

Jonathan Hu, PhD

CONTACT INFORMATION	One Bear Place #97356 Waco, TX 76798	<i>Phone:</i> (254)710-1853 <i>Fax:</i> (254)710-3010 <i>E-mail:</i> jonathan.hu@baylor.edu <i>WWW:</i> http://web.ecs.baylor.edu/faculty/hu
EDUCATION / TRAINING	Princeton University , Princeton, NJ Research Associate, Department of Electrical Engineering	2009 – 2011
	University of Maryland Baltimore County , Baltimore, MD PhD, Department of Computer Science and Electrical Engineering	2008
PROFESSIONAL EXPERIENCE	Associate Professor Baylor University	2017 – present
	Visiting Scholar The Institute for Quantum Science and Engineering (IQSE), Texas A&M University	2017 – present
	Assistant Professor Baylor University	2011 – 2016
AWARDS / HONORS	<ul style="list-style-type: none">• Baylor Fellow (2018)• Baylor Young Investigator Development Award (2015)• Baylor OVPR Proposal Development Award (2015)• Baylor Rising Star (2014)• Baylor ECS Research Initiation Award (2014)	
RESEARCH INTERESTS	Photonic crystal fiber, chalcogenide glass fiber, mid-IR supercontinuum generation, nanophotonics, surface plasmon, metamaterial, 2-D material, transition metal dichalcogenide, light-emitting diode (LED), electromagnetic wave, solar cell, nonlinear optics, optical communication, simulation, and modeling	
TEACHING	Baylor University <ul style="list-style-type: none">• EGR 1302: Introduction to engineering analysis (3 cr)• ELC 2320: Electrical Circuit Theory (3 cr)• ELC 3335: Signals and Systems (3 cr)• ELC 4320: Introduction to Optics (3 cr)• EGR 4390: Engineering Design II (3 cr))• ELC 5396: Computational Photonics (3 cr)• ELC 5396: Integrated Photonics (3 cr) Baylor University (Provost's Faculty Forum) Presentation <ul style="list-style-type: none">• Connecting research and teaching for an entrepreneurial mindset Baylor University (KEEN Innovators Faculty Development Workshop) Attended workshops <ul style="list-style-type: none">• CATME SMARTER Teamwork• Project-based learning, objectives, and assessment• Changing Student Learning Through Project-Based Learning• Effective Thinking Through the Sciences, Engineering, and Mathematics• Evidence-Based Assessment, Leading the Discussion-Oriented Class	Fall 2019 Fall 2017 Spring 2017 Fall 2016 Fall 2015 Spring 2015

- Integrating the entrepreneurial mindset into courses Fall 2014

Princeton University (McGraw Center for Teaching and Learning)

Attended short courses and workshops

- Master Class on Lecturing (limited to 12 people per year) Spring 2011
- Engaging Students, Enhancing Participation Fall 2010
- The Scholar as Teacher Spring 2010

PROFESSIONAL
SERVICES

Proposal panelist/reviewer

- U.S. National Science Foundation (NSF) (Dec. 2011, May 2012, Jan. 2015, Apr. 2015)
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- U.S. National Telecommunications and Information Administration (NTIA)
- Ralph E. Powe Junior Faculty Enhancement Awards Program (2014–2017)
- NASA Postdoctoral Program (2014, 2015)
- National Defense Science and Engineering Graduate (NDSEG) Fellowship Program (2016–2017)

Conference

- Co-Chair for Mid-Infrared Photonics in IEEE Summer Topical Meetings (2015)
- Co-Chair for Photonic Track in Texas Symposium on wireless and Microwave Circuits and Systems (WMCS 2017)
- Local Arrangement Chair for Texas Symposium on wireless and Microwave Circuits and Systems (WMCS 2012, 2013, 2014, 2015, 2016)
- Program committee for
11th International Conference on Advanced Infocomm Technology 2019 (ICAIT 2019)
Novel Optical Materials and Applications (NOMA) Conference in OSA Advanced Photonics (2018,2019)
Texas Symposium on wireless and Microwave Circuits and Systems (WMCS 2015–2017)
IEEE International Conference on Electro/Information Technology (EIT 2012)
- Session Chair
Frontier in Optics/Laser Science Conference (FIO 2008)
IEEE Summer Topical Meeting Mid-Infrared Photonics (2015)
Texas Symposium on wireless and Microwave Circuits and Systems (WMCS 2013, 2015, 2016)
- Executive committee and Events Officer of Fiber Modeling and Fabrication (FF) Group for Optical Society of America (OSA) (2017-2018)

Book reviewer

- *Springer*
- *CRC Press*

Publication reviewer

Nature Communications, Optics Letters, Optics Express, Optical Materials Express, Journal of Optical Society of America B, Applied Optics, Photonics Technology Letters, Journal of Lightwave Technology, Journal of Quantum Electronics, journal of Selected Topic of Quantum Electronics, Photonics Journal, Optics Communications, Chinese Optics Letters, Nonophotonics, Fiber and Integrated Optics, Journal of Modern Optics, International Journal of Optics, Applied Sciences, Fibers, Waves in Random and Complex Media, and Crystals

University Committee

- Undergraduate Research and Scholarly Achievement (URSA) Steering Committee (2017–2020)

- ECE Graduate Committee (2012–present)

JOURNAL
PUBLICATIONS

1. J. O. White, J. T. Young, C. Wei, **J. Hu**, and C. R. Menyuk, “Seeding fiber amplifiers with piecewise parabolic phase modulation for high SBS thresholds and compact spectra,” *Opt. Express*, in press
2. Z. He, Z. Han, M. Kizer, R. J. Linhardt, X. Wang, A. M. Sinyukov, J. Wang, V. Deckert, A. V. Sokolov, J. Hu, and M. O. Scully, “Tip-enhanced Raman imaging of single-stranded DNA with single base resolution,” *J. Am. Chem. Soc.* **141**, 753–757 (2019). (**impact factor: 14.357**)
3. B. Birmingham, J. Yuan, M. Filez, D. Fu, **J. Hu**, J. Lou, M. O. Scully, B. M. Weckhuysen, and Z. Zhang, “Spatially-resolved photoluminescence of monolayer MoS₂ under controlled environment for ambient optoelectronic applications,” *ACS Appl. Nano Mater.* **1**, 6226–6235 (2018).
4. C. Wei, C. R. Menyuk, and **J. Hu**, “Geometry of chalcogenide negative curvature fibers for CO₂ laser transmission,” *Fibers* **6**, 74 (2018).
5. F. Lin, G. Yang, C. Niu, Y. Wang, Z. Zhu, H. Luo, C. Dai, Y. Hu, **J. Hu**, X. Zhou, Z. Liu, Z. M. Wang, and J. Bao, “Planar alignment of graphene sheets by a rotating magnetic field for full exploitation of graphene as a 2D material,” *Adv. Funct. Mater.* **28**, 1805255 (2018) (**impact factor: 13.325**)
6. C. Wei, C. R. Menyuk, and **J. Hu**, “Polarization-filtering and polarization-maintaining low-loss negative curvature fibers,” *Opt. Express* **26**, 9528–9540 (2018). (**Media coverage: *Advances in Engineering*, Dec. 24, 2018**)
7. C. Niu, F. Lin, Z. M. Wang, J. Bao, and **J. Hu**, “Graphene levitation and orientation control using a magnetic field,” *J. Appl. Phys.* **123**, 044302 (2018). (**Editor’s Pick**)
8. C. Wei, R. J. Weiblen, C. R. Menyuk, and **J. Hu**, “Negative curvature fibers,” *Adv. Opt. Photon.* **9**, 504–561 (2017). (**impact factor: 21.286**)
9. J. Bao, F. Lin, and **J. Hu**, “Graphene alignment technique holds promise for nanophotonics,” *Photonics Spectra*, **51**(2) 38–40 (2017).
10. F. Lin, Z. Zhu, X. Zhou, W. Qiu, C. Niu, **J. Hu**, Y. Wang, Z. Zhao, D. Litvinov, Z. Liu, Z. M. Wang, and J. Bao, “Orientation control of graphene flakes by magnetic field: broad device applications of macroscopically aligned graphene,” *Adv. Mater.* **29**, 1604453 (2017). (**impact factor: 21.950**)
11. C. Wei, **J. Hu** and C. R. Menyuk, “Comparison of loss in silica and chalcogenide negative curvature fibers as the wavelength varies,” *Front. Phys.* **4**, 30 (2016).
12. Z. Zhu, J. Yuan, H. Zhou, **J. Hu**, J. Zhang, C. Wei, F. Yu, S. Chen, Y. Lan, Y. Yang, Y. Wang, C. Niu, Z. Ren, J. Lou, Z. Wang, and J. Bao, “Excitonic resonant emission-absorption of surface plasmon in transition metal dichalcogenides for chip-level electronic-photonic integrated circuits,” *ACS Photonics*, **3**, 869–874 (2016). (**Media coverage: *Laser Focus World*, Aug. 10, 2016**)
13. C. Wei, C. R. Menyuk, and **J. Hu**, “Impact of cladding tubes in chalcogenide negative curvature fibers,” *IEEE Photon. J.* **8**, 2200509 (2016).
14. C. Wei, C. R. Menyuk, and **J. Hu**, “Bending-induced mode non-degeneracy and coupling in chalcogenide negative curvature fibers,” *Opt. Express* **24**, 12228–12239 (2016).
15. **J. Hu**, C. R. Menyuk, C. Wei, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, “Highly efficient cascaded amplification using Pr³⁺-doped mid-infrared chalcogenide fiber amplifiers,” *Opt. Lett.* **40**, 3687–3690 (2015).

16. C. Wei, R. A. Kuis, F. Chenard, C. R. Menyuk, and **J. Hu**, “Higher-order mode suppression in chalcogenide negative curvature fibers,” *Opt. Express* **23**, 15824–15832 (2015).
17. C. Niu, T. Huang, X. Zhang, H. Liu, W. Zhang, **J. Hu**, “Impact of a dielectric layer on the resonant conditions of nanograting structures,” *Plasmonics*, **10**, 419–427 (2015).
18. J. J. Butler, A. S. Bowcock, S. R. Sueoka, S. R. Montgomery, S. R. Flom, E. J. Friebele, B. M. Wright, J. R. Peele, R. G.S. Pong, J. S. Shirk, **J. Hu**, C. R. Menyuk, and T. F. Taunay, “Optical properties of solid-core photonic crystal fibers filled with nonlinear absorbers,” *Opt. Express* **21**, 20707–20712 (2013).
19. **J. Hu**, Y.-P. Huang, and P. Kumar “Self-stabilized quantum optical Fredkin gate,” *Opt. Lett.* **38**, 522–524 (2013).
20. **J. Hu**, C. R. Menyuk, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, “A mid-IR source with increased bandwidth using tapered As₂S₃ chalcogenide photonic crystal fibers,” *Opt. Commun.* **293**, 116-118(2013).
21. **J. Hu** and C. Gmachl, “QCL-based sensors target health and environmental applications,” *Laser Focus World*, **48** 38-43, (2012).
22. **J. Hu** and C. Gmachl, “Quantum cascade lasers enhance mid-IR Spectroscopy,” *Photonics Spectra*, **45** 48-50, (2011)
23. W. Zhang, F. Ding, W.-D. Li, Y. Wang, **J. Hu** and S. Y Chou, “Giant and uniform fluorescence enhancement over large areas using plasmonic nanodots in 3D resonant cavity nanoantenna by nanoimprinting,” *Nanotechnology*, **23** 225301, (2012).
24. W. Li, **J. Hu**, and S. Y. Chou, “Extraordinary light transmission through opaque thin metal film with subwavelength holes blocked by metal disks,” *Opt. Express* **19**, 21098-21108 (2011).
25. W. Li, F. Ding, **J. Hu**, and S. Y. Chou, “Three-dimensional cavity nanoantenna coupled plasmonic nanodots for ultrahigh and uniform surface-enhanced Raman scattering over large area,” *Opt. Express* **19**, 3925-3936 (2011).
(**Media coverage:** *ScienceDaily Mar. 22, 2011*)
(**Media coverage:** *Photonics.com Light Matters #104 Mar. 23, 2011*)
26. R. J. Weiblen, A. Docherty, **J. Hu**, and C. R. Menyuk, “Calculation of the expected bandwidth for a mid-infrared supercontinuum source based on As₂S₃ chalcogenide photonic crystal fibers,” *Opt. Express* **18**, 26666–26674 (2010).
27. **J. Hu**, C. R. Menyuk, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, “Computational study of a 3–5 μm source that is created by using supercontinuum generation in As₂S₃ chalcogenide fibers with a pump at 2 μm ,” *Opt. Lett.* **35**, 2907–2909 (2010).
28. **J. Hu**, C. R. Menyuk, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, “Maximizing the bandwidth of supercontinuum generation in As₂Se₃ chalcogenide fibers,” *Opt. Express* **18**, 6722–6739 (2010).
(**Figure appeared in the issue cover page**)
29. **J. Hu** and C. R. Menyuk, “Understanding leaky modes: Slab waveguide revisited,” *Adv. Opt. Photon.* **1**, 58–106 (2009).
(**Top three downloads in three consecutive months after publication in OSA**)
30. **J. Hu** and C. R. Menyuk, “Optimization of the operational bandwidth in air-core photonic bandgap fibers for IR transmission,” *Opt. Commun.* **282**, 18–21 (2009).
31. **J. Hu** and C. R. Menyuk, “Leakage loss and bandgap analysis in air-core photonic bandgap fiber for nonsilica glasses,” *Opt. Express* **15**, 339–349 (2007).
32. P. Griggio, **J. Hu**, J. Wen, G. E. Tudury, J. Zweck, B. S. Marks, L. Yan, G. M. Carter, and C. R. Menyuk, “Characterizing pattern dependence in transmitters and receivers for modeling optical communication systems,” *Opt. Commun.* **272**, 107–110 (2007).

33. **J. Hu**, B. S. Marks, C. R. Menyuk, J. Kim, T. F. Carruthers, B. M. Wright, T. F. Taunay, and E. J. Friebele, "Pulse compression using a tapered microstructure optical fiber," *Opt. Express* **14**, 4026–4036 (2006).
34. J. Kim, U-C. Paek, B. H. Lee, **J. Hu**, B. Marks, and C. R. Menyuk, "Impact of interstitial air holes on a wide bandwidth rejection filter made from a photonic crystal fiber," *Opt. Lett.* **31**, 1196–1198 (2006).
35. G. E. Tudury, **J. Hu**, B. S. Marks, A. S. Lenihan, C. R. Menyuk, and G. M. Carter, "Gain characteristics of a 210-km hybrid Raman/EDFA amplified fiber loop," *Opt. Commun.* **261**, 152–157, (2006).
36. **J. Hu**, B. S. Marks, Q. Zhang, and C. R. Menyuk, "Modeling backward-pumped Raman amplifiers," *J. Opt. Soc. Am. B* **22**, 2083–2090, (2005).
37. **J. Hu**, B. S. Marks, and C. R. Menyuk, "Flat-gain fiber Raman amplifiers using equally spaced pumps," *J. Lightwave Technol.* **22**, 1519–1522, (2004).

PATENTS

1. **J. Hu** and C. Menyuk "A mid-infrared cascading fiber amplifier and method for amplification," patent US 10,164,399
2. **J. Hu**, L. Dong, and Y. Li "Modeling wireless signal strength within a defined environment," patent pending
3. L. Dong, **J. Hu**, and Y. Li "Virtual wireless network," patent pending

REFEREED CONFERENCE PROCEEDINGS

1. C. Wei, J. Young, C. Menyuk, and **J. Hu**, "Polarization-filtering negative curvature fibers," in *Proc. Frontiers in Optics/Laser Science (FiO/LS)*, Washington, DC, paper JTU3A.1, (2018).
2. **J. Hu**, C. Wei, R. J. Weiblen, C. R. Menyuk, R. R. Gattass, L. B. Shaw, J. S. Sanghera, and F. Chenard, "Recent Progress on Chalcogenide Negative Curvature Fibers," in *Proc. International Conference on Advanced Infocomm Technology (ICAIT)*, Stockholm, Sweden, A-072 (2018) (**invited**).
3. F. Han, J. Shi, C. Wei, **J. Hu**, X. Feng, "Efficient Visible Femtosecond Supercontinuum from an Air-Suspended-Core Microstructured Optical Fiber," in *Proc. CLEO Pacific Rim*, Hong Kong, China, paper #2969913, (2018).
4. C. Wei, J. Young, C. Menyuk, and **J. Hu**, "Temperature Sensor Using Fluid-Filled Negative Curvature Fibers," in *Proc. Conference on Lasers and Electro-Optics (CLEO)*, San Jose, CA, paper JW2A.179, (2018).
5. C. R. Menyuk, C. Wei, R. J. Weiblen, **J. Hu**, R. R. Gattass, L. B. Shaw, J. S. Sanghera, "Chalcogenide negative curvature fibers", in *Proc. SPIE 10435, Technologies for Optical Countermeasures XIV*, Warsaw, Poland, (2017). (**invited**).
6. C. Wei, C. R. Menyuk, and **J. Hu**, "Bent Negative Curvature Fibers Using Circular or Elliptical Cladding Tubes," in *Proc. Frontiers in Optics/Laser Science (FiO/LS)*, Washington, DC, paper JW4A.9, (2017).
7. C. Niu, F. Lin, Z. Zhu, X. Zhou, Z. Liu, Z. Wang, J. Bao, **J. Hu**, "Graphene Flakes Controlled by Magnetic Fields for a Display Application," in *Proc. Conference on Lasers and Electro-Optics (CLEO)*, San Jose, CA, paper SW4K.5, (2017).
8. C. Wei, C. R. Menyuk, and **J. Hu**, "Higher-order Mode Suppression in Chalcogenide Negative Curvature Fibers with Gaps between Cladding Tubes," in *Proc. OSA Advanced Photonics Congress*, Vancouver, British Columbia, Canada, paper JTU4A.32, (2016).
9. **J. Hu**, C. R. Menyuk, C. Wei, B. Shaw, J. S. Sanghera, and I. Aggarwal, "Pr³⁺-doped Mid-infrared Chalcogenide Fiber Amplifiers using Cascaded Amplification," in *Proc. Conference on Lasers and Electro-Optics (CLEO)*, San Jose, CA, paper STh1O.7, (2016).

10. C. Wei, R. A. Kuis, F. Chenard, C. R. Menyuk, and **J. Hu**, “Mode Coupling in Chalcogenide Negative Curvature Fibers in Proc. Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, paper JTu5A.93, (2016).
11. C. Niu, T. Huang, X. Zhang, H. Liu, W. Zhang, and **J. Hu**, “Cavity Effect of a Dielectric Layer on Nanograting Structures in Proc. Frontiers in Optics/Laser Science (FiO/LS), San Jose, CA, (2015).
12. C. R. Menyuk, R. Weiblen, **J. Hu**, I. D. Aggarwal, L. Shaw and J. S. Sanghera, “Maximizing the Bandwidth While Minimizing the Spectral Fluctuations Using Supercontinuum Generation in Photonic Crystal Chalcogenide Fibers,” in Proc. IEEE Photonics Society Summer Topicals Meeting Series, Mid Infrared Photonics, Nassau, Bahamas, paper ME3.2 (2015). (**invited**).
13. C. Wei, O. Alvarez, F. Chenard, and **J. Hu**, “Empirical Glass Thickness for Chalcogenide Negative Curvature Fibers,” in Proc. 2015 IEEE Photonics Society Summer Topicals Meeting Series, Mid Infrared Photonics, Nassau, Bahamas, paper TuE3.3 (2015).
14. C. Wei, **J. Hu**, and C. Menyuk, ”Bending-induced mode coupling in chalcogenide negative curvature fibers,” in Proc. Advanced Photonics, Boston, MA, paper NT2C.5. (2015).
15. C. Wei, R. Kuis, F. Chenard, and **J. Hu**, “Chalcogenide negative curvature hollow-core photonic crystal fibers with low loss and low power ratio in the glass,” in Proc. Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, paper SM1N.5, (2014).
16. C. Niu, T. Huang, and **J. Hu**, “Plasmonic Nanograting Structures for Sensor Applications,” 2014 Texas Symposium on Wireless and Microwave Circuits and Systems (WMCS), Paper 22 (2014).
17. C. R. Menyuk, R. J. Weiblen, **J. Hu**, B. Shaw, J. S. Sanghera, and I. D. Aggarwal, “Maximizing the bandwidth while minimizing the spectral fluctuations using supercontinuum generation in photonic crystal chalcogenide fibers,” SPIE Security + Defence, Dresden, Germany, paper 8898-12 (2013). (**invited**).
18. T. Huang, X. Liu, and **J. Hu**, “Plasmonic grating nanostructure to detect refractive index,” in Proc. Frontiers in Optics/Laser Science (FiO/LS), Orlando, FL, paper FTh2D, (2013).
19. **J. Hu**, Y.-P. Huang, and P. Kumar, “Self-stabilized Quantum Optical Fredkin Gate Enabled by the Raman Effect,” in Proc. Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, paper JTh2A.84, (2013).
20. **J. Hu**, W.-D. Li, and S. Chou, “Blocker size effects on extraordinary light transmission through subwavelength holes in opaque thin metal film,” in Proc. Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, paper JTh2A.91, (2012).
21. C. R. Menyuk, **J. Hu**, R. J. Weiblen, and A. Docherty, “Supercontinuum Generation at Mid-IR Wavelengths in Chalcogenide Photonic Crystal Fibers,” Frontiers in Optics, San Jose, CA paper FTuW1, (2011). (**invited**).
22. W.-D. Li, F. Ding, Y. Liang, C. Wang, H. Chen, **J. Hu**, W. Zhang and S. Chou, “Design and fabrication of high enhancement yet wafer-scale uniform SERS/plasmonic structures based on nanoimprint lithography and self-assembly,” International Conference on Electron, Ion, Photon Beam Technology and Nanofabrication (EIPBN), Las Vegas, NV, paper 5C.2, (2011).
23. W.-D. Li, F. Ding, **J. Hu**, and S. Chou, “Nanoantenna Coupled Plasmonic Nanodots in a Three-dimensional cavity for uniform and ultra-high surface-enhanced Raman scattering (SERS) over large area,” International Topical Meeting on Nanophotonics and Metamaterials (Nanometa), Tirol, Austria, paper WED4f.40, (2011).
24. W.-D. Li, **J. Hu**, and S. Y. Chou, “Nanoantenna enhanced transmission through blocked metallic subwavelength holes,” International Topical Meeting on Nanophotonics and Metamaterials (Nanometa), Tirol, Austria, paper WED4f.41, (2011).

25. **J. Hu**, W.-D. Li, F. Ding, and S. Y. Chou, "Effects of nanodots on surface plasmons and electric field enhancement in nano-pillar antenna array," in Proc. Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, paper QMH1, (2010).
26. R. J. Weiblen, **J. Hu**, C. R. Menyuk, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, "Maximizing the Supercontinuum Bandwidth in As_2Se_3 Chalcogenide Photonic Crystal Fibers," in Proc. Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, paper CTuX7, (2010).
27. **J. Hu**, C. R. Menyuk, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, "Generating Mid-IR Source Using As_2Se_3 -Based Chalcogenide Photonic Crystal Fibers," in Proc. Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, paper CThN6, (2009).
28. **J. Hu**, C. R. Menyuk, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, "Supercontinuum generation in an As_2Se_3 -based chalcogenide PCF using four-wave mixing and soliton self-frequency shift," in Proc. Conference on Optical Fiber Communications (OFC), San Diego, CA, paper OWU6, (2009).
29. **J. Hu**, C. R. Menyuk, L. B. Shaw, J. S. Sanghera, and I. D. Aggarwal, "Raman response function and supercontinuum generation in chalcogenide fiber," in Proc. Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, paper CMDD2, (2008).
30. W. Torruellas, M. Dennis, J. Warren, **J. Hu**, and C. Menyuk, "Parametric generation in optical fibers in the 900-950nm spectral band," Proceedings of SPIE, Vol. 6952, 695206 (2008).
31. **J. Hu** and C. R. Menyuk, "Optimize operational bandwidth through core design in air-core photonic bandgap fibers for IR transmission," in Proc. Conference on Optical Fiber Communications (OFC), San Diego, CA, paper JWA9, (2008).
32. V. Veerasubramanian, **J. Hu**, J. Zweck, and C. R. Menyuk, "Propagation analysis of an 80-Gb/s wavelength-converted signal utilizing XPM," in Proc. Conference on Optical Fiber Communications (OFC), San Diego, CA, paper JWA69, (2008).
33. J. J. Butler, S. R. Sueoka, S. R. Montgomery, S. R. Flom, R. G.S. Pong, J. S. Shirk, T. E. Taunay, B. M. Wright, **J. Hu**, and C. R. Menyuk, "Optical limiting in solid-core photonic crystal fibers," in Proc. Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, paper CMS6, (2007).
34. **J. Hu** and C. R. Menyuk, "Use of fingers in the core to reduce leakage loss in air-core photonic bandgap fibers," in Proc. Conference on Optical Fiber Communications (OFC), Anaheim, CA, paper OML6, (2007).
35. **J. Hu** and C. R. Menyuk, "Loss and bandgap analysis in air-core photonic bandgap fiber for nonsilica glasses," in Proc. Conference on Quantum Electronics and Laser Science Conference (QELS), Long Beach, CA, paper JWB55, (2006).
36. **J. Hu** and C. R. Menyuk, "Loss and bandgap analysis in air-core photonic bandgap fiber for IR transmission," in Proc. Conference on Optical Fiber Communications (OFC), Anaheim, CA, paper OFC5, (2006).
37. **J. Hu**, B. S. Marks, J. Kim, and C. R. Menyuk, "Mode compression and loss in tapered microstructure optical fiber," in Proc. Conference on Quantum Electronics and Laser Science Conference (QELS), Baltimore, MD, paper JWB56, (2005).
38. J. Wen, P. Griggio, **J. Hu**, L. Yan, and G. M. Carter, "Quantitative study of the performance statistics of WDM systems under different channel spacings," in Proc. Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, paper CWG1, (2005).
39. **J. Hu**, Y. Sun, B. S. Marks, L. Yan, G. M. Carter, and C. R. Menyuk, "Optimizing the input scrambling rate in a recirculating loop with EDFAs," in Proc. Conference on Lasers and Electro-Optics (CLEO), San Francisco, CA, paper CFN7, (2004).

40. **J. Hu**, B. S. Marks, and C. R. Menyuk, “Design of flat-gain fiber Raman amplifiers using equally spaced pumps with fixed and optimized central wavelength,” in Proc. Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, paper CThD5, (2003).
41. G. E. Tudury, **J. Hu**, B. S. Marks, G. M. Carter, and C. R. Menyuk, “Spectral gain characteristics of an amplified hybrid Raman/EDFA 210-km link,” in Proc. Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, paper CThM52, (2003).
42. **J. Hu**, B. S. Marks, Q. Zhang, and C. R. Menyuk, “A shooting algorithm to model backward-pumped Raman amplifiers,” Lasers and Electro-Optics Society (LEOS) Annual Meeting, Tucson, AZ, paper TuI3, (2003).

SEMINAR
PRESENTATION

1. Baylor Provosts Faculty Forum Oct. 9, 2018
2. Baylor-IQSE seminar Jan. 31, 2018
3. The Institute for Quantum Science and Engineering, Texas A&M U., Mar. 8, 2017
4. Nanjing University, Dec. 21, 2016
5. Zhejiang University of Technology, Dec. 19, 2016
6. Physics Colloquium Series, Baylor University, Jan. 30, 2013
7. Northwestern University, Sep. 4, 2012
8. Institute of Modern Optics, Nankai University, China, Dec. 29, 2011
9. Tianjin University, China, Dec. 28, 2011
10. eBEARS, Baylor University, Nov. 9, 2011
11. Dept. of Optical Engineering seminar, Zhejiang University, China, Dec. 29, 2010
12. Dept. of Electronic Engineering, Shanghai Jiao Tong University, China, Dec. 23, 2010
13. Bell Laboratories, Aug. 12, 2010
14. EMD seminar, Princeton University, Mar. 6, 2009
15. EE seminar, Northwestern University, Oct. 17, 2008
16. Radlab seminar, University of Michigan, Oct. 3, 2008
17. CSEE graduate seminar, UMBC, Oct. 10, 2006

OTHER
PRESENTATION

1. F. Lin, G. Yang, C. Niu, Y. Wang, Z. Zhu, H. Luo, C. Dai, Y. Hu, **J. Hu**, X. Zhou, Z. Liu, Z. Wang, J. Bao, “Planar alignment of graphene sheets by a rotating magnetic field for full exploitation of graphene as a two dimension material,” Bulletin of the American Physical Society (2019).
2. Z. He, Z. Han, M. Kizer, R. J. Linhardt, X. Wang, A. M. Sinyukov, J. Wang, A. V. Sokolov, **J. Hu**, M. O. Scully, “TERS imaging of single-stranded DNA,” TAMU-Princeton-Baylor Summer School on Quantum Science and Engineering, Casper, WY, Jul. 22–28, 2018
3. B. Birmingham, J. Yuan, M. I. P. Filez, D. Fu, **J. Hu**, J. Lou, M. O. Scully, B. M. Weckhuysen, Z. Zhang, “Photoreactions of Monolayer MoS₂,” TAMU-Princeton-Baylor Summer School on Quantum Science and Engineering, Casper, WY, Jul. 22–28, 2018
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SOFTWARE PACKAGE • UndStdLeakyMode: Understanding leaky Modes
 A MATLAB program to understand leaky modes
 Sole developer
 URL: <http://www.jonathanhu.org/Software/UndStdLeakyMode>

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A library of C++ codes to simulate optical fiber communications systems and lasers
Development team member, in charge of EDFA and Raman amplifier
URL: <http://www.umbc.edu/photronics/members/jzweck/PhoSSiL>

GRADUATE
COMMITTEE

Chair

- Chengli Wei, “Chalcogenide-glass negative curvature fibers” (Ph.D. 2018)
- Chao Niu, “Diamagnetic and plasmonic properties of graphene” (Ph.D. 2018)

Member

- George Toby, “Evaluating the Challenges and Approaches to Detecting Ice Accretion in and around Turbofan Jet Engines” (M.S. 2018)
- Bin Xu, “Classification of Human Body Activities Using Low Profile Wearable Antennas” (Ph.D. 2018)
- Yaobiao Xia, “Imaging surface reactions at molecular level on TiO₂ surfaces” (Ph.D. 2017)
- Willis Troy, “Classification of human movements using micro doppler features in foliage environments” (Ph.D. 2017)
- Jeremy Kunz “Quantum biophotonics: Applications in plant stress and bacteria” (Ph.D. 2017)
- Tao Zhu “LEED and STM studies of rutile (1x1) and (1x2) TiO₂(110)” (Ph.D 2016)
- Blake Birmingham “Probing interactions among molecules, substrate, and trip using tip-enhanced Raman spectroscopy” (M.S. 2017)