

\*蔡孟燦副教授

所有發表期刊論文

## (A) 國際期刊論文(SCI)

### 2014 年

1. **Meng-Tsan Tsai**, Zu-Po Yang, Ting-Shiuan Jing, Hsin-Hwa Hsieh, Yung-Chi Yao, Tai-Yuan Lin, Yang-Fang Chen, and Ya-Ju Lee\*, "Achieving graded refractive index by use of ZnO nanorods/TiO<sub>2</sub> layer to enhance omnidirectional photovoltaic performances of InGaP/GaAs/Ge triple-junction solar cells," *Solar Energy Materials and Solar Cells*, Accepted, 2015. (Ranking: 16/136=11.76% in PHYSICS, APPLIED)
2. I-Chi Lee\*, Jheng-Siou He, **Meng-Tsan Tsai**,\*and Kai-Che Lin, "Fabrication of a novel partially dissolving polymer microneedle patch for transdermal drug delivery," *Journal of Materials Chemistry B* (2014)
3. Chih-Hsun Yang, **Meng-Tsan Tsai**\*, Su-Chin Shen, Chau Yee Ng, and Shih-Ming Jung, "Feasibility of ablative fractional laser-assisted drug delivery with optical coherence tomography," *Biomed. Opt. Express* 5(11) 3949–3959 (2014). **(OPTICS Rank: 7/82)**
4. Chiung-Ting Wu, **Meng-Tsan Tsai**, and Cheng-Kuang Lee\*, "Two-level optical coherence tomography scheme for suppressing spectral saturation artifacts," *Sensors* 14(8), 13548-13555 (2014) **(INSTRUMENTS & INSTRUMENTATION Rank: 10/57)**
5. **Meng-Tsan Tsai**, and Ming-Che Chan\*, "Simultaneous 0.8, 1.0, and 1.3  $\mu\text{m}$  multi-spectral and common-path broadband source for optical coherence tomography," *Optics Letters* 39(4), 865-868 (2014). **(OPTICS Rank: 10/82)**
6. **Meng-Tsan Tsai**, Feng-Yu Chang, Cheng-Kuang Lee, Cihun-Siyong Alex Gong, Yu-Xiang Lin, Jiann-Der Lee, Chih-Hsun Yang, and Hao-Li Liu\*, "Investigation of temporal vascular effects induced by focused ultrasound treatment with speckle-variance optical coherence tomography," *Biomed. Opt. Express* 5(7) 2009-2022 (2014). **(OPTICS Rank: 7/82)**

### 2013 年

7. **Meng-Tsan Tsai**, Jeng-Jie Hung, and Ming-Che Chan, "Ultrahigh resolution optical coherence tomography with LED-Phosphor-based broadband light source," *Appl. Phys. Express* 6, 122502 (2013). **(APPLIED PHYSICS Rank: 23/128)**
8. Yung-Chi Yao, **Meng-Tsan Tsai**, Chun-Ying Huang, Tai-Yuan Lin, Jinn-Kong Sheu, and Ya-Ju Lee, "Efficient collection of photogenerated carriers by inserting double tunnel junctions in III-nitride p-i-n solar cells," *Appl. Phys. Lett.* 103, 193503 (2013).
9. **Meng-Tsan Tsai**, Chih-Hsun Yang, Su-Chin Shen, Ya-Ju Lee, Feng-Yu Chang, and Cheng-Shin Feng, "Monitoring of wound healing process of human skin after fractional laser treatments with optical coherence tomography," *Biomed. Opt. Express* 4, 2362-2375 (2013). **(OPTICS Rank: 7/80)**
10. Ya-Ju Lee, Yung-Chi Yao, **Meng-Tsan Tsai**, An-Fan Liu, Min-De Yang, and Jiun-Tsuen Lai, "Current matching using CdSe quantum dots to enhance the

- power conversion efficiency of InGaP/GaAs/Ge tandem solar cells,” *Opt. Express* **21**, A953-A963 (2013). **(OPTICS Rank: 5/80)**
11. **Meng-Tsan Tsai\***, Cheng-Kuang Lee, Feng-Yu Chang, June-Tai Wu, Chung-Pu Wu, Ting-Ta Chi, and Chih-Chung Yang, “Noninvasive imaging of heart chamber in *Drosophila* with dual-beam optical coherence tomography,” *J. Biophotonics*, **6**, 708-717 (2013). **(BIOPHYSICS Rank: 29/72)** DOI: [10.1002/jbio.201200164](https://doi.org/10.1002/jbio.201200164) (Selected as the journal cover page)
  12. **Meng-Tsan Tsai**, Cheng-Kuang Lee, Kung-Min Lin, Yu-Xiang Lin, Tzu-Han Lin, Ting-Chia Chang, Jiann-Der Lee, and Hao-Li Liu, “Quantitative observation of focused ultrasound induced vascular leakage and deformation via fluorescein angiography and optical coherence tomography,” *Journal of Biomedical Optics* **18**(10), 101307 (2013). **(OPTICS Rank: 9/80)**
  13. **Meng-Tsan Tsai\***, Chih Hsun Yang, Su-Chin Shen, Feng-Yu Chang, Je-Yun Yi, and Cheng-Hiang Fan, “Noninvasive characterization of fractional photothermolysis induced by ablative and non-ablative lasers with optical coherence tomography,” *Laser Physics* **23**, 075604 (2013). **(OPTICS: Rank: 13/80)**
  14. Cheng-Kuang Lee, **Meng-Tsan Tsai\***, Feng-Yu Chang, Chih-Hsun Yang, Su-Chin Shen, Ouyang Yuan, and Chih-He Yang, “Evaluation of moisture-related attenuation coefficient and water diffusion velocity in human skin using optical coherence tomography,” *Sensors* **13**, 4041-4050 (2013) **(INSTRUMENTS & INSTRUMENTATION Rank: 8/57)** DOI: [10.3390/s130404041](https://doi.org/10.3390/s130404041)
  15. Hsiang-Chen Wang, **Meng-Tsan Tsai**, and Chun-Ping Chiang, “Visual Perception Enhancement for Detection of Cancerous Oral Tissue by Multispectral Imaging,” *Journal of Optics* **15**, 055301 (2013). **(OPTICS Rank: 22/80)** DOI: [10.1088/2040-8978/15/5/055301](https://doi.org/10.1088/2040-8978/15/5/055301)
  16. **Meng-Tsan Tsai\***, Jiann-Der Lee, Ya-Ju Lee, Cheng-Kunag Lee, Hong-Li Jin, Feng-Yu Chang, Kwang-Yu Hu, Chung-Pu Wu, Chung-Ping Chiang, and C. C. Yang, “Differentiation of oral precancerous stages with optical coherence tomography based on the evaluation of optical scattering property,” *Laser Physics* **23**, 045602 (2013). **(OPTICS: Rank: 13/80)**

## 2012 年

17. Yung-Chi Yao, **Meng-Tsan Tsai**, Po-Wei Lu, Chien-Jang Wu, and Ya-Ju Lee, “Effect of nanostructured architecture on the enhanced optical absorption in silicon thin film solar cells, *J. of Electromagn. Waves and Appl.* **26**, 1798-1807 (2012). **(ENGINEERING, ELECTRICAL & ELECTRONIC Rank: 3/55)** DOI: [10.1080/09205071.2012.713189](https://doi.org/10.1080/09205071.2012.713189)
18. Cheng-Kuang Lee, Ting-Ta Chi, Chiung-Ting Wu, **Meng-Tsan Tsai**, Chun-Pin Chiang, and C. C. Yang, “Diagnosis of oral precancer with optical coherence tomography,” *Biomedical Optics Express*, **3**, 1632-1646 (2012). **(OPTICS Rank: 11/77)**
19. **Meng-Tsan Tsai\***, Ya-Ju Lee, Yung-Chi Yao, Che-Yen Kung Feng-Yu Chang, and Jiann-Der Lee, “Quantitative phase imaging with swept-source optical coherence tomography for optical measurement of nanostructures,” *IEEE Photonics Technology Letters* **24**, 640-642 (2012). **(OPTICS Rank: 14/77)**
20. **Meng-Tsan Tsai\***, and Feng-Yu Chang, “Visualization of hair follicles using high-speed optical coherence tomography based on a Fourier domain mode locking laser,” *Laser physics* **22**, 791-796 (2012). **(OPTICS: Rank: 4/77)**

21. Yung-Chi Yao, **Meng-Tsan Tsai**, Hsu-Cheng Hsu, Li-Wei She, Chun-Mao Cheng, Yi-Ching Chen, Chien-Jang Wu, and Ya-Ju Lee, "Use of two-dimensional nanorod arrays with slanted ITO film to enhance optical absorption for photovoltaic applications," *Opt. Express* **20**, 3480-3489 (2012). **(OPTICS Rank: 5/77)**

### 2011 年

22. Ting-Ta Chi, Cheng-Kuang Lee, Chiung-Tin Wu, Chih-Chung Yang, **Meng-Tsan Tsai**, and Chun-Ping Chiang, "Motion-insensitive optical coherence tomography based micro-angiography," *Opt. Express* **19**, 26117-26131 (2011). **(OPTICS Rank: 5/77)**
23. H. L. Chan, J. H. Chu, H. C. Fung, Y. T. Tsai, L. F. Meng, C. C. Huang, W. C. Hsu, P. K. Chao, J. J. Wang, J. D. Lee, Y. Y. Wai, and **M. T. Tsai**, "Brain connectivity of patients with Alzheimer's disease by the coherence and cross mutual information of electroencephalograms during photic stimulation," *Med. Eng. Phys.* **35**(2), 241-252.
24. Y.-C. Yao, **M.-T. Tsai**, Y.-J. Lee, Y.-C. Chen, and C.-J. Wu, "Dependence of efficiency-droop effect on the location of high indium layer in staggered InGaN quantum wells," *J. of Electromagn. Waves and Appl.* **25**, 2442-2453 (2011). **(ENGINEERING, ELECTRICAL & ELECTRONIC Rank: 3/55)**
25. **Meng-Tsan Tsai\***, Ting-Ta Chi, Hao-Li Liu, Feng-Yu Chang, Chih-Hsun Yang, Cheng-Kuang Lee, and C. C. Yang, "Microvascular imaging using swept-source optical coherence tomography with single-channel acquisition," *Appl. Phys. Express* **4**, 097001 (2011). **(APPLIED PHYSICS Rank: 21/125)**
26. **Meng-Tsan Tsai\***, Feng-Yu Chang, Cheng-Kuang Lee, Ting-Ta Chi, Kai-Min Yang, Lian-Yu Lin, June-Tai Wu, and C. C. Yang, "Observations of Cardiac Beating Behaviors of Wild-type and Mutant *Drosophila* with Optical Coherence Tomography," *Journal of Biophotonics* **4**, 610-618 (2011). **(BIOPHYSICS Rank: 15/74)**
27. **Meng-Tsan Tsai\***, Feng-Yu Chang, Ya-Ju Lee, Jiann-Der Lee, Hsiang-Chen Wang, and Cheng-Kuang Lee, "Defect detection and property evaluation of indium tin oxide conducting glass using optical coherence tomography," *Opt. Express* **19**, 7559-7566 (2011). **(OPTICS Rank: 5/77)**

### 2010 年

28. Cheng-Kuang Lee, Hung-Yu Tseng, Chia-Yun Lee, Shou-Yen Wu, Ting-Ta Chi, Kai-Min Yang, Han-Yi Elizabeth Chou, **Meng-Tsan Tsai**, Jyh-Yang Wang, Yean-Woei Kiang, Chun-Pin Chiang, and C. C. Yang, "Characterizing the localized surface plasmon resonance behaviors of Au nanorings and tracking their diffusion in bio-tissue with optical coherence tomography," *Biomedical Optics Express*, Vol. 1, No. 4, pp.1059-1073, Nov. 1, (2010). Also selected to publish in *Spotlight on Optics*, an OSA feature that highlights select articles each month from the OSA flagship journals. **(OPTICS Rank: 11/77)**
29. Hung-Yu Tseng, Cheng-Kuang Lee, Shou-Yen Wu, Ting-Ta Chi, Kai-Min Yang, Jyh-Yang Wang, Yean-Woei Kiang, C. C. Yang, **Meng-Tsan Tsai**, Yang-Che Wu, Han-Yi E. Chou, and Chun-Pin Chiang, "Au Nanorings for Enhancing Absorption and Backscattering Monitored with Optical Coherence Tomography," *Nanotechnology* **21**, 295102 (2010). **(APPLIED PHYSICS Rank: 1/125)**

## 2009年

30. Cheng-Kuang Lee, Meng-Tsan Tsai, Hsiang-Chieh Lee, Yih-Ming Wang, Hsin-Ming Chen, Chun-Pin Chiang, and C. C. Yang, "Diagnosis of Oral Submucous Fibrosis with Optical Coherence Tomography." J. Biomedical Optics, Vol. 14, No. 5, September/October 2009 (2009). **(OPTICS Rank: 7/77)**
31. Meng-Tsan Tsai, Cheng-Kuang K Lee, Hsiang-Chieh Lee, Hsin-Ming Chen, Chun-Pin Chiang, Yih-Ming Wang, and C. C. Yang, "Differentiating Oral lesions in Different Carcinogenesis stages with Optical Coherence Tomography." J. Biomedical Optics, Vol. 14, No. 4, 044028 (2009). **(OPTICS Rank: 7/77)**

## 2008年

32. Meng-Tsan Tsai, Hsiang-Chieh Lee, Cheng-Kuang Lee, Chuan-Hang Yu, Hsin-Ning Chen, Chun-Pin Chiang, Cheng-Chang Chang, Yih-Ming Wang, C. C. Yang, "Effective indicators for diagnosis of oral cancer using optical coherence tomography," Opt. Express Vol. 16, pp. 15847-15862 (2008). **(OPTICS Rank: 5/77)**
33. Meng-Tsan Tsai, Hsiang-Chieh Lee, Chih-Wei Lu, Yih-Ming Wang, Cheng-Kuang Lee, C. C. Yang, and Chun-Ping Chiang, "Delineation of an Oral Cancer Lesion with Swept-source Optical Coherence Tomography," J. Biomedical Optics, Vol. 13, No. 4, 044012 (2008). **(OPTICS Rank: 7/77)**
34. Chih-Wei Lu, Cheng-Kuang Lee, Meng-Tsan Tsai, Yih-Ming Wang, and C. C. Yang, "Measurement of the Hemoglobin Oxygen Saturation Level with Spectroscopic Spectral-domain Optical Coherence Tomography," Optics Letters Vol. 38, No. 5, p. 416, 2008. Also, in April 15, 2008 issue of Virtual Journal of Biological Physics Research. **(OPTICS Rank: 6/77)**

## 2007年以前

35. Chau-Chung Wu, Yih-Ming Wang, Long-Sheng Lu, Chia-Wei Sun, Chih-Wei Lu, Meng-Tsan Tsai, and C. C. Yang, "Tissue Birefringence of the Hyperlipidemic Rat Liver Measured with Polarization-sensitive Optical Coherence Tomography," J. Biomedical Optics, Vol. 12, p. 064022, Nov. 16, 2007. **(OPTICS Rank: 7/77)**
36. Chia-Wei Sun, Yih-Ming Wang, Long-Sheng Lu, Chih-Wei Lu, I-Jen Hsu, Meng-Tsan Tsai, C. C. Yang, Yean-Woei Kiang, and Chau-Chung Wu, "Myocardial Tissue Characterization Based on a Polarization-Sensitive Optical Coherence Tomography System with an Ultra-short Pulsed Laser," J. Biomedical Optics, Vol. 11, No. 5, pp. 054016-1-7, September/October 2006. **(OPTICS Rank: 7/77)**
37. Chih-Wei Lu, Meng-Tsan Tsai, Yih-Ming Wang, Su-Feng Chen, Yean-Woei Kiang, and C. C. Yang, "Optical Low-coherence Reflectometry with Resolution beyond the Fourier Transform Limit," Optics Communications, Vol. 259, pp. 281-285, March 2006. **(OPTICS Rank: 35/77)**
38. Meng-Tsan Tsai, I-Jen Hsu, Chih-Wei-Lu, Yih-Ming Wang, Chia-Wei Sun, Yean-Woei Kiang, and C. C. Yang, "Dispersion Compensation in Optical Coherence Tomography with a Prism in a Rapid-scanning Optical Delay Line", Optical and Quantum Electronics -- Special Issue on Biophotonics, Vol. 37, No. 13-15, pp. 1199 - 1212, December 2005. (SCI Rank: 37/64)
39. Chih-Wei Lu, Meng-Tsan Tsai, Yih-Ming Wang, Yean-Woei Kiang and C. C. Yang, "Resolution Improvement in Optical Coherence Tomography with Segmented Spectrum Management," Optical and Quantum Electronics --

Special Issue on Biophotonics, Vol. 37, No. 13-15, pp. 1165 - 1173, December 2005. (SCI Rank: 37/64)

40. Yih-Ming Wang, Chia-Wei Sun, Cheng-Kuan Lee, Chih-Wei Lu, **Meng-Tsan Tsai** and C. C. Yang, "Comparisons of the transmitted signals of time, aperture, and angle gating in biological tissues and a phantom," Optics Express, Vol. 12, No. 6, pp 1157-1168, March 22 2004. (**OPTICS Rank: 5/77**)