Professor Cheng-Yang Liu

Curriculum Vitae

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Education

2001.9~2005.6 Ph.D., Mechanical Engineering, National Cheng Kung University, Taiwan

Professional Appointments

2021.2~present Professor, Department of Biomedical Engineering, National Yang Ming Chiao Tung University, Taiwan

2022.8~present Joint Professor, Institute of Biophotonics, National Yang Ming Chiao Tung University, Taiwan

2018.8~2021.1 Associate Professor, Department of Biomedical Engineering, National Yang-Ming University, Taiwan

2017.2~2018.7 Professor, Department of Mechanical and Electro-Mechanical Engineering, Tamkang University, Taiwan

2014.2~2017.1 Associate Professor, Department of Mechanical and Electro-Mechanical Engineering, Tamkang University, Taiwan

2010.2~2014.1 Assistant Professor, Department of Mechanical and Electro-Mechanical Engineering, Tamkang University, Taiwan

2006.1~2010.1 Researcher, Center for Measurement Standards, Industrial Technology Research Institute, Taiwan

Field of Specialty

Opto-Mechatronics Systems, Biomedical Optics, Biomechanics, Computer-Aided Design and Manufacture

Google Scholar Citations

Citation indices	*All*	*Since 2018*
Citations	1449	772
h-index	23	17
i10-index	47	30

https://scholar.google.com/citations?user=IQdaE7QAAAAJ&hl=en

Publications (last 5 years)

1. Wei-Yu Chen, Yan-Yu Liu, Jelene Antonicole Ngan Kong, Lieber Po-Hung Li, Yu-Bin Chen, Chia-Hsiung Cheng, and **Cheng-Yang Liu***, “Biological cell trapping and manipulation of a photonic

nanojet by a specific microcone-shaped optical fiber tip," **Optics Letters**, Vol. 48, No. 5, pp. 1216-1219, 2023. (SCI, IF=3.776)

2. Cheng-Yu Wang, Chih-Ming Chou, Cheng-Ying Chu, Amy Chen, En-Hsin Liu, **Cheng-Yang Liu**, Yu-Lin Amy Lee, and Fwu-Long Mi, Chia-Hsiung Cheng*, "A low-molecular-weight chitosan fluorometric-based assay for evaluating antiangiogenic drugs," **International Journal of Biological Macromolecules**, Vol. 224, pp. 927-937, 2023. (SCI, IF=6.953)
3. Wei-Yu Chen, **Cheng-Yang Liu**, Yu-Kai Hsieh, Oleg V. Minin, and Igor V. Minin*, "Photonic hook with modulated bending angle formed by using triangular mesoscale Janus prisms," **Photonics**, Vol. 9, No. 12, pp. 948, 2022. (SCI, IF=2.140)
4. Oleg V. Minin, Song Zhou, **Cheng-Yang Liu**, Jelene Antonicole Ngan Kong and Igor V. Minin*, "Magnetic concentric hot-circle generation at optical frequencies in all-dielectric mesoscale Janus particles," **Nanomaterials**, Vol. 12, No. 19, pp. 3428, 2022. (SCI, IF=5.719)
5. Hsuan-Pei E, Jelene Antonicole Ngan Kong, Wei-Chun Chen, Che-Chin Chen, Chia-Hsiung Chen, and **Cheng-Yang Liu***, "Biocompatible spider silk-based metal-dielectric fiber optic sugar sensor," **Biomedical Optics Express**, Vol. 13, No. 9, pp. 4483-4493, 2022. (SCI, IF=3.732)
6. Ching-Jung Hung, Yu-Reng Tsao, Chun-Li Lin, and **Cheng-Yang Liu***, "Real-time detection and classification of porous bone structures using image segmentation and opening operation techniques," **Sensors and Materials**, Vol. 34, No. 5, pp. 1639-1648, 2022. (SCI, IF=0.759)
7. Wei-Yu Chen, Yu-Reng Tsao, Jin-Yi Lai, Ching-Jung Hung, Yu-Cheng Liu, and **Cheng-Yang Liu***, "Real-time instance segmentation of metal screw defects based on deep learning approach," **Measurement Science Review**, Vol. 22, No. 3, pp. 107-111, 2022. (SCI, IF=1.319)
8. Oleg V. Minin, Wei-Yu Chen, Shuo-Chih Chien, Chia-Hsiung Cheng, Igor V. Minin, and **Cheng-Yang Liu***, "In-plane subwavelength optical capsule for lab-on-a-chip nano-tweezers," **Optics Letters**, Vol. 47, No. 4, pp. 794-797, 2022. (SCI, IF=3.776)
9. Stephen Wan Leung, Po-Ching Cheng, Chih-Ming Chou, Chi Lin, Yu-Chieh Kuo, Yu-Lin Amy Lee, **Cheng-Yang Liu**, Fwu-Long Mi, and Chia-Hsiung Cheng*, "A novel low-molecular-weight chitosan/gamma-polyglutamic acid polyplexes for nucleic acid delivery into zebrafish larvae," **International Journal of Biological Macromolecules**, Vol. 194, pp. 384-394, 2022. (SCI, IF=6.953)
10. Joseph Arnold Riley, Victor Pacheco-Peña*, **Cheng-Yang Liu**, Oleg V. Minin, and Igor V. Minin, "Diffraction limited photonic hook via scattering and diffraction of dual-dielectric structures," **Scientific Reports**, Vol. 11, pp. 20278, 2021. (SCI, IF=4.379)
11. **Cheng-Yang Liu***, Yu-Bin Chen, Chuan Li, Wei-Yu Chen, and Shuo-Chih Chien, "Photonic hook generated by the Janus microcylinder under point-source illumination," **Journal of the Optical Society of America B: Optical Physics**, Vol. 38, No. 10, pp. 2938-2944, 2021. (SCI, IF=2.180)
12. **Cheng-Yang Liu***, Wei-Yu Chen, Yury E. Geints, Oleg V. Minin, and Igor V. Minin, "Simulation and experimental observations of axial position control of a photonic nanojet by a dielectric cube with a metal screen," **Optics Letters**, Vol. 46, No. 17, pp. 4292-4295, 2021. (SCI, IF=3.776)
13. Hung-Ju Chung, Shuo-Chih Chien, Ching-Hua Lu, and **Cheng-Yang Liu***, "Real-time digital fringe

projection measurement for detecting back shape in scoliosis," **International Journal of Electronics and Electrical Engineering**, Vol. 9, No. 3, pp. 65-69, 2021.

14. Ching-Bin Lin, Yu-Hsiang Lin, Wei-Yu Chen, and **Cheng-Yang Liu***, "Photonic nanojet modulation achieved by a spider silk-based metal-dielectric dome microlens," **Photonics**, Vol. 8, No. 8, pp. 334, 2021. (SCI, IF=2.676)
15. **Cheng-Yang Liu***, Wei-Yu Chen, Oleg V. Minin, and Igor V. Minin, "Multispectral photonic jet shaping and steering by control of tangential electric field component on cuboid particle," **Photonics**, Vol. 8, No. 8, pp. 317, 2021. (SCI, IF=2.676)
16. **Cheng-Yang Liu***, Yu-Chih Yang, and Jin-Yi Lai, "Experimental demonstration of controllable flat focusing mirror excited by surface plasmon polaritons," **Optics Communications**, Vol. 480, pp. 126462, 2021. (SCI, IF=2.125)
17. Igor V. Minin, Oleg V. Minin, Yan-Yu Liu, Valery V. Tuchin, and **Cheng-Yang Liu***, "Concept of photonic hook scalpel generated by shaped fiber tip with asymmetric radiation," **Journal of Biophotonics**, Vol. 14, No. 2, pp. e202000342, 2021. (SCI, IF=3.032)
18. Igor V. Minin, Oleg V. Minin, **Cheng-Yang Liu***, Hao-De Wei, Yury E. Geints, and Alina Karabchevsky, "Experimental demonstration of tunable photonic hook by partially illuminated dielectric microcylinder," **Optics Letters**, Vol. 45, No. 17, pp. 4899-4902, 2020. (SCI, IF=3.776)
19. **Cheng-Yang Liu***, Hung-Ju Chung, and Hsuan-Pei E, "Reflective photonic hook achieved by dielectric-coated concave hemicylindrical mirror," **Journal of the Optical Society of America B: Optical Physics**, Vol. 37, No. 9, pp. 2528-2533, 2020. (SCI, IF=2.180)
20. **Cheng-Yang Liu***, Tzu-Ping Yen, and Chien-Wen Chen, "High-resolution three-dimensional surface imaging microscope based on digital fringe projection technique," **Measurement Science Review**, Vol. 20, No. 3, pp. 139-144, 2020. (SCI, IF=1.319)
21. **Cheng-Yang Liu***, Hung-Ju Chung, Oleg V. Minin, and Igor V. Minin, "Shaping photonic hook via well-controlled illumination of finite-size graded-index micro-ellipsoid," **Journal of Optics**, Vol. 22, No. 8, pp. 085002, 2020. (SCI, IF=2.379)
22. C. B. Lin, Yi-Ting Lee, and **Cheng-Yang Liu***, "Optimal photonic nanojet beam shaping by mesoscale dielectric dome lens," **Journal of Applied Physics**, Vol. 127, No. 24, pp. 243110, 2020. (SCI, IF=2.286)
23. Igor V. Minin*, **Cheng-Yang Liu**, Yury E. Geints, and Oleg V. Minin, "Recent advantages in integrated photonic jet-based photonics," **Photonics**, Vol. 7, No. 2, pp. 41, 2020. (SCI, IF=2.140)
24. Igor V. Minin, **Cheng-Yang Liu***, Yu-Chih Yang, Kestutis Staliunas, and Oleg V. Minin, "Experimental observation of flat focusing mirror based on photonic jet effect," **Scientific Reports**, Vol. 10, pp. 8459, 2020. (SCI, IF=3.998)
25. **Cheng-Yang Liu*** and Chung-Yi Wang, "Investigation of phase pattern modulation for digital fringe projection profilometry," **Measurement Science Review**, Vol. 20, No. 1, pp. 43-49, 2020. (SCI, IF=1.319)
26. **Cheng-Yang Liu*** and Yu-Lun Cheng, "Experimental observation of engineering photonic jet array

by core-shell phase diffraction grating," **Optics Letters**, Vol. 45, No. 2, pp. 323-326, 2020. (SCI, IF=3.776)

27. **Cheng-Yang Liu*** and Li-Jen Chang, "Characterization of surface micro-roughness by off-specular measurements of polarized optical scattering," **Measurement Science Review**, Vol. 19, No. 6, pp. 257-263, 2019. (SCI, IF=1.319)
28. **Cheng-Yang Liu*** and Meng-Ju Yeh, "Experimental verification of twin photonic nanojets from a dielectric microcylinder," **Optics Letters**, Vol. 44, No. 13, pp. 3262-3265, 2019. (SCI, IF=3.776)
29. **Cheng-Yang Liu***, "Flexible photonic nanojet formed by cylindrical graded-index lens," **Crystals**, Vol. 9, pp. 198, 2019. (SCI, IF=2.404)
30. **Cheng-Yang Liu*,** Cheng-Yu Wang and Li-Wei Teng, "Fully automatic digital fringe projection measurement for 3D facial surface," **Journal of Mechanics in Medicine and Biology**, Vol. 19, No. 2, pp. 1940019, 2019. (SCI, IF=0.859)
31. C. B. Lin, Zih-Huan Huang, and **Cheng-Yang Liu***, "Formation of high-quality photonic nanojets by decorating spider silk," **Optics Letters**, Vol. 44, No. 3, pp. 667-670, 2019. (SCI, IF=3.776)
32. **Cheng-Yang Liu*,** Oleg V. Minin, and Igor V. Minin, "Periodical focusing mode achieved through a chain of mesoscale dielectric particles with a refractive index near unity," **Optics Communications**, Vol. 434, pp. 110-117, 2019. (SCI, IF=2.125)
33. **Cheng-Yang Liu*,** Oleg V. Minin, and Igor V. Minin, "First experimental observation of array of photonic jets from saw-tooth phase diffraction grating," **Europhysics Letters (EPL)**, Vol. 123, pp. 54003, 2018. (SCI, IF=1.958)
34. **Cheng-Yang Liu*,** Tzu-Ping Yen, Oleg V. Minin, and Igor V. Minin, "Engineering photonic nanojet by a graded-index micro-cuboid," **Physica E: Low-Dimensional Systems and Nanostructures**, Vol. 98, pp. 105-110, 2018. (SCI, IF=2.221)