李文仁 Wen-Jen Lee

副教授, 應用物理系

☎ 886-8-7663800 Ext. 33466

✉ wenjenlee@mail.nptu.edu.tw

🏢 屏師校區 理學大樓 5 樓

👤 光電暨能源材料實驗室

ORCID: https://orcid.org/0000-0003-0419-6955
ResearchGate: https://www.researchgate.net/profile/Wen_Jen_Lee

研究領域

原子層沉積(ALD), 薄膜技術, 能源材料, 光電半導體材料, 液流電池, 超級電容

學歷

國立成功大學 材料科學與工程 博士

主持國科會研究計畫

1. 運用原子層沉積技術開發高性能碳材料儲能電極, NSTC 111-2221-E-153-002, 2022/08/01 ~ 2023/07/31. (計畫主持人)
2. 原子層沉積氮摻雜二氧化鈦奈米鍍膜改質石墨氈用於釩液流電池電極之研究, MOST 110-2221-E-153-004, 2021/08/01 ~ 2022/07/31. (計畫主持人)
3. 石墨氈表面改質及應用研究, MOST 109-2622-E-153-001, 2020/11/01 ~ 2021/10/31. (計畫主持人)
4. 原子層沉積高表面積氧化釩鍍膜儲能電極, MOST 108-2622-E-153-001-CC3, 2019/06/01 ~ 2020/05/31. (計畫主持人)
5. 兩段式原子層沉積多孔性氧化釩薄膜製程技術開發及其應用於製作高表面積儲能電極之研究, MOST 106-2622-E-153-002-CC3, 2017/11/01 ~ 2018/10/31. (計畫主持人)
6. 原子層沉積氧化釩薄膜之成長特性與性質研究(II), MOST 106-2221-E-153-004, 2017/08/01 ~ 2018/07/31. (計畫主持人)
7. 原子層沉積氧化釩薄膜之成長特性與性質研究, MOST 105-2221-E-153-001, 2016/08/01 ~ 2017/07/31. (計畫主持人)
8. 以原子層沉積法在聚碳酸酯基板上低溫成長二氧化鈦薄膜之研究, MOST 105-2622-E-153-003-CC3, 2016/06/01 ~ 2017/05/31. (計畫主持人)
9. 高效能固液異質接面紫外光偵測器之研發, MOST 104-2221-E-153-003, 2015/08/01 ~ 2016/07/31. (計畫主持人)
10. 以原子層沉積法於 FTO 透明導電基板成長 TiO_2 薄膜之特性研究及其應用於紫外光偵測器之元件特性探討(II), MOST 104-2221-E-153-003, 2014/08/01 ~ 2015/07/31. (計畫主持人)

11. 以原子層沉積法於 FTO 透明導電基板成長 TiO_2 薄膜之特性研究及其應用於紫外光偵測器之元件特性探討, NSC 102-2218-E-153-001, 2013/10/01 ~ 2014/09/30. (計畫主持人)

SCI 期刊論文

SCI 國際期刊論文

1. Y. T. Lin, A. Hassanfiroozi, W. R. Jiang, M. Y. Liao, **W. J. Lee**, P. C. Wu*, “Photoluminescence Enhancement with All-dielectric Coherent Metasurfaces”, ***Nanophotonics*** 11 (**2022**) 2701-2709.
2. T. R. Chen*, Y. T. Chen, Y. S. Chen, **W. J. Lee**, Y. H. Lin, H. C. Wang, “Iridium/graphene nanostructured catalyst for the *N*-alkylation of amines to synthesize nitrogen-containing derivatives and heterocyclic compounds in a green process”, ***RSC Adv.*** 12 (**2022**) 4760-4770.
3. A. Hassanfiroozi, P. S. Huang, S. H. Huang, K. I. Lin, Y. T. Lin, C. F. Chien, Y. Shi, **W. J. Lee**, P. C. Wu*, “A Toroidal-Fano-Resonant Metasurface with Optimal Cross-Polarization Efficiency and Switchable Nonlinearity in the Near-Infrared”, ***Adv. Optical Mater.*** 9 (2021) 2101007.
4. **W. J. Lee***, X. J. Wang, “Structural, Optical, and Electrical Properties of Copper Oxide Films Grown by the SILAR Method with Post-Annealing”, ***Coatings*** 11 (2021) 864.
5. **W. J. Lee***, Y. T. Wu, Y. W. Liao, Y. T. Liu, “Graphite Felt Modified by Atomic Layer Deposition with TiO_2 Nanocoating Exhibits Super-hydrophilicity, Low Charge-transform Resistance, and High Electrochemical Activity”, ***Nanomaterials*** 10 (2020) 1710.
6. T. R. Chen*, Y. X. Wang, **W. J. Lee**, K. H. C. Chen, J. D. Chen, “A reduced graphene oxide supported iridium nanocatalyst for selective transformation of alcohols into carbonyl compounds via a green process”, ***Nanotechnology*** 31 (2020) 285705.
7. T. R. Chen*, Y. S. Lin, Y. X. Wang, **W. J. Lee**, K. H. C. Chen, J. D. Chen, “Graphene oxide-iridium nanocatalyst for the transformation of benzylic alcohols into carbonyl compounds”, ***RSC Adv.*** 10 (**2020**) 4436-4445.
8. **W. J. Lee***, Y. H. Chang, “Growth without postannealing of monoclinic VO_2 thin film by atomic layer deposition using VCl_4 as precursor”, ***Coatings*** 8 (**2018**) 431.
9. C. L. Ko, Y. L. Kuo*, **W. J. Lee**, H. J. Sheng, J. Y. Guo, “The enhanced abrasion resistance of an anti-fingerprint coating on chrome-plated brass substrate by integrating sputtering and atmospheric pressure plasma jet technologies”, ***Appl. Surf. Sci.*** 448 (**2018**) 88-94.
10. A. A. Abdul-Hameed, M. A. Mahdi*, B. Ali, A. M. Selman, H. F. Al-Taay, P. Jennings, **W. J. Lee**, “Fabrication of a high sensitivity and fast response self-powered photosensor based on a core-shell silicon nanowire homojunction”, ***Superlattices Microstruct.*** 116 (**2018**) 27-35.
11. I. S. Lyubutin, S. S. Starchikov*, A. O. Baskakov, N. E. Gervits, C. R. Lin*, Y. T. Tseng, **W. J. Lee**, K. Y. Shih, “Exchange-coupling of hard and soft magnetic sublattices and magnetic anomalies in mixed spinel $NiFe_{0.75}Cr_{1.25}O_4$ nanoparticles”, ***J. Magn. Magn. Mater.*** 451 (**2018**) 336-343.

12. I. S. Lyubutin, C. R. Lin*, S. S. Starchikov, A. O. Baskakov, N. E. Gervits, K. O. Funtov, Y. T. Tseng, **W. J. Lee**, K. Y. Shih, J. S. Lee, "Structural, Magnetic, and Electronic Properties of Mixed Spinel $NiFe_{2-x}Cr_xO_4$ Nanoparticles Synthesized by Chemical Combustion", ***Inorg. Chem.*** 56 (**2017**) 12469.
13. Y. W. Lu, Y. Tseng, J. S. Lee, **W. J. Lee***, "Lateral-to-vertical growth transition of TiO_2 nanorods grown on FTO-glass substrate by hydrothermal process", ***Dig. J. Nanomater. Bios.*** 11 (**2016**) 507.
14. L. G. Teoh, J. S. Lee, Y. Tseng, **W. J. Lee***, "Fabrication and Characterization of TiO_2 Nanorod Array Based Visible-Blind Ultraviolet Photodetector by Hydrothermal Process", ***Mater. Trans.*** 57 (**2016**) 703.
15. J. H. Lee, S. Y. Tsai, **W. J. Lee**, M. H. Hon, I. C. Leu*, "Fabrication of Three-Dimensionally Structured Titanium Oxide Thin Films by Transfer Printing", ***J. Am. Ceram. Soc.*** 95 (**2012**) 165.
16. **W. J. Lee***, M. H. Hon, "An ultraviolet photo-detector based on TiO_2/water solid-liquid heterojunction", ***Appl. Phys. Lett.*** 99 (**2011**) 251102.
17. **W. J. Lee***, M. H. Hon, Y. W. Chung, J. H. Lee, "A three-dimensional nanostructure consisting of hollow TiO_2 spheres fabricated by atomic layer deposition", ***Jpn. J. Appl. Phys.*** 50 (**2011**) 06GH06.
18. **W. J. Lee***, M. H. Hon, "Space-limited crystal growth mechanism of TiO_2 films by atomic layer deposition", ***J. Phys. Chem. C*** 114 (**2010**) 6917.
19. H. E. Cheng*, **W. J. Lee**, C. M. Hsu, M. H. Hon, C. L. Huang, "Visible light activity of nitrogen-doped TiO_2 thin films grown by atomic layer deposition", ***Electrochem. Solid State Lett.*** 11 (**2008**) D81.
20. H. E. Cheng*, **W. J. Lee**, "Properties of TiN films grown by atomic-layer chemical vapor deposition with a modified gaseous-pulse sequence", ***Mater. Chem. Phys.*** 97 (**2006**) 315.
21. H. E. Cheng*, **W. J. Lee**, C. M. Lee, "The effect of deposition temperature on the properties of TiN diffusion barriers prepared by atomic layer chemical vapor deposition", ***Thin Solid Films*** 485 (**2005**) 59.

經歷

國立屏東大學 應用物理系 副教授 (現職)

國立屏東大學 應用物理系 助理教授

國立屏東大學 研究發展處 技術合作組組長

國立屏東大學 先進薄膜製程學士學位學程 專案助理教授

遠東科技大學(電機系、光電系)、南台科技大學(光電系)、東方技術學院(電子系)、空軍航空技術學院(飛機系) 兼任講師

勞動部台南官田職訓中心 外聘講師(太陽能專班)

南台科技大學 光電半導體中心技佐

瀚宇彩晶股份有限公司 故障分析工程師

奇美電子股份有限公司 薄膜工程師

天田股份有限公司 技術支援工程師