

Md Selim HABIB, Ph.D.

Assistant Professor of Electrical Engineering
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Summary

- 7+ years of experience as Assistant Professor in Electrical Engineering
- 2.5+ years of Postdoctoral Research Associate experience
- **Grants awarded over \$750K**
- **NASA Research Initiation Award recipient**
- Published 100+ Journal articles and Conferences with over 3200 citations
- h-index: 34; i-index: 60
- Editor's choice for three Journal articles
- SPIE Photonics West outstanding paper award: 2019
- Associate Editor: *IEEE Journal of Lightwave Technology*
- Associate Editor: *IEEE Journal of Selected Topics in Quantum Electronics*
- Regular reviewer: NSF/ Nature Photonics/ Nature Communications/ OPTICA
- Extensive expertise in ECE curriculum design and ABET Accreditation
- Member: Engineering Physics Program & Graduate Faculty in STEM Education
- Listed among the top 2% of scientists in a global list compiled by Stanford University
- Selected for the Photonics 100 the industrys most innovative people by Electro Optics

Research Interest

- Computational Electromagnetics
- Photonics
- Emerging Waveguide Design, Fabrication, and Characterization
- Ultrafast Nonlinear Optics

Academic Appointments

2023 – Present **Assistant Professor (Tenure-track)**

Department of Electrical Engineering and Computer Science
Florida Institute of Technology, USA

Key responsibilities:

- Pursuing research in computational electromagnetics, photonics, and nonlinear optics
- Presenting research findings at conferences, scientific meetings, and seminars
- Establishing robust partnerships with industries to advance impactful research
- Securing external funding to support and maintain research program
- Serving in various academic or administrative committees
- Publish scientific results in major journals and conferences

2019 – 2023 **Assistant Professor**

Department of Electrical and Computer Engineering
Florida Polytechnic University (FPU), USA

Key responsibilities:

- Teaching undergrad and graduate level Electrical & Computer Engineering courses
- Supervising graduate level Electrical & Computer Engineering courses
- Pursuing research in computational electromagnetics, photonics, and nonlinear optics
- Presenting research findings at conferences, scientific meetings, and seminars
- Establishing robust partnerships with industries to advance impactful research
- Securing external funding to support and maintain research program
- Serving in various academic or administrative committees
- Publish scientific results in major journals and conferences

Key accomplishments:

- Taught over ten different courses
- Developed five different undergraduate and graduate courses
- Secured over \$300K funding
- Published over 20+ journal and conference articles with undergraduate and graduate students

2017 – 2019 Postdoctoral Research Associate

CREOL, The College of Optics and Photonics

University of Central Florida, USA

Key responsibilities:

- Design, fabrication, and characterization of novel waveguide
- Design and characterization of highly sensitive fiber sensors
- Development of bright, compact, tunable, and spatially coherent UV light source
- Mid-IR gas-based Raman lasers
- Supervising undergrad and graduate students
- Contribute to proposal writing and attract external funding
- Publish scientific results in major journals and conferences

Key accomplishments: I wrote and submitted proposals with PI Dr. Rodrigo Amezcua aimed at advancing the development of emerging optical fibers, resulting in grant award of more than \$1M.

- **Anti-resonant hollow core fibers for extreme light transport** – Army Research Office
- **Open Trench Large Mode Area Fibers for Single Mode High Energy Laser** – Air Force Research Laboratory
- **Anti-resonant hollow core high power delivery fiber for stimulated Brillouin scattering mitigation** – Army Research Office
- Published 10+ journal articles and conference proceedings

2017 – 2017 Postdoctoral Researcher

Department of Electrical and Photonics Engineering

Technical University of Denmark, Denmark

- Design, fabrication, and characterization of novel waveguide
- Development of bright, compact, tunable, and spatially coherent UV light source
- Publish scientific results in major journals and conferences

2013 – 2014 Assistant Professor

Department of Electrical and Electronic Engineering

Rajshahi University of Engineering & Technology, Bangladesh

- Teaching undergrad and graduate level electrical and electronic engineering courses
- Developing new research projects and proposals
- Documenting research in scholarly journals
- Advising undergrad and graduate students, participating in academic works
- Publish scientific results in major journals and conferences

2010 – 2013 **Lecturer**

Department of Electrical and Electronic Engineering

Rajshahi University of Engineering & Technology, Bangladesh

- Teaching undergrad level electrical and electronic engineering courses
- Developing new research projects and proposals
- Advising undergrad students, participating in academic works

Education

2017 **PhD in Electrical and Photonics Engineering**

Department of Electrical and Photonics Engineering

Technical University of Denmark, Kgs. Lyngby, DK-2800, Denmark

(Collaboration with CREOL, University of Central Florida, USA)

Advisor: Prof. Morten Bache and Prof. Ole Bang

Major areas of concentration: Computational electromagnetics, Novel optical fiber design, characterization, and fabrication, and Ultrafast non linear optics

2016 **Guest PhD Researcher**

CREOL, University of Central Florida, Orlando, FL-32816, USA

Advisor: Prof. Rodrigo Amezcua-Correa

Major areas of concentration: Optical fiber design, characterization, and fabrication

2012 **MSc in Electrical & Electronic Engineering**

Department of Electrical and Electronic Engineering

Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

Advisor: Prof. SM Abdur Razzak

Major areas of concentration: Computational electromagnetics & Waveguide

CGPA: 4.0/4.0 (First class first with honors)

2009 **BSc in Electrical & Electronic Engineering**

Department of Electrical and Electronic Engineering

Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

Advisor: Prof. Md Ruhul Amin

Major areas of concentration: Computational electromagnetics and Antenna design

CGPA: 3.94/4.0 (First class first with honors among 118 students: **University Gold Medal Awardee**)

Research Grant Proposals

Funded

- 2025 Energy-efficient, compact, and cost-effective sensor for continuous and real-time monitoring of critical atmospheric greenhouse gas emissions (NASA RIA Award: \$300K)
- 2025 Modeling Hollow-core Fibers (Relativity Networks Inc.: \$150K)
- 2025 Provost Seed Grant (\$5000)
- 2024 Provost Seed Grant (\$5000)

Funded while at other institutes

- 2022 Florida Polytechnic University–Polk County broadband feasibility study: U.S. Department of Treasury under the Coronavirus State and Local Fiscal Recovery Funds (\$250K)
- 2022 Real-time Biomarker Detection Using Non-invasive Breath Analysis Approach (\$54,846)

Submitted

- 2025 Soliton-Driven Spatiotemporal Compact and Efficient UV Lasers (NSF: \$363,502)
- 2025 Tailored Spatiotemporal High-Energy Ultrafast Multispectral Lasers (DARPA: \$477,176):
Comments from PO: Encouraged to submit full proposal
- 2024 Spatiotemporal Multi-mode Nonlinear Interactions in Ultra-low Loss Hollow-core Fibers: Route to Compact and High-energy Laser Source (AFOSR: \$450K): : **Comments from PO: Encouraged to submit full proposal**
- 2024 ERI: Compact and Efficient High-Energy Spatiotemporal Ultrafast UV Lasers (NSF: \$200K)
- 2024 Energy-efficient sensor for continuous and real-time monitoring of greenhouse emissions (OPTICA Foundation: \$100K)
- 2024 Early-stage Cancer Detection Using Energy-efficient, Compact, and Real-time mid-IR Sensor (SCEEE: \$80,552)
- 2023 ERI: Efficient mid-IR Light Transmission in Next-generation Fibers: A Route to Energy-efficient, Compact, and Reliable Fiber-based mid-IR Sensors (NSF: \$200K)
- 2023 Energy-efficient, Compact, and Real-time Biomarker Detection Using Non-invasive Approach (Gordon L. Nelson Health Sciences: \$25,000)

Submitted while at other institutes

- 2022 CAREER: Tailored Nonlinear Interactions in Multi-mode Hollow-core Fibers: Route to Advanced UV Sources (NSF: \$500K)
- 2022 ERI: Mid-IR Spectroscopy Fiber-based Portable Breath Analyzer for Non-invasive and Real-time Monitoring of Diabetes Mellitus (NSF: \$200K)

Other Grants

2017 – 2019 Research Support Fund, University of Central Florida, USA
Role: PI

Amount: \$10,000

2017 – Present Otto Mønsteds Fond, Oticon Fond, and IDA Fond

External research stay
CREOL, University of Central Florida, USA

Amount: \$7000

2015 – 2016 Otto Mønsteds Fond
Travel grant for CLEO conference

Amount: \$5000

2014 Travel Grant
Technical University of Denmark, Denmark

Amount: \$3000

Teaching & Mentoring

Teaching and Mentoring at Florida Institute of Technology, USA

Fall: 2023– Optical Electronics: ECE 5350
SP: 2024– Fiberoptic Comm Systems: ECE 5351
Fall: 2024 Circuit Theory 1: ECE 2111
SP: 2024– Special Top in Photonics: ECE 5370
Fall/SP: 2024– Electrooptic Dev. & Systems: ECE 4332
Summer: 2025– Signals and Systems: ECE 3222

Teaching and Mentoring at Florida Poly, USA

Fall: 2019–2022 Electromagnetic Fields and Applications: EEL 3470
Electronic Devices: EEE 4351
Digital Electronics: EEE 3310
Optoelectronics: EEL 4448 [developed]
Introduction to STEM: IDS 1380 [developed]
Grad Course Advanced Optoelectronics: EEL 5457 [developed]
SP: 2020–2023 Analog Electronics: EEE 4304C
Analog Integrated Circuits: EEE 4376 [developed]
Systems and Signals: EEL 3135
Concepts and Methods: EGN 1007C [developed]
Introduction to STEM: IDS 1380 [developed]

Teaching and Mentoring at other Institutes

2010–2014 Circuit–I: EEE 101
Circuit–II: EEE 103
Systems and Signals: EEE 201
Electronic Circuit–I: EEE 211
Electronic Circuit–II: EEE 213
Electronic Machine–I: EEE 221
Electronic Circuit–III: EEE 311
Industrial Electronics: EEE 313

Communication Engineering: EEE 481
Fiber Optic Communication: EEE 483

Students Supervised

Students supervised at Florida Institute of Technology, USA

PhD Student	Mohammad Al Mahfuz
Topic	Hollow-core optical fibers
Role	Supervisor
PhD Student	Md Sarwar Hosen
Topic	Optical fibers sensors
Role	Supervisor
Grad Student	Pravallika Kante
Topic	Hollow-core optical fibers
Role	Supervisor
Grad Student	Daniel Garcia Arana
Topic	Machine Learning in Fiber Optics
Role	Supervisor
Grad Student	James Annor
Topic	Optical fiber sensors
Role	Supervisor
Undergraduate	Zubair Haque
Topic	Machine Learning in Fiber Optics
Role	Supervisor

Students supervised at other institutes

Grad Student	Michael Petry (U.S. Full bright student)
	Florida Polytechnic University, USA
Thesis	Tailoring modal properties of Hollow-core Fibers
Role	Supervisor
Completed	2022
Grad Student	Yordanos Jewani
	Florida Polytechnic University, USA
Topic	Optical Fiber Sensors
Role	Supervisor
Completed	2022
Undergraduate	Mohamed Hadid
	Herschel Herring
	Mackenzie Feilmeier

Topic	Low-loss Emerging Optical Fiber Design using Machine Learning and FEM
Role	Supervisor
Completed	2023
PhD Student	Jakeya Sultana The University of Adelaide, Australia
Role	Co-supervisor Completed: 2022
Undergraduate	Joshua Santos Current position: Doctoral Student, University of Florida, USA Noah Kendall Current position: Engineer, NASA, USA Michael Jernigan Current position: Hardware Engineer, Electronic Precepts Florida, USA Project: <i>Study of SI-fiber Mode and Dispersion Using COMSOL and MATLAB</i> Completed: 2019
Role	Instructor Md Sohel Rana Thesis: <i>Highly Birefringent Broadband Dispersion Compensating Photonic Crystal Fiber Over E+S+C+L+U Wavelength Bands</i> Current position: Doctoral Student, Grand Valley State University, USA Sohel Rana Current position: Doctoral Student, Boise State University, USA Completed: 2013
Role	Supervisor
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Honors & Achievements	
2026	Invited Speaker at Optical Fiber Communications Conference, LA, USA
2024	The Photonics 100 Link
2023–2025	Selected for top 2% scientist list Link
2021	OPTICA Senior Member
2021	Selected for OSA Congressional Visits Day Advocacy Program Capitol Hill
2020	Selected for OSA Congressional Visits Day Advocacy Program Capitol Hill
2019	Outstanding Paper Award 2019 SPIE Photonics West, San Francisco, CA, USA
2020	Nature Scientific Reports Editors' choice
2019	Applied Optics Editors' choice
2019	Optics Express Editors' choice
2014	University Gold Medal Department of Electrical and Electronic Engineering

Rajshahi University of Engineering & Technology, Bangladesh

2006 – 2009 EEE Association Award

Department of Electrical and Electronic Engineering

Rajshahi University of Engineering & Technology, Bangladesh

Skills & Expertise

Programming Matlab, Python, C

Design Software COMSOL Multiphysics, Matlab-COMSOL Livelink, Cadance, PSpice/NI Multisim

Relevant Skills Management, Teamwork, Research, Leadership, and Problem Solving

- Specialization**
- Modeling, fabrication, & characterization: Emerging optical fibers and waveguides
 - Machine learning in fiber optics
 - Ultrafast nonlinear wave propagation: Theory and modeling
 - Designing mid-IR Raman laser
 - Modeling and characterization of high-power fiber laser
 - Efficient bright deep UV light source: design and experiments
 - Design and characterization of efficient multi-octave supercontinuum light source

Services

2025 – present **Member: Engineering Physics Program Committee**

2025 – present **Member: Graduate Faculty in STEM Education (The Department of Mathematics and Systems Engineering).**

2020 – 2023 **Chair: Research Committee**

- Improving research quality of Electrical and Computer Engineering program
- Working closely with different professional societies (e.g., IEEE, SPIE, and OPTICA)
- Strong collaboration with different research groups
- Organize students meetings and activities
- Provide guidance to students' budgeting and fund-raising

2022 – 2023 **Chair: Program Assessment Committee**

- Develop Student Outcomes (SO)-to-curriculum mapping and assessment cycles plan
- Collect and organize the course-level and program-level SO assessment data each semester; plan and assign specific courses and SOs for the subsequent semester
- Develop continuous improvement plan to form a closed-loop assessment/evaluation mechanism
- Provide introduction and clarification of the assessment procedures of SVSU EE program during ABET visit
- Finalizing course assessment report and provide suggestions for continuous improvement for the EE program

2020 – 2023 **Member: University/Department Search Committee**

2020 – 2023 **Member: University Admission Committee**

2019 – 2023 **Member: Outreach Committee**

- Working with the other committee members to increase the enrollment of Electrical and Computer Engineering Department
- Attract K-12 student to the Electrical and Computer Engineering program by organizing summer camp

Professional Activities

NSF Review	<i>NSF Review Panel Committee</i>
Associate Editor	<i>IEEE Journal of Lightwave Technology</i>
Guest Editor	<i>IEEE Journal of Selected Topics in Quantum Electronics</i>
Feature Editor	<i>Applied Optics</i>
Guest Editor	<i>Fibers</i>
Membership	Senior Member: <i>IEEE, Optica</i>
Executive Officer	<i>OSA Fiber Modeling and Fabrication group: 2018 – Present</i>
Presider	Special talk session at Frontiers in Optics (FiO) Frontiers in Optics, 14 – 17 September 2020
Presider	Specialty Optical Fibers session Advanced Photonics Congress, 13 – 16 July 2020
Judge	2020: Poster Session – CLEO/USA Conference, San Jose, USA
Reviewer	OSA Special Program Grant Reviewer IEEE Senior Member Review Panel Committee Seigman School Review Panel Committee Reviewed 160+ journal papers including Nature Photonics, Nature Communications, Lasers and Photonics Reviews, Optica, Optics Letters, Optics Express, IEEE PTL, IEEE JLT, IEEE Sensors Letters, IEEE Photonics Journal, IEEE J Select Top in Quantum Electronics, IEEE Access, Applied Optics, Optics Communication, Optical Fiber Technology, Chinese Optics Letters, Sensing and Bio-Sensing Research, J Electromagnetic waves & Applications, Optical and Quantum Electronics, Sensors, Applied Sciences, OSA Continuum

Collaborators

2017 – Present	Professor Ole Bang, Technical University of Denmark, Denmark Professor Christos Markos, Technical University of Denmark, Denmark Professor Jeffrey Moses, Cornell University, USA Professor Derek Abbott, University of Adelaide, Australia Dr. Christian Keyser, Senior Physicist, Air Force Research Laboratory Professor Rodrigo Amezcua-Correa, University of Central Florida, USA
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Invited Talks

2024	Optical Fiber Communications Conference, LA, USA
2024	Recent Advances in Next-generation Optical Fibers: Applications and Beyond

- ICECE, BUET, Bangladesh
- 2021 Mid-IR gas-filled hollow-core fiber lasers based on Raman gases
CLEO, Europe (Germany)
- 2021 Ultraviolet to mid-infrared gas-filled anti-resonant hollow-core fiber lasers
SPIE Photonics West, USA
- 2020 Recent Advances of Hollow-core Fibers: Technology and Applications
Meet the Young Professional, IEEE Bangladesh Section, Bangladesh
- 2013 Microstructure Holey Fibers Application to Sensing & High-Speed Optical Communication System, IEEE Bangladesh Section, RUET, Bangladesh

Research Impacts

Journal: 50 Conference: 50

H-index: 34 **i10-index:** 60

Citations: >3200 [GoogleScholar](#)

Selected Peer-Reviewed Journal Articles

- Nature 2025 **M. Selim Habib**, R. Amezcua-Correa *Hollow-core breakthrough* Nature Photonics **19**, 1160 (2025). [Link](#)
- Nature 2025 Md Rezwan Ahmed, Oishi Jyoti, Pritu P Sarkar, Mohammad Abdul Motin, Md Selim Habib, **M. Selim Habib**, Md Samiul Habib *Accurate prediction of geometrical parameters of an ultra-broadband metamaterial absorber using machine learning* **15**, 44263 (2025). [Link](#)
- IEEE 2025 M. Al Mahfuz, Abdullah Al Mamun, Pravallika Kante, **M. Selim Habib**, *High amplitude sensitivity anti-resonant solid-core fiber plasmonic sensor for ultra-low refractive index detection* IEEE Sensors Journal **25**, 39790 (2025). [Link](#)
- OPTICA 2025 M. Al Mahfuz, **M. Selim Habib**, *Highly scalable solid-core inhibited-coupling fiber-based plasmonic refractive index sensor* Optics Express **33**, 2745 (2025). [Link](#)
- IEEE 2024 M. Al Mahfuz, **M. Selim Habib**, *Enhanced inhibited mode-coupling: Multi-mode hollow-core anti-resonant fiber designs* IEEE J Selected Topics in Quantum Electronics **30**, 4301409 (2024). [Link](#)
- IEEE 2024 M. Petry, **M. Selim Habib**, *Random design variations of hollow-core anti-resonant fibers: A Monte-Carlo study* IEEE J Selected Topics in Quantum Electronics **30**, 4300210 (2024). [Link](#)
- IEEE 2024 Y. Jewani, M. Petry, R. Sanchez-Arias, R. Amezcua-Correa, **M. Selim Habib**, *Accurate loss prediction of realistic hollow-core anti-resonant fibers using machine learning* IEEE J Selected Topics in Quantum Electronics **30**, 4300808 (2024). [Link](#)
- IEEE 2024 H. Herring, M. Al Mahfuz, **M. Selim Habib**, *Single-polarization Hybrid Hollow-core Anti-resonant Fiber Designs at 2 μm* IEEE Photonics Technology Letters **16**, 7100806 (2024). [Link](#)

- IEEE 2023 Reinaldo Sanchez-Arias, Luis Jaimes, Shahram Taj, **M. Selim Habib** *Understanding the State of Broadband Connectivity: An Analysis of Speedtests and Emerging Technologies* IEEE Access, **11**, 101580 (2023). [Link](#)
- OPTICA 2023 M. A. Cooper, J. Wahlen, S. Yerolatsitis, D. Cruz-Delgado, D. Parra, B. Tanner, P. Ahmadi, O. Jones, **M. Selim Habib**, *2.2 kW single-mode narrow-linewidth laser delivery through a hollow-core fiber* Optica **10**, 1253 (2023). [Link](#)
- IEEE 2023 Xiaowen Hu, Jian Zhao, Stefan Gausmann, **M. Selim Habib** et al., *Genetic-algorithm-based Design of Large-mode-area All-solid Anti-resonant Fiber with Normal Dispersion and Single-mode Operation in the 2 μm Wavelength Region* IEEE Journal of Lightwave Technology **41**, 4815 (2023). [Link](#)
- IEEE 2023 Stefan Gausmann, Xiaowen Hu, Jian Zhao, **M. Selim Habib** et al., *Tunable Dispersion and Supercontinuum Generation in Disordered Glass-air Anderson Localization Fiber* IEEE Journal of Lightwave Technology **41**, 2484 (2023). [Link](#)
- OPTICA 2022 M. Petry, R. Amezcua-correa, **M. Selim Habib**, *Random misalignment and anisotropic deformation of the nested cladding elements in hollow-core anti-resonant fibers* Optics Express **30**, 34712 (2022). [Link](#)
- OSA 2021 **M. Selim Habib**, Abubakar I. Adamu, C. Markos, R. Amezcua-correa *Enhanced birefringence in conventional and hybrid anti-resonant hollow-core fibers* Optics Express **29**, 3359 (2021). [Link](#)
- OSA 2021 **M. Selim Habib**, C. Markos, R. Amezcua-correa *Impact of cladding elements on the loss performance of hollow-core anti-resonant fibers* Optics Express **29**, 3359 (2021). [Link](#)
- IEEE 2021 Y. Wang, Abubakar I. Adamu, M. K. Dasa, J. E. A. Lopez, **M. Selim Habib** et al., *Noise performance and long-term stability of near- and mid-IR gas-filled fiber Raman lasers* IEEE/OSA Journal of Lightwave Technology **39**, 3350 (2021). [Link](#)
- OSA 2021 Abubakar I. Adamu, Y. Wang, **M. Selim Habib** et al., *Multi-wavelength high energy gas-filled fiber Raman laser spanning from 1.53 μm to 2.4 μm* Optics Letters **46**, 452 (2021). [Link](#) [Highlighted in LaswerFocusWorld]. [Link](#)
- IEEE 2021 Jakeya Sultana, Md. Saiful Islam, C. M. B. Cordeiro, **M. Selim Habib** et al., *Hollow Core Inhibited Coupled Antiresonant Terahertz Fiber: A Numerical and Experimental Study* IEEE Transection of Terahertz Science & Technology **11**, 245 (2021). [Link](#)
- IEEE 2020 J. Sultana, M S. Islam, C. M. B. Cordeiro, **M. Selim Habib**, A. Dinovitser, Brian. W.-H. Ng, D. Abbott *Exploring low loss and single Mode in antiresonant tube lattice terahertz fibers* IEEE Access **8**, 113309 (2020). [Link](#)
- IEEE 2020 M. S. Hossain, S. M. Abdur Razzak, C. Markos, N. H. Hai, **M. Selim Habib**, M. Samiul Habib *Novel hollow-core asymmetric conjoined-tube anti-resonant fiber for low-loss THz wave guidance* IEEE Photonics Journal **8**, 7202109 (2020). [Link](#)
- OSA 2020 M. A. Mollah, M. Samiul Habib, **M. Selim Habib** *Novel hollow-core asymmetric conjoined-tube anti-resonant fiber for low-loss THz wave guidance* OSA Continuum **3**, 1169–1176 (2020). [Link](#)

- Nature 2020 Abubakar I. Adamu, **M. Selim Habib** et al., *Noise and spectral stability of deep-UV gas-filled fiber-based supercontinuum sources driven by ultrafast mid-IR pulses* Scientific Reports **10**, 4912 (2020). [Link](#) **Editor Choice**
- IEEE 2020 S. Gausmann, J. E. Antonio-Lopez, J. Anderson, S. Wittek, S. Eznaveh, H. Jang, **M. Selim Habib** et al., *S^2 measurements showing suppression of higher order modes in confined rare earth doped large core fibers* IEEE/OSA Journal of Lightwave Technology **38**, 1953 (2020). [Link](#)
- OSA 2020 N. Y. Wang, M. K. Dasa, Abubakar I. Adamu, J. E. Antonio-Lopez, **M. Selim Habib** et al., *High pulse energy and quantum efficiency mid-infrared gas Raman fiber laser targeting CO₂ absorption at 4.2 μm* Optics Letters **45**, 1938 (2020). [Link](#)
- OSA 2020 N. Wang, J. C. A. Zacarias, **M. Selim Habib** et al., *Mode-selective few-mode Brillouin fiber lasers based on intramodal and intermodal SBS* Optics Letters **45**, 2323 (2020). [Link](#)
- OSA 2019 N. Wang, I. Kim, O. Vassilieva, T. Ikeuchi, H. Wen, J. E. A. Lopez, J. C. A. Zacarias, H. Liu, S. Fan, **M. Selim Habib** et al., *Low-crosstalk few-mode EDFAAs using retro-reflection for single-mode fiber trunk lines and networks* Optics Express **27**, 35962 (2019) [**Editor's Pick**]. [Link](#)
- Nature 2019 Abubakar I. Adamu, **M. Selim Habib** et al., *Deep-UV to Mid-IR supercontinuum generation driven by Mid-IR ultrashort pulses in a gas-filled hollow-core fiber* Scientific Reports **9**, 4446 (2019). [Link](#)
- OSA 2019 **M. Selim Habib**, J. E. A. Lopez, C. Markos, A. Schulzgen, R. Amezcua Correa *Single-mode, low loss hollow-core anti-resonant fiber designs* Optics Express **27**, 3824 (2019). [Link](#)
- OSA 2019 **M. Selim Habib**, C. Markos, J. E. A. Lopez, R. Amezcua Correa *Multi-octave supercontinuum from visible to midIR and Bend Effects on Ultrafast Nonlinear Dynamics in Gas-filled Hollow-core Fiber* Applied Optics **58**, D7 (2019) [**Editor's Pick**]. [Link](#)
- OSA 2019 X. Ding, **M. Selim Habib**, R. Amezcua Correa, J. Moses *Near-octave intense mid-infrared by adiabatic down-conversion in hollow anti-resonant hollow fiber* Optics Letters **44**, 1084 (2019). [Link](#)
- OSA 2019 M. Bache, **M. Selim Habib**, C. Markos, J Lægsgaard *Poor-mans model of hollow-core anti-resonant fibers* JOSA B **36**, 69 (2019). [Link](#)
- OSA 2018 **M. Selim Habib**, C. Markos, J.E. Antonio-Lopez, R. Amezcua Correa, O. Bang, M. Bache *Multi-stage generation of extreme ultraviolet dispersive waves by tapering gas-filled hollow-core anti-resonant fibers* Optics Express **26**, 24357 (2018). [Link](#)
- OSA 2017 **M. Selim Habib**, C. Markos, O. Bang, M. Bache *Soliton-plasma nonlinear dynamics in mid-IR gas-filled hollow-core fibers* Optics Letters **42**, 2232 (2017). [Link](#)
- OSA 2016 **M. Selim Habib**, O. Bang, M. Bache *Low-loss single-mode hollow-core fiber with anisotropic anti-resonant elements* Optics Express **24**, 8429 (2016). [Link](#)

- IEEE 2016 **M. Selim Habib**, O. Bang, M. Bache *Low-loss hollow-core anti-resonant fibers with semi-circular nested tubes* IEEE Journal of Selected Topics in Quantum Electronics **22**, 4402106 (2016). [Link](#)
- OSA 2016 R. Islam, **M. Selim Habib**, G. K. M. Hasanuzzaman, S. Rana, M. Anwar Sadath *Novel porous fiber based on dual-asymmetry for low-loss polarization maintaining THz wave guidance* Optics Letters **41**, 440 (2016). [Link](#)
- IEEE 2016 R. Islam, **M. Selim Habib**, G. K. M. Hasanuzzaman, S. Rana, C. Markos *A novel low loss diamond-core porous fiber for polarization maintaining terahertz transmission* IEEE Photonics Technology Letters **28**, 1537 (2016). [Link](#)
- IEEE 2016 G. K. M. Hasanuzzaman, S. Rana, **M. Selim Habib** *A novel low loss, highly birefringent photonic crystal fiber in THz regime* IEEE Photonics Technology Letters **28**, 899 (2016). [Link](#)
- IEEE 2015 G. K. M. Hasanuzzaman, **M. Selim Habib**, S. M. Abdur Razzak, M. Anwar Hossain, Y. Namihira *Low loss single mode porous-core kagome photonic crystal fiber for THz wave guidance* IEEE/OSA Journal of Lightwave Technology **33**, 4027 (2015). [Link](#)
- IEEE 2015 R. Islam, **M. Selim Habib**, G. K. M. Hasanuzzaman, R. Ahmad, S. Rana, S. Felix Kaijage *Extremely high-birefringent asymmetric slotted-core photonic crystal fiber in THz regime* IEEE Photonics Technology Letters **27**, 2222 (2015). [Link](#)
- OSA 2015 **M. Selim Habib**, O. Bang, M. Bache *Low-loss hollow-core silica fibers with adjacent nested anti-resonant tubes* Optics Express **23**, 17394 (2015). [Link](#)

Selected Conference Proceedings

- CLEO 2025 **M. Selim Habib**, C. Markos, J. E. Lopez, D. Hudson, R. Amezcua-Correa *Efficient light generation at 1550 nm using H₂-filled Low-loss Hollow-core Fiber* CLEO/USA Conference, 4–9 May, 2025, Long Beach, California, USA. [Link](#)
- IEEE RAPID 2025 M. Al Mahfuz, Pravallika Kante, **M. Selim Habib**, *High purity orbital angular mode generation in twisted hollow-core anti-resonant fiber* IEEE RAPID 2025, Florida, USA. [Link](#)
- IEEE RAPID 2025 M. Al Mahfuz, R. Amezcua-Correa, **M. Selim Habib**, *A route to efficient light generation at 1550 Nm using N₂-filled hollow-core fiber* IEEE RAPID 2025, Florida, USA. [Link](#)
- FiO 2024 M. Al Mahfuz, **M. Selim Habib** *Ultra-low loss highly multi-mode hollow-core anti-resonant fiber designs* FiO, 2024, Denver, Colorado, USA. [Link](#)
- IEEE RAPID 2024 M. Al Mahfuz, Y. Dong, **M. Selim Habib** *Inhibited-Coupled multi-mode hollow-core anti-resonant fibers for high power applications* IEEE RAPID 2024, Florida, USA. [Link](#)
- IEEE RAPID 2024 Md Abu Sufian, Stephanos Yerolatsitis, Ameen Alhalemi, Joseph Wahlen, Mohammad Al Mahfuz, **M. Selim Habib** et al. *Nested anti-resonant hollow-core fiber for low-loss multi-mode guidance* IEEE RAPID 2024, Florida, USA. [Link](#)

- IEEE RAPID 2024 Md Abu Sufian, Stephanos Yerolatsitis, Ameen Alhalemi, Joseph Wahlen, Mohammad Al Mahfuz, **M. Selim Habib** et al. *Low-Loss near-UV light transmission through anti-resonant hollow-core fiber* IEEE RAPID 2024, Florida, USA. [Link](#)
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