Digital Signal Processing**: Digital image processing, Multimedia compression, Adaptive signal processing, Artificial neural networks and fuzzy theory.

3. **Biomedical Signal Processing**: Medical image processing, Applications of the DSP algorithms for DNA/protein sequence visualization and analysis.

Current Research Topics:

1. Optical coherent stereo imaging based on computer generated hologram.

2. Signal clustering of linear frequency modulated mixture.

3. Computer navigation of colonoscopy, computer-aided early stage cancerous lesion detection in gastroscope NBI images.

Courses:

1. Undergraduate:

   (a) Signals and Systems

   (b) Digital Signal Processing

   (c) Introduction to Communication Systems

   (d) Introduction to Optical Engineering

   (e) Introduction to Multimedia Communication Technology

   (f) Introduction to Bioinformatics

2. Graduate:

   (a) Fourier Optics

   (b) Optical Signal Processing

   (c) Data Compression

   (d) Computer Vision

   (e) Artificial Neural Networks

   (f) Pattern Recognition

Awards and Grants:

1. *Best Conference Paper Award*, 3rd IEEE Eurasia Conference on Biomedical Engineering, Healthcare and Sustainability (IEEE ECBIOS) 2021, Tainan Taiwan, 30 May, 2021

2. *Best Paper Award*, Symposium on Digital Life Technologies, Pingtung Taiwan, 14 May, 2021

3. *Best Paper Award*, The 10th National Conference on Web Intelligence And Applications (NCWIA 2020), Yunlin Douliu, July 31-Aug. 1, 2020

4. *Best Paper Award*, National Computer Symposium (NCS 2019), Kinmen Taiwan, 14-15 Nov. 2019

5. *Best Paper Award*, National Symposium on Telecommunications (NST 2019), Taichung Taiwan, 24-26 Jan. 2019

6. *Best Paper Award*, Joint Conference on Medical Informatics in Taiwan 2016 (JCMIT2016), Taipei, June 11-12, 2016

7. *Fulbright Senior Research Grant*, Fulbright Taiwan Foundation for Scholarly Exchange, 2014/8–2015/7

8. *Research Grant*, Short-term research abroad of scientific and technological researcher, Ministry of Science and Technology, 2014/8–2015/7

9. *Outstanding Works Award*, Intelligent Electronics Competition, Ministry of Education, Taiwan 2012

10. *Young Scholar Academic Project Award*, National Science Council, Taiwan 2011-2013

11. *Outstanding Master Thesis Award*, 2010 Thesis Competition on Agriculture Information Technology, Taiwan, 2010/4

12. *Outstanding Paper Award*, 2009 MATLAB/Simulink Tech Forum Call for Papers, Taiwan, 2009/10

13. *Fellowship for Advanced Research Abroad*, National Science Council, Taiwan 2007/3

14. *Excellent Research Award for Young Faculty*, National Yunlin University of Science and Technology, Taiwan 2005/11

15. *Visiting Research Fellowship*, Academia Sinica, Institute of Information Science, Taiwan 2003/6–9

16. *Research Grant*, National Science Council, Taiwan 2001/5

17. *Project and Paper Grant*, Chaoyang University of Science and Technology, Taiwan 2001

18. *Project and Paper Grant*, Chaoyang University of Science and Technology, Taiwan 2000

19. *Fellowship*, Hsing-Ten Temple Foundation, Taiwan 1994.

20. *Fellowship*, Ministry of Education, Taiwan 1992-1994.

21. *Fellowship*, Chung Cheng Academic Foundation, Taiwan 1992.

22. *Fellowship*, Loong-Shang Temple Foundation, Taiwan 1991.

Projects:

1. "Image rotation multiplexing and encryption algorithms based on computer generated holograms," Ministry of Science and Technology, Taiwan, MOST 109-2221-E-224-046-MY2, 2020/8–2022/7

2. "Gastric early stage cancer detection in endoscopic magnified NBI images based on deep learning technique," Ministry of Science and Technology, Taiwan, MOST 108-2221-E-224-039, 2019/8–2020/7

3. "USBPD power system technique and implementation (II)," Canyon Semiconductor Inc. Taiwan, 2019/2/11–2019/08/11

4. "USBPD power system technique and implementation (I)," Canyon Semiconductor Inc. Taiwan, 2018/2/21–2018/08/20

5. "Studies of fractional and short-time Fourier transforms on automatic separation of mixed multiple linear frequency modulation signals," Ministry of Science and Technology, Taiwan, MOST 105-2221-E-224-021-MY2, 2016/8–2018/7

6. "Colonoscopic image analysis and implementation of colonoscopy navigation system," Ministry of Science and Technology, Taiwan, MOST 103-2221-E-224-035-MY2, 2014/8–2016/9

7. "Study on multiple-signal separation in a single detector based on time-frequency domain analysis," Ministry of Science and Technology, Taiwan, MOST 103-2221-E-224-019, 2014/8–2015/7

8. "Computer aided detection and analysis of early cancer region in gastrointestinal endoscopy magnified narrow-band images," Ministry of Science and Technology, Taiwan, NSC 103-2918-I-224-001, 2014/8–2015/7

9. "Non-negative matrix factorization for ageing face prediction," National Science Council, Taiwan, NSC 100-2628-E-224-002-MY2, 2011/8/1–2013/7/31

10. "Non-negative matrix factorization for multiple image encryption and ageing face prediction," National Science Council, Taiwan, NSC 99-2221-E-224-004, 2010/8/1–2011/7/31

11. "DNA and amino acid sequence representation, alignment, and analysis using DSP techniques," National Science Council, Taiwan, NSC 98-2221-E-224-042, 2009/8/1–2010/7/31

12. "Studies on optical image verification, encryption, and visual secret sharing systems," National Science Council, Taiwan, NSC 97-2221-E-224-057, 2008/8/1–2009/9/30

13. "Multimedia data compression and protection based on mutual content coding techniques," National Science Council, Taiwan, NSC 96-2918-I-224-004, 2007/8/1–2008/3/31

14. "Studies on optical image verification systems based on joint transform correlator," National Science Council, Taiwan, NSC 95-2221-E-224-070-MY2, 2006/8–2008/7.

15. "Blind watermarking for image authentication and tampering localization," National Science Council, Taiwan, NSC 94-2213-E-224-011, 2005/8–2006/7.

16. "Theoretical studies and experiments on optical-image-based security systems (II)," National Science Council, Taiwan, NSC 93-2215-E-224-010, 2004/8–2005/7.

17. "Theoretical studies and experiments on optical-image-based security systems (I)," National Science Council, Taiwan, NSC 92-2213-E-224-047, 2003/8–2004/7.

18. "Building the Bioinformatics Laboratory in College of Engineering, National Yunlin University of Science and Technology," Minister of Education, Taiwan, 2003/4–12 (Co-director).

19. "A study on DNA sequence analysis," National Science Council, Taiwan, NSC 91-2215-E-224-007, 2002/8–2003/7.

20. "Studies on finite-state vector quantization of images," National Science Council, Taiwan, NSC 90-2213-E-224-029, 2001/8–2002/7.

21. "Studies on system architecture for optical image encryption," National Science Council, Taiwan, NSC 90-2213-E-224-030, 2001/8–2002/7.

22. "Studies on binary fractal image coding," National Science Council, Taiwan, NSC 89-2213-E-224-080, 2000/8–2001/10.

23. "Automatic medical image connection and analysis based on PACS," National Science Council, Taiwan, NSC 89-2213-E-270-022, 2000/8–2001/7 (co-director).

24. "Studies on non-iterative fractal image coding," National Science Council, Taiwan, NSC 89-2213-E-324-028, 1999/8–2000/7.

25. "A study on distance measurement from defocus image," E-lead Electronic Corporation, Changhua, Taiwan, UT88-D07-O-0001, 1999/9–2000/5.

26. "A study on gradient-match finite-state vector quantization of images," National Science Council, Taiwan, NSC 88-2612-E-324-001, 1998/8–1999/7.

Laboratory Affiliations and Research Groups:

1. Photonics and Information Laboratory, Department of Electrical Engineering, National Yunlin University of Science and Technology, 2001/9–present.

2. Biomedical Imaging Lab, Department of Medical Imaging, University of Arizona, Tucson USA, 2014/8-2015/7

3. Information Processing Lab, Department of Electrical Engineering, University of Washington, USA 2007/8–2008/3

4. Joint Bioinformatics Research Group, Collage of Engineering, National Yunlin University of Science and Technology, 2003/2–present.

5. Bioinformatics Research Group, Department of Information Management, Chaoyang University of Technology, 2001/2–2003/1.

6. Information Security Research Group (ISRG), Department of Information Management, Chaoyang University of Technology, 2000/9–2001/1.

7. Special Interests Group for Medical Image Processing (SIGMIP), The Library at Computer Center, Taichung Veterans General Hospital, 1998/6–2000/5.

8. Signal Processing Laboratory, Mechatronic and Optical Technology Research Center (MOTRC), Chien Kuo Institute of Technology, 1997/8–1999/1.

9. Signal and Multimedia (SAM) Laboratory, National Chung Cheng University, 1991/7–1997/7.

10. Laboratory for Excellence in Optical Data Processing (LEODP), Department of Electrical Engineering, Carnegie Mellon University, USA, 1995/9-1996/5.

11. Computer Vision/Graphics and Image Processing Group, College of Engineering, National Chung Cheng University, 1992–1997.

Academic Service (1): Conference Technical Program Committee, Session Chairman, Workshop coordinator:

1. 2021 The 34th Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2019), Technical Program Committee (TPC), Aug 2021

2. 2020 The 33th Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2019), Technical Program Committee (TPC), Aug 2020

3. 2019 The 32th Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2019), Technical Program Committee (TPC), Aug 2019

4. 2018 International Computer Symposium (ICS 2018), Technical Program Committee (TPC), Dec. 2018

5. 2018 The 31th Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2018), Technical Program Committee (TPC), Aug 2018

6. 2017 The 30th Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2017), Program Co-chair, Aug 2017

7. 2016 The 29th Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2016), Technical Program Committee (TPC), Aug 2016

8. The International Program Committee Member of CYBCONF 2015 (2nd IEEE International Conference on Cybernetics), Gdynia Poland, 24-26 June 2015

9. 2015 the 2nd International Conference on Transportation Systems and Intelligent Control (ICTSIC 2015), Seoul, Korea, May 15–16, 2015

10. 2013 National Symposium on Telecommunications, Technical Program Committee and Session Chair, Taichung, Taiwan, 2013/12/13–14

11. 2013 The 14th IASTED International Conference on Computer Graphics and Imaging (CGIM 2013), Member of the International Program Committee (IPC), Innsbruck, Austria, February 12–14, 2013

12. 2012 National Symposium on Telecommunications, Technical Program Committee, Changhua, Taiwan, 2012/11/16–17

13. 2012 International Workshop on Intelligent Multimedia Computing and Communications, Program Committee, Kunming, People's Republic of China, August 7, 2012

14. 2012 IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2012),International Program Committee (IPC), Banff, Canada, June 18-20, 2012.

15. 2011 National Symposium on Telecommunications, Technical Program Committee, Best Student Paper Award Committee, Hwalian Taiwan, 2011/11

16. ICCCI 2011 – The 3rd International Conference on Computational Collective Intelligence – Technologies and Applications, Program Committee Member, Gdynia, Poland, 2011/9/21–23

17. Cphoto 2011 – The IASTED International Conference on Computational Photography, Program Committee Member, Vancouver, BC Canada, 2011/6/1–3

18. IFMIA 2011 – The International Forum on Medical Imaging in Asia 2011, Poster Award Committee, Session Chair, Okinawa Japan, 2011/1/18–19

19. MMM2011 – The 17th International Conference on MultiMedia Modeling, Technical Program Committee Member, Taipei Taiwan, 2011/1/5–7

20. 2010 Workshop on Consumer Electronics (WCE2010), Steering Committee, Tainan Taiwan, 2009/11

21. ICCCI 2010 – 2nd International Conference on Computational Collective Intelligence – Technologies and Applications, Program Committee Member and Session Chair, Kaohsiung, Taiwan, 2010/11/10–12

22. MINES 2010 – 2nd International Conference on Multimedia Information Networking and Security, Technical Committee Member, Nanjing China, 2010/11/4–6

23. 2010 The 11th Pacific-Rim Conference on Multimedia (PCM2010), Technical Committee Member, Shanghai China, 2010/9/21–24

24. 2010 The 23th IPPR Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2010), Session Chair, Kaohsiung Taiwan, 2010/8/15–17

25. 2010 Consumer Electronics Forum, Program Committee, Taipei Taiwan, 2010/5/7–8

26. 2009 Workshop on Consumer Electronics (WCE2009), Steering Committee, Taichung Taiwan, 2009/11

27. 2009 IPPR Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2009), Publication Co-chair, Nantou Taiwan, 2009/8/23–25,

28. 2009 IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2009), International Program Committee (IPC), Cambridge, United Kingdom, 2009/7/13–15

29. 2008 National Symposium on Telecommunication (NST2008), 2008/12, Huwei Yunlin, Taiwan, Session Chair

30. 2008 the IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2008), International Program Committee (IPC), Palma De Mallorca, Spain, 2008/9/1–3

31. 2007 Workshop on Consumer Electronics and Signal Processing (WCEsp2007), 2007/11, Steering Committee

32. 2007 International Workshop on Parallel and Distributed Multimedia Computing (ParDMCom–07), Program Committee, Niagara Falls, Ontario, Canada, 2007/08/21–24

33. 2007 The IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2007), International Program Committee (IPC), Palma De Mallorca, Spain, 2007/08/29–31

34. 2007 The second Conference on Digital Contents Management and Applications (DCMA 2007), Program Committee, Tainan Taiwan, 2007/06/1–2

35. 2006 Workshop on Consumer Electronics and Signal Processing (WCEsp2006), 2006/11, Steering Committee

36. 2006 International Workshop on Parallel and Distributed Multimedia Computing (ParDMCom-06), Sorrento, Italy, Program Committee, December 1–4, 2006

37. 2006 The 19th Conference on Computer Vision, Graphics, and Image Processing (CVGIP2006), Session Chair

38. 2005 Workshop on Wireless Multimedia and Video Processing at Yuntech (WMVP-Yuntech 2005/12), Coordinator

39. 2005 Workshop on Consumer Electronics and Signal Processing (WCEsp2005), 2005/11, Conference Co-chair

40. 2005 Workshop on Computer Vision and Image Processing at Yuntech (WCVIP-Yuntech 2005/10), Coordinator

41. 2005 The Seventh IASTED International Conference on Signal and Image Processing (SIP2005), Session Chair

42. 2004 Workshop on Consumer Electronics and Signal Processing (WCEsp2004), Session Chair

43. 2004 IEEE International Conference on Multimedia and Expo (ICME2004), Technical Program Committee

44. 2003 Workshop on Consumer Electronics (WCE2003), Session Chair

45. 2003 The 16th Conference on Computer Vision, Graphics, and Image Processing (CVGIP2003), Session Chair

46. 2002 National Symposium on Telecommunications, Session Chair

47. 1998 National Conference on Gray Theory, Program Committee

Academic Service (2): Journal and Conference Papers Review
(Journal papers review)

- IEEE Signal Processing Magazine (1 review), Associate Editor: Dr. Chung J. Kuo (1996)

- IEEE Transactions on Boradcasting (1 review), Associate Editor: Dr. Yiyan Wu (2012/6)

- IEEE Transactions on Circuits and Systems II (1 review), Associate Editor: Dr. Chung J. Kuo (2000/8)

- IEEE Transactions on Multimedia (2 reviews)

  1. Associate Editor: Prof. Arnold Smeulders (2007/6)
  2. Associate Editor: Prof. Weisi Lin (2011/5)

- IEEE Transactions on Image Processing (14 reviews)

  1. Associate Editor: Prof. Mark H.Y. Liao (2009/9, 2009/10, 2011/3)
  2. Associate Editor: Prof. Jenq-Neng Hwan (2009/1)
  3. Associate Editor: Dr. Anil Kokaram (2006/7)
  4. Associate Editor: Prof. Nicolas Rougon (2006/3)
  5. Associate Editor: Prof. Trac Tran (2004/1)
  6. Associate Editor: Dr. Eli Saber (2003/10)
  7. Associate Editor: Dr. Tamas Sziranyi (2003/1, 2005/2)
  8. Associate Editor: Dr. Zhigang Fan (2003/4)
  9. Associate Editor: Dr. Fernando Pereira (2002/5, 2002/7)
  10. Associate Editor: Dr. Lina Karam (2001/1)

- IEEE Transactions on Information Forensic and Security (2 reviews), Associate Editor: Prof. Mark H.Y. Liao (2011/2, 2012/3)

- IEEE Signal Processing Letters (3 reviews), Associate Editor: Prof. Scott T. Acton (2003/2, 2003/3, 2003/8)

- IEEE Transactions on Information Technology in Biomedicine (2 reviews), Associate Editor: Prof. T.-Y. Lee (2006/4, 2006/6)

- IEEE Transactions on Speech and Audio Processing (1 review), Associate Editor: Dr. Ravi P. Ramachandran (2003/5)

- Journal of Visual Communications and Image Representation (2 reviews)

  1. Associate Editor: Prof. Peter Eisert (2014/3)
  2. Associate Editor: Prof. Chia-Hung Yeh (2013/5)
  3. Associate Editor: Prof. Chia-Wen Lin (2009/12)
  4. Editor-in-Chief, Prof. C.-C Jay Kuo (2004/2)

- IET Image Processing (4 reviews)

  1. Editor: Dr. Farzin Deravi (2008/9, 2009/12, 2010/3, 2011/1)

- Digital Signal Processing (3 reviews), Editor-in-Chief: Dr. Fred J. Harris (2008/10, 2009/2, 2009/6)

- Journal of Optical Society of America A - Optics, Image Science, and Vision (2 reviews)

  1. Topical Editor: Dr. David Mendlovic (2004/6)
  2. Topical Editor: Dr. Javier Hernandez-Andres (2008/6)

- Optics Letters (21 reviews)

  1. Topical Editor, Dr. Jian Wang (2016/8)
  2. Topical Editor: Dr. Robert McLeod (2014/2)
  3. Topical Editor: Dr. Byoungho Lee (2013/2)
  4. Topical Editor: Dr. Pietro Ferraro (2010/8)
  5. Topical Editor: Dr. Milind Rajadhyaksha (2009/12)
  6. Topical Editor: Dr. Diana Skigin (2009/10)
  7. Topical Editor: Dr. Geoffrey Burr (2006/8, 2006/11, 2010/4, 2010/12)
  8. Topical Editor: Dr. Brian Justus (2002/9, 2002/12, 2004/1, 2006/3)
  9. Topical Editor: Dr. Claire Gu (2003/3, 2003/6, 2004/10, 2005/2, 2005/5, 2006/1, 2006/2)

- Optics Express (7 reviews)

  1. Associate Editor: Dr. Kehar Singh (2019/12)
  2. Associate Editor: Dr. Changhe Zhou (2014/5)
  3. Associate Editor: Dr. Tatiana Alieva (2011/10)
  4. Associate Editor: Dr. Victor Arrizon (2009/1, 2009/5)
  5. Associate Editor: Dr. Philippe Refregier (2007/12)
  6. Associate Editor: Dr. Charles Matson (2007/10)
  7. Associate Editor: Dr. David Gerwe (2006/9, 2007/5)

- Optical Engineering (12 reviews)

  1. Associate Editor: Dr. Paramasivam Senthilkumaran (2020/7)
  2. Associate Editor, Prof. Raymond Rumpf (2011/4)
  3. Associate Editor, Dr. Rajpal Sirohi (2010/6)
  4. Associate Editor, Dr. Michael Bove (2008/2)
  5. Associate Editor, Dr. Gregory Sanger (2008/1)
  6. Associate Editor, Dr. Don Braggins (2007/4)
  7. Associate Editor, Dr. Giordano Beretta (2005/6, 2006/12)
  8. Associate Editor, Dr. Andrew Tescher (2005/2, 2009/5)
  9. Special issue on Photonics Taiwan, Guest Editor: Dr. Chung J. Kuo (2000/12)

10. Special issue on Optical Holography, Guest Editor: Dr. Chung J. Kuo (1995/12)

- Optics Communications (10 reviews)

   1. Editor: Prof. Satoshi Kawata (2003/4, 2004/2, 2005/1, 2008/5, 2008/10, 2009/3, 2009/9)

   2. Editor: Prof. Sachi Nomura (2008/3)

   3. Editor: Prof. Stefan Maier (2010/11, 2011/1)

- Applied Optics (17 reviews)

   1. Topical Editor: Dr. Pascal Picart (2020/12)

   2. Topical Editor: Dr. Taegeun Kim (2020/9)

   3. Topical Editor: Prof. Jung-Ping Liu (2015/3, 2019/07)

   4. Topical Editor: Prof. Juan Liu (2016/09, 2018/05)

   5. Topical Editor: Prof. Guohai Situ (2014/12, 2017/07)

   6. Topical Editor: Prof. Ching-Cherng Sun (2012/10)

   7. Topical Editor: Prof. Jae-Hyeung Park (2011/10)

   8. Topical Editor: Prof. Joseph Rosen (2011/2)

   9. Topical Editor: Dr. Luiz Neto (2008/4)

   10. Topical Editor: Prof. Markus Testorf (2006/6, 2007/1, 2007/4)

   11. Topical Editor: Dr. Neal Gallagher (2003/11)

   12. Topical Editor: Dr. Joseph Mait (2003/9)

- EURASIP Journal on Advances in Signal Processing, Associate Editor: Prof. Chia-Hung Yeh (2012/4)

- International Journal of Pattern Recognition and Artificial Intelligence, Managing Editor: Dr. P S P Wang, (2012/4); Dr. Xiaoyi Jiang (2014/2); Dr. Chia-Hung Yeh (2021/6)

- Journal of Biomedical Optics (1 review), Editor: Prof. Michael Morris (2011/4)

- Journal of Optics and Laser Technology (1 review), Editor: Steven James (2008/4)

- Journal of Optics A: Pure and Applied Optics (2 reviews) (2005/12, 2009/6)

- Journal of Microwaves, Optoelectronics and Electromagnetics Applications (1 review), Associate Editor: Prof. Maria Thereza M. Rocco Giraldi, (2009/4)

- Information Science (1 review), Editor-in-Chief: Witold Pedrycz (2007/4)

- Journal of Real-Time Image Processing (2 reviews)

   1. Editor: Dr. D. Wang (2006/9)

   2. Editor: Dr. F. Porikli (2007/01)

- Journal of Electronic Imaging (1 review), Associate Editor: Dr. Peter Jansson (2012/10)

- Journal of Information Science and Engineering (8 reviews),

  1. Managing Editor, Prof. Mark H.Y. Liao (2004/3, 2004/4, 2005/4, 2008/4, 2008/11, 2009/6, 2009/9)
  2. Associate Editor: Prof. Kuo-Chin Fan (2005/4)

- Journal of Signal Processing Systems (2 reviews)

  1. Editor: Prof. Chau-Chin Wang (2009/9)
  2. Editor: Prof. Jenq-Neng Hwang (2009/10)

- ETRI Journal (5 reviews)

  1. Editor: Prof. Jenq-Nen Hwang (2009/10, 2009/11)
  2. Editor in Chief: Dr. Kyu-Seok Lee (2010/1, 2010/4, 2010/11)

- Journal of Medical and Biological Engineering (1 Review), 2012/3

- Computers and Mathematics with Applications, 1 review, Managing Guest Editor: Prof. Her-Terng Yau, 2012/2

- International Journal on Systems Science (1 review), Editor: Prof. Peter Fleming (2002/4)

- Journal of Chinese Institute of Electrical Engineering (1 review), Chief Editor: Prof. J.-L. C. Wu (2003/10)

- Journal of Science and Technology (4 reviews), (2004/9, 2005/5, 2005/6, 2006/9)

- Journal of Chaoyang (2 reviews) (2008/5, 2009/3)

- Journal of Minhsing Institute of Technology (1 review), vol. 29 (2002/10)

- International Journal of Advanced Information Technology (1 review), Editor: Prof. R.-C. Chen (2008/6)

- Journal of Chienkuo University of Technology (9 reviews), vol. 17 (1998/1), vol. 18 (1999/1), vol. 19 (2000/1), vol. 20 (2001/1), vol. 21 (2002/3), vol. 22 (2003/4), vol. 29 (2010/9), vol. 30 (2011/4)

- Medical Science Monitor (MSM), Listed in International Reviewer Panel (IRP), since 2004/9

- Yanbu Journal for Engineering and Science (YJES), Editor in Chief: Professor Hisham El Khashab (2012/3)

- The World Science Journal (TSWJ), (2014/2)

- International Journal of Imaging Systems and Technology,(2014/9)

- Multimedia Tools and Applications, (2015/4, 2021/4)

- Animal, 2020/01

(Conference papers review)

- 2016 The 29th IPPR Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2016), 2015/8

- 2015 The 28th IPPR Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2015), 2015/8

- 2014 The 27th IPPR Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2014), 2014/8

- 2014 The Fourth National Conference on Web Intelligence and Applications (NCWIA 2014), 2014/5/2–3

- 2014 International Conference on Advanced Information Technologies (AIT 2014), 2014/2

- The 3rd International Conference on Engineering and Technology Innovation 2014 (ICETI2014), 2014/4

- 2013 International Conference on Advanced Information Technologies (AIT 2013), 2013/3

- 2013 International Conference on Computer Graphics and Imaging (CGIM 2013), 2012/11

- 2012 National Symposium on Telecommunications, Changhua Taiwan, 2012/9

- 2012 IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2012), 2012/4

- 2011 National Symposium on Telecommunications, Hwalian Taiwan, 2011/9

- 2011 The 3rd International Conference on Computational Collective Intelligence – Technologies and Applications (ICCCI 2011), Gdynia, Poland, 2011/5

- 2011 The 4th IEEE International Conference on Computer Science and Information Technology (IEEE ICCSIT 2011), 2011/4

- 2011 IASTED International Conference on Computational Photography (CPhoto 2011), 2011/3

- 2011 The 17th International Conference on MultiMedia Modeling, Taipei Taiwan, 2011/1/5–7

- 2010 National Symposium on Telecommunications, Taipei Taiwan, 2010/12

- 2010 The 53rd IEEE International Midwest Symposium on Circuits and Systems, Seattle USA, 2010/8/1–4

- 2010 The 2010 Pacific-Rim Conference on Multimedia (PCM 2010), 2010/5

- 2010 Visual Communications and Image Processing (VCIP 2010), 2010/4

- 2010 International Conference on Advanced Information Technologies (AIT 2010), 2010/2

- 2010 IEEE International Symposium on Circuits and Systems (ISCAS 2010), 2009/11

- 2009 IEEE Pacific-Rim Conference on Multimedia (PCM 2009), 2009/7

- 2009 IPPR Conference on Computer Vision, Graphics, and Image Processing (CVGIP 2009), 2009/7

- 2009 IEEE International Conference on Multimedia and Expo (ICME 2009), 2009/2

- 2008 The IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2008), 2008/5

- 2008 17th International Conference on Computer Communications and Networks (IC-CCN 2008), 2008/4

- 2008 IEEE International Conference on Multimedia and Expo (ICME 2008), 2008/2

- 2008 IEEE International Conference on Acoustic, Speech, and Signal Processing (ICASSP 2008), 2007/11

- 2007 Workshop on Consumer Electronics and Signal Processing (WCEsp 2007), 2007/9

- 2007 IEEE 10th Region Conference on Communications (TENCON 2007), 2007/5

- 2007 The IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2007), 2007/5

- 2007 IEEE International Conference on Multimedia and Expo (ICME'07), 2007/03

- 2006 ParDMCom-06 International Workshop, 2006/9

- 2006 Taiwan Area Network Conference (TANET 2006), 2006/9

- 2006 First Conference Intelligent Living Technology (ILT2006), 2006/5

- 2006 IEEE Globecom Signal Processing for Communication, 2006/4

- 2006 4th International Conference on Communications, Circuits and Systems (ICC-CAS'06), 2006/3

- 2005 Workshop on Consumer Electronics and Signal Processing (WCEsp 2005), 2005/9

- 2005 3rd International Conference on Information Technology: Research and Education (ITRE-2005), 2005/03

- 2005 IEEE International Symposium on Circuits and Systems (ISCAS 2005), 2004/11

- 2004 Workshop on Consumer Electronics and Signal Processing (WCEsp 2004), 2004/10

- 2004 IEEE Asia-Pacific Conference on Circuits and Systems (APCCAS 2004), 2004/5

- 2004 IEEE International Conference on Image Processing (ICIP 2004), 2004/3

- 2004 IEEE International Conference on Multimedia and Expo (ICME'04), 2004/2

- 2003 IEEE International Symposium on Circuits and Systems (ISCAS 2003), 2002/11

- 2003 Workshop on Consumer Electronics (WCE 2003), 2003/10

- 2002 Seventh National Conference on Artificial Intelligence, 2002/9

- 2002 IEEE International Conference on Multimedia & Expo (ICME'02), 2002/3

- 2001 Workshop on Consumer Electronics (WCE 2001), 2001/08

- 1998 IEEE International Conference on SMC, the best student paper award, 1998/9

Academic Service (3): Grant Proposal and Project Report Review

- Research proposal review: Ministry of Science and Technology, 2014–2021

- Research proposal review: National Science Council, Taiwan, 2009–2013

- Project proposal review: Lin Tung University of Technology, Taiwan, 2004/11

- Project report review: Chung Chou Institute of Technology, Taiwan, 2004/3

Associations:

1. The Institute of Electrical and Electronic Engineers (IEEE), Signal Processing Society: Member (2001–2005); Senior Member (2006–present)

2. The Optical Society of America (OSA): Regular Member (2000–2010); Senior Member (2011∼present)

3. The International Society for Optical Engineering (SPIE): Regular member (1996–2011), Senior Member (2012∼present)

4. Asia-Pacific Signal and Information Processing Association, Member (2009–present)

5. The Chinese Image Processing and Pattern Recognition (IPPR) Society: Regular member (1999–present)

6. The Taiwanese Association of Consumer Electronics (TACE): Regular member (2009–2011) and Council member (2009–2010)

7. The International Who's Who (IWW): Regular member (2003–2004)

Invited Talks:

1. "Optics and information security." Department of Finance Management, Nanhua University, 2020/11/18

2. "Endoscopic image processing based on computer vision and artificial intelligence," Department of Computer Science and Information Engineering, National Chin-Yi University of Science and Technology, 2020/10/28

3. "Endoscopic image processing based on computer vision and artificial intelligence," Department of Computer Science and Information Engineering, National Chi-Nan University, 2020/3/18

4. "Optics and information security." Department of Computer Science, University of Taipei, 2019/05/08

5. "Early stage gastric cancer detection in magnified NBI endoscopy images," Department of Computer Science and Information Engineering, Chung-Yuan Christian University, 2017/09/27

6. "Early stage gastric cancer detection in magnified NBI endoscopy images," Department of Computer Science and Information Engineering, National Pingtung University, 2016/05/19

7. "Early stage gastric cancer detection in magnified NBI endoscopy images," Department of Photonics Engineering, Yuan-Ze University, Taoyuan Taiwan, 2016/02/26

8. "Some topics on computer-aided processing on endoscopy images," Department of Medical Imaging, University of Arizona, Tucson USA, 2015/2/25

9. "Image multiplexing and encryption based on phase extraction and modulation," Department of Photonics Engineering, Yuan-Ze University, Taoyuan Taiwan, 2014/05/16

10. "Multiple-image multiplexing and encryption based on phase extraction algorithms," Institute of Electro-Optical Science and Technology, National Taiwan Normal University, Taipei Taiwan, 2014/04/24

11. "Computer vision applications on endoscopy navigation and ultrasonic image processing," College of Electrical and Information Engineering, Formosa University of Science and Technology, Yunlin Taiwan, 2012/5/29

12. "Computer-aided navigation of colonoscopic endoscopy," The 6th Advanced Educational Course of Endoscopy of The digestive Endoscopy Society of Taiwan, Taipei Taiwan, 2012/4/22

13. "Medical image applications in intelligent machine vision systems," Department of Electronic Engineering, Kunshang University of Science and Technology, 2011/12/16

14. "Current trends on optical image encryption and verification techniques," Department of Photonics and Communications, National Kaohsiun Normal University, Kaohsiun Taiwan, 2011/11/24

15. "Introduction to optical image encryption and verification systems," Department of Opto-electronics Engineering, National Union University, Miaoli Taiwan, 2011/3/29

16. "Analysis of moving objects in surveillance video and related applications," Department of Electronic Engineering, Chien Kuo University of Technology, Changhwa Taiwan, 2010/11/30

17. "Behavior analysis of moving objects in surveillance video," Department of Electrical Engineering, National Tainan University, Tainan Taiwan, 2009/10/1

18. "Two topics on secured joint multiple-image compression and distribution," Graduate Institute of Communication Engineering, National Tsing Hua University, Hsinchu Taiwan, 2008/12/19

19. "Joint image encryption and multiplexing by use of non-negative matrix factorization adopting digital holography," Department of Electrical Engineering, National Sun-Yatsen University, Kaohsiung, Taiwan, 2008/12/2

20. "Introduction on human face prediction," Graduate Institute of Communication Engineering, National Chi Nan University, Puli Nantou, Taiwan, 2008/11/6

21. "Human aging face prediction based on non-negative matrix factorization," Department of Computer Science and Information Engineering, National Sun-Yatsen University, Kaohsiung, Taiwan, 2008/10/24

22. "Introduction to optical image encryption and verification," Department of Photonics, Feng Cha University, Taichung City, 2007/5/8

23. "Introduction to medical image processing using fractals," Yunlin Division, National Taiwan University Hospital, Douliu Yinlin, 2007/03/05

24. "Introduction to DNA sequence visualization," Department of Animal Science and Biotechnology, Tunghai University, Taichung City, 2006/11/27

25. "Introduction to image mating coding and its applications," Department of Computer Science and Information Engineering, National Cheng Kung University, Tainan City, Taiwan, 2006/10/27

26. "Introduction to bioinformatics," Department of Computer Science and Engineering, Wufeng Institute of Technology, Chiayi Taiwan, 2006/09/19

27. "Studies on asymmetric image verification based on optical joint transform correlator," Department of Computer Science and Information Engineering, National Dong Hwa University, Hwalien Taiwan, 2006/06/09

28. "Genomic signal processing for DNA sequence analysis," Graduate Institute of Bioinformatics, National Yang Ming University, Taipei Taiwan, 2005/11/04

29. "Optical image encryption and authentication," 2005 Yuntech Workshop on Computer Vision and Image Processing, Yunlin University of Science and Technology, 2005/10/03

30. "Joint multiple-image compression and encryption based on fractal mating coding for secured image distribution," Department of Information Engineering, National Chi-Nan University, Nantou Taiwan, 2005/05/27

31. "DNA sequence visualization schemes and their applications," Department of Computer Science and Information Engineering, Tamkang University, Taipei Taiwan, 2005/05/06

32. "Introduction to bioinformatics and genomic signal processing," Department of Computer Science and Information Engineering, National Changhua University of Education, Changhua Taiwan, 2005/03/25

33. "Inter-secured joint image compression and encryption by use of fractal mating coding," Department of Electrical Engineering, National Chung Cheng University, Chiayi Taiwan, 2004/10/01

34. "Introduction to optics-based image watermarking," Department of Information Engineering, National Chi-Nan University, Nantou Taiwan, 2004/04/30

35. "Bioinformatics based on genomic signal processing," Department of Information Engineering, I-Shou University, Kaohsiung Taiwan, 2004/04/08

36. "Introduction to optical-based information security," Graduate Institute of Opto-electric and Material Engineering, National Huwei Institute of Technology, Yunlin Taiwan, 2003/11/14

37. "Vector quantization and fractal transform coding for image compression," Graduate Institute of Network and Communication, Chaoyang University of Science and Technology, Taichung Taiwan, 2003/06/10

38. "Visualization and comparison of DNA sequences," Department of Electronic Engineering, National Taiwan University of Science and Technology, Taipei Taiwan, 2003/03/31

39. "Optical image verification," Department of Electrical Engineering, Yuan Ze University, Taoyuan Taiwan, 2002/12/27

40. "Some advances in optical security systems for image encryption and verification," Department of Electrical Engineering, National Chung Hsing University, Taichung Taiwan, 2002/03/09

41. "Optical image encryption," Department of Computer Science and Information Engineering, National Chung Cheng University, Chiayi Taiwan, 2001/06/07

42. "Introduction to optical security," Department of Information Management, Chaoyang University of Science and Technology, Taichung Taiwan, 2000/10

43. "Introduction to standards and techniques for still image compression," Symposium on video and audio techniques, Chien Kuo College, Changhua Taiwan, 1998/04/17

44. "Introduction to PCI bus," Transbond Electronics Inc. Taipei Taiwan, 1997/08

Journal Publications:

1. **Hsuan-T. Chang***, T.-Y. Lin, C.-H. Chuang, C.-Y. Chen, C.C. Ho, C.-Y. Chang, "Separation of two-dimensional mixed circular fringe patterns based on spectral projection property in fractional Fourier transform domain," *Applied Science* (SCIE), vol. 11, no. 2, 859, Jan. 2021.

2. **Hsuan-T. Chang*** and W.-H. Chang, "Specular reflection analysis and Illumination manipulation of still images with single multicolor object," *Journal of Advances in Artificial Life Robotics*, vol. 1, no. 3, pp. 121-120, Dec. 2020.

3. **Hsuan-T. Chang***, Y.-T. Wang, C.-Y. Chen, "Angle multiplexing optical image encryption in the Fresnel transform domain using phase-only computer-generated hologram," *Photonics* (SCIE), vol. 7, no. 1, Jan. 2020. (DOI: 10.3390/photonics7010001)

4. T. Kanesaka, T.-C. Lee, N. Uedo*, K.-P. Lin, H.-Z. Chen, J.-Y. Lee, H.-P. Wang, **Hsuan-T. Chang***, "Computer-aided diagnosis for identifying and delineating early gastric cancers in magnifying narrow-band images," *Gastrointestinal Endoscopy* (SCI, 2017 Impact Factor = 7.204), vol. 87, no. 5, pp. 1339–1344, May 2018

5. C.-Y. Chen, W.-C. LI, **Hsuan-T. Chang***, C.-H. Chuang, and T.-J. Chang, "A 3-D modified Gerchberg-Saxton algorithm developed for panoramic computer generated phase-only holographic display," *Journal of Optical Society of America B* (JOSA B) (SCI), vol. 34, no. 5, pp. B42–B48, May 2017

6. **Hsuan T. Chang***, J.-W. Hsu, and K.-P. Lin, "Image multiplexing and encryption using non-negative matrix factorization method adopting digital holography," Applied Optics (SCI), vol. 56, no. 4, pp. 958–966, Feb. 2017

7. **Hsuan T. Chang**, C.-H. Lin, and C.-Y. Chen, "Image multiplexing and authentication based on double phase retrieval in Fresnel transform domain," *Optics Communications*, vol. 389, pp. 150–158, Apr. 2017.

8. **Hsuan T. Chang*** and J.-T. Su, "Segmentation using codebook index statistics for vector quantized images," International Journal of Advanced Computer Science and Applications (IJACSA) (ESCI), vol. 7, no. 12, pp. 59–65, Dec. 2016.

9. **Hsuan T. Chang***, H.-W. Peng, and C.-H. Li, "Protein sequence matching using parametric spectral estimate scheme," *International Journal of Advanced Computer Science and Applications*, vol. 6, no. 11, pp. 148–158, Nov. 2015.

10. C.-Y. Chen*, **Hsuan T. Chang** et al, "Full-color and less-speckle MGSA computer generated hologram floating on a dual parabolic projection system," *Chinese Optics Letters* (SCI), vol. 13, no. 11, pp. 110901- (2015).

11. C.-W. Hung*, K.-C. Huang, Y.-T. Yu, and **Hsuan T. Chang**, "A Nios-based colonoscopy navigation system," *Artificial Life and Robotics* (EI), vol. 20, no. 3, pp. 222–227, Oct. 2015.

12. **Hsuan T. Chang***, R.-J. Pan, & H.-W. Peng, "Number determination of successfully packaged dies per wafer based on machine vision," *Machines*, vol. 3, no. 2, pp. 72–92, Apr. 2015.

13. P.-J. Wu, C.-Y. Chen*, Q.-L. Deng, **Hsuan T. Chang**, B.-S. Lin, & G.-S. Huang, "Integral computer-generated hologram via a modified Gerchberg-Saxton algorithm," *Journal of Optics* (SCI), vol. 17, no. 1, 015701, Jan. 2015.

14. C.-Y. Chen*, Q.-L. Deng, P.-J. Wu, B.-S. Lin, **Hsuan T. Chang**, H.-E. Hwang, and G.-S. Huang, "Speckle reduction by combination of digital filter and optical suppression in MGSA computer-generated hologram," *Applied Optics* (SCI), vol. 53, no. 27, pp. G163–G168, Sep. 2014. Also selected in the issue of the Virtual Journal for Biomedical Optics (VJBO), vol. 9, no. 11, Nov. 2014.

15. N.-W. Lo, **Hsuan T. Chang***, & J.-Y. Chang, "Caged mouse mating behavior detection in surveillance videos," *Journal of Visual Communications and Image Representations* (SCI), vol. 25, no. 5, pp. 755–764, July 2014.

16. Q.-L. Deng, B.-S. Lin, **Hsuan T. Chang**, G.-S. Huang, & C.-Y. Chen*, "MGSA type computer generated holography for vision training with head-mounted display," *IEEE Journal of Display Technology* (SCI), vol. 10, no. 6, pp. 433–437, 2014.

17. **Hsuan T. Chang***, H.-W. Peng, and J.-H. Lin, "Aging face prediction using matrix transform operations," Transactions of Japanese Society for Medical and Biological Engineering, vol. 51, no. Supplement R-243, 2013 (http://doi.org/10.11239/jsmbe.51.R-243)

18. **Hsuan T. Chang**, C.J. Kuo, Neng-W. Lo, & W.-Z. Lv, "DNA sequence visualization and comparison based on quaternion number system," *International Journal of Advanced Computer Science and Applications*, vol.3, no. 11, pp. 39–46, December 2012.

19. Mn-Ta Lee & **Hsuan T. Chang**, "On the pinned field image binarization for signature generation in image ownership verification method," *EURASIP Journal on Advances in Signal Processing* (SCI), 2011:44, 23 August 2011

20. **Hsuan T. Chang**, H.-E. Hwang, & C.-L. Lee,"Position multiplexing multiple-image encryption using cascaded phase-only masks in Fresnel transform domain," *Optics Communications* (SCI), vol. 284, no. 18, pp. 4146–4151, August 2011

21. H.-E. Hwang, **Hsuan T. Chang**, & W.-N. Lai, "Robust optical data embedding using concealogram and cascaded digital Fresnel hologram," *Journal of Optical Society of America: A* (SCI), vol. 28, no. 7, pp. 1453–1461, July 2011.

22. **Hsuan T. Chang**, H.-E. Hwang, C.L. Lee, & Mn-Ta Lee, "Wavelength multiplexing multiple-image encryption using cascaded phase-only masks in Fresnel transform domain," *Applied Optics* (SCI), vol. 50, no. 5, pp. 710–716, Feb. 2011.

23. J.S. Lee, S.C. Su, & **Hsuan T. Chang**, "Bowling game events detection based on audio-visual clues," *International Journal of Innovative Computing, Information, and Control* (SCI-E), vol.6, no.11, pp. 4783–4795, Nov. 2010

24. Mn-Ta Lee & **Hsuan T. Chang**, "A copyright protection scheme for still images based on image pinned field," *Optical Engineering* (SCI), vol. 49, no. 9, 097005 (11 pages), Sep. 2010.

25. Mn-Ta Lee & **Hsuan T. Chang**, "Adaptive image watermarking using phase-shifting digital holography embedded in the wavelet domain," *International Journal of Information Assurance and Security*, vol. 5, no. 1, pp. 603–610, May 2010.

26. H.-E. Hwang, **Hsuan T. Chang**, & W.-N. Lai, "Multiple-image encryption and multiplexing using modified Gerchberg-Saxton algorithm and phase modulation in Fresnel transform domain," *Optics Letters* (SCI), vol. 34, no. 24, pp. 3917–3919, Dec. 2009.

27. H.-E. Hwang, **Hsuan T. Chang**, & W.-N. Lai, "Fast double-phase retrieval in Fresnel domain using modified Gerchberg-Saxton algorithm for lensless optical security systems," *Optics Express* (SCI), vol. 17, no. 16, pp. 13700–13710, Aug. 3, 2009.

28. **Hsuan T. Chang**, C.-C. Hsu, C.-H. Yeh, & D.-F. Shen, "Image authentication with tampering localization based on watermark embedding in wavelet domain," *Optical Engineering* (SCI), vol. 48, no. 5 (057002), May 2009.

29. R.-F. Tsai, **Hsuan T. Chang**, K.-C. Chung, and O.-C. Chen, "The pressurization effect of smoke movement on the elevator lobby," *Journal of Applied Fire Science* (EI), vol. 18, no. 3, pp. 197–209, 2008–2009.

30. N.W. Lo, **Hsuan T. Chang**, S.W. Xiao, & C.H. Lee, "Global visualization of DNA sequences by use of three-dimensional trajectories," *Journal of Information Science and Engineering* (SCI), vol. 23, no. 6, pp. 1723–1736, Nov. 2007.

31. **Hsuan T. Chang** & Y.H. Pan, "Competitively boundary error sorting scheme for improving side match vector quantizers," *Journal of Information Science and Engineering* (SCI), vol. 23, no. 3, pp. 933–943, May 2007.

32. **Hsuan T. Chang** & C.C. Lin, "Inter-secured joint image compression with encryption purpose based on fractal mating coding," *Optical Engineering* (SCI), vol. 46, no. 3 (037002), Mar. 2007.

33. **Hsuan T. Chang** & C.-C. Chen, "Fully phase asymmetric image verification based on joint transform correlator," *Optics Express* (SCI), vol. 14, no. 4, pp. 1458–1467, Feb. 2006.

34. **Hsuan T. Chang** & C.L. Tsan, "Image watermarking by use of digital holography embedded in discrete-cosine-transform domain," *Applied Optics* (SCI), vol. 44, no. 29, pp. 6211–6219, Oct. 2005.

35. Chia H. Yeh & **Hsuan T. Chang**, "Boundary block-searching algorithm for arbitrary shaped coding," *Optical Engineering* (SCI), vol. 44, no. 8, 087012(1–7), August 2005.

36. **Hsuan T. Chang**, T.C. Chang, Y.B. Chen, & Yann H. Pan, "Gray model based finite-state vector quantization of images," *International Journal of Electrical Engineering* (EI), vol. 15, no. 2, pp. 169–175, May 2005.

37. **Hsuan T. Chang** & C.J. Kuo, "Intrinsic parallel random iteration algorithm for fractal image decoding based on iterated function system code," *Optical Engineering* (SCI), vol. 44, 037002(1–11), March 2005.

38. **Hsuan T. Chang**, "Arbitrary affine transform and their composition for two dimensional fractal sets," *Image and Vision Computing* (SCI), vol. 22, no. 15, pp. 1117–1127, Nov. 2004.

39. **Hsuan T. Chang** & C.T. Cheng, "Asymmetric-image verification for security optical systems based on joint transform correlator architecture," *Optics Communications* (SCI), vol. 239, no. 1-3, pp. 43–54, Sep. 2004.

40. **Hsuan T. Chang** & C.T. Cheng, "Enhanced optical image verification based on modified joint transform correlator architectures adopting Fourier hologram," *Optical Review* (SCI), vol. 11, no. 3, pp.165–169, May/June 2004.

41. Y.C. Chang, **Hsuan T. Chang**, & C.J. Kuo, "Hybrid image cryptosystem based on dyadic phase displacement in the Fourier domain," *Optics Communications* (SCI), vol. 236, no. 4-6, pp. 245–257, June 2004.

42. **Hsuan T. Chang** & Y.H. Pan, "Adaptive initial blocks for improving gradient match and side match vector quantization of images," *Optical Engineering* (SCI), vol. 43, no. 4, pp. 830–837, April 2004.

43. R.-F. Tsai, H.-S. Tung, K.-C. Chung, and **Hsuan T. Chang**, "Simplified smoke filling equation for a single enclosure," *Journal of Applied Fire Science* (EI), vol. 12, no. 4, pp. 291–230, 2003–2004.

44. K.H. Lin, **Hsuan T. Chang**, W.N. Lai, & C.H. Chuang, "A public-key-based optical image cryptosystem with data embedding techniques," *Optical Engineering* (SCI), vol. 42, no. 8, pp. 2331–2339, August 2003.

45. C.H. Yeh, **Hsuan T. Chang**, H.C. Chien, & C.J. Kuo, "Design of cascaded phase keys for hierarchical security system," *Applied Optics* (SCI), vol. 41, no. 29, pp. 6128–6134, October 2002.

46. **Hsuan T. Chang**, W.C. Lu, & C.J. Kuo, "Multiple-phase retrieval for optical security systems using random phase encoding," *Applied Optics* (SCI), vol. 41, no. 23, pp. 4825–4834, August 2002

47. **Hsuan T. Chang**, "Gradient match and side match fractal vector quantizers for images," *IEEE Transactions on Image Processing* (SCI), vol. 11, no. 1, pp. 1–9, Jan. 2002.

48. **Hsuan T. Chang**, "Optical image encryption using separate amplitude-based virtual image and iteratively-retrieved phase," *Optical Engineering* (SCI), vol. 40, no. 10, pp. 2165–2171, October 2001

49. **Hsuan T. Chang**, "Resizing, relocation, and quantization effects on fractal images," *Optical Engineering* (SCI), vol. 40, no. 6, pp. 941–951, June 2001.

50. **Hsuan T. Chang**, "Variance-based domain blocks for non-iterative fractal image compression," *Journal of Chinese Institute of Electrical Engineering* (EI), vol. 8, no. 2, pp. 159–169, April 2001

51. **Hsuan T. Chang** & C.J. Kuo, "A novel domain pool design for non-iterative fractal image coding," *Journal of Information Science and Engineering* (SCI), vol. 17, no. 3, pp. 429–443, May 2001.

52. **Hsuan T. Chang**, "Gradient match vector quantizers for images," *Optical Engineering* (SCI), vol. 39, no. 8, pp. 2046–2057, August 2000.

53. **Hsuan T. Chang** & C.J. Kuo, "Iteration-free fractal image coding based on efficient domain pool design," *IEEE Transactions on Image Processing* (SCI), vol. 9, no. 3, pp. 329–339, March 2000.

54. **Hsuan T. Chang**, "A study on recurrent iterated function systems," *Journal of Chienkuo*, vol. 18, no.2, pp. 503–510, June 1999.

55. **Hsuan T. Chang** & C.J. Kuo, "Adaptive schemes for improving fractal block coding of images," *Journal of Information Science and Engineering* (SCI), vol. 15, no. 1, pp. 11–25, January 1999.

56. **Hsuan T. Chang** & C.J. Kuo, "VLSI architecture design for iteration-free fractal image decoding," *Journal of Chinese Institute of Electrical Engineering* (EI), vol. 6, no. 3, pp. 257–267, August 1999

57. **Hsuan T. Chang**, "VLSI architecture for iteration-free fractal image decoding using two-level block sizes," *Journal of Chienkuo*, vol. 17, pp. 413–426, June 1998.

58. **Hsuan T. Chang** & C.J. Kuo, "Random iteration algorithm based optical parallel architecture for fractal image decoding by use of IFS codes," *Applied Optics* (SCI), vol. 37, no. 8, pp. 1310–1318, March 1998.

59. D. Casasent, **Hsuan T. Chang** & R.K. Shenoy, "Multiple touching product detection and location using rotation invariant filter," *Journal of Chinese Institute of Electrical Engineering* (EI), vol. 5, no.1, pp. 71–80, Feb. 1998.

60. C.J. Kuo, Y.S. Su, & **Hsuan T. Chang**, "Wavelength division microlens interconnection using weakly diffracted Gaussian beam," *Optical and Quantum Electronics* (SCI), vol. 28, pp. 381–394, 1996

61. C.J. Kuo & **Hsuan T. Chang**, "Experiments for the nonlinear joint-transform correlators," *Proceedings of NSC–Part A: Physical Science and Engineering* (EI), vol. 19, no. 6, pp. 632–637, Dec. 1995.

62. C.J. Kuo & **Hsuan T. Chang**, "Spatial light modulators for optical signal processing and computing," *Proceedings of NSC–Part A: Physical Science and Engineering* (EI), vol. 19, no. 3, pp. 188–198, May 1995.

63. C.J. Kuo & **Hsuan T. Chang**, "Resolution studies of electronic holography," *Optical Engineering* (SCI), vol. 34, no. 5, pp. 1352–1357, May 1995.

64. **Hsuan T. Chang**, F.C. Chang, & C.J. Kuo, "Exact determination for multisection quarter-wave transformers," *Journal of Chinese Institute of Electrical Engineering* (EI), vol. 2, no. 3, pp. 245–252, August 1995.

65. **Hsuan T. Chang** & C.J. Kuo, "An optical decoding architecture for the random iteration algorithm of iterated function system codes," *Optical Review* (SCI), vol. 1, no. 2, pp. 146–149, 1994.

Manuscripts in revision or reviewing stage:

1.

Book Chapters:

1. **Hsuan T. Chang** & Chih-C. Hsu, "Fractal-based Secured multiple-image distribution and compression," *Handbook of Research on Secure Multimedia Distribution*, Chapter XXVII, pp. 515–532, Edited by Dr. Shiguo Lian and Dr. Yan Zhang, March 2009, Information science Reference, ISBN: 978-1-60566-262-6

2. **Hsuan T. Chang**, "DNA sequence visualization," Chapter 4 in *Advanced Data Mining Technologies in Bioinformatic*, (invited), pp. 63–84, Edited by Dr. Hui-Huang Hsu, Idea Group, Inc., publisher of the Idea Group Publishing, Information Science Publishing, IRM Press, CyberTech Publishing and Idea Group Reference imprints, 2006, ISBN 195140864-4

3. **Hsuan T. Chang**, "Preliminary studies on compressing interference patterns in electronic holography," Chapter 6 in *Three dimensional holographic imaging*, pp. 99–117, Edited by Dr. Chung J. Kuo and Meng H. Tsai, John Wiley and Sons, Inc. New York, 2001, ISBN 0471358940

Conference Publications:

1. S.-H. Ting and **Hsuan T. Chang**, "Image encryption based on optical joint transform correlator with double input phase functions in different planes," *2020 Conference on Phonotics and Communications*, Kaoshiung, Taiwan, Dec. 27, 2020

2. C.-T. Huang and **Hsuan T. Chang**, "Using U-net deep learning network for early-stage gastric cancer detection in NBI images," *The 10th National Conference on Web Intelligence And Applications (NCWIA 2020)*, Yunlin Douliu, July 31-Aug. 1, 2020

3. M.-H. Chao and **Hsuan T. Chang**, "Multiple-phase retrieval algorithm for multiple-plane image reconstruction based on Fresnel transform," *2020 Taiwan Telecommunications Annual Symposium*, Kaohsiung, Taiwan, January 14-17, 2020

4. Y.-F. Huang and **Hsuan T. Chang**, "Early stage gastric cancer detection in endoscopy NBI Images by using vessel edge density and local ternary pattern features in support vector machine," *2020 Taiwan Telecommunications Annual Symposium*, Kaohsiung, Taiwan, January 14-17, 2020

5. C.-T. Huang and **Hsuan T. Chang**, "Using Mask-RCNN deep learning network for early-stage gastric cancer detection in NBI images," *2020 Taiwan Telecommunications Annual Symposium*, Kaohsiung, Taiwan, January 14-17, 2020

6. T.-C. Yang, **Hsuan T. Chang**, and T.-C. Lee, "Using deep learning network for early stage gastric cancer detection in NBI endoscopy images," *The 32th IPPR Conference on Computer Vision, Graphics, and Image Processing* (CVGIP 2019), Taidong Taiwan, Aug. 25-27, 2019

7. **Hsuan T. Chang** and T.-Y. Lin, "Separation of 2-D mixed circular fringe pattern by using fractional Fourier transform," *International Conference on Advanced Technology Innovation 2019* (ICATI2019), Sapporo, Hokkaido, July 15-18, 2019

8. Chung-Feng Kuo, Chih-Hao Chuang, **Hsuan T. Chang**, Hoang-Yan Lin, and Chien-Yu Chen, "P-83: Wide Angle Light-Field Holographic Display System with Angular Multiplexing," *SID Symposium Digest of Technical Papers*, 50: 1547-1548.

9. **Hsuan T. Chang**, Y.-C, Tsai, and T.-C. Yang, and T.-C. Lee, "Using deep learning neural network for extracting micro vessels and micro-structures in the magnified NBI images of gastric endoscopy," *National Symposium on Telecommunications* (NST 2019), Best Paper Award, Taichung, 24-26 Jan. 2019

10. **Hsuan T. Chang**, Y.-R. Lin, and T.-C. Lee, "Early Stage Gastric Cancer Detection in Endoscopy NBI Images Based on Support Vector Machine Using Local Ternary Pattern Features," *International Computer Symposium* (ICS 2018), Yunlin 20-22 Dec. 2018

11. C.-Y. Chen, J.-R. Li, C.-F. Kuo, M.M. Isaac, C.-H. Chuang, **Hsuan T. Chang**, S.-C. Wengyang, H.-Y. Lin, "Fabrication of Holographic Optical Element Arrays by Printing," *The 23th Microoptics Conference* (MOC2018), Taipei, 15-18 Oct. 2018

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