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Education

2004-2008	Ph.D.	School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, USA
1997-1999	M.S.	Institute of Electro-Optical Engineering, National Chiao Tung University, Hsinchu, Taiwan
1993-1997	B.S.	Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan

Faculty Appointments

2016-present	Professor	Institute of Photonics Technologies and
2012-2016	Associate Professor	Department of Electrical Engineering,
2008-2012	Assistant Professor	National Tsing Hua University, Hsinchu, Taiwan

Other Appointments

2018-present	Adjunct Research Fellow	Research Center for Applied Sciences, Academia Sinica, Taiwan
2018	Visiting Scholar	Department of Physics and Astronomy, University of Pittsburgh, USA
2016	Visiting Scholar	Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China
2014	Visiting Scholar	Department of Physics, University of Bayreuth, Bayreuth, Bayern, Germany
2011	Visiting Scholar	Physics Institute, University of Würzburg, Würzburg, Bayern, Germany
2008.04-2008.07	Postdoctoral MTS	Bell Laboratories, Alcatel-Lucent, Murray Hill, NJ, USA
2002	Visiting Scientist	Materials Research Center, Northwestern University, Evanston, IL, USA
1999-2003	Research Engineer	Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Chutung, Taiwan

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Awards and Honors

2016	Academia Sinica Research Award for Junior Research Investigators
2015	Taiwan Junior Visiting Scholar Award, Chinese Academy of Sciences
2015	Y. Z. Hsu Scientific Paper Award, Far Eastern Y. Z. Hsu Science and Technology Memorial Foundation
2014	Teaching Excellence Award, National Tsing Hua University
2014	Teaching Excellence Award of College of Electrical Engineering and Computer Science, National Tsing Hua University
2012	Junior Faculty Research Award, National Tsing Hua University
2012	Junior Faculty Research Award, College of Electrical Engineering and Computer Science, National Tsing Hua University
2007	Finalist, IEEE Laser & Electro-Optics Society Best Student Paper Award
2007	Student Travel Grant, IEEE Lasers & Electro-Optics Society
2004-2005	Andrews and Mary I. Williams Fellowship, Purdue University
2002	Personal Distinguished Research Achievement Award, Industrial Technology Research Institute, Taiwan
2002	Personal Research Achievement Award, Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Taiwan
1999	Master's Thesis of the Year, Optical Engineering Society of Republic of China

Professional Society Activities

Memberships

2014-present	Member, Physical Society of Republic of China
2013-present	Member, American Physical Society
2008-present	Member, Optical Society of America
1999-present	Member, Institute of Electrical and Electronics Engineers (IEEE), and IEEE Photonics Society
1999-present	Member, Optical Engineering Society of Republic of China

Activities

2018	Technical Program Committee, Nanophotonic Materials and Devices, Optics and Photonics Taiwan, International Conference 2018
2018	International Program Committee, The 15 th International Conference on Near-field Optics, Troyes, France, 2017
2018	Program Committee, The 7 th International Conference on Advanced Laser and Photon Sources, Yokohama, Japan
2017	Technical Program Committee, Nanophotonic Materials and Devices, Optics and Photonics Taiwan, International Conference 2017
2017	Organizing Committee Co-Chair, SPP8, Taipei, 2017
2016	Technical Program Committee, Quantum Electronics, Optics and Photonics Taiwan, International Conference 2016

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2016	Organizing Committee, International Symposium on Physics and Applications of Laser Dynamics 2016
2016	Organizing Committee, The 9 th International Conference on Nanophotonics, Taiwan
2015	Chair, Nanophotonic Materials and Devices, Optics and Photonics Taiwan, International Conference 2015
2015	Organizing Chair, Optics and Photonics Taiwan, International Conference 2015
2015	Technical Program Committee, Optics and Photonics, IEEE International Symposium on Next-Generation Electronics 2015
2014	Organizing Committee, International Symposium on Physics and Applications of Laser Dynamics 2014
2013-present	Referee, Student Thesis Award, Optical Engineering Society of Republic of China
2012	Technical Program Committee, Networks and Communications, IEEE International Technical Conference of IEEE Region 10, TENCON 2012
2012	Organizing Committee, International Symposium on Physics and Applications of Laser Dynamics 2012
2012	Organizing Committee, Workshop on Frontiers in Ultrafast Optics
2009	Technical Program Committee, Ultrafast Optics and Electronics, IEEE Photonics Society Annual Meeting

Editorial Position

2012-present	Editorial Board, Dataset Papers in Science
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Activities as a Referee

Journal Referee

Regular reviewer for journals including Nano Letters, ACS Nano, Laser & Photonics Review, Nanoscale, Journal of Physical Chemistry Letters, ACS Photonics, Advanced Optical Materials, Journal of Photochemistry and Photobiology C, Optics Letters, Optics Express, Scientific Report, Journal of Selected Topics in Quantum Electronics, IEEE Photonics Journal, IEEE Photonics Technology Letters, Journal of Lightwave Technology, Journal of Optical Society of America B, Journal of Optics, IEEE Transactions on Microwave Theory and Techniques, Optics Communications, Applied Optics, Chinese Journal of Physics, and Advances in Optical Technologies

Grant Referee

2015-present	Grant Reviewer, European Research Council
2014-present	Grant Reviewer, Ministry of Science and Technology, Taiwan
2009-2013	Grant Reviewer, National Science Council, Taiwan
2012	Grant Reviewer, Hsinchu Science-Based Industrial Park in Taiwan

Publication Summary

Authored or co-authored 1 book chapters, 2 invited review articles, 44 research papers in refereed journals, and over 100 international conference papers. Co-inventor of 16 patents. Over 15 invited presentations in international conferences and research institutes, including one keynote address.

List of Publications

A. Book Chapters

1. "Spectral line-by-line shaping," A. M. Weiner, **C.-B. Huang**, Z. Jiang, D. E. Leaird, and J. Caraquiten, a chapter in *Advances in Information Optics and Photonics*, A. Friberg and R. Dändliker, eds. (SPIE Press, 2008), pp. 359-380.

B. Research Book Contribution

1. "Spectral line-by-line pulse shaping of a mode-locked laser and phase modulated CW laser," Z. Jiang, **C.-B. Huang**, D. E. Leaird, and A. M. Weiner, in *Ultrafast Phenomena XV* P. Corkum, D. Jones, R. J. Dwayne Miller, and A. M. Weiner, eds. (Berlin:Springer, 2007), pp. 124-126.

C. Peer-reviewed Journal Publications (*: corresponding authors)

44. J. Hu, C.-S. Brés*, and **C.-B. Huang***, "Talbot effect on orbital angular momentum beams: azimuthal intensity repetition-rate multiplication," *Opt. Lett.* **43**(16) 4033-4036 (2018).
43. Y.-S. Lin and **C.-B. Huang***, "Large-scale and structure-tunable laser spectral compression in an optical dispersion-increasing fiber," *Opt. Express* **25**(15), 18024-18030 (2017).
42. J.-M. Wun, H.-Y. Liu, Y.-L. Zeng, S.-D. Yang, C.-L. Pan, **C.-B. Huang***, and J.-W. Shi*, "Photonic high-power CW THz-wave generation by using flip-chip packaged uni-traveling carrier photodiode and femtosecond optical pulse generator," *J. Lightwave Technol.* **34**(4), 1387-1397 (2016).
41. C.-F. Chen, C.-T. Ku, Y.-H. Tai, P.-K. Wei, H.-N. Lin, and **C.-B. Huang***, "Creating optical near-field orbital angular momentum in a gold metasurface," *Nano Lett.* **15**(4), 2746-2750 (2015).
40. C.-T. Ku, H.-N. Lin, and **C.-B. Huang***, "Direct observation of surface plasmon vortex and subwavelength focusing with arbitrarily-tailored intensity patterns," *Appl. Phys. Lett.* **106**(5), 053112 (2015).
39. J.-M. Wun, H.-Y. Liu, C.-H. Lai, Y.-S. Chen, S.-D. Yang, C.-L. Pan, J. E. Bowers, **C.-B. Huang***, and J.-W. Shi*, "Photonic high-power 160-GHz signal generation by using ultrafast photodiode and a high-repetition-rate femtosecond optical pulse train generator," *IEEE J. Sel. Top. Quantum Electron.* **20**(6), 3803507 (2014).
38. W.-H. Dai, F.-C. Lin, **C.-B. Huang**, and J.-S. Huang*, "Mode conversion in high-definition plasmonic optical nanocircuits," *Nano Lett.* **14**(7), 3881-3886 (2014).
37. C.-C. Chen, **C.-B. Huang**, and S.-D. Yang*, "Self-referenced frequency comb measurement by using a polarization line-by-line pulse shaper," *Opt. Lett.* **39**(7), 1901-1904 (2014).
36. W.-T. Chao, Y.-Y. Lin, J.-L. Peng, and **C.-B. Huang***, "Adiabatic pulse propagation in a dispersion-increasing fiber for spectral compression exceeding the fiber dispersion ratio limitation," *Opt. Lett.* **39**(4), 853-856 (2014).
35. W.-Y. Tsai, J.-S. Huang, and **C.-B. Huang***, "Selective trapping or rotation of isotropic dielectric micro-particles by optical near field in a plasmonic Archimedes spiral," *Nano Lett.* **14**(2), 547-552 (2014).
34. P. Geisler, G. Razinskas, E. Krauss, X.-F. Wu, C. Rewitz, P. Tuchscherer, S. Goetz, **C.-B. Huang**, T. Brixner*, and B. Hecht*, "Multimode plasmon excitation and *in situ* analysis in top-down fabricated nanocircuits," *Phys. Rev. Lett.* **111**(18), 183901 (2013).

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33. C.-C. Chen, Y.-S. Chen, **C.-B. Huang**, M.-C. Chen, and S.-D. Yang*, "Non-iterative data inversion of phase retrieval by omega oscillating filtering for optical arbitrary waveform measurement," *Opt. Lett.* **38**(12), 2011-2013 (2013).
32. C.-D. Ku, W.-L. Huang, J.-S. Huang, and **C.-B. Huang***, "Deterministic synthesis of optical vortices in a tailored plasmonic Archimedes spiral," *IEEE Photon. J.* **5**(3), 4800409 (2013).
31. C.-C. Chen, I.-C. Hsieh, S.-D. Yang, and **C.-B. Huang***, "Polarization line-by-line pulse shaping for the implementation of vectorial temporal Talbot effect," *Opt. Express* **20**(24), 27062-27070 (2012).
30. C.-W. Chow*, L.-G. Yang, C.-H. Yeh, **C.-B. Huang**, J.-W. Shi, and C.-L. Pan, "10 Gb/s optical carrier distributed network with W-band (0.1THz) short-reach wireless communication system," *Opt. Comm.* **285**(21-22), 4307-4311 (2012).
29. Y.-T. Hung, **C.-B. Huang**, and J.-S. Huang*, "Plasmonic mode converter for controlling optical impedance and nanoscale light-matter interaction," *Opt. Express* **20**(18), 20342-20355 (2012). (Selected by *Virtual Journal for Biomedical Optics*, **7**(10), 2012.)
28. J.-W. Lin, C.-L. Lu, H.-P. Chuang, F.-M. Kuo, J.-W. Shi, **C.-B. Huang**, and C.-L. Pan*, "Photonic generation and detection of W-band chirped millimeter-wave pulses for radar," *IEEE Photon. Technol. Lett.* **24**(16), 1437-1439 (2012).
27. J.-W. Shi*, J.-W. Lin, **C.-B. Huang**, F.-M. Kuo, N.-W. Chen, C.-L. Pan, and J. E. Bowers, "Photonic generation of few-cycle millimeter-wave pulse using a waveguide-based photonic-transmitter-mixer," *IEEE Photon. J.* **4**(4), 1071-1079 (2012).
26. J.-W. Shi*, F.-M. Kuo, N.-W. Chen, S.-Y. Set, **C.-B. Huang**, and J. E. Bowers, "Photonic generation and wireless transmission of linearly/nonlinearly continuously tunable chirped millimeter-wave waveforms with high time-bandwidth product at W-band," *IEEE Photon. J.* **4**(1), 215-223 (2012).
25. N.-K. Chen*, F.-Z. Liu, H.-P. Chuang, Y. Lai, S.-D. Yang, J.-W. Lin, S.-K. Liaw, Y.-C. Chang, **C.-B. Huang**, and S. Chi, "Highly efficient femtosecond pulse stretching by tailoring cavity dispersion in erbium fiber lasers with an intracavity short-pass edge filter," *Opt. Express* **19**(17), 15879-15884 (2011).
24. H.-P. Chuang and **C.-B. Huang***, "Wavelength-tunable spectral compression in a dispersion-increasing fiber," *Opt. Lett.* **36**(15), 2848-2850 (2011).
23. C.-S. Hsu, H.-C. Chiang, H.-P. Chuang, **C.-B. Huang**, and S.-D. Yang*, "Forty-photon-per-pulse spectral phase retrieval by shaper-assisted modified interferometric field autocorrelation," *Opt. Lett.* **36**(14), 2611-2613 (2011).
22. J.-W. Lin, H.-P. Chuang, F.-M. Kuo, C.-H. Lin, T.-A. Liu, J.-W. Shi, **C.-B. Huang**, and C.-L. Pan*, "Enhanced performance of narrow-band millimeter-wave generation using shaped-pulse-excited photonic transmitters," *IEEE Photon. Technol. Lett.* **23**(13), 902-904 (2011).
21. P.-N. Li, H.-H. Tsao, J.-S. Huang, and **C.-B. Huang***, "Subwavelength localization of near fields in coupled metallic spheres for single-emitter polarization analysis," *Opt. Lett.* **36**(12), 2339-2341 (2011).
20. J.-W. Shi, **C.-B. Huang**, and C.-L. Pan*, "Millimeter-wave photonic wireless links for very-high data rate communication," [\[Invited Review\]](#), *NPG Asia Materials* **3**(2), 41-48 (2011).
19. F.-M. Kuo, **C.-B. Huang**, J.-W. Shi*, N.-W. Chen, H.-P. Chuang, J. E. Bowers, and C.-L. Pan, "Remotely up-converted 20 Gbit/s error-free wireless on-off-keying data transmission at W-band using an ultra-wideband photonic transmitter-mixer," *IEEE Photon. J.* **3**(2), 209-219 (2011).
18. H.-P. Chuang and **C.-B. Huang***, "Generation and delivery of 1-ps optical pulses with ultrahigh-rates over 25 km single mode fiber by a spectral line-by-line pulse shaper," *Opt. Express* **18**(23), 24003-24011 (2010).
17. F.-M. Kuo, J.-W. Shi, H.-C. Chiang, H.-P. Chuang, H.-K. Chiou, C.-L. Pan, N.-W. Chen, H.-J. Tsai, and **C.-B. Huang***, "Spectral power enhancement in a 100-GHz photonic millimeter-wave generator enabled by spectral line-by-line pulse shaping," *IEEE Photon. J.* **2**(5), 719-727 (2010).
16. **C.-B. Huang*** and A. M. Weiner, "Analysis of time-multiplexed optical line-by-line pulse shaping: application for radio-frequency and microwave photonics," *Opt. Express* **18**(9), 9366-9377 (2010).
15. F. Ferdous*, D. E. Leaird, **C.-B. Huang**, and A. M. Weiner, "Dual comb cross-correlation technique

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- for optical arbitrary waveform characterization,” *Opt. Lett.* **34**(24), 3875-3877 (2009).
14. **C.-B. Huang***, D. E. Leaird, and A. M. Weiner, “Synthesis of millimeter-wave power spectra using time-multiplexed optical pulse shaping,” *IEEE Photon. Technol. Lett.* **21**(18), 1287-1289 (2009).
 13. **C.-B. Huang***, Z. Jiang, D. E. Leaird, and A. M. Weiner, “Quantitative study of optical frequency to intensity noise conversion in line-by-line pulse shaping,” *IEEE J. Quantum Electron.* **45**(6), 661-673 (2009).
 12. S.-D. Yang*, C.-S. Hsu, S.-L. Lin, H. Miao, **C.-B. Huang**, and A. M. Weiner, “Direct spectral phase retrieval of ultrashort pulses by double modified one-dimensional autocorrelation traces,” *Opt. Express* **16**(25), 20617-20625 (2008).
 11. **C.-B. Huang***, Z. Jiang, D. E. Leaird, J. Caraquitená, and A. M. Weiner, “Spectral line-by-line shaping for optical and microwave arbitrary waveform generations,” [\[Invited Review\]](#), *Laser & Photon. Rev.* **2**(4), 227-248 (2008).
 10. V. R. Supradeepa*, **C.-B. Huang**, D. E. Leaird, and A. M. Weiner, “Femtosecond pulse shaping in two dimensions: towards higher complexity optical waveforms,” *Opt. Express* **16**(16), 11878-11887 (2008).
 9. **C.-B. Huang***, S.-G. Park, D. E. Leaird, and A. M. Weiner, “Nonlinearly broadened phase-modulated continuous-wave laser frequency combs characterized using DPSK decoding,” *Opt. Express* **16**(4), 2520-2527 (2008).
 8. Z. Jiang*, D. E. Leaird, **C.-B. Huang**, H. Miao, M. Kourogi, K. Imai, and A. M. Weiner, “Spectral line-by-line pulse shaping on an optical frequency comb generator,” *IEEE J. Quantum Electron.* **43**(12), 1163-1174 (2007).
 7. **C.-B. Huang***, D. E. Leaird, and A. M. Weiner, “Time-multiplexed photonicly enabled radio-frequency arbitrary waveform generation with 100 ps transitions,” *Opt. Lett.* **32**(22), 3242-3244 (2007). (Selected by *Virtual Journal of Ultrafast Science*, **7**(1), 2008.)
 6. Z. Jiang, **C.-B. Huang**, D. E. Leaird, and A. M. Weiner*, “Spectral line-by-line pulse shaping for optical arbitrary pulse train generation,” *J. Opt. Soc. Am. B* **24**(9), 2124-2128 (2007).
 5. Z. Jiang[§], **C.-B. Huang**[§], D. E. Leaird, and A. M. Weiner*, “Optical arbitrary waveform processing of more than 100 spectral comb lines,” *Nature Photonics* **1**(8), 463-467 (2007). ([§ These authors contributed equally to this work](#))
 4. **C.-B. Huang***, Z. Jiang, D. E. Leaird, and A. M. Weiner, “The impact of optical comb stability on waveforms generated via spectral line-by-line pulse shaping,” *Opt. Express* **14**(26), 13164-13176 (2006).
 3. **C.-B. Huang***, Z. Jiang, D. E. Leaird, and A. M. Weiner, “High-rate femtosecond pulse generation via line-by-line processing of a phase-modulated CW laser frequency comb,” *Electron. Lett.* **42**(9), 1114-1115 (2006).
 2. G. Wang*, G. Spalding, **R. Huang**, L. Luan and J. B. Ketterson, “Numerical analysis of waveguide-enhanced optical bistability,” *Opt. Quantum Electron.* **35**(15), 1357-1366 (2003).
 1. **C.-B. Huang** and Y. Lai*, “Loss-less pulse intensity repetition-rate multiplication using optical all-pass filtering,” *IEEE Photon. Technol. Lett.* **12**(2), 167-169 (2000).

D. International Conference Papers

119. Dhruv Tyagi and **C.-B. Huang**, “Polarization dependent multi-direction surface plasmon polariton steering,” *Optics and Photonics Taiwan, International Conference, Tainan, Taiwan, 2018.*
118. **C.-B. Huang**, “Molding surface plasmon vortices for particle manipulations and towards optofluidics,” [\[Invited\]](#), 2nd Taiwan-Israel Workshop, Haifa, Israel, 2018.
117. **C.-B. Huang**, “Interactions of spatially displaced surface plasmon vortices,” *OSJ-OSA-OSK 2018 Joint Symposia on Optics, Tokyo, Japan, 2018.*
116. J. Hu, C.-S. Brés, and **C.-B. Huang**, “Self-imaging of azimuthal intensity petal based on orbital

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- angular momentum beams,” *Frontier of Optics*, Washing DC, USA, 2018.
115. T.-Y. Chen, J. Obermeier, F.-C. Lin, J.-S. Huang, M. Lippitz, and **C.-B. Huang**, “Second-harmonic generation in a centro-symmetric plasmonic nanocircuit,” NFO-15, Troyes, France, 2018.
 114. T.-Y. Chen, J. Obermeier, F.-C. Lin, J.-S. Huang, M. Lippitz, and **C.-B. Huang**, “Second-harmonic generations in a plasmonic two-wire transmission-line,” *Conference on Lasers and Electro-Optics*, San Jose, CA, USA, 2018.
 113. T.-Y. Chen, J. Obermeier, F.-C. Lin, J.-S. Huang, M. Lippitz, and **C.-B. Huang**, “A centro-symmetric plasmonic nanocircuit for second-harmonic generations,” **[Invited]**, The 5th International Conference on Frontiers of Plasmonics, Nanjing, 2018.
 112. T.-Y. Chen, F.-C. Lin, J.-S. Huang, and **C.-B. Huang**, “Second-harmonic generation via surface plasmon polaritons in a two-wire transmission-line,” APS March Meeting, Los Angeles, CA, USA, 2018.
 111. J. Obermeier, T.-Y. Chen, F.-C. Lin, J.-S. Huang, **C.-B. Huang**, and M. Lippitz, “Second harmonic generation in a fully symmetric gold nanostructure,” DPG Spring Meeting of Condensed Matter, Berlin, 2018.
 110. Y.-D. Lin and **C.-B. Huang**, “Field-enhanced direction-controllable surface plasmon vortices in a metasurface under linearly-polarized excitation,” *Optics and Photonics Taiwan*, International Conference, Kaohsiung, Taiwan, 2017.
 109. T.-Y. Chen, F.-C. Lin, J.-S. Huang, and **C.-B. Huang**, “Ultrafast second-harmonic generations in a plasmonic two-wire transmission-line,” *Optics and Photonics Taiwan*, International Conference, Kaohsiung, Taiwan, 2017.
 108. D. Tyagi and **C.-B. Huang**, “A magnetically-excited plasmonic metasurface for multi-directional beam steering,” *Optics and Photonics Taiwan*, International Conference, Kaohsiung, Taiwan, 2017.
 107. **C.-B. Huang**, “Creation and application of surface plasmon vortices for microparticle manipulations,” **[Invited]**, Taiwan-Israel Workshop, Hsinchu, 2017.
 106. **C.-B. Huang**, “Optical metasurface for the creation and application of surface plasmon vortices,” **[Invited]**, The 78th JSAP-OSA Joint Symposium, Fukuoka, Japan, 2017.
 105. **C.-B. Huang**, “Exploiting orbital angular momenta and frequency conversion in plasmonic devices,” **[Invited]** The 11th Asia-Pacific Conference on Near-field Optics, Tainan, Taiwan, 2017.
 104. H.-Y. Liu, T.-Y. Chen, F.-C. Lin, J.-S. Huang, and **C.-B. Huang**, “Ultrafast second-harmonic generations in a plasmonic two-wire transmission-line,” CLEO-Europe, Munich, Germany, 2017.
 103. **C.-B. Huang**, “Expanding applicable optical sources in plasmonics and through a dispersion-increasing fiber,” **[Invited]** *Advanced Lasers and Photon Sources’17*, Yokohama, Japan, 2017.
 102. **C.-B. Huang**, “Creation and application of surface plasmon vortices,” **[Invited]** SPIE OPTICS + PHOTONICS, San Diego, USA, 2016.
 101. C.-Y. Lin, C.-F. Chen, C.-T. Ku, and **C.-B. Huang**, “Metasurface for the creation of surface plasmon vortex and towards multi-functional optofluidics,” **[Invited]** META’16, 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Malaga, Spain, 2016.
 100. C.-Y. Lin and **C.-B. Huang**, “A metasurface designed for adaptive optical near-field routing,” META’16, 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Malaga, Spain, 2016.
 99. **C.-B. Huang**, “Metasurface for creating orbital angular momenta and microparticle manipulations,” 9th International Conference on Nanophotonics, Taipei, Taiwan, 2016.
 98. C.-Y. Lin and **C.-B. Huang**, “Enhancement of the field intensity of switchable surface plasmon subwavelength focusing and bi-directional vortex,” 9th International Conference on Nanophotonics, Taipei, Taiwan, 2016.
 97. C.-T. Ku, **C.-B. Huang**, and Y.-C. Chang, “Plasmonic near-field polarization analyzer based on localized surface plasmon,” 9th International Conference on Nanophotonics, Taipei, Taiwan, 2016.
 96. H.-W. Chen, J.-S. Huang, and **C.-B. Huang**, “Mode characteristic of second-harmonic generation in

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- a plasmonic two-wire transmission line," 9th International Conference on Nanophotonics, Taipei, Taiwan, 2016.
95. C.-Y. Hsieh and **C.-B. Huang**, "Numerical investigation on soliton temporal and spectral compression in a temperature-tuned SOI waveguide," 9th International Conference on Nanophotonics, Taipei, Taiwan, 2016.
 94. W.-Y. Tsai, C.-T. Ku, C.-F. Chen, C.-Y. Lin, and **C.-B. Huang**, "Surface plasmon vortex: its creation, shaping, and application in particle manipulations," **[Invited]** Nanophotonics in Asia 2015, Osaka, Japan, 2015.
 93. C.-Y. Lin and **C.-B. Huang**, "Switchable surface plasmon subwavelength focusing and bi-directional vortex creation in a metasurface," Optics and Photonics Taiwan, International Conference, Hsinchu, Taiwan, 2015.
 92. D. Berco, **C.-B. Huang**, and R.-K. Lee, "A dipole interaction based numerical method for second harmonic generation calculations in nano structures," Optics and Photonics Taiwan, International Conference, Hsinchu, Taiwan, 2015.
 91. **C.-B. Huang**, "Creation and application of surface plasmon vortices," **[Invited]** 3rd Cross-Strait Symposium on Nanophotonics and Plasmonics, Shandong, China, 2015.
 90. C.-Y. Lin, C.-F. Chen, C.-T. Ku, and **C.-B. Huang**, "Bi-directional surface plasmon vortex creation in a metasurface under linearly-polarized excitation," META'15, 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics, New York, NY, USA, 2015.
 89. **C.-B. Huang**, "Shaping, creating, and application of surface plasmon vortices," **[Invited]**, Taiwan Plasmonics Forum, Taipei, 2015.
 88. M.-H. Lin and **C.-B. Huang**, "Laser noise improvements through pulse nonlinear propagation in a dispersion-increasing fiber," Conference on Lasers and Electro-Optics, San Jose, CA, USA, 2015.
 87. Y.-H. Lin and **C.-B. Huang**, "Dual-peaked laser spectral compression generated in a dispersion-increasing fiber," Conference on Lasers and Electro-Optics, San Jose, CA, USA, 2015.
 86. C.-F. Chen, C.-T. Ku, M.-Y. Pan, P.-K. Wei, and **C.-B. Huang**, "Creating surface plasmon orbital angular momentum in a gold metasurface," Conference on Lasers and Electro-Optics, San Jose, CA, USA, 2015.
 85. **C.-B. Huang**, "Coherent control of surface plasmons using a single-frequency laser," **[Invited]**, Symposium for the Promotion of Applied Research Collaboration in Asia, Taipei, Taiwan, 2015.
 84. J.-M. Wun, H.-Y. Liu, Y.-L. Zeng, C.-L. Pan, **C.-B. Huang**, and J.-W. Shi, "High-power THz-wave generation by using ultra-fast (315 GHz) uni-traveling carrier photodiode with novel collector design and photonic femtosecond pulse generator," Optical Fiber Communications Conference, Los Angeles, CA, USA, 2015.
 83. **C.-B. Huang**, C.-F. Chen, C.-T. Ku, M.-Y. Pan, and P.-K. Wei, "Creation of optical near-field orbital angular momentum in a gold metasurface," APS March Meeting, San Antonio, TX, USA, 2015.
 82. **C.-B. Huang**, "Coherent control of surface plasmons using a single-frequency laser and the outlooks into ultrafast plasmonics," **[Invited]**, Frontiers in Attosecond Lasers and Sciences Workshop, Hsinchu, Taiwan, 2014.
 81. Y.-H. Lin and **C.-B. Huang**, "Generation of double-peaked laser spectral compression in a dispersion-increasing fiber," Optics and Photonics Taiwan, International Conference, Taichung, Taiwan, 2014.
 80. M.-H. Lin and **C.-B. Huang**, "Investigation on laser noise improvements during the spectral compression process," Optics and Photonics Taiwan, International Conference, Taichung, Taiwan, 2014.
 79. C.-F. Chen, C.-T. Ku, M.-Y. Pan, P.-K. Wei, and **C.-B. Huang**, "Generation of optical near-field orbital angular momentum in gold metasurface under linearly-polarized excitation," Optics and Photonics Taiwan, International Conference, Taichung, Taiwan, 2014.
 78. C.-T. Ku, C.-F. Chen, and **C.-B. Huang**, "Generation of surface plasmon vortex under linearly-polarized optical excitation in a gold metasurface," Frontiers in Optics/Laser Science, Tucson, AZ,

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77. W.-Y. Tsai, J.-S. Huang, and **C.-B. Huang**, "Plasmonic Archimedes spiral for selective optical trapping and rotation of optically isotropic particles," 13th International Conference on Near-Field Optics, Salt Lake City, UT, 2014.
76. W.-H. Dai, **C.-B. Huang**, and J.-S. Huang, "Mode conversion in a high-definition plasmonic optical nanocircuit," 13th International Conference on Near-Field Optics, Salt Lake City, UT, USA.
75. W.-Y. Tsai, J.-S. Huang, and **C.-B. Huang**, "Plasmonic Archimedes spiral for selective optical trapping and rotation of optically isotropic particles," Optical Trapping & Optical Micromanipulation Conference XI, San Diego, CA, 2014.
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C.-B. Huang and Y. Lai, "A novel method to multiply the repetition rate of optical pulse train sources by using optical all-pass filters," *Opto News & Lett.* **92**, 26-28 (2001).
1. 黃承彬、賴暎杰, "運用全通光濾波產生無耗損之光脈衝重複率倍增," *光學工程*, **69**, 14-17 (2000).
C.-B. Huang and Y. Lai, "Multiplying the repetition rate of optical pulse sources by using optical all-pass filters," *Opt. Engineering Lett.* **69**, 14-17 (2000).

G. Patents

16. **C.-B. Huang**, "A high spectral brightness laser generating device and the method thereof," Taiwan I452786.
15. **C.-B. Huang**, J.-W. Shi, C.-L. Pan, "Photonic Millimeter-Wave Generator," U.S. Patent filed Aug. 2011.
14. A. M. Weiner, **C.-B. Huang**, D. E. Leaird, "Dynamically Reconfigurable Optical and RF Arbitrary Waveform Generator and Method," U.S. Provisional Patent filed April 2008.
13. C.T. Shih, **C.-B. Huang**, D. Chu, Y.C Yu, "Power Polarization Beam Combiner and its Applications in Fiber Communication," TW I237136, US 7295373.
12. Y.I. Su, **C.-B. Huang**, R.-P. Wong, C. Hu, "Method of Fabrication and Spectrum Tuning of Optical Signal Interleavers," TW I199401.
11. M.-H. Chen, **C.-B. Huang**, C. Hu, "Three-Port Optical Polarization Combiner," TW I220698, US 6791751, CN ZL-021504156.
10. **C.-B. Huang**, C. Hu, "Optical Wavelength Interleaving Routers and the Method Making the Same," TW I220342.
9. **C.-B. Huang**, C. Hu, "High Filtering Precision Optical Signal Interleavers," TW I163567, US20020072008.
8. **C.-B. Huang**, C. Hu, "Multi-Port Reflective Optical Isolators," TW I172939, US20030058536.
7. **C.-B. Huang**, C. Hu, L.-G. Sheu, "Optical Signal Interleavers," TW I550409, US 6643064.
6. C. Hu, **C.-B. Huang**, C.-L. Liao, "Compact Optical Circulator with Three Ports," TW I150947, US 6476967.
5. **C.-B. Huang**, L.-G. Sheu, "Reflective Variable Optical Attenuator and the System Comprising the Same," TW I161632.
4. E. G.H. Lean, **C.-B. Huang**, W.-R. Chou, H.-M. Yang, C. Hu, "Polarization Independent Tunable Acousto-Optical Filter and the Method of the Same," US 6404536, TW I162725.

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3. **C.-B. Huang**, W.-R. Chou, "Reflective Optical Circulators," TW I161522, US 6549686.
2. **C.-B. Huang**, W.-R. Chou, C. Hu, "Optical Circulators," TW I136241, US 6404549.
1. K.-H. Tu, **C.-B. Huang**, R.-K. Lee, Y. Lai, "Method to Stabilize Harmonically Mode-Locked Fiber Lasers by Reflective Fiber Grating Resonators," TW I436642.

Research Grants Received

16. PI. "Full dynamic control of surface plasmon polaritons" Ministry of Science and Technology, Taiwan. MoST 106-2112-M-007-004-MY3. 08/01/2017~07/31/2020. NTD 8,776,000
15. PI. "Realization of ultrafast nonlinear plasmonic platform and the investigation over frequency comb characteristics therein" Ministry of Science and Technology, Taiwan. MoST 103-2112-M-007-017-MY3. 08/01/2014~07/31/2017. NTD 8,824,000
14. Co-PI. "The development of ultra-fast (>300 GHz) and high-power cascade photodiode and photonic-MMW transmitter module" National Science Council, Taiwan. NSC 102-2221-E-008-092-MY3. 08/01/2013~07/31/2016. NTD 4,645,000
13. Co-PI. "Photonic generation and detection of arbitrary MMW waveform for high-resolution MMW radar imaging" Asian Office of Aerospace Research and Development FA2386-13-1-4088. 03/01/2014~12/30/2013. NTD 1,500,000
12. Co-PI. "Fundamental and applied studies for advanced sub-THz (Millimeter-Wave) imaging radar" National Science Council, Taiwan. NSC 101-2221-E-007-103-MY3. 08/01/2012~07/31/2015. NTD 6,530,000
11. Co-PI. "Novel approaches to synthesizing attosecond waveforms (3/3)" National Science Council, Taiwan. NSC 101-2120-M-007-002. 08/01/2012~07/31/2013. NTD 12,000,000
10. Co-PI. "Shaper-assisted full-vectorial femtosecond optical field measurements" National Science Council, Taiwan. NSC 100-2221-E-007-093-MY3. 08/01/2011~07/31/2014. NTD 2,819,000
9. Co-PI. "Novel approaches to synthesizing attosecond waveforms (2/3)" National Science Council, Taiwan. NSC 100-2120-M-007-007. 08/01/2011~07/31/2012. NTD 12,000,000
8. PI. "Adaptive optical frequency comb behaviors in nanoplasmonic and optical nonlinear media" National Science Council, Taiwan. NSC 100-2112-M-007-007-MY3. 08/01/2011~07/31/2014. NTD 3,432,000
7. PI. "Adaptive optical frequency comb behaviors in nanoplasmonic and optical nonlinear media-Equipment" National Science Council, Taiwan. NSC 100-2738-M-007-003. 08/01/2011~07/31/2012. NTD 500,000
6. PI. "Realization of adaptive control of nanoplasmonic fields" National Tsing Hua University. NTHU 99N2917E1. 03/01/2010~12/31/2010. NTD 1,000,000
5. Co-PI. "Novel approaches to synthesizing attosecond waveforms (1/3)" National Science Council, Taiwan. NSC 99-2120-M-007-010. 08/01/2010~07/31/2011. NTD 14,000,000
4. Co-PI. "Advanced high-power fiber lasers (1064 and 532 nm) for scientific and industrial applications" National Science Council, Taiwan. NSC 98-2622-E-007-012-A2. 10/01/2009~09/30/2010. NTD 3,000,000
3. Co-PI. "Arbitrary waveform generations for ROF and UOF communication system at V- and beyond W-bands" National Science Council, Taiwan. NSC 98-2221-E-007-026-MY3. 08/01/2009~07/31/2012. NTD 4,608,000
2. PI. "Towards adaptive control of nanoplasmonic fields" National Tsing Hua University. NTHU 98N2944E1. 03/01/2009~12/31/2009. NTD 2,000,000
1. PI. "Fundamental studies toward an adaptive frequency-comb-based nanoplasmonic sensing platform" National Science Council, Taiwan. NSC 97-2112-M-007-025-MY3. 11/01/2008~07/31/2011. NTD 6,672,000

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Academic Administrations and Services

2018.09-present	Associate Vice President for Global Affairs, NTHU
2016.08-2018.07	Chairman, International Intercollegiate Ph.D. Program
2015.08-2016.07	Section Chief, Division of Faculty Development and Teaching Assistant Training, Center for Teaching and Learning Development
2015, 2016	Member, Teaching Excellence Award Committee, National Tsing Hua University
2014	Member, Undergraduate Admission Committee, Department of Electrical Engineering
2013-2015	Member, Gender Equality Committee, National Tsing Hua University
2011	Member, Undergraduate Admission Committee, Department of Electrical Engineering
2008-present	Member, Student Affairs Committee, Department of Electrical Engineering
2008-present	Member, Student Awards Committee, Department of Electrical Engineering
2009	Member, Undergraduate Admission Committee, Department of Electrical Engineering
2008-present	Member, Graduate Admission Committee, Institute of Photonics Technologies

New Courses Developed

IPT 5180	Nanophotonics
IPT 5440	Selected Topics in Ultrafast Optics
EE 3130	Introduction to Optoelectronic Engineering

Courses Offered with Evaluations [student evaluation/highest score possible]

Graduate Courses (all offered in English)

Spring 2018	Nanophotonics. [5/5]. 8 students enrolled.
Fall 2017	Selected Topics in Ultrafast Optics. [5/5]. 3 students enrolled.
Spring 2017	Nanophotonics. [5/5]. 9 students enrolled.
Spring 2016	Nanophotonics. [5/5]. 10 students enrolled.
Fall 2014	Selected Topics in Ultrafast Optics. [4.67/5]. 10 students enrolled.
Spring 2012	Selected Topics in Ultrafast Optics. [3.63/4]. 12 students enrolled.
Fall 2011	Selected Topics in Ultrafast Optics. [3.89/4]. 12 students enrolled.
Fall 2009	Selected Topics in Ultrafast Optics. [3.83/4]. 9 students enrolled.
Fall 2008	Selected Topics in Ultrafast Optics. [3.80/4]. 7 students enrolled.

Undergraduate Elective Courses

Fall 2018	Introduction to Optoelectronic Engineering. [xx]. 18 students enrolled.
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Fall 2017	Introduction to Optoelectronic Engineering. [5/5]. 12 students enrolled.
Fall 2016	Introduction to Optical Waveguides. Offered in English. [4.40/5]. 5 students enrolled.
Fall 2015	Introduction to Optical Waveguides. Offered in English. [5/5]. 4 students enrolled.
Fall 2013	Introduction to Optoelectronic Engineering. [4.64/5]. 23 students enrolled.
Fall 2012	Introduction to Optoelectronic Engineering. [3.55/4]. 89 students enrolled.
Fall 2011	Introduction to Optoelectronic Engineering. [3.48/4]. 49 students enrolled.
Fall 2010	Introduction to Optoelectronic Engineering. Offered in English. [3.20/4]. 92 students enrolled.

Undergraduate Mandatory Courses

Spring 2015	Electromagnetics. Offered in English. [4.57/5]. 36 students enrolled.
Spring 2014	Electromagnetics. [4.56/5]. 105 students enrolled.
Spring 2013	Electromagnetics. [3.52/4]. 58 students enrolled.
Spring 2012	Electromagnetics. [3.86/4]. 105 students enrolled.
Spring 2011	Electric Circuits. Offered in English. [3.62/4]. 43 students enrolled.
Spring 2010	Electric Circuits. Offered in English. [3.85/4]. 22 students enrolled.
Spring 2009	Electric Circuits. Offered in English. [3.23/4]. 53 students enrolled.

Massive Open Online Courses (MOOCs)

Fall 2013	Introduction to Optoelectronics. 9617 hits and 439 students enrolled. http://mooc.nthu.edu.tw/sharecourse/course/view/courseInfo/19
Spring 2015	Introduction to Optoelectronics. 4104 hits and 317 students enrolled. http://mooc.nthu.edu.tw/sharecourse/course/view/courseInfo/19

Only selected faculties were invited to record the MOOCs courses. My course was one of the first two courses to be offered by National Tsing Hua University. Moreover, it was selected to be aired on Beijing Tsing Hua University's MOOCs website in 2014. The course has attracted more than 3000 enrolled students. https://www.xuetangx.com/courses/NTHU/MOOC_00_001/2015_T1/about

Supervised 48 undergraduate students for their projects

Served as mentor for 25 undergraduate students

Thesis Supervision

A. Completed

1. Y.-D. Lin, "Control of surface plasmon polariton propagation" Master of Science. 2018.
2. Y.-S. Lin, "Single and dual-peak spectra with high spectral compression ratio in dispersion-increasing fiber" Master of Science. 2017.

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3. H.-Y. Liu, "Modes and the Fourier analysis in a nonlinear plasmonic two-wire transmission line" Master of Science. 2017.
4. C.-Y. Lin, "A metasurface designed for adaptive optical near-field routing" Master of Science. 2016.
5. C.-Y. Hsieh, "Numerical investigation on soliton temporal and spectral compression in a temperature-tuned SOI waveguide" Master of Science. 2016.
6. H.-W. Chen, "Investigation of nonlinear and mode characteristics in plasmonic two-wire transmission line" Master of Science. 2015.
7. Y.-H. Lin, "Generation and analysis of dual-peaked laser spectral compression using a dispersion-increasing fiber" Master of Science. 2015.
8. Y.-C. Lee, "Investigation of frequency up-conversion in plasmonic optical antennas" Master of Science. 2015.
9. W.-L. Jang, "Investigation of third harmonic generations using two-dimensional metallic hole arrays" Master of Science. 2015.
10. C.-F. Chen, "Creation of optical near-field orbital angular momentum in a gold metasurface" Master of Science. 2015.
11. M.-H. Lin, "Characterization of laser noise properties in nonlinear fibers" Master of Science. 2014.
12. C.-H. Lin, "Analysis of anomalous light bending using plasmonic air slit metasurface" Master of Science. 2014.
13. Y.-S. Chen, "Generation of ultra-high repetitive optical pulse train with line-by-line pulse shaper and its application in millimeter-wave communication" Master of Science. 2014.
14. W.-T. Chao, "Large-scale laser spectral compression through pulse propagation in a dispersion-increasing fiber" Master of Science. 2013.
15. W.-H. Dai, "Investigation on the generation of surface plasmon polaritons: numerical analysis via four-wave mixing and far-field optical measurement of two-wire transmission line" Master of Science. 2013.
16. C.-T. Ku, "Experimental observation of deterministically synthesized surface plasmon vortices" Master of Science. 2013.
17. W.-Y. Tsai, "Selective optical trapping/rotation using plasmonic Archimedes spiral" Master of Science. 2013.
18. I.-C. Hsieh, "Optical spectrum and polarization analysis by using optical antennas" Master of Science. 2012.
19. P.-N. Li, "Selective excitations of localized surface plasmons in designed nanostructures" Master of Science. 2012.
20. W.-L. Huang, "Generation and shaping of near-field optical vortices using plasmonic spiral and slot" Master of Science. 2012.
21. H.-C. Chiang, "Towards polarization spectral line-by-line pulse shaping" Master of Science. 2011.
22. H.-P. Chuang, "Generation and long-distance delivery of ultrahigh repetition-rate optical pulse trains and its applications in wireless millimeter-wave communications" Master of Science. 2011.
23. H.-H. Tsao, "Design and experimental verifications of plasmonic optical antennas" Master of Science. 2011.

B. Served as a Thesis Committee to 17 Ph.D. students and 40 M.S. students

C. 3 Students Currently Being Supervised

Public Services and Media Coverages

It is my passion to promote the knowledge of science to the general public. To date, I have been invited

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to give lectures to students and teachers in more than 20 high schools throughout Taiwan. Topics included *Introduction to Ultrafast Optics*, *Understanding Attoscience*, and *The Fascinating World of Optics*. In 2011, my research in 20 Gb/s wireless transmission was selected by the National Science Council in Taiwan for national press conference. This research result was broadcasted on national news by China Television Corporation and other print media. In 2007, my research in optical arbitrary waveform generation was interviewed and reported in *Laser Focus World* and the *IEEE Computer Society Newsletter*.