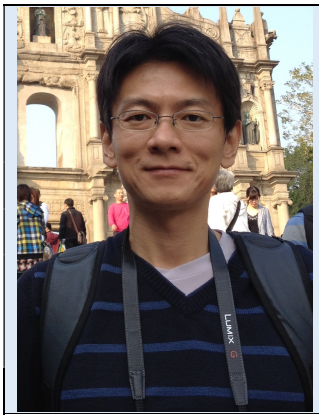
師 資 介 紹



李 志 成 (LEE, ZHI-CHENG)

職　　稱：　副教授
最高學歷：　國立成功大學微電子工程研究所博士
學術專長：　半導體元件模擬、光電元件研製、半導體元件物理與製程

分　　機：

參考資料目錄:
****

A. Referred International Journal Papers (國際期刊)
B. International Conference Papers (國際研討會期刊)
C. 專利發明

A. Referred International Journal Papers (國際期刊)

A1. Tzong-Yow Tsai, Yu-Cheng Song, **Zhi-Cheng Lee** et al., “Passively Q-switched 976-nm monolithic ytterbium fiber laser with 4-W power,” Optics Letters, vol. 50, no. 2, pp. 542–545, Jan. 2025.

A2. Tzong-Yow Tsai, Yu-Cheng Song, **Zhi-Cheng Lee** et al., “Realization of a compact 10-W 976-nm ytterbium-doped all-fiber laser,” Optics Letters, vol. 48, no. 21, pp. 5667–5670, Nov. 2023.

A3. Tzong-Yow Tsai, and **Zhi-Cheng Lee** et al., "Simulation for efficiency improvement of a thuilium Q-switched ytterbium-doped all-fiber laser," Optics Letters, vol. 46, no. 3, pp. 516–519, Feb. 2021. (SCI, IF=3.776)

A4. **Zhi-Cheng Lee** et al., "Replacement gate high-k/metal Gate nMOSFETs using a self-aligned halo-compensated channel implant," IEEE Trans. Electron Devices, vol. 67, no. 6, pp. 2232–2237, Jun. 2020. (SCI, IF=2.917)

A5. Tzong-Yow Tsai, and **Zhi-Cheng Lee**, "1030-nm passively Q-switched ytterbium-doped fiber laser using excited-state absorption of thulium fiber," Optics Letters, vol. 45, no. 1, pp. 17–20, Jan. 2020. (SCI, IF=3.776)

A6. Tzong-Yow Tsai, **Zhi-Cheng Lee** et al., "Minimization of Fresnel reflection by antireflection fiber Bragg grating inscribed at the fiber ends," Optics express, vol. 27, no. 8, pp. 11510–11515, Apr. 2019. (SCI, IF=3.894)

A7. Tzong-Yow Tsai, Zhi-Cheng Lee et al., "Enhanced arc-induced core expansion for mode-field adaptation using a H2-loaded fiber," OSA Continuum, vol. 2, no. 4, pp. 1358–1364, Apr. 2019. (ESCI)

A8. Tzong-Yow Tsai, **Zhi-Cheng Lee**, Hong-Xi Tsao, and Shih-Ting Lin, "Lensless intracavity focusing in a passively Q-switched all-fiber laser using the mode-field-area mismatch," Optics Letters, vol. 37, no. 13, pp. 2610-2612, Jul. 2012. (SCI, IF=3.385)

A9. Tzong-Yow Tsai, Yen-Cheng Fang, **Zhi-Cheng Lee** and Hong-Xi Tsao, "All-fiber passively Q-switched erbium laser using mismatch of mode field areas and a saturable-amplifier pump switch," Optics Letters, vol. 34, no. 19, pp. 2891-2893, Oct. 2009. (SCI, IF=3.316)

A10. Tzong-Yow Tsai, Yen-Cheng Fang, **Zhi-Cheng Lee**, Jong-Rong Chen, “Design and Simulation of Apodized Wavelength Filters Using Gaussian-Distributed Sidewall Grating,” Opt. Quant. Electron., 39, pp. 571-575, Aug., 2007. (SCI)

A11. Tzong-Yow Tsai, **Zhi-Cheng Lee**, Jong-Rong Chen, Chi-Chung Chen, Yen-Cheng Fang, Ming-Hong Cha, “A novel compact wavelength-division multiplexer using highly dispersive waveguide-to-waveguide coupling,” Opt. Commun., vol. 263, no. 2, pp. 197-200, Jul., 2006. (SCI)

A12. Tzong-Yow Tsai, **Zhi-Cheng Lee**, Jong-Rong Chen, Chi-Chung Chen, Yen-Cheng Fang, Ming-Hong Cha, “ A novel ultra-compact two-mode-interference wavelength division multiplexer for 1.5- m m operation, ” IEEE J. Quantum Electron., vol. 41, no. 5, pp. 741-746, May, 2005. (SCI)

A13. Tzong-Yow Tsai, **Zhi-Cheng Lee**, Jong-Rong Chen, Chi-Chung Chen, Yen-Cheng Fang, Ming-Hong Cha, “Ultra-short wavelength filters using mode-related dispersion in dual-mode waveguides,” Microwave and Optical Technology Letters, vol. 46, no. 3, pp. 225-227, Aug. 2005. (SCI)

A14. Tzong-Yow Tsai, **Zhi-Cheng Lee**, Chi-Shiun Gau, Fu-Shing Chen, Jong-Rong Chen, and Chi-Chung Chen, “ A novel wavelength-division multiplexer using grating-assisted two-mode interference ,” IEEE Photon. Technol. Lett., vol. 16, no. 10, pp. 2251-2253, Oct. 2004. (SCI)

****

B. International Conference Papers (國際研討會期刊)

B1. Achilles Fang, Jen-Wei Pan, Widson Wu, Sheng Cho, Wei-Jun Chen, Jia-Bin Yeh, **Zhi-Cheng Lee** et al., "The Powerful Methods of Flicker Noise Improvement in 22nm Technology," 2021

International Symposium on VLSI Technology, Systems and Applications (VLSI-TSA), 2021, pp. 1-2.

****

C. 專利發明

<獲權美國專利>

C1. **Zhi-Cheng Lee** et al., 2024, “Method for forming air gap between gate dielectric layer and spacer”. (Patent # 12107121)

C2. Kai-Lin Lee, **Zhi-Cheng Lee** et al., 2024,” High electron mobility transistor and method for fabricating the same”. (Patent # 12107157)

C3. **Zhi-Cheng Lee** et al., 2023, “Method for fabricating a high-voltage metal-oxide-semiconductor transistor device”. (Patent # 11715784)

C4. **Zhi-Cheng Lee** et al., 2023, “Method of fabricating metal gate transistor”. (Patent # 11652154)

C5. **Zhi-Cheng Lee** et al., 2023, “High voltage transistor structure and method of fabricating the same”. (Patent # 11610973)

C6. Kai-Lin Lee, **Zhi-Cheng Lee** et al., 2023,” High electron mobility transistor and method for fabricating the same”. (Patent # 11749748)

C7. **Zhi-Cheng Lee** et al., 2022, “Semiconductor process”. (Patent # 11527652)

C8. **Zhi-Cheng Lee** et al., 2022, “Method for forming a high-voltage metal-oxide-semiconductor transistor device”. (Patent # 11380777)

C9. **Zhi-Cheng Lee** et al., 2022, “High voltage transistor structure and method of fabricating the same”. (Patent # 11251279)

C10. Kai-Lin Lee, **Zhi-Cheng Lee** et al., 2022,” HEMT and method of adjusting electron density of 2DEG”. (Patent # 11239327)

C11. **Zhi-Cheng Lee** et al., 2021, “Method of fabricating metal gate transistor ”. (Patent # 11127838)

C12. Kai-Lin Lee, **Zhi-Cheng Lee** et al., 2021,” High Electron Mobility Transistor and method for fabricating the same”. (Patent # 11088271)

C13. **Zhi-Cheng Lee** et al., 2021, “Semiconductor device and method for fabricating the same”. (Patent # 11011430)

C14. **Zhi-Cheng Lee** et al., 2020, “Semiconductor structure and process therefore”. (Patent # 10861974)

C15. **Zhi-Cheng Lee** et al., 2020, “Semiconductor device”. (Patent # 10756209)

C16. **Zhi-Cheng Lee** et al., 2020, “Semiconductor device and fabrication method thereof”. (Patent # 10629728)

C17. **Zhi-Cheng Lee** et al., 2020, “Semiconductor device and method for fabricating the same”. (Patent # 10566244)

C18. Kai-Lin Lee, **Zhi-Cheng Lee** et al., 2020, ” Fabricating method of fin structure with tensile stress and complementary FinFET structure”. (Patent # 10629734)

C19. Kai-Lin Lee, **Zhi-Cheng Lee** et al., 2019, ” Fabricating method of fin structure with tensile stress and complementary FinFET structure”. (Patent # 10229995)

C20. **Zhi-Cheng Lee** et al., 2018, “Complementary metal oxide semiconductor device and method of forming the same”. (Patent # 10103265)

C21. **Zhi-Cheng Lee** et al., 2018, “Semiconductor device and method of forming the same”. (Patent # 10014406)

C22. Kai-Lin Lee, **Zhi-Cheng Lee**, Yu-Hao Huang, 2017, ”FinFET having a fin and a v-shaped epitaxial layer formed on the top surface of the fin and method for fabricating the same”. (Patent # 9640661)

C23. Chien-Ming Lai, Yi-Wen Chen, **Zhi-Cheng Lee** et al., 2016 “Method for fabricating semiconductor device”. (Patent # 9490342)

C24. Guang-Yaw Hwang, Chun-Hsien Lin, Hung-Ling Shih, Jiunn-Hsiung Liao, **Zhi-Cheng Lee** et al., 2016, “Oxygen treatment of replacement work-function metals in CMOS transistor gates”. (Patent # 9384962)

C25. Po-Jui Liao, Tsung-Lung Tsai, Chien-Ting Lin, Shao-Hua Hsu, Yi-Wei Chen , Hsin-Fu Huang, Tzung-Ying Lee, Min-Chuan Tsai, Chan-Lon Yang, Chun-Yuan Wu, Teng-Chun Tsai, Guang-Yaw Hwang, Chia-Lin Hsu, Jie-Ning Yang, Cheng-Guo Chen , Jung-Tsung Tseng, **Zhi-Cheng Lee** et al., 2014, ”Method of manufacturing semiconductor device having metal gates”. (Patent # 8802524)

C26. Che-Hua Hsu, Shao-Hua Hsu, **Zhi-Cheng Lee**, Cheng-Guo Chen, 2013, “Method of selectively removing patterned hard mask”. (Patent # 8486842)

C27. Che-Hua Hsu, Shao-Hua Hsu, **Zhi-Cheng Lee**, Cheng-Guo Chen, 2013, “Method of forming metal gate structure”. (Patent # 8492259)

C28. Che-Hua Hsu, Shao-Hua Hsu, **Zhi-Cheng Lee**, Cheng-Guo Chen, 2012, “Method of forming metal gate structure and method of forming metal gate transistor”. (Patent # 8268712)

C29. Che-Hua Hsu, Shao-Hua Hsu, **Zhi-Cheng Lee**, Cheng-Guo Chen et al., 2012, “Removing method of a hard mask”. (Patent # 8232152)

C30. Chin-Cheng Chien, Chan-Lon Yang, Chiu-Hsien Yeh, Che-Hua Hsu, **Zhi-Cheng Lee** et al., 2012, “Method for removing photoresist”. (Patent # 8252515)

C31. Che-Hua Hsu, **Zhi-Cheng Lee**, Cheng-Guo Chen, Shao-Hua Hsu, et al., 2011, “Method of fabricating efuse structure, resistor structure and transistor structure”. (Patent # 8003461)

<獲權台灣專利>

C32. **李志成**等，「金屬閘極電晶體的製作方法」，2024，中華民國發明第 I835915 號。

C33. **李志成**等，「半導體元件及其製作方法」，2022，中華民國發明第 I776911 號。

C34. **李志成**等，「半導體元件及其製作方法」，2022，中華民國發明第 I772588 號。

C35. 賴建銘、陳奕文、**李志成**等，「半導體元件的製作方法」，2017，中華民國發明第 I575576 號。

C36. 黃光耀、林俊賢、施宏霖、廖俊雄、**李志成**等，「具有金屬閘極之半導體元件與製造方法」，2016，中華民國發明第 I562211 號。

C37. 許哲華、**李志成**、陳正國、徐韶華，「電熔絲結構、電阻結構與電晶體結構之製作方法」，2016，中華民國發明第 I559460 號。

C38. 許哲華、徐韶華、**李志成**、陳正國等，，「硬罩幕去除方法」，2015，中華民國發明第 I488224 號。

C39. 許哲華、徐韶華、**李志成**、陳正國等，「形成金屬閘極結構之方法與形成金屬閘極電晶體之方法」，2014，中華民國發明第 I464786 號。

C40. 簡金城、楊建倫、葉秋顯、許哲華、**李志成**等，「半導體元件的製作方法」，2014，中華民國發明第 I456361 號。

C41. 蔡宗祐，**李志成**，高騏勳，「微小型雙模/多模干涉光分波多工器」，2009 中華民國發明第 I308462 號。

<獲權中國專利>

C42. **李志成**等，「半導體結構及其製作工藝」，2023，申請公布號 CN111697072A。

C43. **李志成**等，「高壓晶體管結構及其製作方法」，2023，申請公布號 CN113921601B。

C44. 李凱霖、**李志成**等，「半導體元件及其製作方法」，2022，申請公布號 CN107275399A

C45. **李志成**等，「半導體裝置及其形成方法」，2021，申請公布號 CN107634056A。

C46. **李志成**等，「互補式金屬氧化物半導體元件及其製作方法」，2021，申請公布號 CN109390338A。

C47. 李凱霖、**李志成**等，「具伸張應力鰭狀結構的製作方法與互補式鰭狀晶體管結構」，2021，申請公布號 CN109273440A。

C48. 廖柏瑞、蔡宗龍、林建廷、徐韶華、陳意維、黃信富、李宗穎、蔡旻錞、楊建倫、吳俊元、蔡騰群 、黃光耀、許嘉麟、楊杰甯、陳正國、曾榮宗、**李志成**等，「具有金屬閘級的半導體元件的製作方法」，2016，申請公布號 CN102738083A。

C49. 黃光耀、林俊賢、施宏霖、廖俊雄，**李志成**等，「具有金屬閘級的半導體元件的製作方法」，2016，申請公布號 CN102737971A。