

研究成果目錄： (* corresponding author) **h-index : 52** (Google Scholar)

Journal papers 期刊論文 **IF** (impact factor: 2025)

1. Ching-Wei Lee, Gajendra Suthar, Chun-Hsien Chou, Fang-Chung Chen* “Self-Adaptive Interfacial Nanostructures for Efficient Inverted Perovskite Photovoltaic Devices” **Mater. Today Energy** 60, 102367 (2026). (**IF:8.1**)
2. Chia-Hung Tsai, Yu-Hsin Lin, Chien-Chi Huang, Yang-En Wu, Hsin-Hung Lin, Fang-Chung Chen, Li-Yin Chen,* Hao-Chung Kuo* “Photolithography-compatible integration of organic thin-film transistors via solvent-free dry patterning for scalable AMOLED fabrication” **Mater. Adv.** 7, 7225–7237 (2026). (**IF:5.8**)
3. Chien-Yu Lu, Jui-Wu Lin, Ting-Jhih Kuo, Bo-Ming Huang, Yi-Chia Hwang, Kai-Ling Liang, Wei-Hung Kuo, Hao-Chung Kuo, Fang-Chung Chen, Ray-Hua Horng, Chung-Chih Wu, Chien-Chung Lin* “Highly Efficient Colloidal Quantum Dot Color Conversion Layers with Pixel Density over 10,000 Pixels per Inch” **ACS Photonics** 13, 2535–2546 (2026). (**IF:6.0**)
4. Nutchha Khambunkoed, Gajendra Suthar, Fang-Chung Chen* “Quadruple-Cation Lead-Free Perovskite-Inspired Materials Enable High-Speed Self-Powered Photodetection” **J. Mater. Chem. C**, 14, 6293–6302 (2026). (**IF:5.1**)
5. Tzu-Hsin Li, Hung-Nien Yu, Cheng-Hsun Cheng, Yen-Ju Cheng, Chain-Shu Hsu, Ta-Ya Chu, Jianping Lu, Yi-Ming Chang, Fang-Chung Chen* “Expert Systems for Predicting the Efficiencies of Photomultiplication Organic Photodetectors” **Expert Syst. Appl.** 322, 132386 (2026). (**IF:9.4**)
6. Yan-Bo Wang, Yung-Jing Xue, Hong-Yi Chen, Chia-Lin Tsai, Jin Lee, Bing-Huang Jiang, Chih-Ping Chen, Fang-Chung Chen, Chain-Shu Hsu, Ta-Ya Chu, Jianping Lu, Su-Ying Chien, Yen-Ju Cheng,* “Fluorinated Benzodipyrrole-Based Non-Fullerene Acceptors with Chlorinated End-Groups Exhibiting Fluorine–Chlorine Interactions for Suppressed Charge Recombination in Organic Photovoltaics” **ACS Appl. Mater. Interfaces** 18, 10138–10148 (2026). (**IF:7.8**)
7. Hung-Nien Yu, Hsu-Yuan Chen, Ganesh D. Sharma, Yen-Ju Cheng, Chain-Shu Hsu, Ta-Ya Chu, Jianping Lu, Fang-Chung Chen* “Computational Modeling of Indoor Organic Photovoltaics: Dataset Curation, Predictive Analysis, and Machine Learning Approaches” **Arch. Comput. Methods Eng.** 33, 325–338 (2026). (**IF:12.9**)
8. Cheng-En Tsai, Gajendra Suthar, Yu-Tang Hsiao, Lin-Chieh Cheng, Yu-Yang Su, Ping-Yen Chen, Chuang-Yi Liao, Fang-Chung Chen*, Yi-Ming Chang* “Solution-Processed Resonant Microcavity-Enhanced Organic Photodetectors with Extended Shortwave Infrared Response Beyond 1800 nm” **Adv. Opt. Mater.** 13, e02177 (2025). (**IF:7.2**)
9. Chien-Chi Huang, Tzu-Yi Lee*, Chia-Hung Tsai, Fang-Chung Chen, Li-Yin Chen, Hao-Chung Kuo* “Glass-Based 4-in-1 High-Voltage Micro-LED Package for High-Brightness Mini-LED

Backlight Applications” **Nanomaterials** 15, 1818 (2025). (IF:4.8)

10. Chia-Yuan Chen*, Yu-Fan Chang, Yen-Chen Shih, Ying-Chuan Liu, Chi-Feng Chiu, Rahma Rahayu Dinarlita, Tsung-Yu Tsai, Chieh-Ming Hung, Hou-Chin Cha, You-Ren Chen, Zhi-Hao Huang, Yu-Cheng Zhang, Hui-Chieh Lin, Wei-Chen Chu, Wei-Hao Chiu, Sie-Rong Li, Ting-Jui Chang, Yi-Hong Liao, Siti Utari Rahayu, Bo-Yu Han, Yun-Tou Lin, Pei-Ling Wang, Zi-Ting Liao, Jhao-Yun Tsai, Zhong-En Shi, Chia-Tse Hsu, Po-Shun Hsu, Po-Yuan Chen, Jia-Zhen Li, Anjali Thakran, Yu-Ting Chen, Yu-Sheng Li, Hao-Wei Yu, Chu-Chen Chueh*, Tzung-Fang Guo*, Chih-Wei Chu*, Leeyih Wang*, Kuo-Chuan Ho*, Fang-Chung Chen*, Chih-Ping Chen*, Yian Tai*, Chun-Ting Li*, Ming-Way Lee*, Chih-Liang Wang*, Shih-Sheng Sun*, Kun-Mu Lee*, Zong-Liang Tseng*, Yu-Ching Huang*, Pi-Tai Chou*, Chung-Wen Ko*, Chun-Guey Wu* “Round-Robin Interlaboratory Comparison of Large-Area Organic Thin-Film and Perovskite Solar Cells” **Solar RRL** 22, e202500538 (2025). (IF:4.8)
11. Yu-Tang Hsiao, Lin-Chieh Cheng, Ping-Yen Chen, Gajendra Suthar, Chuang-Yi Liao, Fang-Ning Li, Jheng-Kun Wu, Cheng-En Tsai, Fang-Chung Chen, Yi-Ming Chang* “Engineering Random Copolymers with Medium- and Narrow-Bandgap Segments for Shortwave Infrared Organic Photodetectors Featuring Low Dark Current and Enhanced Detectivity” **Adv. Opt. Mater.** 13, e01536 (2025). (IF:7.2)
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14. Nutchha Khambunkoe, Fang-Chung Chen* “Perovskite Indoor Photovoltaic Devices for Internet of Things Applications” **J. Phys. Energy** 7, 032003 (2025). (IF:5.7)
15. Chia-Tse Hsu, Ching-Wei Lee, Fang-Chung Chen* “Chelating Agent-Based Defect Passivation for Enhanced Indoor Performance of Wide-Bandgap Perovskite Solar Cells” **APL Energy** 3, 026111 (2025). (selected as **Featured Article**) (IF:4.4)
16. Tzu-Yi Lee, Pei-Tien Chen, Chien-Chi Huang, Hsin-Chu Chen*, Li-Yin Chen, Po-Tsung Lee, Fang-Chung Chen, Ray-Hua Horng, Hao-Chung Kuo* “Advances in core technologies for semiconductor manufacturing: applications and challenges of atomic layer etching, neutral beam etching and atomic layer deposition” **Nanoscale Adv.** 7, 2796-2817 (2025). (IF:6.4)

17. Yang-En Wu, Chia-Hung Tsai, Li-Yin Chen*, Fang-Chung Chen, Hao-Chung Kuo* “Current Landscape of Micro-LED Industrialization” **Nanomaterials** 15, 693 (2025). (IF:4.8)
18. Tzu-Yi Lee, Chien-Chi Huang, Fu-He Hsiao, Chin-Wei Sher, Gong-Ru Lin, Li-Yin Chen, Fang-Chung Chen, Chia-Feng Lin, Jr-Hau He, Kuo-Bin Hong*, Yu-Heng Hong*, Hao-Chung Kuo* “Optimization of Dispersion Angle in Resonant Cavity Micro-Light-Emitting Diode Using Multilayer DBR and Microlens Structures” **Discover Nano** 20, 67 (2025). (IF:6.7)
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21. Chia-Hung Tsai, Yang-En Wu, Chuan-Wei Kuo, Ting-Chang Chang, Li-Yin Chen, Fang-Chung Chen*, Hao-Chung Kuo* “Exploring Light Stability and Trapping Mechanisms in Organic Thin-Film Transistors for High-Brightness MicroLED Integration” **Materials** 17, 5643 (2024). (IF:3.7)
22. Ping-Yen Chen, Gajendra Suthar, Yu-Yang Su, Chung-Wei Hsu, Kuen-Wei Tsai, Cheng-En Tsai, Chih-Wei Chu, Fang-Chung Chen*, Yi-Ming Chang* “Enhancing Performance in Top-Illuminated Shortwave Infrared Organic Photodetectors via Microcavity Resonance” **Adv. Opt. Mater.** 12, 2401806 (2024). (IF:7.2)
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29. Gautham Kumar, Chien-Chung Lin, Hao-Chung Kuo, Fang-Chung Chen*, “Enhancing photoluminescence performance of perovskite quantum dots with plasmonic nanoparticles: insights into mechanisms and light-emitting applications” **Nanoscale Adv.**, 6, 782-791 (2024). (IF: 6.3) (selected as the following themed collections: Celebrating the scientific accomplishments of RSC Fellows and Popular Advances, [Nanoscale Advances 2025 Paper Prize Award](#))
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32. Fu-He Hsiao, Tzu-Yi Lee, Wen-Chien Miao, Yi-Hua Pai, Daisuke Iida, Chun-Liang Lin, Fang-Chung Chen, Chi-Wai Chow, Chien-Chung Lin, Ray-Hua Horng, Jr-Hau He, Kazuhiro Ohkawa, Yu-Heng Hong*, Chiao-Yun Chang*, Hao-Chung Kuo*, “Investigations on the high performance of InGaN red micro-LEDs with single quantum well for visible light communication applications” **Discover Nano** 18, 95 (2023). (IF:6.7)
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Book Chapters 專書論文

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2. Ming-Kai Chuang, Jyh-Lih Wu, Shang-Chieh Chien, and Fang-Chung Chen*, “Surface Plasmonic Effects of Nanostructures on the Performance of Polymer Solar Cells”, pp. 299-313, in “Progress in High-Efficient Solution Process Organic Photovoltaic Devices” edited by Y. Yang and G. Li, Springer, 2015. (Book series : Topics in Applied Physics; ISBN 978-3-662-45508-1 for Hardcover; 978-3-662-45509-8 for eBook).
3. Fang-Chung Chen*, Chun-Hsien Chou, and Ming-Kai Chuang, “High-Performance Bulk-Heterojunction Polymer Solar Cells” in “Low-cost Nanomaterials, Toward Greener and More Efficient Energy Applications”, pp. 167-187, edited by Z. Lin and J. Wang, Springer, 2014. (ISBN 978-1-4471-6472-2 for Hardcover; 978-1-4471-6473-9 for eBook).
4. Shang-Chieh Chien and Fang-Chung Chen*, “Polymer Solar Cells” in “Polymer Electronics” Chapter 5, edited by H. F. Meng, Pan Stanford Publishing Pte Ltd, 2013. (ISBN 978-981-4267-84-7 for Hardcover; 978-981-4364-04-1 for eBook).
5. Jyh-Lih Wu, Chu-Jung Ko, and Fang-Chung Chen*, “Annealing methods for controlling the morphology of polymer solar cells” in “Photovoltaics: Developments, Applications and Impact” Chapter 3, pp. 63-87, edited by H. Tanaka and K. Yamashita, Nova Science Publishers, Inc., New York, 2010.

Conference papers 研討會論文 (sorted by conference Location)

International Conference Papers 國外研討會論文

1. Chien-Chung Lin*, Chien-Yu Lu, Ting-Jhih Kuo, Jui-Wu Lin, Chung-Chih Wu, Hao-Chung Kuo, Fang-Chung Chen, Ray-Hua Horng, “A colloidal-quantum-dot color conversion layer goes beyond 10000 pixels per inch” SPIE OPTO (San Francisco, United States, March 2026) Proc. SPIE 13915, Advances in Display Technologies XVI, 1391502 (4 March 2026); <https://doi.org/10.1117/12.3079252>
2. Fang-Chung Chen*, “Emerging Photovoltaic Technologies for Off-Grid Applications” International Conference on Organic Photovoltaics (ICOPV 2026) (Jaipur, India, March 2026) **(online, Keynote oral presentation)**
3. Fang-Chung Chen*, “Emerging Solar Cells for Efficient Power Conversion Under Solar and Indoor Light Sources” International Conference on Advances in Nanoscale Materials and Devices (ICANMD-2026) (Jaipur Rajasthan, India, March 2026) **(online, invited oral presentation)**
4. Chia-Hung Tsai*, Chih-Jen Tsang, Ming-Chuan Chih, Chien-Chi Huang, Fang-Chung Chen, Hao-Chung Kuo, Simon Ogier, “From Chip to Panel: High-Brightness, Low-Power Mini-LED Backlighting via MicroLED-in-Package (MiP4)” The 32nd International Display Workshops (IDW) Conference (Hiroshima, Japan, Dec. 2025) Proceedings of the International Display Workshops, Vol. 32, 405-408 (2025).
5. Nutchha Khambunkoed, Gajendra Suthar, Fang-Chung Chen*, “Quadruple-Cation Lead-Free Perovskite Photodiodes for Efficient Self-Powered Photodetection” Chiba 2025 Photonics & Electromagnetics Research Symposium (PIERS) (Chiba, Japan, November 2025) **(invited oral presentation)**
6. Fang-Chung Chen*, Chia-Tse Hsu, Ching-Wei Lee, “Efficient wide-bandgap perovskite solar cells and their applications in indoor lighting energy harvesting” The 36th International Photovoltaic Science and Engineering Conference (PVSEC-36) (Bangkok, Thailand, November 2025)
7. Fang-Chung Chen*, Gajendra Suthar, Chih-Wei Chu, Yi-Ming Chang, “Organic Photomultiplication Photodetectors Exhibiting Bias-Dependent Switchable Operations between Broadband and Narrowband Responses”, SPIE Optics + Photonics 2025 (San Diego, USA, August 2025) **(invited oral presentation) (proceedings volume 13589; 1358903 (2025) <https://doi.org/10.1117/12.3066129>)**
8. Fang-Chung Chen*, Ching-Wei Lee, Chia-Tse Hsu “Optimized Inverted Perovskite Solar Cells for High Performance Under Both AM1.5G and Indoor Lighting Conditions” The Fifth International Workshop on Thin Films for Electronics, Electro-Optics, Energy and Sensors (Bangkok, Thailand, March 2025) **(Keynote presentation)**
9. Fang-Chung Chen*, Ching-Wei Lee, “Self-adaptive nanoscale electrode structures for efficient inverted perovskite photovoltaics” SPIE Optics and Photonics 2024 (San Diego, USA, Aug. 2024)

(oral presentation)

10. Fang-Chung Chen*, Gajendra Suthar, Chih-Wei Chu, “Photomultiplication narrowing in self-filtering organic photodetectors” CLEO Pacific Rim 2024, (Incheon, Korea, Aug. 2024). (oral presentation)
11. Ting-Jhih Kuo, Han-Yu Chao, Fang-Chung Chen, Hao-Chung Kuo, and Chien-Chung Lin*, “A Highly Reliable Color Conversion Layer Based on Colloidal Quantum Dots with High Resolution of 3628 Pixel-Per-Inch” CLEO: Applications and Technology 2024, (Charlotte, USA, May 2024). Technical Digest Series (Optica Publishing Group, 2024), paper ATh3O.6. https://opg.optica.org/abstract.cfm?URI=CLEO_AT-2024-ATH3O.6
12. Wei-Ta Huang, Tzu-Yi Lee, Wen-Chien Miao, Yu-Ying Hung, Yu-Heng Hong, Chien-Chung Lin, Fang-Chung Chen, Chia-Feng Lin, Shu-Wei Chang, and Hao-Chung Kuo* “Improved Color Purity with Red-Green-Yellow Quantum Dots and Blue Resonant Cavity Micro-LEDs for High-Resolution Full Color Displays” CLEO: Applications and Technology 2024, (Charlotte, USA, May 2024). Technical Digest Series (Optica Publishing Group, 2024), paper JTh2A.203. https://opg.optica.org/abstract.cfm?URI=CLEO_AT-2024-JTh2A.203
13. Wei-Ta Huang, Tzu-Yi Lee, Fu-He Hsiao, Wen-Chien Miao, Daisuke Iida, Kuo-Bin Hong, Chien-Chung Lin, Fang-Chung Chen, Shu-Wei Chang, Ray-Hua Horng, Yu-Heng Hong, Yao-Wei Huang, Kazuhiro Ohkawa, Hao-Chung Kuo, “InGaN-based Micro-LEDs: enhancing efficiency and speed for next-generation visible light communication applications”, SPIE Photonic West, (San Francisco, USA, Jan. 2024). Proceedings Volume 12886, Gallium Nitride Materials and Devices XIX; 1288606 (2024) (<https://doi.org/10.1117/12.3000782>)
14. Fang-Chung Chen* “Asymmetrical Single Crystals Containing Tilted Ruddlesden–Popper Phases for Efficient Perovskite Solar Cells”, European Assembly Advanced Materials Congress (Hybrid), (Sweden, Aug. 2022) **(invited oral presentation online)**
15. Fang-Chung Chen*, Hao-Yeu Tsai, Yung-Fang Yang, Hong-Sheng Jiang, Chien-Chen Kuo, “Toward high-performance single-crystal perovskite solar cells,” 3rd International Conference on Materials Science and Engineering, Boston, MA, USA (Hybrid) (April 2022) **(invited online oral presentation)**
16. Fang-Chung Chen* “Emerging organic and perovskite photovoltaic devices for indoor applications”, Advanced Nanomaterials Congress, Sweden (2021) **(invited oral presentation online)**
17. Chien-Chen Kuo and Fang-Chung Chen*, “Modified hole transport layers for high-performance single-crystal perovskite solar cells” SPIE Optics + Photonics 2021, San Diego, USA (2021) (online oral presentation)

18. Hsin-Hung Sung, Hong-Lin Yue, Chien-Chen Kuo, Hung-Sheng Chiang, Fang-Chung Chen*, “Asymmetric thin-plate perovskite single crystals for photovoltaic applications”, The 5th International Conference on Advanced Electromaterials (ICAE), Jeju, Korea (2019). **(invited oral presentation)**
19. Hsin-Hung Sung, Hong-Lin Yue, Chien-Chen Kuo, Hung-Sheng Chiang, Fang-Chung Chen*, “Asymmetric thin-plate perovskite single crystals for solar energy applications” 2019 Collaborative Conference on Materials Research (CCMR), Goyang, South Korea (2019). **(invited oral presentation)**
20. Fang-Chung Chen, Shun-Shing Yang, Nai-Wei Teng, and Zong-Chun Hsieh, “High-efficient organic and perovskite photovoltaic devices for low-power indoor applications”, 14th IUPAC International Conference on Novel Materials and their Synthesis (NMS-XIV), Guangzhou, China (2018). **(invited oral presentation)**
21. M. L. Keshtov, S. A. Kuklin, A. Yu. Nikolaev, Fang-Chung Chen, and Zhi-Yuan Xie, “Synthesis, characterization and photovoltaic properties of new iridium-containing conjugated polymers” AIP Conference Proceedings 1981, 020151 (2018).
22. Fang-Chung Chen* “High-efficient organic and perovskite photovoltaic devices for low-power indoor applications” The 27th International Conference on Amorphous and Nanocrystalline Semiconductors, Seoul, Korea, Aug. 2017. **(invited oral presentation)**
23. Shun-Shing Yang, Po-Han Chen, Zong-Chun Hsieh, Nai-Wei Teng, Fang-Chung Chen* “Emerging Photovoltaic Devices for low-power indoor applications” The EITA Conference on New Materials, Nanotechnology and New Energy 2017, Ann Arbor, Michigan, U.S.A., **(invited oral presentation)**
24. Fang-Chung Chen* “High-efficient organic and perovskite photovoltaic devices for low-power indoor applications” The 12th Pacific Rim Conference on Ceramic and Glass Technology, Hawaii, U.S.A., May 2017 **(invited oral presentation)**
25. Ming-Kai Chuang, Chun-Hao Lin, and Fang-Chung Chen* “Plasmonic Effects of Amphiphilic Gold Nanoparticles in Polymer Optoelectronic Devices” 2016 International Conference on Optical MEMS and Nanophotonics (IEEE OMN 2016), Singapore, Aug. 2016.
26. Fang-Chung Chen*, “Plasmonic nanostructures for organic photovoltaic devices” The 7th Asian Conference on Organic Electronics (A-COE 2015), Beijing, China, Oct. 2015 **(invited oral presentation)**.
27. Ming-Kai Chuang and Fang-Chung Chen* “Plasmonic nanostructures for organic photovoltaic devices”, International Photonics and OptoElectronics Meetings 2015 (Wuhan Photonics Week), Wuhan, China, June 2015 **(invited oral presentation)**.

28. Fang-Chung Chen,* Ming-Kai Chuang, and Shih-Wei Lin, “Plasmonic nanostructures for organic photovoltaic devices” Materials Challenges in Alternative & Renewable Energy (MCARE 2015), (Jeju, Korea, Feb. 2015). **(invited oral presentation)**
29. D. Yu. Godovsky, M. L. Keshtov, S. A. Kuklin, A. R. Khokhlov,, I.O. Konstantinov, M. M. Krayushkin, G. D Sharma, Fang-Chung Chen, “Synthesis and characterization of two new benzothiadiazole- and fused bithiophene based low band-gap D-A copolymers for polymer solar cells” 8th International Symposium on Flexible Organic Electronics (ISFOE 15) (Thessaloniki, Greece, July 2015).
30. V. S. Kochurov, M. L. Keshtov, C. D. Sharma, Fang-Chung Chen, A. R. Khokhlov, “New Donor Acceptor Conjugated Copolymers for Solar Cells” XII International Conference on Nanostructured Materials (NANO 2014), Moscow, July 13-18, pp. 07.024
31. D. Yu. Godovsky, M. L. Keshtov, Y. Zou, Fang-Chung Chen, A. R. Khokhlov, “Synthesis and Photovoltaic Properties of New Donor–Acceptor thienofluorantenes Containing Copolymers with quinoid nature of π -conjugation” International Fall School on Organic Electronics (IFSOE) Moscow Russia, September 21-26, 2014.
32. M. Keshtov, D. Godovsky, V. Kochurov, G. D. Sharma, Fang-Chung Chen, N. Radychev, A. Khokhlov, “New Donor-Acceptor Benzotrithiophene-Containing Conjugated Polymers for Solar Cells” 7th International Conference on Times of Polymers and Composites, (Ischia, Italy, Jun. 2014)
33. Ming-Kai Chuang, Fang-Chung Chen*, and Chain-Shu Hsu “Green synthesis of gold nanoparticle – decorated graphene oxides that enhance the photocurrent in polymer solar cells” 2014 Materials Research Society Spring Meeting (April 2014)
34. Fang-Chung Chen* “Surface plasmonic effects of metallic nanostructures on the performance of polymer solar cells” 9th World Congress of Chemical Engineering (Seoul, Korea, Aug. 2013) **(invited oral presentation)**
35. Fang-Chung Chen* “Light Harvesting Schemes for High-performance Polymer Solar Cells” The 12th Emerging Information & Technology Conference (Toronto, Canada, Aug. 2012) **(invited oral presentation)**
36. Fang-Chung Chen*, Jyh-Lih Wu, Chia-Ling Lee, Yi Hong, Ming-Kai Chuang and Kim-shih Tan “Light Harvesting Schemes for High-performance Polymer Solar Cells” 4th International Conference Smart Materials, Structures and Systems (Italy, June 2012) **(invited oral presentation)**
37. Fang-Chung Chen*, and Ming-Kai Chuang “Thin-film Transfer-printing of Polymer Blends with Self-organized Interfaces for Flexible Polymer Solar Cells” 2011 Materials Research Society Spring Meeting (April 2011) (oral presentation).

38. Fang-Chung Chen*, Tzung-Da Chen, Bing-Ruei Zeng and Ya-Wei Chung “Electrical Characteristics of Flexible Organic Thin-film Transistors under Bending Conditions” The 17th International Display Workshops (IDW) (Dec. 2010 Japan).
39. Fang-Chung Chen*, Jyh-Lih Wu, Yi Hung “Light Harvesting Schemes for High-performance Polymer Solar Cells” Advances in Optoelectronics and Micro/nano-optics (AOM) (Dec. 2010 Guangzhou, China) **(invited oral presentation)**
40. Fang-Chung Chen*, and Shang-Chieh Chien “Nanoscale functional interlayers formed through spontaneous vertical phase separation in polymer photovoltaic devices” MRS (Spring 2010) (oral presentation).
41. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, Yuh-Zheng Lee, Fang-Chung Chen, Meng-Chyi Wu, and Chih-Wei Chu*, “Fullerene C₆₀ thin film transistors fabricated by solution processing” MRS (Spring 2010) (oral presentation).
42. Fang-Chung Chen* “Morphology manipulation for polymer solar cells” Progress in Electromagnetics Research Symposium PIERS 2010 Xi’an (oral presentation).
43. Li Fen Chu, Chao-Feng Sung, Yuh-Zheng Lee, Fang Chung Chen, Meng-Chyi Wu, and Chih Wei Chu “Ambipolar charge carrier transport in C60 and Poly(3-hexylthiophene) blends of organic semiconductor thin film transistors and their logic circuits” International Conference on Solid State Devices and Materials 2009 (SSDM 2009)
44. Yi-Hsing Chu, Gao-Ming Wu, Chiao-Shun Chuang, Wei-Kuan Yu, Fang Chung Chen, Han-Ping D. Shieh “CMOS-Like Ambipolar Organic/Inorganic TFTs for AMLCD and AMOLED Applications” Society for Information Display (2009).
45. Jyh-Lih Wu, Kuo-Huang Hsieh, Wen-Chang Chen and Fang-Chung Chen*, “Highly efficient inverted bulk-heterojunction polymer photovoltaic devices with transparent contacts” 215th Electrochemical Society Meeting (2009).
46. Shang-Chieh Chien and Fang-Chung Chen* “Improved Hole-Mobility of Polymer Bulk Heterojunction Photovoltaic Cells Incorporating Hole Transporting Materials” 215th Electrochemical Society Meeting (2009)
47. Fang-Chung Chen* “High-performance polymer solar cells” Printed electronics Asia 08’ **(invited oral presentation)**
48. Fang-Chung Chen*, Cheng-Hsiang Liao, Wei-Pang Huang, Tom Huang “Improved Air-stability of n-Channel Organic Thin Film Transistors via Surface Modification on Gate Dielectrics” Pacific Rim Meeting on Electrochemical and Solid-state Science (PRiME) (2008). (oral presentation)
49. Yung-Shiuan Chen, Shang-Chieh Chien, Fang-Chung Chen*, Jan-Tian Lian, Chien-Lung Tsou and Chi-Neng Mo “Enhanced power efficiency of single-layer white triplet polymer light-emitting

diodes by blending with polymer oxides“ Society for Information Display (2008).

50. J. P. Lu, F. C. Chen, F.K. Chen, W.C. Chen, H.C Hsu, Y. Z Liao, and Y. Z. Lee “The Fabrication of Single Substrate Multi-Color Cholesteric Liquid Crystal Display by Ink-Jet Printing” Society for Information Display (2008).
51. Fang-Chung Chen*, Hisn-Chen Tseng, and Chu-Jung Ko, “Efficient polymer solar cells prepared from co-solvent systems” MRS (Spring 2008).
52. Chu-Jung Ko, Fang-Chung Chen*, and Wei-Chi Chen “In-situ, dynamic investigation of phase separation in P3HT/PCBM blends during the solvent annealing process“ MRS (Spring 2008)
53. Fang-Chung Chen*, Chu-Jung Ko, and Yi-Kai Lin “Highly efficient polymer photovoltaic devices with bulk heterogeneous *p-n* junctions” 212th ECS meeting (2007) (oral presentation)
54. Shang-Chieh Chien and Fang-Chung Chen* “Polymeric electrophosphorescent devices with low turn-on voltage and high power efficiency by blending with poly(ethylene glycol)” Society for Information Display (2007)
55. Chiao-Shun Chuang, Su-Ting Tsai, Yung-Sheng Lin, Jung-An Cheng, Fang-Chung Chen*, and Han-Ping D. Shieh “Transparent OTFTs with color filtering functional gate insulators” Society for Information Display (2007).
56. Fang-Chung Chen*, Chu-Jung Ko, and Yi-Kai Lin “Microwave annealing processes in polymer photovoltaic devices” MRS (Spring 2007) (oral presentation)
57. Fang-Chung Chen*, Wen-Kuei Huang, and Jhih-Ping Lu “High-quality Microlens Arrays Fabricated by Ink-jet Printing and Micro-contact Printing” MRS (Spring 2007) (oral presentation)
58. Chiao-Shun Chuang, Shu-Ting Tsai, Fang-Chung Chen*, and Han-Ping D. Shieh “Organic thin-film transistors with reduced-photosensitivity” The 13th International Display Workshops, Otsu, Japan, Dec. 6 (2006)
59. Fang-Chung Chen*, Ssu-Fang Liu and Wen-Sheng Wang “Polarized polymer light-emitting diodes with conducting alignment layers” The 6th International Conference on Electroluminescence of Molecular materials and Related Phenomena, Hong Kong (August 2006). (oral presentation)
60. Wen-Kuei Huang, Jhih-Ping Lu and Fang-Chung Chen* “Fabrication of a microlens array using ink-jet printing on a pre-patterned substrate by self-assembled monolayers” Micro & Nano Engineering, (2006).
61. Fang-Chung Chen*, Tung-Hsien Chen, and Yung-Sheng Lin, “Novel electrode architecture for transparent organic thin-film transistors” International Meeting on Information Display/International Display Manufacturing Conference, Korean (2006). (oral presentation)
62. Wen-Kuei Huang, Wen-Sheng Wang, Hui-Chun Kan, and Fang-Chung Chen* “Enhanced Light Out-coupling Efficiency of OLEDs with Self-organized Microlens Arrays” Society for

Information Display (2006).

63. Fang-Chung Chen*, Chiao-Shun Chuang, Yung-Sheng Lin, Li-Jen Kung, and Dong-Sian Chen, "Polymeric Nanocomposite Dielectrics for Organic thin-film Transistors" MRS (Spring 2006).
64. Chiao-Shun Chuang, Yung-Sheng Lin, Li-Jen Kung, Dong-Sian Chen, Fang-Chung Chen*, and Han-Ping D. "Organic Thin-Film Transistors based on Nanocomposite Gate Insulators for High-current Driving Applications" International Display Workshops (2005). (oral presentation)
65. Wen-Kuei Huang, Fang-Chung Chen* and Chu-Jung Ko "Fabrication of microlens arrays on glass substrates by lotus effect" Micro & Nano Engineering, (2005).
66. Fang-Chung Chen, Roozbeh Jafari, Eren Kursun, Vijay Raghunathan, Thomas Schoellhammer, Doug Sievers, Deborah Estrin, Glenn Reinman, Majid Sarrafzadeh, Mani Srivastava, Ben Wu, and Yang Yang "Reconfigurable Fabric: An enabling technology for pervasive medical monitoring" Commucation Networks and Distributed Systems Modeling and Simulation Conference, (2004).
67. Fang-Chung Chen, and Yang Yang*, "Enhanced efficiency of plastic photovoltaic devices by blending with ionic solid electrolytes" MRS (Spring 2003) (oral presentation)
68. Fang-Chung Chen, and Yang Yang*, Qibing Pei, "Phosphorescent light-emitting electrochemical cells" MRS (Spring 2003) (post presentation)
69. Yang Yang*, Fang-Chung Chen, Mark. E. Thompson, "High performance polymer light-emitting diodes" ACS (Fall 2002). This paper is published in **Polymer Reprints**, 43, 487 (2002).
70. Fang-Chung Chen, Shun-Chi Chang, Yang Yang*, "Energy transfer and triplet exciton confinement in phosphorescent polymer light-emitting diodes" TMS 2002 Electronic Materials Conference, (Spring 2002) (oral presentation)
71. Fang-Chung Chen, Shu-Chi Chang, Gufeng He, Seungmoom Pyo, Jie Liu, Yang Yang*, Sergey Lamansky, Mark E. Thompson, Junji Kido, "The search of polymeric hosts for phosphorescent polymer light-emitting diodes" ICEL-3 (2001) (oral presentation)
72. Shun-Chi Chang, Fang-Chung Chen, Shu-Chi Chang, Yang Yang* "The search of host materials in phosphorescent polymer light-emitting diodes" MRS (2001) (post presentation)

Domestic Conference Papers 國內研討會論文

1. Fang-Chung Chen* "Performance Optimization of Inverted Perovskite Solar Cells for Efficient Operation Under Solar and Indoor Light Sources" Optics & Photonics Taiwan, International Conference 2025 (OPTIC 2025). (**invited oral presentation**)
2. Chen-Hsin Tu, Sih-Yu Lai, Fang-Chung Chen*, "Impacts of KBr and Antisolvents on the Performance of Wide-Bandgap Perovskite Solar Cells" Optics & Photonics Taiwan, International Conference 2025 (OPTIC 2025).

3. Guan-Zhou Lin, Kuan-Hao Huang, Fang-Chung Chen*, “Effects of Ionic Additives on the Performance of Wide-Bandgap Perovskite Solar Cells” Optics & Photonics Taiwan, International Conference 2025 (OPTIC 2025).
4. Chia-Hui Ho, Po-Yi Huang, Fang-Chung Chen*, “Potassium-Doped Red Perovskite Quantum Dots for Micro-LED Applications” Optics & Photonics Taiwan, International Conference 2025 (OPTIC 2025).
5. Wan-Chen Chang, Yu-Hsuan Chen, Fang-Chung Chen*, “*In-situ* Formation of Perovskite Quantum Dots in Photopatternable Polymer Films for micro-LEDs Color Conversion Applications” Optics & Photonics Taiwan, International Conference 2025 (OPTIC 2025).
6. Nutchakhamkhaed, Fang-Chung Chen*, “Phenethyl Ammonium Iodide as an Effective Additive for Lead-free Perovskite Solar Cells” Optics & Photonics Taiwan, International Conference 2024 (OPTIC 2024). **(Student Paper Award, Oral)**
7. Gajendra Suthar, Chih-Wei Chu, Yi-Ming Chang, Fang-Chung Chen*, “Photomultiplication type Two-in-One Non-fullerene Narrowband/Broadband Organic photodetectors” Optics & Photonics Taiwan, International Conference 2024 (OPTIC 2024). **(Student Paper Award, Oral)**
8. Yan-Yu Shiu, Chen-Hsin Tu, Fang-Chung Chen*, “Lead-Less Red Emitting Perovskite Quantum Dots” Optics & Photonics Taiwan, International Conference 2024 (OPTIC 2024).
9. Ching-Deng Lin, Wan-Chen Chang, Fang-Chung Chen*, “Surface Ligand Engineering in Photopatternable Perovskite Quantum Dot Thin Films” Optics & Photonics Taiwan, International Conference 2024 (OPTIC 2024).
10. Chia-Tse Hsu, Guan-Zhou Lin, Fang-Chung Chen*, “Defect engineering in wide-bandgap perovskite solar cells for indoor applications” Optics & Photonics Taiwan, International Conference 2024 (OPTIC 2024).
11. Min-Xian Zhan, Chia Hui Ho, Fang-Chung Chen*, “Bidentate Phosphine Oxides as Passivating Agents to Enhance the Performance of Perovskite Light-Emitting Diodes” Optics & Photonics Taiwan, International Conference 2024 (OPTIC 2024).
12. Fang-Chung Chen*, Gautham Kumar, Cheng-Han Sung, Shi-Da Huang, Wen-Chi Lin, Chien-Chung Lin, Hao-Chung Kuo, “Photopatternable Perovskite Quantum Dots for Light-Emitting Devices” The 13th International Symposium for Luminescent Materials (Phosphor Safari 2024), (Taipei, Taiwan, Aug. 2024) **(invited oral presentation)**
13. Gajendra Suthar, Chih-Wei Chu, Fang-Chung Chen*, “High-performance narrowband organic photodetectors based on selective exciton activated photomultiplication” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023). **(Student Paper Award, Oral)**
14. Gajendra Suthar, Yu-Tang Hsiao, Kuen-Wei Tsai, Chuang-Yi Liao, Chih-Wei Chu, Yi-Ming

- Chang*, Fang-Chung Chen* “Morphological effects on the performance of broadband organic photomultiplication photodetectors containing selenium substituted non-fullerene acceptors” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023).
15. Tsu-Hsin Li, Chia-Tse Hsu, Fang-Chung Chen* “Machine Learning Models for Predicting Efficiencies of Organic Photomultiple Photodetectors” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023).
 16. Wen-Chi Lin, Ching-Deng Lin, Fang-Chung Chen* “Effects of Cs ions in Organic-Inorganic Hybrid Perovskite Quantum Dots for X-Ray Imaging Applications” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023).
 17. Yu-Ze Zhang, Chia-Tse Hsu, Fang-Chung Chen* “Rapid Crystal Growth of Quasi-Two-Dimensional Perovskite Single Crystals for Solar Applications Using Alcohols Additives” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023).
 18. Gautham Kumara Kabbinahithlu, Fang-Chung Chen* “Plasmonic Enhanced Photoluminescence of Perovskite Quantum Dots Using Gold Nanoparticles and Light-Emitting Applications” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023).
 19. Tzu-Yi Lee, Pei-Tien Chen, Chia-Hung Tsai, Fang-Chung Chen, Hao-Chung Kuo* “High Reliability Perovskite Quantum Dots Using Atomic Layer Deposition Passivation for Novel Photonic Applications” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023).
 20. Yen-Hsien Chang, Yan-Yu Shiu, Fang-Chung Chen* “Ligand Engineering of Red Perovskite Quantum Dots for Lighting Applications” Optics & Photonics Taiwan, International Conference 2023 (OPTIC 2023).
 21. Fang-Chung Chen* and Ching-Wei Lee “Self-adaptive hole transport layers for efficient inverted perovskite photovoltaics” The 15th Asian Conference on Organic Electronics (A-COE 2023). **(invited oral presentation)**
 22. Gajendra Suthar, Yu-Tang Hsiao, Kuen-Wei Tsai, Chuang-Yi Liao, Chih-Wei Chu, Yi-Ming Chang*, Fang-Chung Chen* “Morphological effects on the performance of broadband organic photomultiplication photodetectors containing selenium substituted non-fullerene acceptors” The 15th Asian Conference on Organic Electronics (A-COE 2023). **(Student Poster Paper Award)**
 23. Gautham Kumara, Fang-Chung Chen* “Photoluminescence Enhancement of Quantum Dots Using Gold Nanoparticle-Decorated Graphene Oxides: Unveiling Plasmonic Effects and Real-World Applications” The 15th Asian Conference on Organic Electronics (A-COE 2023).
 24. Yu-Ze Zhang, Nutch Khambunkoed, Fang-Chung Chen* “Rapid Crystal Growth of Quasi-Two-Dimensional Perovskite Single Crystals for Solar Applications” The 15th Asian Conference on Organic Electronics (A-COE 2023).

25. Ching-Wei Lee, Fang-Chung Chen* “Self-Adaptive Transport Layers for Efficient Inverted Perovskite Photovoltaics” Optics & Photonics Taiwan, International Conference 2022 (OPTIC 2022). **(Student Poster Paper Award)**
26. Cheng-Han Sung, Yen-Hsien Chang, Chien-Chung Lin, Hao-Chung Kuo, Fang-Chung Chen* “Perovskite quantum dots for light-emitting devices: Photopatternable perovskite quantum dot–polymer nanocomposites” Optics & Photonics Taiwan, International Conference 2022 (OPTIC 2022).
27. Hung-Nien Yu, Tsu-Hsin Li, Fang-Chung Chen* “Machine Learning Models for Predicting Power Conversion Efficiencies of Indoor Organic Photovoltaics” Optics & Photonics Taiwan, International Conference 2022 (OPTIC 2022).
28. Huai-Yu Lei, Tzu-Yu Hsu, Fang-Chung Chen* “Plasmonic Effects of Gold Nanoparticles on the Performance of TADF Organic Light-Emitting Diodes” Optics & Photonics Taiwan, International Conference 2021 (OPTIC 2021).
29. Hoong Lien Lai, Jing-Yuan Su, Fang-Chung Chen* “Metal-Organic Frameworks as Hole Injection Materials for Organic Light-Emitting Diodes” Optics & Photonics Taiwan, International Conference 2021 (OPTIC 2021).
30. Gautham Kumar and Fang-Chung Chen* “Plasmonic Effect of Bimetallic Au-Cu Alloy Nanoparticles on Indoor Performance of Organic Photovoltaics” Optics & Photonics Taiwan, International Conference 2020 (OPTIC 2020).
31. Yi-Fong Lai, Shun-Yu Xie and Fang-Chung Chen* “Surface Treatments Lead to Simultaneous Efficiency Improvement in Perovskite Solar Cells for Both Outdoor and Indoor applications” Optics & Photonics Taiwan, International Conference 2020 (OPTIC 2020).
32. Tzu-Hsueh Wu, Yung-Fang Yang and Fang-Chung Chen* “Surface Passivation on Single-Crystal Perovskite Micro-Plates Improves the Performance of Solar Cells” Optics & Photonics Taiwan, International Conference 2020 (OPTIC 2020).
33. Hao-Yeu Tsai, Hung-Wen Huang and Fang-Chung Chen* “Vertical Oriented Quasi-Two-Dimensional Perovskite Single Crystal Micro-Plates for Highly Efficient Solar Cells” Optics & Photonics Taiwan, International Conference 2020 (OPTIC 2020).
34. Fang-Chung Chen*, Hsin-Hung Sung, Chien-Chen Kuo Hung-Sheng Chiang and Hong-Lin Yue “Perovskite Single Crystals for Photovoltaic Applications” International Conference on Emergent Functional Matter Science 2020. Yilan, Taiwan.
35. Fang-Chung Chen*, Ming-Ju Wu, Chien-Chen Kuo, Lu-Syuan Jhuang, Shun-Shing Yang, Po-Han Chen, Zong-Chun Hsieh, Nai-Wei Teng, “Emerging Organic and Perovskite Photovoltaic Devices for Indoor Applications” Optics & Photonics Taiwan, International Conference 2019 (OPTIC 2019).

(invited oral presentation)

36. Yi-Fong Lai, and Fang-Chung Chen*, “Virtual Screening of Conjugated Polymers for Organic Photovoltaic Devices Using Support Vector Machines and Ensemble Learning” The 7th RIKEN-NCTU Symposium on Physical and Chemical Sciences (2019). (Master Student Paper Award)
37. Fang-Chung Chen* “Off-grid Photovoltaics for Smart Applications” The EITA Conference on New Materials, Nanotechnology and New Energy 2019, Hsinchu, Taiwan **(invited oral presentation)**
38. Wun-Jhen Chen, Tzu-Hsueh Wu, Fang-Chung Chen* “Enhancing the Performance of Perovskite Solar Cells by Utilizing the Local Surface Plasmon Effects of Copper Nanoparticles” The EITA Conference on New Materials, Nanotechnology and New Energy 2019, Hsinchu, Taiwan.
39. Shi-Da Huang, Ren-Yung Yang, Fang-Chung Chen* “Plasmonic Effects of Gold Nanoparticles on the Performance of Perovskite Quantum Dot Light-Emitting Diodes” The EITA Conference on New Materials, Nanotechnology and New Energy 2019, Hsinchu, Taiwan.
40. Hsin-Hung Sung, Hung-Sheng Chiang, Ren-Yung Yang, Fang-Chung Chen* “Fabrication and Characteristic of Mixed-Cation Single-Crystal Plates for Perovskite Solar Cells” The EITA Conference on New Materials, Nanotechnology and New Energy 2019, Hsinchu, Taiwan.
41. Yu-Chang Lin, Wun-Jhen Chen, and Fang-Chung Chen* “Solution-Processable Copper Nanoparticles for Plasmonic-Enhanced Perovskite Solar Cells” Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).
42. Chen-Min Yang, Lu-Syuan Jhuang, Fang-Chung Chen* “Plasmonic Effects of Gold Nanoparticles on the Performance of Perovskite Light-Emitting Diodes” Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).
43. Ming-Ju Wu, Chien-Chen Kuo, and Fang-Chung Chen* “Band-gap Engineering of Perovskite Photovoltaic Devices for Indoor Applications” Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).
44. Xin-Jie Chen, Ming-Ju Wu, and Fang-Chung Chen* “Semitransparent Perovskite Solar Cells and their Tandem Structures Assembled with Si Cells” Optics & Photonics Taiwan, International Conference 2017 (OPTIC 2017)
45. Pang-Hua Huang, Yi-Chun Lai, Sih-Han Chen, Peichen Yu*, and Fang-Chung Chen ” Hybrid Carbon Nanotube/Silicon Schottky Junction Solar Cells” Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016)
46. Chi-Yu Yang, Hao-Wu Lin*, Ken-Tsung Wong*, and Fang-Chung Chen* “Efficient Excimer Delay Fluorescence Organic Light Emission Devices Based on Fluorene Derivatives” Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016)
47. Guan Yu Chen, Tsung Sheng Kao, Kuo Bin Hong, Yu Hsun Chou, Jiong Fu Huang, Fang Chung

Chen*, Tien Chang Lu* “Lasing performance enhanced by localized surface plasmon in solution-processed perovskites” Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016) (oral presentation)

48. Zong-Chun Hsieh, Po-Han Chen and Fang-Chung Chen* ”Organic Photovoltaic Devices Prepared with a Low-Band-Gap Polymer for Low Light Applications” Optics & Photonics Taiwan, International Conference 2015 (OPTIC 2015)
49. Shun-Shing Yang, Nai-Wei Teng, and Fang-Chung Chen* ”Organic Photovoltaic Devices for Indoor Applications” Optics & Photonics Taiwan, International Conference 2015 (OPTIC 2015)
50. Shun-Shing Yang and Fang-Chung Chen* ”Organic Photovoltaic Devices for Indoor Applications” 2015 International Conference on Flexible and Printed Electronics, (The 6th ICFPE, 2015, Taipei)
51. Zong-Chun Hsieh and Fang-Chung Chen* ”Organic Photovoltaic Devices Prepared with a Low-Band-Gap Polymer for Low Light Applications” 2015 International Conference on Flexible and Printed Electronics, (The 6th ICFPE, 2015, Taipei)
52. Wai-Chen Lin, Hung-Wen Hsu, and Fang-Chung Chen* ” Polymer Solar Cells Prepared with Photoexfoliated Fluorinated Graphite as Cathode Buffer Layer” 2015 International Conference on Flexible and Printed Electronics, (The 6th ICFPE, 2015, Taipei)
53. Chun-Hao Lin, Jiong-Fu Huang, and Fang-Chung Chen*, “Plasmonic Effects of Gold Nanoparticle-Decorated Graphene Oxide Nanocomposites on the Performance of Polymer Light-Emitting Devices” Optics & Photonics Taiwan, International Conference 2014 (OPTIC 2014).
54. Ming-Kai Chuang, Shun-Shing Yang and Fang-Chung Chen*, “PEGylated gold nanoparticle-decorated graphene oxides for realizing synergistic plasmonic effects on polymer solar cells” Optics & Photonics Taiwan, International Conference 2014 (OPTIC 2014).
55. Fang-Chung Chen* “Plasmonic nanostructures for light-trapping in organic photovoltaic devices” International Conference on New Materials, Nanotechnology and New Green Energy 2014 (EITA–New Materials 2014) **(invited talk)**.
56. Fang-Chung Chen* Ming-Kai Chuang, and Shih-Wei Lin, “Graphene Derivatives for Organic Optoelectronics” Graphene 2014 International Conference (Nov. 2014) **(invited talk)**.
57. Fang-Chung Chen*, Ming-Kai Chuang, and Shih-Wei Lin, “Plasmonic nanostructures for polymer photovoltaic devices” International Symposium on Organic Photovoltaics (OPV-2014) **(invited talk)**.
58. Chun-Hsien Chou, Fang-Chung Chen*, Li Wen-Chieh, Lin Yao-Leng, Wu Cheng-Han “Anti-reflection encapsulant for solar cells” Annual Meeting of The Physical Society of Republic of China, 2014.
59. Chun-Hsien Chou and Fang-Chung Chen* “Ray-tracing Designed Microlenses for Improving

Flexible Waveguiding Photovoltaics” Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013) **(student paper award)**.

60. An-Kai Ling, Chun-Hao Lin, and Fang-Chung Chen* “Enhanced Light Out-Coupling Efficiency of Polymer Light-Emitting Devices by Blending Low Refractive Index materials” Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013).
61. Yan-Hao Liao, Fang-Chung Chen*, Michael H. Huang and Min-Yi Yang “Au Nanosheets Induced Surface Plasmon to Enhance Performance of Organic Solar Cells” Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013).
62. Yen-Tseng Lin, and Fang-Chung Chen* “Multiple-device stacked structures for High-performance organic cells” Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013).
63. Chun-Hsien Chou and Fang-Chung Chen* “A Novel Concentrator Design with High Performance Flexible Waveguiding Photovoltaics” Photovoltaic Science and Engineering Conference (International PVSEC-23).
64. Shih-Wei Lin, Ming-Kai Chuang, and Fang-Chung Chen* “Gold nanoparticle–decorated graphene oxide nanocomposites for plasmonic-enhanced polymer photovoltaic devices” Photovoltaic Science and Engineering Conference (International PVSEC-23).
65. Kim-Shih Tan, Jyh-Lih Wu, Fang-Chung Chen*, Shu-Hao Chang, and Hsing-Yu Tuan “Near-Infrared Laser–Driven Polymer Photovoltaic Devices Containing Upconversion Nanocrystals”, Optics & Photonics Taiwan, International Conference 2012 (OPTIC 2012, formerly OPT 2012).
66. Chuan-Sheng Kao and Fang-Chung Chen* “Plasmonic-Enhanced Polymer Solar Cells with Inverted Structures”, Optics & Photonics Taiwan, International Conference 2012 (OPTIC 2012, formerly OPT 2012).
67. Fang-Chung Chen* “Light Harvesting Schemes for High-performance Polymer Solar Cells” International Conference on Functional Organic Materials and Related Devices 2012.
68. Chen-Wei Lin and Fang-Chung Chen* “Small Molecule Sensitizers in Polymer Photodetectors for Extended Spectral Response” Symposium on Nano Device Technology 2012.
69. Ya-Wei Chung, Hsieh Po-Cheng, Yu-Ze Chen, Yu-Lun Chueh, and Fang-Chung Chen* “Effect of Doping Ratio on the Electrical Properties of Zirconium-Indium-Zinc-Oxide Thin-film Transistors Fabricated by Using a Solution Process” Taiwan Display Conference (2012).
70. Shao-Tang Chuang, and Fang-Chung Chen* “Realization of Broad Spectral Response of Organic Photomultiple Photodetectors through Codoping Near-Infrared Dyes” International Photonics Conference (IPC 2011).
71. Jyh-Lih Wu, Ming-Kai Chuang, Kim-Shih Tan, and Fang-Chung Chen* “Near-Infrared Laser-Driven Polymer Photovoltaic Devices and Their Biomedical Applications” International Photonics

Conference (IPC 2011).

72. Shu-Cheng Lin, and Fang-Chung Chen* “Charge Blocking Layers for Improving Detectivity of Organic Photomultiple Photodetectors” International Photonics Conference (IPC 2011).
73. Wai-Chen Lin*, Mei-Ju Lee, Chao-Feng Sung, Fang-Chung Chen “Inverted and semitransparent polymer solar cells” The Asian Conference on Organic Electronics” (ACOE 2011).
74. Fang-Chung Chen* “Light Harvesting Schemes for High-performance Polymer Solar Cells” 2011 Asia Pacific Academy of Materials (APAM) (2011) **(Invited)**
75. Fang-Chung Chen*, Jyh-Lih Wu, Yi Hong, and Chia-Ling Lee “Light Trapping Approaches for High-performance Polymer Solar Cells” 16th Opto-electronics and Communications Conference (OECC) (2011). **(Invited)**
76. Ya-Wei Chung, Ying-Pin Chen, and Fang-Chung Chen* “Solution-Processed ZrInZnO Semiconductor for Thin Film Transistors” International Display Manufacturing Conference (IDMC) (2011).
77. Fang-Chung Chen*, Shang-Chieh Chien, Shao-Tang Chuang, and Guan-Lin Cious “High-performance organic photomultiple photodetectors exhibiting broadband response” 2010 International Conference on Optics and Photonics in Taiwan (OPT’ 10)
78. Ming-Kai Chuang and Fang-Chung Chen* “A novel transfer-printing technique for flexible polymer solar cells” 2010 International Conference on Optics and Photonics in Taiwan (OPT’ 10)
79. 陳宗達、陳方中*, 可撓式有機薄膜電晶體在彎曲應力下的電性探討, Taiwan Display Conference (2010). (Student paper award)
80. Tzung-Han Tsai, Shang-Chieh Chien, and Fang-Chung Chen* “Performance-enhanced n-channel organic thin-film transistors incorporating poly(ethylene glycol)” Taiwan Display Conference (2010).
81. Shang-Chieh Chien, and Fang-Chung Chen*, “Nanoscale functional interlayers formed through spontaneous vertical phase separation in high-performance polymer photovoltaic devices”, Optics and Photonics Taiwan (OPT) (2009). (Student paper award)
82. Jyh-Lih Wu, Yi Hung, and Fang-Chung Chen*, “The exploitation of optical interference for improving the performance of inverted polymer solar cells”, Optics and Photonics Taiwan (OPT) (2009). (Student paper award)
83. Bing-Ruei Zeng, Fang-Chung Chen*, Shang-Chieh Chien, Chi-Neng Mo, Huai-An Li, and Shou-Cheng Weng, “Hysteresis-free photopatternable dielectrics for flexible organic thin-film transistors” International Display Manufacturing Conference/3D System and Application/Asia Display, (2009).
84. Yi-Hsing Chu, Gao-Ming Wu, Wei-Kuan Yu, Fang-Chung Chen, and Han-Ping D. Shieh, “Complementary circuits of ambipolar organic/oxide thin-film transistors for AMFPD applications”

International Display Manufacturing Conference/3D System and Application/Asia Display, (2009).
(Best paper award)

85. Jyh-Lih Wu, Fang-Chung Chen*, Kuo-Huang Hsieh, and Wen-Chang Chen *Transparent cathode for bulk-heterojunction organic solar cells”, International Conference on Optics and Photonics in Taiwan (OPT) (2008) (Student paper award)
86. Wen-Che Huang, Shang-Chieh Chien and Fang-Chung Chen*, “Highly efficient semi-transparent polymer solar cells”, International Conference on Optics and Photonics in Taiwan (OPT) (2008)
87. Shang-Chieh Chien, Hsin-Chen Tseng and Fang-Chung Chen * “Solvent mixtures for improving device efficiency of polymer photovoltaic devices” International Conference on Optics and Photonics in Taiwan (OPT) (2008).
88. Yu-Jen Huang, Hsiao-Fen Chang, Su-Ting Tsai, Chiao-Shun Chuang, Jung-An Cheng, Fang-Chung Chen*, and Han-Ping D. Shieh “Color filtering functional organic thin-film transistors” International Display Manufacturing Conference & Exhibition, (2007).
89. Yin-Ting Shih and Fang-Chung Chen* “The post-annealing effect on the electrical properties of pentacene thin film transistors” International Display Manufacturing Conference & Exhibition, (2007).
90. Shu-Ting Tsai and Fang-Chung Chen* “Effect of the surface treatments on the turn-on voltages of pentacene-based thin film transistors” International Display Manufacturing Conference & Exhibition, (2007).
91. Ying-Pin Chen and Fang-Chung Chen* “Effect of deposition temperature on the channel and contact resistance of pentacene thin film transistors” International Display Manufacturing Conference & Exhibition, (2007).
92. Hao-Wei Ting and Fang-Chung Chen* “Triplet energy transfer between a conjugated polymer and phosphorescent molecules” International Display Manufacturing Conference & Exhibition, (2007).
93. Yan-Chu Tsai, Shu-Ting Tsai, Chiao-Shun Chuang, Jung-An Cheng, Fang-Chung Chen, and Han-Ping D. Shieh* “Organic thin-film transistors with novel solution-process polymeric gate insulators” International Display Manufacturing Conference & Exhibition, (2007).
94. Fang-Chung Chen* “Recent Developments in polymer photovoltaic devices” Flexible Electronics – Organic Photovoltaic Workshop (2007). **(Invited)**
95. Fang-Chung Chen* “Recent development of phosphorescent polymer light-emitting diodes and other organic electronics” The 5th International OLED and PLED workshop in Taipei (2007). **(Invited)**
96. Jyh-Lih Wu, Fang-Chung Chen*, and Sidney S. Yang “Highly Efficient Organic Solar Cell with an Interlayer of Cesium Carbonate” Optics and Photonics Taiwan (2006).

97. Yi-Kai Lin, Fang-Chung Chen* and Chu-Jung Ko “Manipulation of the phase separation in organic blends by self-alignment method in sub-micron scale” Optics and Photonics Taiwan (2006).
98. Shang-Chieh Chien, and Fang-Chung Chen* “Polymer electrophosphorescent devices with Low turn-on voltage and high power conversion efficiencies” Optics and Photonics Taiwan (2006).
99. Ying-Pin Chen and Fang-Chung Chen* “Effect of deposition temperature on the device properties of pentacene thin-film transistors” Optics and Photonics Taiwan (2006).
100. Chu-Jung Ko, Yi-Kai Lin, and Fang-Chung Chen* “Microwave annealing processes in polymer photovoltaic devices” International Symposium on Flexible electronics and Display, (2006)
101. Tung-Hsien Chen, and Fang-Chung Chen* “Metal oxides as the buffer layers for organic thin-film transistors” Taiwan Display Conference (2006)
102. Li-Jen Kung, and Fang-Chung Chen* “High-performance organic thin-film transistors with copper phthalocyanine-modified source/drain contacts” Taiwan Display Conference (2006)
103. 劉思芳，王文生，陳方中*, 偏極化高分子發光二極體之新型導電配向層，Taiwan Display Conference (2006)
104. 甘惠君，王文生，黃文奎，陳方中*, 利用自組裝微小陣列透鏡增加有機發光二極體的光耦合效率，Taiwan Display Conference (2006)
105. Fang-Chung Chen* “The development of high-performance organic electronics” ITRI 學員交流論壇, (June 2006) (invited).
106. Fang-Chung Chen* “Organic Photovoltaic Devices for Low Power Sensor Networks” Wireless Sensor Network Workshop 2005
107. Chiao-Shun Chuang, Han-Ping D. Shieh, Yang Yang, and Fang-Chung Chen* “Numerical Prediction of Effective Dielectric Constant in Organic Thin-film Transistors with Nanocomposite Gate Insulator” International Display Manufacturing Conference & Exhibition, (2005).
108. Wen-Kuei Huang, Chu-Jung Ko, Hui-Chun Kan, and Fang-Chung Chen* “Fabrication of self-organized microlens array on plastic substrates” Optics and Photonics Taiwan (2005).

Other Publications

其他 (中文專刊)

1. 李靖偉、林冠州、涂辰昕、陳方中，2025 年「寬能隙鈣鈦礦太陽能電池於多接面元件及室內光環境的應用」，光學工程，166 期。
2. 高宗聖、陳方中、盧廷昌，2017 年，「淺談鈣鈦礦材料雷射發光特性之操控」，科儀新知，211 期，p60-67。
3. 陳新傑、岳宏霖、莊名凱、陳方中，2017 年，「鈣鈦礦太陽能電池」，奈米通訊，二十四

卷，p21-26。

4. 陳方中，2013 年，「有機光偵測器與三維空間動作感知技術」，電子月刊，第 216 期。
5. 莊名凱、陳方中，2011 年，「以轉印製程製作高分子太陽能電池」，光學工程，第 114 期。
6. 陳方中，2011 年，「高分子太陽能電池與其新穎集光方式的探討」，化工，第 58 卷，第 2 期。
7. 陳方中，2009 年，「可撓性高效能高分子薄膜太陽能電池的發展」，化合物半導體與光電技術。
8. 陳方中，2008 年，「高分子薄膜太陽能電池」，化合物半導體與光電技術。
9. 吳志力、陳方中，2008 年，「透明與疊層式有機太陽能電池」，光學工程，第 102 期。
10. 黃昱仁、廖呈祥、陳方中，2008 年，「有機半導體材料與電晶體技術」，電子月刊，第 153 期。
11. 葛祖榮、陳方中，2007 年，「高分子太陽能電池之退火技術」，光學工程，第 100 期。
12. 葛祖榮、陳方中，2007 年，「有機高分子太陽能電池的發展現況」，奈米通訊，十四卷。
13. 葛祖榮、林義凱、陳方中，「高分子太陽能電池光電轉換效率的提升」，電子月刊，第 145 期。
14. 陳方中、陳東賢、林永昇，「有機薄膜電晶體的發展與應用」，化合物半導體與光電技術。
15. 陳方中，2006 年，「磷光高分子發光二極體與其三重態的能量轉移」，光學工程，第 94 期。
16. 葛祖榮、黃文奎、陳方中，2006 年，「有機高分子太陽能電池的發展現況」，工業材料雜誌，第 230 期。
17. 陳方中，2005 年，「有機薄膜太陽能電池」，工業材料雜誌，第 219 期。
18. 陳方中、楊陽，No. 9，October、2004 年，「奈米技術於有機太陽能電池的應用」，產業奈米技術應用資訊園地奈米粉體與應用專刊。
19. 陳方中，2004 年，「有機電激磷光顯示器的發展及現況」，光訊，第 108 期。

Patents 專利

1. 「可感測 X 光之元件結構及其使用方法」，陳方中、高山柯。中華民國專利第 I925191 號。

2. 「鈣鈦礦光電裝置及應用於鈣鈦礦光電裝置的自適應傳輸結構」，陳方中、李靖偉。中華民國專利第 I844323 號。
3. 「發光組成物及圖案化發光組成物之方法」，陳方中、宋承翰。中華民國專利第 I839726 號。
4. 「單色有機發光二極體血氧脈搏偵測裝置」，陳方中、林伯恩。中華民國專利第 I762142 號。
5. 「鈣鈦礦單晶的合成方法」，陳方中、岳宏霖。中華民國專利第 I657172 號。
6. 「鈣鈦礦型發光元件及其製造方法」，陳方中、黃炯福。中華民國專利第 I657123 號。
7. 「一種太陽能電池抗反射封裝膜之製程方法」，吳政翰、倪國裕、薄慧雲、林遙冷、陳方中、周俊賢。中華民國專利第 I497736 號。
8. 「製備二維材料的方法」，陳方中、林渭澄。中華民國專利第 I548448 號。
9. 「可撓性照明光伏打複合模組及其製備方法」，陳方中、周俊賢。中華民國專利第 I542826 號。
10. 「Device for stimulating neural regeneration and fabrication method thereof」，陳方中、莊名凱、陳鍵熙；美國專利: US 9,108,042 B2
11. 「Manufacturing method for organic optoelectronic thin film」，陳方中、莊名凱。美國專利: US 8,252,627 B2。
12. 「提高有機有機發光二極體之光萃取之方法及其結構」，陳方中、凌安愷。中華民國專利第 I513078 號。
13. 「一種太陽能電池抗反射封裝膜之製程方法」，吳政翰、倪國裕、薄慧雲、林遙冷、陳方中、周俊賢。中華民國專利第 I497736 號。
14. 「有機光電薄膜元件之製造方法」，陳方中、莊名凱。中華民國專利第 I437744 號。
15. 「高分子太陽能電池及其製作方法」，陳方中、簡上傑；中華民國專利第 I497740 號。
16. 「太陽能電池模組及其製造方法」，陳方中、周俊賢、莊睿綱、林晏增。中華民國專利第 I493744 號。
17. 「Thin film transistor having highly dielectric organic layer」，莊喬舜、陳方中、謝漢萍。美國專利: US 8,907,325 B2。
18. 「提高光偵測度之光偵測元件及其形成方法」，陳方中、林書丞；中華民國專利第 I458105；日本專利特許第 5787170 號。
19. 「有機太陽能電池及其製作方法」，陳方中、李佳霖、吳志力，中華民國專利第 I458151。

20. 「倒置式有機太陽能元件及其製作方法」，陳方中、吳志力、洪毅，中華民國專利第 I426633 號。
21. 「有機電致發光元件」，陳方中、陳永軒、簡上傑、莫啟能、鄒健龍、連詹田，中華民國專利第 I388056 號。
22. 「Organic electro-luminescence device with organic light emitting layer having particular ratio of contents」，Fang-Chung Chen, Yung-Shiuan Chen, Shang-Chieh Chien, Chi-Neng Mo, Chien-Lung Tsou, Jan-Tian Lian。美國專利: US 7,956,526 B2。
23. 「薄膜電晶體、畫素結構及液晶顯示面板」，莊喬舜、陳方中、謝漢萍，中華民國專利第 I345671 號。
24. 「微波退火法提升有機電子元件特性之方法」，陳方中、葛祖榮、林義凱，中華民國專利第 I341561 號
25. 「高分子太陽能電池及其製造方法」，陳方中、朱治偉、葛祖榮、林義凱，中華民國專利第 I328290 號
26. 「透鏡陣列的製造方法、透鏡陣列及其光學元件陣列裝置」，黃文奎、葛祖榮、陳方中，中華民國專利第 I315321 號。
27. 「光學元件微透鏡模組及其製造方法」，呂志平、黃文奎、陳方中、李裕正、鄭兆凱，中華民國專利第 I306954 號；中國大陸發明第 ZL200610101384.1 號專利。
28. 「閘極介電結構及其在有機薄膜電晶體之應用」，陳方中、莊喬舜、林永昇，中華民國專利第 I300273 號。
29. 「有機半導體元件之接面結構及有機電晶體及其製造方法」，陳方中、莊喬舜，中華民國專利第 I260785 號。