

Chengli Wei, Ph.D.

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EDUCATION

Baylor University, Waco, TX, US	08/2012 – 05/2018
• Electrical and Computer Engineering (Ph.D.)	
Nankai University, Tianjin, China	09/2009 – 07/2012
• Optical Engineering (M.E.)	
Tianjin University, Tianjin, China	09/2005 – 07/2009
• Optoelectronic Science and Technology (B.E.)	

PROFESSIONAL EXPERIENCE

Assistant Professor	
• University of Mary Hardin-Baylor	08/2018 – Present
Research Assistant & Teacher of Record	
• Baylor University	08/2012 – 05/2018

RESEARCH INTERESTS

Specialty fibers, negative curvature fibers, chalcogenide glass fibers, photonic crystal fibers, mid-IR supercontinuum generation, nanophotonics, surface plasmon, 2-D materials, simulation, and modeling

TEACHING EXPERIENCE

University of Mary Hardin-Baylor (08/2018 – Present)

- ENGR 1310: Introduction to Engineering
- ENGR 1320: Introduction to Engineering Fundamentals
- ENGR 2301: The Effects of Climate Change
- ENGR 2345: Engineering Thermodynamics
- ENGR 2130 Electric Circuits Laboratory
- ENGR 2330 Electrical Circuit Theory
- ENGR 3130 Electronics Laboratory
- ENGR 3330 Electronics
- ENGR 3137: Digital Logic Design Laboratory
- ENGR 3337: Digital Logic Design
- ENGR 3360: Signals and Systems
- ENGR 3365: Introduction to Optics
- ENGR 4320: System Dynamics and Control
- ENGR 4330: Engineering Electromagnetics
- ENGR 4380: Capstone Design I
- ENGR 4381: Capstone Design II

Baylor University (01/2017 – 05/2018)

- ELC 2320: Electrical Circuit Theory
- ELC 2130: Electrical Circuit Laboratory
- EGR 1302: Introduction to Engineering Analysis

STUDENT MENTOR

University of Mary Hardin-Baylor

- Capstone design project: 3-D linear stage with both mechanical and electrical control
- Capstone design project: Remote monitoring system based on Michelson interferometer
- Capstone design project: Image transmission based on free space optical communication system

Baylor University

- Mentored Allwell Worgu on research project: Free space optical communication system
- Mentored Joshua Young on research project: Coupled mode theory in leaky waveguides

PROFESSIONAL SOCIETY

- Membership in Optical Society of America (OSA)
- Membership in IEEE
- Membership in IEEE Photonics Society
- Membership in ASEE

REVIEWER

- OSA: *Optics Letters, Optics Express, Journal of Optical Society of America B, Applied Optics*
- IEEE: *IEEE Photonics Journal, IEEE Access, Journal of Selected Topics in Quantum Electronics, Journal of Lightwave Technology (IEEE/OSA)*
- MDPI: *Applied Sciences, Photonics, Micromachines*
- Walter De Gruyter: *Nanophotonics*
- Elsevier: *Optics Communications*
- Springer: *Indian Journal of Physics*

AWARDS AND HONORS

- Chinese government award for outstanding self-financed student study abroad (2018). [[Representative speaker of awardees](#)]
- Second place in student competition during Optical Society of America (OSA) annual meeting (2017)
- Who's Who among Students in American Universities and Colleges (2017)
- Travel award in IEEE Photonics Society Summer Topicals Meeting Series (2015)
- Baylor travel award to professional meetings (2014, 2015, 2016, 2017)

FUNDED GRANTS

- UMHB Summer Research Award, 2020 (PI; Amount: \$10,000)
- Faculty Development Grants, 2019 – 2020 (PI; Amount: \$9,000)
- UMHB Summer Research Award, 2019 (PI; Amount: \$10,000)

ARCHIVAL JOURNAL PUBLICATIONS

Google scholar: <https://scholar.google.com/citations?user=xaRHmAYAAAAJ&hl=en&oi=ao>

1. C. Wei, J. T. Young, C. R. Menyuk, and J. Hu, "Temperature sensor based on liquid-filled negative curvature optical fibers," *OSA Continuum* **2**, 2123–2130 (2019).
2. 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* **27**, 2962–2974 (2019).
3. C. Wei, C. R. Menyuk, and J. Hu, "Geometry of chalcogenide negative curvature fibers for CO₂ laser transmission," *Fibers* **6**, 74 (2018).
4. 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](#)]
5. **C. Wei**, J. Weiblen, C. R. Menyuk, and J. Hu, “Negative curvature fibers,” *Adv. Opt. Photonics* **9**, 504–561 (2017). (**Impact factor: 21.3**) [[Most cited AOP paper 2017](#)]
 6. **C. Wei**, C. R. Menyuk, and J. Hu, “Comparison of loss in silica and chalcogenide negative curvature fibers as the wavelength varies,” *Front. Phys.* **4**, 30 (2016).
 7. **C. Wei**, C. R. Menyuk, and J. Hu, “Impact of cladding tubes in chalcogenide negative curvature fibers,” *IEEE Photon. J.* **8**, 2200509 (2016).
 8. **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).
 9. 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](#)]
 10. 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).
 11. **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).
 12. S. Li, Z. Wang, Y. Liu, T. Han, Z. Wu, **C. Wei**, H. Wei, J. Li, and W. Tong, “Bending sensor based on intermodal interference properties of two-dimensional waveguide array fiber,” *Opt. Lett.* **37**, 1610–1612 (2012).
 13. X. Zheng, Y. Liu, Z. Wang, T. Han, **C. Wei**, and J. Chen, “Transmission and temperature sensing characteristics of a selectively liquid-filled photonic-bandgap-fiber-based Sagnac interferometer,” *Appl. Phys. Lett.* **100**, 141104 (2012).

CONFERENCE PUBLICATIONS

1. **C. Wei**, C. Menyuk, and J. Hu, “Comparison of Leakage Loss in Silica, Chalcogenide, Tellurite, and ZBLAN Negative Curvature Fibers,” in *Advanced Photonics 2021*, Online, paper NoTu3C.6.
2. J. T. Young, J. O. White, **C. Wei**, J. Hu, Curtis R Menyuk, “Piecewise parabolic phase modulation scheme for suppression of stimulated Brillouin scattering,” in *2020 IEEE Photonics Conference (IPC)*, pp 1–2.
3. **C. Wei**, C. Menyuk, and J. Hu, “Bend loss in negative curvature fibers with truncated cladding tubes,” in *Advanced Photonics 2020*, OSA Technical Digest (online) (Optical Society of America, 2020), paper NoM4G.7.
4. **C. Wei**, F. Chenard, C. R. Menyuk, and J. Hu, “Negative curvature fibers for gas-filled fiber lasers,” in *Sixth International Workshop on Specialty Optical Fibers and Their Applications (WSOF 2019)*, Vol. 11206 112060Q-1.
5. **C. Wei**, J. T. Young, C. R. Menyuk, and J. Hu, “Impact of the Glass Thickness in Fluid-Filled Negative Curvature Fibers for Temperature Sensing,” in *Frontiers in Optics + Laser Science APS/DLS*, OSA Technical Digest (Optical Society of America, 2019), paper JW4A.5.
6. **C. Wei**, C. Menyuk, and J. Hu, “Optimization of chalcogenide negative curvature fibers for CO₂ laser transmission,” in *Proc. Conference on Lasers and Electro-Optics (CLEO 2019)*, San Jose, CA, paper JW2A.122.
7. **C. Wei**, C. R. Menyuk, and J. Hu, “Polarization-Filtering Negative Curvature Fibers,” in *Frontiers in Optics / Laser Science*, OSA Technical Digest (Optical Society of America, 2018), paper JTU3A.1.
8. 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,” *2018 10th International Conference on Advanced Infocomm Technology (ICAIT)*, Stockholm, Sweden, 2018, pp. 209–213.
9. F. Han, J. Shi, **C. Wei**, J. Hu, and X. Feng, “Efficient Visible Femtosecond Supercontinuum from an Air-Suspended-Core Microstructured Optical Fiber,” in *CLEO Pacific Rim Conference 2018*, OSA Technical Digest (Optical Society of America, 2018), paper Tu3B.3.

10. C. Wei, J. Young, C. R. Menyuk, and J. Hu, "Temperature sensor using fluid-filled negative curvature fibers," in Proc. Conference on Lasers and Electro-Optics (CLEO 2018), San Jose, CA, paper JW2A.179.
11. C. R. Menyuk, C. Wei, J. Weiblen, J. Hu, R. Gattass, L. B. Shaw, and J. S Sanghera, "Chalcogenide negative curvature fibers," in Proc. SPIE 10435, Technologies for Optical Countermeasures XIV, 104350I (2017).
12. C. Wei, C. Menyuk, and J. Hu, "Bent negative curvature fibers using circular or elliptical cladding tubes," in Frontiers in Optics (Optical Society of America, 2017), paper JW4A.9.
13. C. Wei, C. Menyuk, and J. Hu, "Higher-order mode suppression in chalcogenide negative curvature fibers with gaps between cladding tubes," in Advanced Photonics 2016 (IPR, NOMA, Sensors, Networks, SPPCom, SOF), OSA Technical Digest (online) (Optical Society of America, 2016), paper JTu4A.32.
14. 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 2016), San Jose, CA, paper STh1O.7.
15. 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 2016), San Jose, CA, paper JTu5A.93.
16. 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).
17. 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).
18. 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 2014), San Jose, CA, paper SM1N.5.
19. C. Wei, Z. Wang, Y. Liu, B. Liu, H. Zhang, and Y. Liu, "Coupling characteristics of a fluid-filled dual-core photonic crystal fiber based on temperature tuning", in SPIE/OSA/IEEE Asia Communications and Photonics, pp. 83071R (2011).

OTHER PRESENTATIONS

1. C. Wei, C. R. Menyuk, and J. Hu, "Design of chalcogenide negative curvature fibers," OSA Optical Material Studies Technical Group Poster Session in CLEO 2016, San Jose, CA, Jun. 6, 2016.
2. C. Wei, C. Niu, and J. Hu, "Resonant emission and absorption of surface plasmon on silver nanowire and WS₂," Baylor Material Science Workshop, May 25, 2016.
3. C. Wei, F. Chenard, C. R. Menyuk, and J. Hu, "Design of chalcogenide negative curvature fibers," 2015 IEEE Photonics Society Summer Topicals Meeting Series. Mid Infrared Photonics, Nassau, Bahamas, MP7, Jul. 13–15 (2015).

SERVICE

- UMHB Engineering Faculty Search Committee, 2018–Present
- Natural Sciences representative for UMHB library committee, 2019–Present

ACTIVITIES

- UMHB Watson Scholars' Day 2019 (Advisor for the second-place winner)
- UMHB Sader Day 2019, 2020
- UMHB Crusader Preview Weekend 2018
- Comsol Day Houston 2018
- Baylor Scholars Day Poster Session 2015–2018
- Baylor Engineering Launch Party 2016, 2018

- Baylor Premiere 2014–2018
- Baylor ECS Back-to-School Beach Bash 2014, 2015, 2018
- Waco Wonderland 2015
- Robotics Competition 2012, 2013

TECHNICAL SKILLS

Matlab, Mathcad, LabVIEW, Comsol Multiphysics, Lumerical FDTD solution, AutoCAD, SolidWorks, Finite-difference time-domain method, and Finite-element method