

Publication List of Chun-Wei Tsai (蔡君偉)

Journal articles (期刊論文)

1. Z. T. Ye, S. F. Tseng, S. X. Tsou, and **C. W. Tsai***, “Spectral Analysis with Highly Collimated Mini-LEDs as Light Sources for Quantitative Detection of Direct Bilirubin,” *Discover Nano*, vol. 19, no. 13, Jan. 2024 (SCI, EI, 2022 IF = 6.5)
2. Z. T. Ye, S. F. Tseng, S. X. Tsou, and **C. W. Tsai***, “High-sensitivity flip chip blue Mini-LEDs miniaturized optical instrument for non-invasive glucose detection,” *Discover Nano*, vol. 19, no. 6, Jan. 2024. (SCI, EI, 2022 IF = 6.5)
3. W. C. Miao, F. H. Hsiao, Y. Sheng, T. Y. Lee, Y. H. Hong, **C. W. Tsai**, H. L. Chen, Z. Liu, C. L., Lin, R. J. Chung, Z. T. Ye, R. H. Horng, S. C. Chen, H. C. Kuo, J. H. He, “Microdisplays: Mini-LED, Micro-OLED, and Micro-LED,” *Advanced Optical Materials*, 2300112, May 2023 (SCI, EI, 2023 IF=10.05)
4. H. C. Kuo, Z. T. Ye, S. F. Tseng, S. X. Tsou, S. W. Huang, and **C. W. Tsai***, “Noninvasive direct bilirubin detection by spectral analysis of color images using a Mini-LED light source,” *Nanoscale Research Letters*, vol. 18, no. 16, Jan. 2023 (SCI, EI, 2023 IF=5.418)
5. Y. L. Chen, W. C. Chin, **C. W. Tsai**, C. C. Chiu, C. H. Tien, Z. T. Ye, and P. Han, “Wide-Angle Mini-Light-Emitting Diodes without Optical Lens for an Ultrathin Flexible Light Source,” *Micromachines*, vol. 13, no. 8, pp. 1326, Aug. 2022 (SCI, 2022 IF=3.523)
6. C. H. Tsai, **C. W. Tsai†**, H. T. Chang, S. H. Liu, and J. C. Tsai, “Electrothermally -actuated micromirrors with bimorph actuators – bending-type and torsion-type,” *Sensors*, vol. 15, no. 6, pp. 14745-14756, Jun. 2015 (SCI, 2023, IF=3.847)
7. D. S. Chen, P. F. Yeh, Y. F. Chen, **C. W. Tsai**, C. Y. Yin, R. J. Lai, and J. C. Tsai, “An electrothermal actuator with two degrees of freedom serving as the arm of a MEMS gripper,” *IEEE Transactions on Industrial Electronics*, vol. 61, no. 10, pp. 5465-5471, Oct. 2014 (SCI, EI, 2023, IF=8.162)
8. **C. W. Tsai**, H. T. Chang, S. H. Liu, and J. C. Tsai, “Magnetically-actuated swing-type MEMS mirror pair for a reconfigurable optical interconnect,” *Journal of Lightwave Technology*, vol. 31, no. 24, pp. 4126-4134, Dec. 2013 (SCI, EI, 2023, IF=4.439)
9. L. M. Sin, T. T. Pan, **C. W. Tsai**, C. F. Chou, J. Q. Hong, and J. C. Tsai, “Multifunction thermopile sensors fabricated with a MEMS-compatible process,” *IEEE Transactions on Semiconductor Manufacturing*, vol. 26, no. 2, pp. 242-247, May 2013 (SCI, EI, 2023 IF=2.796)
10. **C. W. Tsai**, K. H. Chen, C. K. Shen, and J. C. Tsai, “A MEMS doubly-decoupled gyroscope with wide driving-frequency range,” *IEEE Transactions on Industrial Electronics*, vol. 59, no. 12, pp. 4921-4929, Dec. 2012 (SCI, EI, 2023, IF=8.162)

11. C. C. Chiang, **C. W. Tsai**, and S. L. Tsao, "Design and simulation of a novel 32 × 32 photonic bandgap power switch based on SOI waveguide," *Optics Communications*, vol. 278, no. 1, pp. 42-47, May 2007 (SCI, 2023, IF=2.335)
12. **C. W. Tsai**, C. T. Chu, M. H. Pan, and S. L. Tsao, "Design and analysis of one-dimensional resonant hexagonal holes photonic bandgap filter waveguide," *Optical Engineering*, vol. 45, no. 8, pp. 084601, Aug. 2006 (SCI, EI, 2023, IF=1.352)
13. S. L. Tsao, H. C. Guo, and **C. W. Tsai**, "A novel 1 × 2 single mode 1300 nm/ 1550 nm wavelength division multiplexer with output facet-tilted MMI waveguide," *Optics Communications*, vol. 232, no. 1-6, pp. 371-379, Mar. 2004 (SCI, 2023, IF=2.335)
14. S. L. Tsao, J. H. Tien, and **C. W. Tsai**, "Simulations on an SOI grating-based optical add/drop multiplexer," *IEEE Journal of Selected Topics on Quantum Electronics*, vol. 8, no. 6, pp. 1277-1284, Nov./Dec. 2002. (SCI, EI, 2023, IF=4.653)

Conference & proceeding papers (會議論文)

1. **C. W. Tsai**, "3D Floating Holographic Display with 12K x 2K LCoS-SLM," *International Conference on Display Technology (ICDT 2024)*, Hefei, China. Mar. 31 - Apr.3, 2024 (Invited)
2. C. H. Chen, and **C. W. Tsai**, "Light spectral analysis of color images enables non-invasive direct bilirubin detection," *International Symposium on Precision Engineering 2023 (ISPE 2023)*, Tainan, Taiwan, Nov. 10-11, 2023
3. K. C. Ho, **C. W. Tsai**, C. Wang, T. Lee, "Fast-Phase Full HD Color-Sequential LCoS-SLM for Holographic Display Application," *International Conference on Display Technology (ICDT 2021)*, vol. 52, no. S2, pp. 420-422, 2021. (Invited)
4. C. Y. Shieh, **C. W. Tsai**, "Characteristics of CMOS-based Micro LED Display by using Digital Modulation Technology," *International Conference on Display Technology (ICDT 2021)*, vol. 52, no. S2, pp. 344-346, 2021.
5. **C. W. Tsai**, C. Y. Shieh, T. I. Lin, K. Tai, "Digital Optics Education, Research & Development, Technology Infrastructure," *International Conference on Display Technology (ICDT 2020)*, vol. 52. No. S1, pp. 27-28, 2021. (Invited)
6. K. Tai, J. Wang, **C. W. Tsai**, "Digital Optics and Digital Modulation," *International Conference on Display Technology (ICDT 2020)*, Wuhan, China, October 11-14, 2020 (Invited)
7. C. Y. Shieh, **C. W. Tsai**, T. I. Lin, "High Performance Micro LED Display Based on Complementary Metal-Oxide-Semiconductor Backplane by Digital Driving Technology,"

- International Conference on Display Technology (ICDT 2020)*, vol. 52, no. S1, pp. 303-304, 2021.
(Invited)
8. **C. W. Tsai**, T. Li, C. Wang, “High Resolution Phase-only 4K2K LCoS Spatial Light Modulator for Holographic Display Technology,” *The 26th International Display Workshops (IDW’19)*, Sapporo, Japan, November 27-29, 2019 **(Invited)**
 9. **C. W. Tsai**, “Near-to-Eye Display Application Based on Digital Electro-optics Platform (X-on-Silicon),” *International Conference on Display Technology (ICDT 2018)*, vol. 49, no. S1, pp. 218-221, November 28, 2018 **(Invited)**
 10. **C. W. Tsai**, F. Lin, and C. Wang, “Near Eye Application Based on Digital Electro-Optics Platform (X-on-Silicon),” *The 24th International Display Workshops (IDW’17)*, Sendai, Japan, December 6-8, 2017 **(Invited)**
 11. K. Tai, and **C. W. Tsai**, “Digital Electro-optics Platform (X-on-Silicon),” *International Symposium on Imaging, Sensing, and Optical Memory 2017 (ISOM’17)*, Matsue, Japan, Oct. 22-25, 2017 **(Special Invited)**
 12. **C. W. Tsai**, C. C. Hung, C. H. Chu, and C. Wang, “Innovation Method for Accelerating Response Time of Reflective Type LCoS-SLM in off-axis System,” *The 12th Conference on Lasers and Electro-Optics Pacific Rim (CLEO-PR 2017)*, Singapore, Singapore, July 31 – Aug. 4, 2017
 13. **C. W. Tsai**, C. Wang, B. H. Lyu, and C. H. Chu, “LCoS-SLM Technology based on Digital Electro-Optics Platform and Using in Dynamic Optics for Application Development,” *Proceeding of 14th Conference on Education and Training in Optics and Photonics (ETOP 2017)*, Hangzhou, China, May 29-31, 2017
 14. B. H. Lyu, C. Wang, and **C. W. Tsai**, “Integration of LCoS-SLM and LabVIEW based software to simulate fundamental optics, wave optics, and Fourier optics,” *Proceeding of 14th Conference on Education and Training in Optics and Photonics (ETOP 2017)*, Hangzhou, China, May 29-31, 2017
 15. **C. W. Tsai**, B. H. Lyu, C. Wang, and C. C. Hung, “Enhancing Performance of LCoS-SLM as Adaptive Optics by Using Computer-Generated Holograms Modulation Software,” *Proceeding of SPIE 10233, Holography: Advances and Modern Trends V*, pp. 102331D, Prague, Czech Republic, May 15, 2017
 16. **C. W. Tsai**, “Micro Display and Digital Spatial Light Modulator (SLM) Using Electro-optics Platform,” *SID International Conference on Display Technology (ICDT 2017)*, Fuzhou, China, February 18-20, 2017 **(Invited)**

17. H. T. Chang, **C. W. Tsai**, S. H. Liu, and J. C. Tsai, "Magnetically actuated swing-type micromirror," *Proceeding of 2013 IEEE International Conference on Optical MEMS and Nanophotonics*, pp. 71-72, Kanazawa, Japan, Aug. 18-22, 2013
18. S. L. Tsao, S. F. Hu, J. H. Tien and **C. W. Tsai**, "Implementation Process of A Reflective Type of Electrical Tunable SOI Optical Filter," *Proceeding of The Pacific Rim Conference on Lasers and Electro-Optics (CLEO/Pacific Rim'03)*, WP-(8)-7, vol. I, pp. 282, Taipei, Taiwan, Dec. 15-19, 2003
19. S. L. Tsao and **C. W. Tsai**, "Nano-Dots Effect in One Dimensional Photonic Bandgap Filter Based on SOI Structure," *Proceeding of The 48th SPIE's Annual Meeting*, vol. 5224, pp. 138-146, San Diego, C.A., U.S.A., Aug. 3-8, 2003
20. **C. W. Tsai**, S. L. Tsao and J. H. Tien, "Analysis of Grating Switch Based on SOI Waveguide for Designing An Optical Add/Drop," *Proceeding of Optics and Photonics Taiwan'02*, vol. II, pp. 22-24, Taipei, Taiwan, Dec. 12-13, 2002

Patent (發明及專利):

1. **蔡君偉**, 邵世豐, "保護連接墊之晶圓級封裝的切割方法", 中華民國專利證書發明第 I376739 號, Nov. 11, 2012
2. **蔡君偉**, "製作光學元件封蓋的方法", 中華民國專利證書發明第 I341000 號, Apr. 21, 2011
3. **C. W. Tsai**, and S. F. Shao, "Wafer-level packaging cutting method capable of protecting contact pads," U.S. patent No.: US 7,622,334 B2, Nov. 24, 2009
4. **C. W. Tsai**, "Method of fabricating optical device caps," U.S. patent No.: US 7,528,000 B2, May 5, 2009
5. S. L. Tsao, C. H. Tien, and **C. W. Tsai**, "Tunable optical add-drop multiplexer based on SOI wafer and manufacturing method thereof," U.S. patent No.: US 7,324,725 B2, Jan. 29, 2008
6. 曹士林, 田章鴻, **蔡君偉**, "絕緣層上矽晶積體化之可調式光塞取多工器及其製造方法", 中華民國專利證書發明第 205206 號, Jun. 21, 2004