

# Yue Yu

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## RESEARCH INTEREST

Integrated photonic circuits, optomechanics, micro- and nanoelectromechanics, surface acoustic waves, bound states in the continuum, nonlinear photonics, metasurfaces

## EDUCATION

09/2023–Present Postdoc, Viterbi School of Engineering, University of Southern California

08/2017–07/2023 Ph.D., Electronic Engineering, The Chinese University of Hong Kong GPA: 3.27/4.00

09/2013–06/2017 B.S., Optical and Electronic Information, Huazhong University of Science and Technology, China GPA: 90.27/100 Top 5% TOEFL: 89 IELTS: 7.0

## HONORS AND AWARDS

- 2021 Best Paper Award-First Runner Up, 21<sup>st</sup> IEEE Photonics Society (HK) Postgraduate Conference
- 2016 “Shangguang Elite Class” Scholarship
- 2015 National Encouragement scholarship
- 2014 National Scholarship
- 2013 Freshman Scholarship

## PROFESSIONAL ACTIVITIES

### Journal reviewer

- Optics Express
- Journal of Lightwave Technology
- Journal of the Optical Society of America B
- Communications Engineering

## PUBLICATIONS

### *Journal Papers* († denotes co-first authors)

1. Xinyi Ren, Chun-Ho Lee, Kaiwen Xue, Shaoyuan Ou, **Yue Yu**, Zaijun Chen, and Mengjie Yu, “Photorefractive and pyroelectric photonic memory and long-term stability in thin-film lithium niobate microresonators”, 2024. (submitted)
2. **Yue Yu** and Xiankai Sun, "Surface acoustic microwave photonic filters on etchless lithium niobate integrated platform," [\*Laser & Photonics Reviews\* 2300385, 2024.](#)
3. **Yue Yu** and Xiankai Sun, "Etchless photonic integrated circuits enabled by bound states in the continuum: tutorial," [\*Journal of the Optical Society of America B\* 40 \(11\): 2801–2808, Nov. 2023.](#)
4. Zejie Yu, He Gao, Yi Wang, **Yue Yu**, Hon Ki Tsang, Xiankai Sun, and Daoxin Dai, "Fundamentals and applications of photonic waveguides with bound states in the continuum," [\*Journal of Semiconductors\* 44 \(10\): 101301, Oct. 2023.](#)
5. Xiao-Jing Liu†, **Yue Yu**†, Di Liu, Qi-Long Cui, Xiao-Zhuo Qi, Yang Chen, Guang-Yuan Qu, Li Song, Guo-Ping Guo, Guang-Can Guo, Xiankai Sun, and Xi-Feng Ren, "Coupling of photon emitters in monolayer WS<sub>2</sub> with a photonic waveguide based on bound states in the continuum," [\*Nano Letters\* 23 \(8\): 3209–3216, Apr. 2023.](#)
6. Yuan Li, Zunyue Zhang, Yi Wang, **Yue Yu**, Xuotong Zhou, Hon Ki Tsang, and Xiankai Sun, "Inverse-designed linear coherent photonic networks for high-resolution spectral reconstruction," [\*ACS Photonics\*, Jan. 2023. DOI: 10.1021 \[featured as cover article\]](#)
7. **Yue Yu**, Xiang Xi, and Xiankai Sun, “Observation of mechanical bound states in the continuum in an optomechanical microresonator,” [\*Light: Science & Applications\* 11, 328, Nov. 2022.](#)
8. **Yue Yu**†, Zejie Yu†, Zunyue Zhang†, Hon Ki Tsang, and Xiankai Sun, “Wavelength-division multiplexing on etchless lithium niobate integrated platform,” [\*ACS Photonics\* 9 \(10\): 3253–3259, Oct. 2022.](#)

9. Huade Mao<sup>†</sup>, **Yue Yu**<sup>†</sup>, Yu-Xuan Ren, Ka Yan Chan, Jiqiang Kang, Xiankai Sun, Edmund Y. Lam, and Kenneth K. Y. Wong, “Neural optimizer for inverse design of complex-modulated hologram implemented by plasmonic metasurfaces,” *Advanced Photonics Research* 4 (1): 2200085, Jan. 2023.
10. Fan Ye, **Yue Yu**, Xiang Xi, and Xiankai Sun, “Second-harmonic generation in etchless lithium niobate nanophotonic waveguides with bound states in the continuum,” *Laser & Photonics Reviews* 16: 2100429, Mar. 2022.
11. **Yue Yu**, Lai Wang, and Xiankai Sun, “Demonstration of on-chip gigahertz acousto-optic modulation at near-visible wavelengths,” *Nanophotonics* 10 (17): 4323–4329, Dec. 2021.
12. **Yue Yu**, Zejie Yu, Lai Wang, and Xiankai Sun, “Ultralow-loss etchless lithium niobate integrated photonics at near-visible wavelengths,” *Advanced Optical Materials* 9 (19): 2100060, Oct. 2021.
13. Huade Mao<sup>†</sup>, Yu-Xuan Ren<sup>†</sup>, **Yue Yu**<sup>†</sup>, Zejie Yu, Xiankai Sun, Shuang Zhang, and Kenneth K. Y. Wong, “Broadband meta-converters for multiple Laguerre-Gaussian modes,” *Photonics Research* 9 (9):1689–1698, Sep. 2021.
14. **Yue Yu**, Zejie Yu, and Xiankai Sun, “Nonmetallic broadband visible-light absorbers with polarization and incident angle insensitivity,” *IEEE Photonics Journal* 12 (6): 2200807, Dec. 2020.

### Conference Paper

1. Clayton Cheung, Xinyi Ren, Chun-Ho Lee, Reshma Kopparapu, **Yue Yu**, Zaijun Chen, and Mengjie Yu, “Lithium Niobate Chip-Based Ultrafast Optical Signal Processor”, CLEO 2024, SM4L.5.
2. Xinyi Ren, Chun-Ho Lee, Kaiwen Xue, Shaoyuan Ou, **Yue Yu**, Zaijun Chen, and Mengjie Yu, “Long-lived photorefractive and pyroelectric effects in thin film lithium niobate microresonators”, CLEO 2024, STu3E.1.
3. **Yue Yu** and Xiankai Sun, "Surface acoustic microwave photonic filters on etchless lithium niobate integrated platform," CLEO 2023, San Jose, CA, USA, May 2023.
4. Yuan Li, Zunyue Zhang, Yi Wang, **Yue Yu**, Xuotong Zhou, Hon Ki Tsang, and Xiankai Sun, "Inverse-designed linear coherent photonic networks for high-resolution spectral reconstruction," CLEO 2023, San Jose, CA, USA, May 2023.
5. **Yue Yu**, Xiang Xi, and Xiankai Sun, "Observation of mechanical bound states in the continuum in an optomechanical microresonator," *Frontiers in Optics* 2022, Rochester, NY, USA, Oct. 2022. [postdeadline]
6. **Yue Yu**<sup>†</sup>, Zejie Yu<sup>†</sup>, Zunyue Zhang<sup>†</sup>, Hon Ki Tsang, and Xiankai Sun, "Wavelength-division multiplexing on etchless lithium niobate integrated platform," *Frontiers in Optics* 2022, Rochester, NY, USA, Oct. 2022.
7. **Yue Yu**, Zejie Yu, Lai Wang, and Xiankai Sun, “Ultralow-loss etchless lithium niobate integrated photonics at near-visible wavelengths,” *CLEO 2022*, San Jose, CA, USA, May 2022.
8. Fan Ye, **Yue Yu**, Xiang Xi, and Xiankai Sun, “Second-harmonic generation in etchless lithium niobate nanophotonic waveguides with bound states in the continuum,” *CLEO 2022*, San Jose, CA, USA, May 2022.
9. **Yue Yu**, Zejie Yu, and Xiankai Sun, “Etchless lithium niobate integrated photonics,” *International Symposium on Lithium Niobate Optoelectronics 2021*, Shanghai, China, Oct. 2021. [invited]
10. **Yue Yu**, Zejie Yu, and Xiankai Sun, “Nonmetallic broadband visible-light absorbers with polarization and incident angle insensitivity,” *CLEO 2021*, San Jose, CA, USA, May 2021.
11. **Yue Yu**, Lai Wang, and Xiankai Sun, “Demonstration of on-chip gigahertz acousto-optic modulation at near-visible wavelengths,” *CLEO 2021*, San Jose, CA, USA, May 2021.