Fang-Chung Chen, PhD, OpticaF, FRSC
Distinguished Professor
Department of Photonics
National Yang Ming Chiao Tung University

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CURRICULUM VITAE

Summary

- More than 25 years of experience in the field of organic photonics and optoelectronics
- More than 160 papers in peer-reviewed journals (> 10,000 total citations and H-index = 51)
- 5 book chapters, more than 160 conference papers and presentations, and 21 patents
- 2024 Optica Fellow (OpticaF)
- 2021 Fellow of the Royal Society of Chemistry (FRSC)
- Technology transferred to a startup company (Flexwave) and the products are used for powering IoT systems (recognized by 2021 IoT Innovation Award, Pen Wen Yuan Foundation)
- 2020 Y. Z. Hsu Scientific Paper Award (The most important scientific paper award for all fields in Taiwan)
- 2012-2015 Project for Excellent Junior Research Investigators, Ministry of Science and Technology
- 2008 Academic Sinica : Award for Junior Research Investigators
- Named among the World's Top 2% Scientists / both career-long and annual (2020-2023; Elsevier)
- Named as "Highly Ranked Scholar" (ScholorGPS)/Rank #13 Photovoltaic system (globally)

Education

Ph.D., Materials Science & Engineering, Major in Electronic Materials and Devices
University of California, Los Angeles, USA (06/2000 - 09/2003)
Advisor: Prof. Yang Yang
Dissertation: High Performance Polymer Light-Emitting and Light-Harvesting Devices

Master of Science, Chemistry, National Taiwan University, Taiwan (09/1996 - 06/1998)
Advisor: Prof. Yuhlong Oliver Su
Thesis: Electrochemical and Spectral Characterization of High-Valent Metal-Porphyrins

Bachelor of Science, Chemistry, National Taiwan University, Taiwan (09/1992 - 06/1996)

Professional Experience

Distinguished Professor (08/2022 - present)
Professor (08/2012 - present)
Department of Photonics, National Yang Ming Chiao Tung University (NYCU)
(NYCU was founded in 2021 through the merger of National Chiao Tung University and National Yang Ming University)

Chairman of Department of Photonics (08/2021 - 07/2024)

Vice Chairman of Department of Photonics (08/2018 - 07/2021)
Associate Professor (08/2008 - 07/2012)
Assistant Professor (02/2004 - 07/2008)
Department of Photonics, National Chiao Tung University

Chairman (08/2009 - 07/2011); **Vice Chairman** (02/2009 - 07/2009)
Degree Program of Flat Panel Display Technology, National Chiao Tung University

Post-Doctoral Fellow (10/2003 - 12/2003)
Department of Materials Science & Engineering, University of California, Los Angeles

Areas of Professional Specialization

Organic/Perovskite photonic and optoelectronic devices, including solar cells, light-emitting diodes, photosensors; Perovskite quantum dots; Photonic nanomaterials; Machine learning for organic electronics

Professional Activities

Award/Honor/Recognitions

1. 2024 Optica Fellow (OpticaF)
2. Named among the World's Top 2% Scientists / both career-long and annual (2020-2023; Elsevier) (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6)
3. Named as "Highly Ranked Scholar" (ScholorGPS)/Rank #13 Photovoltaic system (globally) (https://scholargps.com/scholars/20237568817101/fang-chung-chen)
4. 2021 Fellow of the Royal Society of Chemistry (FRSC)
5. 2021 IoT Innovation Award, Pen Wen Yuan Foundation
6. 2020 Y. Z. Hsu Scientific Paper Award
7. 2020 The Most Potential IoT Innovation Award, Pen Wen Yuan Foundation
8. 2019 Volunteer Service Awards - The EITA Hall of Fame
9. 2012-2015 Project for Excellent Junior Research Investigators, Ministry of Science and Technology
10. 2008 Academic Sinica : Award for Junior Research Investigators
11. The UCLA Henry Samueli School of Engineering and Applied Science 2002-2003 Awards: Outstanding Doctor of Philosophy in Materials Science and Engineering.

Invited Talks

International Conference/Workshop

1. The Fifth International Workshop on Thin Films for Electronics, Electro-Optics, Energy and Sensors (Bangkok, Thailand, March 2025) (Keynote presentation)
2. The 13th International Symposium for Luminescent Materials (Phosphor Safari 2024), (Taipei, Taiwan, Aug. 2024)
3. The 15th Asian Conference on Organic Electronics (A-COE 2023), (Taipei, Taiwan, Oct. 2023)
4. European Assembly Advanced Materials Congress (Hybrid), (Sweden, Aug. 2022) (on-line presentation)
5. 3rd International Conference on Materials Science and Engineering (Hybrid), (Boston, USA, April 2022) (on-line presentation)
6. 10th Advanced Materials Congress: Advanced Nanomaterials Congress, (Sweden, Oct. 2021) (on-line presentation)
7. International Conference on Emergent Functional Matter Science 2019, (Hsinchu, Taiwan, Dec. 2019).
8. Optics & Photonics Taiwan, International Conference (OPTIC 2019), (Taichung, Taiwan, Dec. 2019).

9. The 5th International Conference on Advanced Electromaterials (ICAE 2019), (Jeju, Korea, Nov. 2019).
10. The 7th RIKEN-NCTU Symposium on Physical and Chemical Sciences, (Hsinchu, Taiwan, Oct. 2019).
11. 2019 Collaborative Conference on Materials Research (CCMR), (Gyeonggi Goyang/Seoul, South Korea, June 2019).
12. 14th IUPAC International Conference on Novel Materials and their Synthesis (NMS-XIV) (Guangzhou, China, Oct. 2018)
13. Taiwan-Japan-US Joint Workshop on Energy Materials for Sustainable Development (Sep. 2018)
14. The 27th International Conference on Amorphous and Nanocrystalline Semiconductors (Seoul, Korea, Aug. 2017).
15. The EITA Conference on New Materials, Nanotechnology and New Energy 2017, (Ann Arbor, MI, USA, July 2017)
16. 12th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 12), (Hawaii, USA, May 2017)
17. The 7th Asian Conference on Organic Electronics (A-COE 2015) (Beijing, Oct. 2015).
18. International Photonics and OptoElectronics Meetings 2015 (POEM 2015) (Wuhan Photonics Week) (Wuhan, China, June 2015)
19. Materials Challenges in Alternative & Renewable Energy (MCARE 2015) (Jeju, Korea, Feb. 2015).
20. International Conference on New Materials, Nanotechnology and New Green Energy 2014 (EITA–New Materials 2014)
21. Graphene 2014 International Conference (Nov. 2014)
22. International Symposium on Organic Photovoltaic (OPV-2014), (Sep. 2014)
23. 9th World Congress of Chemical Engineering (Seoul, Korea, Aug. 2013)
24. The 12th Emerging Information & Technology Conference "Research, Innovation, and Commercialization" (Toronto, Canada, Aug. 2012)
25. International Conference on Functional Organic Materials and Related Devices (June 2012)
26. 4th International Conference Smart Materials, Structures and Systems (Italy, June 2012)
27. Science Conference on Materials for Green energy and Forum on Material Characteristics Using Synchrotron Radiation (2011 APAM) (Aug., 2011)
28. 16th Opto-Electronics and Communications Conference (OECC 2011) (July, 2011)
29. OSA-IEEE Topical Conference, Advanced in Optoelectronics and Micro/nano-optics (AOM 2010) (Dec., 2010)
30. The International Conference on Flexible and Printed Electronics (Oct., 2010)
31. Plastic Electronics Asia 2009 (June, 2009)
32. The 3rd International conference in Solar Taiwan 2009 (OPTO 2009) (June, 2009)
33. Printed Electronics Asia, Japan (Oct., 2008)
34. 2008 International Symposium on Flexible Electronics and Displays (ISFED) (Nov., 2008)
35. The 5th International OLED and PLED Workshop in Taipei (April/2007)

Conference Chairman/Committee

1. Committee Chair, Optics & Photonics Taiwan, International Conference (OPTIC 2024), (Taipei, Dec. 2024).
2. Committee Chair, Optics & Photonics Taiwan, International Conference (OPTIC 2023), (Tainan, Dec. 2023).
3. Session Committee, Optics & Photonics Taiwan, International Conference (OPTIC 2021), (Kaohsiung, Dec. 2021).
4. Section Chair, 10th Advanced Materials Congress: Advanced Nanomaterials Congress, (Sweden, Oct.

2021) (online event)

5. Section Chair, Optics & Photonics Taiwan, International Conference (OPTIC 2020), (Taipei, Dec. 2020).
6. Technical Program Committee and Session Chair, 2020 International Electron Devices & Materials Symposium (IEDMS 2020), (Taoyuan, Oct. 2020).
7. Program Committee, Optics & Photonics Taiwan, International Conference (OPTIC 2019), (Taichung, Dec. 2019).
8. Section Chair, The 5th International Conference on Advanced Electromaterials (ICAE 2019), (Jeju, Korea, Nov. 2019).
9. Technical Program Committee and Section Chair, 2019 The International Conference on Flexible and Printed Electronics (ICFPE), (Taipei, Oct. 2019).
10. Conference Chair, The 2019 EITA Conference on New Materials, Nanotechnology, Healthcare, New Energy and Sustainable Smart Manufacturing (EITA–New Materials 2019) (EITA–New Materials 2019), (Hsinchu, Sep. 2019).
11. International Advisory Committee, Materials Challenges in Alternative & Renewable Energy 2019 (MCARE 2019), (Jeju, Korea, Aug. 2019).
12. Program Committee, Optics & Photonics Taiwan, International Conference (OPTIC 2018), (Tainan, Dec. 2018).
13. Invited section chairman, 14th IUPAC International Conference on Novel Materials and their Synthesis (NMS-XIV) (Guangzhou, China, Oct. 2018)
14. Technical Program Committee Member, 6th Annual International Conference on Material Science and Enginnering (Suzhou, China, June 2018)
15. Section Chair, Taiwan Solid State Lighting (2018 tSSL), (April 2018)
16. Section Chair, The 27th International Conference on Amorphous and Nanocrystalline Semiconductors (Seoul, Korea, Aug. 2017).
17. Program Steering Committee and Section Chair，The EITA Conference on New Materials, Nanotechnology and New Energy 2017, (Ann Arbor, MI, USA, July 2017)
18. Invited section chairman，12th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 12), (Hawaii, USA, May 2017)
19. International Advisory Committee，Materials Challenges in Alternative & Renewable Energy (MCARE 2017), (Jeju, Korea, Feb. 2017).
20. Invited section chairman，Optics & Photonics Taiwan, International Conference (OPTIC 2016), (Taipei, Dec. 2016)
21. Invited section chairman，Display Innovation Taiwan Conference 2016 (Taipei, Aug. 2016)
22. Section Chair，The 10th Taiwan Solid State Lighting (2016 tSSL), (April 2016)
23. Session Committee (Photovoltaic Technology), Optics & Photonics Taiwan, International Conference (OPTIC 2015), (Dec. 2015)
24. Section Chair and Technical Program Committee，The International Conference on Flexible and Printed Electronics (2015 ICFPE), (Oct. 2015)
25. Program Steering Committee and Workshop Track Co-Chair，International Conference on New Materials, Nanotechnology and New Green Energy 2014 (EITA–New Materials 2014)
26. Presiding，International Symposium on Otrganic Photovoltaic (OPV-2014), (Sep. 2014)
27. Program Secction Co-Chair and Section Chair，Photovoltaic Science and Engineering Conference (PVSEC-23), (Nov. 2013)
28. Invited section chairman，9th World Congress of Chemical Engineering (Seoul, Korea, Aug. 2013)
29. Invited section chairman，Display Taiwan 2013，Section of AMOLED Panel & Microdisplay (Taipei, June 2013)

30. Invited chairman，4th International Conference Smart Materials, Structures and Systems (Italy, June 2012)
31. Invited chairman and program committee，Taiwan Display Conference (2012)
32. International Photonics conference (IPC 2011) (Dec. 2011), Program Committee
33. Section Chair, OECC 2011, 16th Opto-Electronics and Communications Conference (July, 2011)
34. OSA-IEEE Topical Conference, Advanced in Optoelectronics and Micro/nano-optics (AOM 2010), (Dec. 2010) International Technical Program Committee.
35. 2010 International Conference on Optics and Photonics in Taiwan (OPT10) (Dec. 2010), Program Committee.
36. Section Program Committee，Optics and Photonics Taiwan (2009)
37. Invited chairman，Plastic Electronics Asia 2009
38. Local Organizer and section chairman, International Symposium on Solar Cell Technologies (ISSCT/OPT) 2008.
39. Invited chairman，OPTO 2008，The 2nd International conference in Solar Taiwan 2008
40. Invited co-chairman，International Display Manufacturing Conference (IDMC) (2007)
41. Invited chairman，Taiwan Display Conference(2006)
42. Invited chairman，The 4th Asian Photochemistry Conference (2005)
43. Invited co-chairman，International Display Manufacturing Conference (IDMC) (2005)

Journal Editor or Editorial Board

1. Processes (IF=2.8), MDPI, Editorial Board and Guest Editor
2. Academia Quantum, Academia, Editorial Board Member
3. Encyclopedia of Modern Optics, edition II, Elsevier, Section Editor (Organic Optoelectronics)
4. Active and Passive Electronic Components (IF=1.3), Wiley, Editorial Board (2012-2016)
5. Electronic Monthly, Guest Editor (2008)

Published Materials

h-index: 51 (Google Scholar); 46 (Scopus)

Publication List (*Corresponding author)

Journal papers IF (impact factor: 2024)

1. 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**. https://doi.org/10.1007/s11831-025-10310-y (2025). (**IF: 12.1**)
2. Chi-Chun Tseng, Li-Lun Yeh, Chen-Yu Chang, Ching-Li Huang, Chia-Lin Tsai, Yung-Jing Xue, Fang-Chung Chen, Chain-Shu Hsu, Ta-Ya Chu, Jianping Lu, U-Ser Jeng,* Yen-Ju Cheng* "C_6F_5-Functionalized Benzimidazole-Based Acceptor Enabling Supramolecular Fluorinated Interactions for Enhanced Photovoltaic Performance and Thermal Stability" **J. Mater. Chem. A** 13, 20519-20530 (2025). (**IF:9.5**)
3. Nutcha Khambunkoe, Fang-Chung Chen* "Perovskite Indoor Photovoltaic Devices for Internet of Things Applications" **J. Phys. Energy** 7, 032003 (2025). (**IF: 6.3**)
4. 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**)
5. 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: 4.6**)
6. 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:4.3**)
7. 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:4.5)**
8. Jheng-Kun Wu, Ping-Yen Chen, Gajendra Suthar, Yu-Yang Su, Chih-Wei Chu, Fang-Chung Chen, Yi-Ming Chang* "Cost-Effective Cobalt(II) Acetate as an Efficient and Stable Hole Transport Layer in Inverted Organic Photodetectors" **ACS Appl. Electro. Mater**. 7, 1579-1589 (2025). (**IF:4.7**)
9. Chia-Hung Tsai, Yang-En Wu, Chien-Chi Huang, Li-Yin Chen, Fang-Chung Chen*, Hao-Chung Kuo* "Digital Mini-LED Lighting Using Organic TFTs Reaching Over 100,000 Nits of Luminance" **Nanomaterials** 15, 141 (2025). (**IF:4.3**)
10. 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:3.2**)
11. 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)**
12. Gajendra Suthar, Chih-Wei Chu, and Fang-Chung Chen*, "High-Performance Self-filtering Organic Photodetectors with Photomultiplication Narrowing" **Adv. Opt. Mater**. 12, 2400662 (2024). (**IF:7.2**)
13. Tzu-Yi Lee, Chien-Chi Huang, Wen-Chien Miao, Fu-He Hsiao, Chia-Hung Tsai, Yu-Ying Hung, Fang-Chung Chen, Chun-Liang Lin, Kazuhiro Ohkawa, Jr-Hau He, Yu-Heng Hong*, Hao-Chung

Kuo*, "Innovative Stacked Yellow and Blue Mini-LED Chip for White Lamp Applications" **Micromachines** 15, 796 (2024). (**IF:3.0**)

14. Jo-Hsiang Chen, Che-Hsuan Huang, Tzu-Yi Lee, Fang-Chung Chen, Tsung Sheng Kao*, Hao-Chung Kuo*, "Advancing LED Technology: The FDCSP Element's Breakthrough in Mini and Micro-LED Packaging and Backlight Module Enhancement" **Discover Nano** 19, 94 (2024). **(IF:4.5)**
15. Tzu-Yi Lee, Chien-Chi Huang, Yu-Ying Hung, Fang-Chung Chen, Yu-Heng Hong, and Hao-Chung Kuo*, "InGaN Blue Resonant Cavity Micro-LED with RGY Quantum Dot Layer for Broad Gamut, Efficient Displays" **Discover Nano** 19, 75 (2024). **(IF:4.5)**
16. Kuen-Wei Tsai, Min-Hsien Chen, Gajendra Suthar, Yu-Tang Hsiao, Lin-Chieh Cheng, Chuang-Yi Liao, Fang-Chung Chen, Chih-Wei Chu, Yi-Ming Chang*, "Suppressing the Dark Current While Improving the Quantum Efficiency in Shortwave Infrared Organic Photodetectors Through Naphthalenediimide-Based Interlayer" **Adv. Opt. Mater**. 12, 2302435 (2024). (**IF:7.2**)
17. Wei-Ta Huang, Tzu-Yi Lee, Yi-Hong Bai, Hsiang-Chen Wang, Yu-Ying Hung, Kuo-Bin Hong, Fang-Chung Chen, Chia-Feng Lin, Shu-Wei Chang, Jung Han, Jr-Hau He, Yu-Heng Hong*, Hao-Chung Kuo*, "InGaN-based blue resonant cavity micro-LEDs with staggered multiple quantum wells enabling full-color and low-crosstalk micro-LED displays" **Next Nanotechnology** 5, 100048 (2024).
18. 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: 4.6**) (selected as the following themed collections: Celebrating the scientific accomplishments of RSC Fellows and Popular Advances; Nanoscale Advances Paper Prize Award)
19. Tzu Yi Lee, Wei-Ta Huang, Jo-Hsiang Chen, Wei-Bo Liu, Shu-Wei Chang, Fang-Chung Chen, Hao-Chung Kuo*, "Optimized Design with Artificial Intelligence Quantum Dot White Mini LED Backlight Module Development" **Crystals** 13, 1411 (2023) (**IF:2.4**)
20. 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" **Adv. Funct. Mater.** 33, 2301538 (2023). (**IF:19.0**)
21. 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:4.5)**
22. Tzu-Yi Lee, Wen-Chien Miao, Yu-Ying Hung, Yi-Hong Bai, Pei-Tien Chen, Wei-Ta Huang, Kuan-An Chen, Chien-Chung Lin, Fang-Chung Chen, Yu-Heng Hong*, Hao-Chung Kuo*, "Ameliorating Uniformity and Color Conversion Efficiency in Quantum Dot-Based Micro-LED Displays through Blue–UV Hybrid Structures" **Nanomaterials** 13, 2099 (2023) (**IF:4.3**)
23. Gautham Kumar, Fang-Chung Chen*, "A review on recent progress in organic photovoltaic devices for indoor applications" **J. Phys. D: Appl. Phys**. 56, 353001 (2023). (**IF:3.2**)
24. Mukhamed L. Keshtov,* Alexei R. Khokhlov, Dimitriy Y. Shikin, Vladimir Alekseev, Giriraj Chayal, Hemraj Dahiya, Manish Kumar Singh, Fang-Chung Chen, and Ganesh D. Sharma*, "Medium Bandgap Nonfullerene Acceptor for Efficient Ternary Polymer Solar Cells with High Open-Circuit Voltage" **ACS Omega**, 8, 1989−2000 (2023). (**IF:4.3**)
25. Mukhamed L. Keshtov,* Dmitry Y. Godovsky, Ilya E. Ostapov, Vladimir G. Alekseev, Hemraj Dahiya, Rahul Singhal, Fang-Chung Chen, Ganesh D. Sharma*, "Single junction binary and ternary polymer solar cells-based D–A structured copolymer with low lying HOMO energy level and two nonfullerene acceptors" **Mol. Syst. Des. Eng.**, 8, 53–64 (2023). (**IF:3.2**)

26. Prateek Malhotra, Kanupriya Khandelwal, Subhayan Biswas, Fang-Chung Chen, Ganesh D. Sharma*, "Opportunities and challenges for machine learning to select combination of donor and acceptor materials for efficient organic solar cells" **J. Mater. Chem. C**, 10, 17781–17811 (2022). (**IF:5.1**)
27. Tzu-Yi Lee, Tsau-Hua Hsieh, Wen-Chien Miao, Konthoujam James Singh, Yiming Li, Chang-Ching Tu, Fang-Chung Chen,* Wen-Chung Lu, Hao-Chung Kuo* "High-Reliability Perovskite Quantum Dots Using Atomic Layer Deposition Passivation for Novel Photonic Applications" **Nanomaterials** 12, 4140 (2022). (**IF:4.3**)
28. Cheng-Han Sung, Shi-Da Huang, Gautham Kumar, Wen-Chi Lin, Chien-Chung Lin, Hao-Chung Kuo, Fang-Chung Chen*, "Highly luminescent perovskite quantum dots for light-emitting devices: Photopatternable perovskite quantum dot–polymer nanocomposites" **J. Mater. Chem. C**, 10, 15941–15947 (2022). (**IF:5.1**) **(selected as 2023 Journal of Materials Chemistry C Lunar New Year collection)**
29. Tzu-Yi Lee, Li-Yin Chen*, Yu-Yun Lo, Sujith Sudheendran Swayamprabha, Amit Kumar, Yu-Ming Huang, Shih-Chen Chen, Hsiao-Wen Zan, Fang-Chung Chen*, Ray-Hua Horng*, Hao-Chung Kuo*, "Technology and Applications of Micro-LEDs: Their Characteristics, Fabrication, Advancement, and Challenges" **ACS Photonics**, 9, 2905–2930 (2022). (**IF:6.7**)
30. Hao-Yeu Tsai, Yung-Fang Yang, Hong-Sheng Jiang, Fang-Chung Chen*, "Asymmetrical Single Crystals Containing Tilted Ruddlesden–Popper Phases for Efficient Perovskite Solar Cells" **Solar RRL**, 6, 2200562 (2022). (**IF:4.7**)
31. Tzu-Hsueh Wu, Ganesh D. Sharma, Fang-Chung Chen*, "Surface-Passivated Single-Crystal Micro-Plates for Efficient Perovskite Solar Cells" **Processes**, 11, 1477 (2022). (**IF:2.8**)
32. Chien-Chen Kuo, Ganesh D. Sharma, Fang-Chung Chen*, "*p*-Doping the interfacial layers with tetrakis(pentafluorophenyl)borate improves the power conversion efficiencies in single-crystal perovskite solar cells" **Surf. Interfaces**, 30, 101858 (2022). **(IF:6.3)**
33. Yu-Ming Huang, Konthoujam James Singh, Tsou-Hwa Hsieh, Catherine Langpoklakpam, Tzu-Yi Lee, Chien-Chung Lin,* Yiming Li, Fang-Chung Chen, Shih-Chen Chen,* Hao-Chung Kuo,* Jr-Hau He, "Gateway towards recent developments in Quantum Dot-based Light Emitting Diodes", **Nanoscale**, 14, 4042-4064 (2022). **(IF:5.1)**
34. Mukhamed. L. Keshtov, Igor. O. Konstantinov, Sergei. A. Kuklin, Yingping Zou, Anupam Agrawal, Fang-Chung Chen, Ganesh D. Sharma* "Binary and ternary polymer solar cells based on a wide bandgap D-A copolymer donor and two non-fullerene acceptors with complementary absorption spectra", **ChemSusChem**, 14, 4731-4740 (2021). (**IF:6.6**)
35. Sumit S. Bhosale, Efat Jokar, Yi-Ting Chiang, Chieh-Hsi Kuan, Kiana Khodakarami, Zahra Hosseini*, Fang-Chung Chen*, Eric Wei-Guang Diau*, "Mn-Doped Organic-Inorganic Perovskite Nanocrystals for a Flexible Luminescent Solar Concentrator" **ACS Appl. Energy Mater.** 4, 10565-10573 (2021). (**IF:5.5**)
36. Prateek Malhotra, Subhyan Biswas, Fang-Chung Chen, Ganesh D. Sharma*, "Prediction of non-radiative voltage losses in organic solar cells using machine learning", **Sol. Energy**, 228, 175-186 (2021) (**IF:6.6**)
37. M. L. Keshtov*, S. A. Kuklin, Anupam Agrawal, Hemraj Dahiya, Fang-Chung Chen, Ganesh D. Sharma*, "Ternary polymer solar cells based on wide bandgap and narrow bandgap nonfullerene acceptors with an efficiency of 16.40% and low energy loss of 0.53 eV", **Mater. Today Energy** 21, 100843 (2021). (**IF:8.6**)
38. Huey-Shan Hung, Mei-Lang Kung, Fang-Chung Chen, Yi-Chun Ke, Chiung-Chyi Shen, Yi-Chin Yang, Chang Ming Tang, Chun-An Yeh, Hsien-Hsu Hsieh, Shan-hui Hsu*, "Nanogold-carried graphene oxide: Anti-inflammation and increased differentiation capacity of mesenchymal stem cells" **Nanomaterials** 11, 2046 (2021). (**IF:4.3**)

39. M. L. Keshtov*, S. A. Kuklin, A. S. Peregudov, Fang-Chung Chen, Zhiyuan Xie, G. D Sharma*, "Efficient ternary polymer solar cell using wide bandgap conjugated polymer donor with two non-fullerene small molecule acceptors enabled power conversion efficiency of 16% with low energy loss of 0.47 eV", **Nano Select,** 2, 1326-1335 (2021). (**IF:3.5**)
40. Chen-Min Yang and Fang-Chung Chen*, "Position effects of metal nanoparticles on the performance of perovskite light-emitting diodes", **Nanomaterials** 11, 993 (2021) (**IF:4.3**)
41. Gautham Kumar, G. D. Sharma and Fang-Chung Chen*, "Localized surface plasmon resonance of Au–Cu alloy nanoparticles enhances the performance of polymer photovoltaic devices for outdoor and indoor applications", **Opt. Mater. Express** 11, 1037-1045 (2021). (**IF:3.1**)
42. Lu-Syuan Jhuang, Gautham Kumar and Fang-Chung Chen*, "Localized surface plasmon resonance of copper nanoparticles improves the performance of quasi-two-dimensional perovskite light-emitting diodes", **Dyes Pigm.** 188, 109204 (2021). (**IF:4.2**)
43. G. D. Sharma*, R. Suthar, A. A. Pestrikova, A. Y. Nikolaev, Fang-Chung Chen, M. L. Keshtov, "Efficient Ternary Polymer solar cells based ternary active layer consisting of conjugated polymers and non-fullerene acceptors with power conversion efficiency approaching near to 15.5%", **Sol. Energy**, 216, 217-224 (2021) (**IF: 6.6**)
44. Wun-Jhen Chen, Yu-Chang Lin, Gautham Kumar, Shun-Yu Xie, Fang-Chung Chen*, "Polymer-capped copper nanoparticles trigger plasmonic field for improving performance of perovskite solar cells" **Synth. Met.** 273, 116675 (2021) (**IF:4.6**)
45. Yu-Tung Lin, Gautham Kumar, Fang-Chung Chen*, "Interfacial plasmonic effects of gold nanoparticle-decorated graphene oxides on the performance of perovskite photovoltaic devices" **Sol. Energy**, 211, 822-830 (2020) (**IF:6.6**)
46. Ming-Kai Chuang, Chun-Hao Lin, Fang-Chung Chen*, "Accumulated plasmonic effects of gold nanoparticle decorated PEGylated graphene oxides in organic light-emitting diodes" **Dyes Pigm.** 180, 108412 (2020). (**IF:4.2**)
47. Chien-Lun Huang, Gautham Kumar, Ganesh D. Sharma, Fang-Chung Chen*, "Plasmonic Effects of Copper Nanoparticles in Polymer Photovoltaic Devices for Outdoor and Indoor Applications" **Appl. Phys. Lett.** 116, 253302 (2020). (**IF:3.6**)
48. Hsin-Hung Sung, Chien-Chen Kuo, Hung-Sheng Chiang, Hong-Lin Yue, Fang-Chung Chen*, "Differential Space-Limited Crystallization of Mixed-Cation Lead Iodide Single-Crystal Micro-Plates Enhances the Performance of Perovskite Solar Cells" **Solar RRL**, 3, 1900130 (2019). (**IF: 4.7**)
49. Ming-Ju Wu, Chien-Chen Kuo, Lu-Syuan Jhuang, Po-Han Chen, Yi-Fong Lai, and Fang-Chung Chen*, "Bandgap Engineering Enhances the Performance of Mixed-Cation Perovskite Materials for Indoor Photovoltaic Applications" **Adv. Energy Mater.** 9, 1901863 (2019). **(Inside Front Cover)** (**IF:26.0**)
50. Yu-Chi Wang, Heng Li, Yu-Heng Hong, Kuo-Bin Hong, Fang-Chung Chen, Chia-Hung Hsu, Ray-Kuang Lee, Claudio Conti, Tsung Sheng Kao,* and Tien-Chang Lu* "Flexible Organometal–Halide Perovskite Lasers for Speckle Reduction in Imaging Projection" **ACS Nano**, 13, 5421-5429 (2019). **(IF:16.0)**
51. Fang-Chung Chen*, "Virtual Screening of Conjugated Polymers for Organic Photovoltaic Devices Using Support Vector Machines and Ensemble Learning" **Int. J. Polym. Sci.**, 2019, 4538514 (2019). **(IF:4.4)**
52. Ming-Chuan Hsiao, Ping-Cheng Chien, Lu-Syuan Jhuang and Fang-Chung Chen* "Bidentate Chelating Ligands as Effective Passivating Materials for Perovskite Light-Emitting Diodes", **Phys. Chem. Chem. Phys.**, 21, 7867-7873 (2019). **(IF:2.9)**
53. Fang-Chung Chen*, "Emerging Organic and Organic/Inorganic Hybrid Photovoltaic Devices for Specialty Applications: Low-Level-Lighting Energy Conversion and Biomedical Treatment", **Adv.**

Opt. Mater., 7, 1800662 (2019). **(IF:7.2)**

54. M. L. Keshtov, S. A. Kuklin, I. O. Konstantinov, Fang-Chung Chen, Zhi-yuan Xie and Ganesh D. Sharma*, "New iridium-containing conjugated polymers for polymer solar cell applications", **New J. Chem.**, 42, 17296 (2018). **(IF:2.5)**
55. Hong-Lin Yue, Hsin-Hung Sung and Fang-Chung Chen*, "Seeded Space-Limited Crystallization of $CH_3NH_3PbI_3$ Single-Crystal Plates for Perovskite Solar Cells", **Adv. Electron. Mater.,** 4 (issue 7), 1700655, (2018). **(IF:5.3)**
56. Nai-Wei Teng, Shun-Shing Yang, and Fang-Chung Chen*, "Plasmonic-enhanced organic photovoltaic devices for low-power light applications", **IEEE J. Photovolt.,** 8, 752-756 (2018). **(IF:2.6)**
57. Shun-Shing Yang, Zong-Chun Hsieh, Muchamed L. Keshtov, Ganesh D. Sharma, and Fang-Chung Chen*, "Toward High-Performance Polymer Photovoltaic Devices for Low-Power Indoor Applications", **Solar RRL**, 1, 1700174 (2017). **(selected as the front cover)** (**IF:4.7**)
58. Soon Yie Kok, Zong-Chun Hsieh, Chun-Hsien Chou, Shun-Shing Yang, Ming-Kai Chuang, Yu-Tung Lin, Seong Shan Yap, Teck Yong Tou and Fang-Chung Chen* "Plasmonic effects on bulk heterojunction polymer solar cells : a transient photovoltage and differential charging study" **Sci. Adv. Mater**. 9, 1435-1439 (2017). **(IF:0.9)**
59. M.L. Keshtov, S. A. Kuklin, A.R. Khokhlo, S.N. Osipov, N.A. Radychev, D.Y. Godovskiy, I.O. Konstantinov , F. C. Chen, E.N. Koukaras, Ganesh D. Sharma "Polymer solar cells based low bandgap A1-D-A2-D terpolymer based on fluorinated thiadiazoloquinoxaline and benzothiadiazole acceptors with energy loss less than 0.5 eV" **Org. Electron.** 46, 192-202 (2017) **(IF:2.6)**
60. Wai-Chen Lin, Ming-Kai Chuang, Muchamed L. Keshtov, Ganesh D. Sharma, and Fang-Chung Chen* "Photoexfoliation of Two-Dimensional Materials through Continuous UV Irradiation" **Nanotechnology** 28, 125604 (2017). **(IF:2.8)**
61. Mukhamed L. Keshtov*, Alexei R. Khokhlov, Serge A. Kuklin, Fang-Chung Chen, Emmanuel N. Koukaras, and Ganesh D. Sharma* "New D-A1–D-A2-Type Regular Terpolymers Containing Benzothiadiazole and Benzotrithiophene Acceptor Units for Photovoltaic Application" **ACS Appl. Mater. Interfaces** 8(48), pp 32998–33009 (2016). **(IF:8.2)**
62. Tsung Sheng Kao, Yu-Hsun Chou, Kuo-Bin Hong, Jiong-Fu Huang, Chun-Hsien Chou, Hao-Chung Kuo, Fang-Chung Chen* and Tien-Chang Lu*, "Controllable lasing performance in solution-processed organicinorganic hybrid perovskites" **Nanoscale** 8, 18483-18488 (2016) **(IF:5.1)**.
63. Yuvraj Patil, Rajneesh Misra, Mukhamed Lostambievich Keshtov, Fang-Chung Chen and Ganesh D Sharma* "Symmetrical and Unsymmetrical Triphenylamine based Diketopyrrolopyrroles and their use as Donor for Solution Processed Bulk Heterojunction Organic Solar Cells" **RSC Adv.** 6, 99685-99694 (2016) **(IF:4.6)**.
64. M. L. Keshtov*, S. A. Kuklin*a*, I. E. Ostapov, Fang-Chung Chen, and A. R. Khokhlov "Novel Regular D – A-Conjugated Polymers Based on 2,6-Bis (6-fluoro-2-hexyl-2*H*-benzotriazol-4-yl)-4,4-bis(2-ethylhexyl)-4*H*-silolo[3,2-*b*:4,5-*b*'] dithiophene Derivatives: Synthesis, Optoelectronic, and Electrochemical Properties" **Doklady Chem.** 470, 274-278 (2016) **(IF:1.0)**.
65. Chiung-Fu Huang, M. L. Keshtov and Fang-Chung Chen*, "Cross-Linkable Hole-Transport Materials Improve the Device Performance of Perovskite Light-Emitting Diodes" **ACS Appl. Mater. Interfaces** 8, 27006-27011 (2016). **(IF:8.2)**
66. Yuvraj Patil, Rajneesh Misra,* F. C. Chen, and Ganesh D. Sharma* "Small molecule based N-phenyl carbazole substituted diketopyrrolopyrroles as donors for solution-processed bulk heterojunction organic solar cells" **Phys. Chem. Chem. Phys.** 18, 22999-23005 (2016) **(IF:2.9)**.
67. Tsung Sheng Kao, Kuo-Bin Hong, Yu-Hsun Chou, Jiong-Fu Huang, Fang-Chung Chen*, and Tien-Chang Lu* "Localized surface plasmon for enhanced lasing performance in solution-processed perovskites" **Opt. Express**, 24, 20696-20702 (2016) **(IF:3.3)**

68. M. L. Keshtov,* A. R. Khokhlov, S. A. Kuklin, F. C. Chen, A. Y. Nikolaev, E. N. Koukaras and G. D. Sharma* "Synthesis of alternating D–A1–D–A2 terpolymers comprising two electron-deficient moieties, quinoxaline and benzothiadiazole units for photovoltaic applications" **Polym. Chem.** 7, 4025 (2016). **(IF:3.9)**
69. Yu-Sheng Hsiao*, Yan-Hao Liao, Huan-Lin Chen, Peilin Chen and Fang-Chung Chen*, "Organic photovoltaics and bioelectrodes providing electrical stimulation for PC12 cell differentiation and neurite outgrowth" **ACS Appl. Mater. Interfaces** 8, 9275 (2016). **(IF:8.2)**
70. M. L. Keshtov*, S. A. Kuklin, D. Y. Godovsky, A. R. Khokhlov, R. Kurchania, F. C. Chen, Emmanuel N. Koukaras, G. D. Sharma* "New Alternating D–A1–D–A2 Copolymer Containing Two Electron-Deficient Moieties Based on Benzothiadiazole and 9-(2-Octyldodecyl)-8H-pyrrolo[3,4-b]bisthieno[2,3-f:3',2'-h]quinoxaline-8,10(9H)-dione for Efficient Polymer Solar Cells" **J. Polym. Sci. Part A: Polym. Chem.** 54, 155-168 (2016).
71. M. L. Keshtov*, S. A. Kuklin, F. C. Chen, A. R. Khokhlov, A. S. Peregudov, S.A. Siddiqui, G. D. Sharma*, "Two new D–A conjugated polymers P(PTQD-Th) and P(PTQD-2Th) with same 9-(2-octyldodecyl)-8H-pyrrolo[3,4-b]bisthieno[2,3-f:30 ,20 -h] quinoxaline-8,10(9H)-dione acceptor and different donor units for BHJ polymer solar cells application" **Org. Electron.** 24, 137-146 (2015) **(IF:2.6)**.
72. Ming-Kai Chuang, Shun-Shing Yang and Fang-Chung Chen*, "Metal Nanoparticle-Decorated Two-Dimensional Molybdenum Sulfide for Plasmonic-Enhanced Polymer Photovoltaic Devices" **Materials** 8, 5414-5425 (2015). **(IF:3.2)**
73. M. L. Keshtov*, S.A. Kuklin, F. C. Chen, A. R. Khokhlov, Rajnish Kurchania and G. D. Sharma* "A new D-A conjugated polymer P(PTQD-BDT) with PTQD acceptor and BDT donor units for BHJ polymer solar cells application" **J. Polym. Sci. Part A: Polym. Chem.** 53, 2390-2398 (2015).
74. Chung-Lei Chen, Ming-Kai Chuang, Chyong-Hua Chen, Chih-Wei Chu, Muchamed L. Keshtov, and Fang-Chung Chen*, "Efficient and stable polymer solar cells prepared with plasmonic graphene oxides as the anode buffers" **Semicond. Sci. Tech.** 30, 085013 (2015) **(IF:2.1)**
75. Chun-Hsien Chou, Min-Hung Hsu and Fang-Chung Chen*, "Flexible luminescent waveguiding photovoltaics exhibiting strong scattering effects from the dye aggregation" **Nano Energy** 15, 729-736 (2015) **(IF:17.1**)
76. M. L. Keshtov*, G. D. Sharma*, S. A. Kuklin, I. E. Ostapov, D. Yu. Godovsky, A. R. Khokhlov, and F. C. Chen, "Synthesis and characterization of two new benzothiadiazole- and fused bithiophene based low band-gap D-A copolymers: application as donor bulk heterojunction polymer solar cells" **Polymer** 65, 193 (2015) **(IF:4.5)**
77. Ming-Kai Chuang, and Fang-Chung Chen*, "Synergistic plasmonic effects of metal nanoparticle–decorated PEGylated graphene oxides in polymer solar cells" **ACS Appl. Mater. Interfaces** 7, 7397–7405 (2015) **(IF:8.2)**.
78. M. L. Keshtov*, D. Yu. Godovsky, F. C. Chen, A. R. Khokhlov, S. A. Siddiqui, and G. D. Sharma* "Synthesis and characterization of π-conjugated copolymers with thieno-imidazole units in the main chain: application for bulk heterojunction polymer solar cells" **Phys. Chem. Chem. Phys.** 17, 7888 (2015) **(IF:2.9)**
79. M. L. Keshtov, D. Y. Godovsky, S. A. Kuline, Y. Zou, Fang-Chung Chen, and A. R. Khokhlov "New Thienofluoroanthenes as Building Blocks for Optoelectronic Applications" **Doklady Chem.** 461, 75-80 (2015) **(IF:1.0)**.
80. Tsung Sheng Kao, Yu-Hsun Chou, Chun-Hsien Chou, Fang-Chung Chen*, and Tien-Chang Lu* "Lasing behaviors upon phase transition in solution-processed perovskite thin films" **Appl. Phys. Lett.** 105, 231108 (2014) **(IF:3.6)**
81. An-Kai Ling, Chun-Hao Lin, Hsun Liang, and Fang-Chung Chen* "Tunable microcavities in organic light-emitting diodes by way of low-refractive-index polymer doping" **Org. Electron.** 15,

3648 (2014) **(IF:2.6)**

82. Ming-Kai Chuang, Fang-Chung Chen*, and Chain-Shu Hsu "Gold nanoparticle–graphene oxide nanocomposites that enhance the device performance of polymer solar cells" **J. Nanomater.** 2014, 736879 (2014)
83. Chun-Hsien Chou and Fang-Chung Chen* "Plasmonic nanostructures for light trapping in organic photovoltaics devices" **Nanoscale** 6, 8444 (2014) **(IF:5.1)**.
84. Yen-Tseng Lin, Chu-Hsien Chou, Fang-Chung Chen,* Chih-Wei Chu, and Chain-Shu Hsu "Reduced optical loss in mechanically stacked multi-junction organic solar cells exhibiting complementary absorptions" **Opt. Express**, 22, S2, A481-A490 (2014) **(IF: 3.3)**.
85. Yu-Hsuan Ho, Hsun Liang, Shun-Wei Liu, Wei-Cheng Tian, Fang-Chung Chen and Pei-Kuan Wei* "Efficiency improvement of organic bifunctional devices by applying omnidirectional antireflection nanopillars" **RSC Adv.** 4, 9588 (2014) **(IF:4.6).**
86. Ming-Kai Chuang, Shih-Wei Lin, Fang-Chung Chen,* Chih-Wei Chu, and Chain-Shu Hsu "Gold nanoparticle–decorated graphene oxides for plasmonic-enhanced polymer photovoltaic devices" **Nanoscale** 6, 1573 (2014) **(IF:5.1)**.
87. Wei-Ting Lin, Yen-Tseng Lin, Chu-Hsien Chou, Fang-Chung Chen* and Chain-Shu Hsu "Organic solar cells comprising multiple-device stacked structures exhibiting complementary absorption behavior" **Sol. Energy Mater. Sol. Cells** 120, 724 (2014) **(IF: 6.3)**.
88. Kim-Shih Tan, Ming-Kai Chuang, Fang-Chung Chen*, and Chain-Shu Hsu "Solution-processed nanocomposites containing molybdenum oxide and gold nanoparticles as anode buffer layers in plasmonic-enhanced organic photovoltaic devices" **ACS Appl. Mater. Interfaces** 5, 12419 (2013) **(IF:8.2)**.
89. Chun-Hsien Chou, Jui-Kang Chuang and Fang-Chung Chen* "High-Performance Flexible Waveguiding Photovoltaics" **Sci. Rep.** 3, 2244 (2013) **(IF:3.9)**.
90. M. L. Keshtov, Fang-Chung Chen, E. I. Maltsev, D. V. Marochkin, V. S. Kochurov, and A. R. Khokhlov "New conjugated electroluminescent triphenylamine containing polymers with side-chain pyridin-2-ylimidazo[1,5-a]pyridine groups for polymer light-emitting diodes" **Doklady Chem.** 450, 165 (2013) **(IF:1.0)**.
91. Chu-Chen Chueh, Shang-Chieh Chien, Hin-Lap Yip, José Francisco Salinas, Chang-Zhi Li, Kung-Shih Chen, Fang-Chung Chen, Wen-Chang Chen, and Alex K.-Y. Jen* "Toward high-performance semi-transparent polymer solar cells: optimization of ultra-thin light absorbing layer and transparent cathode architecture" **Adv. Energy Mater.** 4, 417-423 (2013) **(IF:26.0)**.
92. Chuan-Sheng Kao, Fang-Chung Chen*, Ching-Wen Liao, Michael H. Huang, and Chain-Shu Hsu "Plasmonic-enhanced performance for polymer solar cells prepared with inverted structures" **Appl. Phys. Lett.** 101, 193902 (2012)
93. Yu-Sheng Hsiao, Shobhit Charan, Feng-Yu Wu, Fan-Ching Chien, Chih-Wei Chu, Peilin Chen,* and Fang-Chung Chen* "Improving the light trapping efficiency of plasmonic polymer solar cells through photon management" **J. Phys. Chem. C** 116 (39), 20731–20737 (2012)
94. Ya-Wei Chung, Fang-Chung Chen*, Ying-Ping Chen, Yu-Ze Chen and Yu-Lun Chueh "High-performance solution-processed amorphous ZrInZnO thin-film transistors" **Phys. Status Solidi RRL** 6, 400 (2012)
95. Jyh-Lih Wu, Fang-Chung Chen*, Shu-Hao Chang, Kim-Shih Tan and Hsing-Yu Tuan "Upconversion effects on the performance of near-infrared laser–driven polymer photovoltaic devices" **Org. Electron.** 13, 2104 (2012)
96. Wei-Chi Chen, Shang-Chieh Chien, Fang-Chung Chen*, and Chain-Shu Hsu "Stacked structures for assembling multiple organic photovoltaic devices" **Appl. Phys. Express** 5, 072301 (2012)
97. M.L. Keshtov, A.M. Lopatin, D.V. Marochkin, Fang-Chung Chen, A.R. Khokhlov "Conjugated poly(fluoroalkylesterthiophenes), synthesized in supercritical carbon dioxide" **Doklady Chem.** 443,

101 (2012)

98. Fang-Chung Chen*, Tzung-Han Tsai, and Shang-Chieh Chien "Simple source/drain contact structure for solution-processed *n*-channel fullerene thin-film transistors" **Org. Electron.** 13, 599 (2012).
99. Ying Sun, Shang-Chieh Chien, Hin-Lap Yip, Kung-Shih Chen, Yong Zhang, Joshua A. Davies, Fang-Chung Chen, Baoping Lin* and Alex K.-Y. Jen* "Improved thin film morphology and bulk-heterojunction solar cell performance through systematic tuning of the surface energy of conjugated polymers" **J. Mat. Chem.** 22, 5587 (2012).
100. Tsung-Hsien Kuo, Fang-Chung Chen, Juo-Hao Li, Annie Tzuyu Huang, Jen-Hsien Huang, Kuo-Chuan Ho* and Chih-Wei Chu* "Efficient organic optoelectronics with multilayer structures" **J. Mat. Chem.** 22, 1364 (2012).
101. Shang-Chieh Chien, Fang-Chung Chen*, Ming-Kai Chung, and Chain-Shu Hsu "Self-assembled poly(ethylene glycol) buffer layers in polymer solar cells: toward superior stability and efficiency" **J. Phys. Chem. C** 116, 1354 (2012)
102. Shao-Tang Chuang, Shang-Chieh Chien, and Fang-Chung Chen* "Extended spectral response in organic photomultiple photodetectors using multiple near-infrared dopants" **Appl. Phys. Lett.** 100, 013309 (2012)
103. Fang-Chung Chen* and Hsiao-Fen Chang "Photo-erasable organic nonvolatile memory devices based on hafnium silicate insulators" **IEEE Electron Device Lett.** 32, 1740 (2011).
104. Ying Sun, Shang-Chieh Chien, Hin-Lap Yip, Yong Zhang, Kung-Shih Chen, David F., Zeigler, Fang-Chung Chen, Baoping Lin*, and Alex K.-Y. Jen* "Chemically doped and crosslinked hole-transporting materials as efficient anode buffer layer for polymer solar cells" **Chem. Mater.** 23, 5006 (2011)
105. Ying Sun, Shang-Chieh Chien, Hin-Lap Yip, Yong Zhang, Kung-Shih Chen, David F. Zeigler, Fang-Chung Chen, Baoping Lin, and Alex K.-Y. Jen* "High-mobility low-bandgap conjugated copolymers based on indacenodithiophene and thiadiazolo[3,4-c]pyridine units for thin film transistor and photovoltaic applications" **J. Mat. Chem.** 21, 13247 (2011).
106. Jyh-Lih Wu, Fang-Chung Chen,* Ming-Kai Chuang and Kim-Shih Tan "Near-infrared laser-driven polymer photovoltaic devices and their biomedical applications" **Energy Environ. Sci.**, 4, 3374 (2011). **(highlighted by a feature article in the *Chemistry World,* a monthly magazine published by Royal Society of Chemistry, July 2011; selected as "Hot Article" in Energy Environ. Sci. Blog)**
107. Jen-Hsien Huang, Fang-Chung Chen, Cheng-Lun Chen, Annie Tzuyu Huang, Yu-Sheng Hsiao, Chin-Min Teng, Feng-Wen Yen, Pelin Chen, Chih-Wei Chu* "Molecular-weight-dependent nanoscale morphology in silole-containing cyclopentadithiophene polymer and fullerene derivative blends" **Org. Electron.** 12, 1755 (2011)
108. Fang-Chung Chen,* Ming-Kai Chuang, Shang-Chieh Chien, Jheng-Hao Fang, and Chih-Wei Chu "Flexible polymer solar cells prepared using hard stamps for the direct transfer printing of polymer blends with self-organized interfaces" **J. Mat. Chem.** 21, 11378 (2011)
109. Shih-Ching Chuang*, Chih-Wei Chiu, Shang-Chieh Chien, Chih-Wei Chu, and Fang-Chung Chen* "1-(3-Methoxycarbonyl)propyl-2-selenyl-[6,6]-methanofullerene as a n-Type Material for Organic Solar Cells" **Synth. Met.** 161, 1264 (2011)
110. Fang-Chung Chen*, Yung-Shiuan Chen, Shang-Chieh Chien, Cheng-Hsiang Liao and Shao-Tang Chuang "Suppression of phase separation through blending of electron transporting materials in polymer electrophosphorescent devices" **J. Lumin.** 131, 565 (2011)
111. Jyh-Lih Wu, Fang-Chung Chen*, Yu-Sheng Hsiao, Fan-Ching Chien, Peilin Chen, Chun-Hong Kuo, Michael H. Huang, and Chain-Shu Hsu "Surface plasmonic effects of metallic nanoparticles on the performance of polymer bulk-heterojunction solar cells" **ACS Nano** 5, 959-967 (2011) **(WOS**

Highly Cited Papers, Top 10 Most Read ACS Nano Article Q1 2011)

112. Fang-Chung Chen*, Tzung-Da Chen, Bing-Ruei Zeng and Ya-Wei Chung "Influence of mechanical strain on the electrical properties of flexible organic thin-film transistors" **Semicond. Sci. Tech.** 26, 034005 (2011) **(invited paper)**
113. Yong Zhang, Shang-Chieh Chien, Kung-Shih Chen, Hin-Lap Yip, Ying Sun, Joshua A. Davies, Fang-Chung Chen, and Alex K. –Y. Jen* "Increased open circuit voltage in fluorinated benzothiadiazole-based alternating conjugated polymers" **Chem. Commun.** 47, 11026 (2011).
114. Chang-Zhi Li, Shang-Chieh Chien, Hin-Lap Yip, Chu-Chen Chueh, Fang-Chung Chen, and Alex K.-Y. Jen* "Facile synthesis of 56π-electron 1,2-dihydromethano-[60]PCBM and its application for thermally stable polymer solar cells" **Chem. Commun.** 47, 10082 (2011).
115. Fang-Chung Chen*, Chu-Jung Ko, Jyh-Lih Wu, and Wei-Chi Chen "Morphological study of P3HT:PCBM blend films prepared through solvent annealing for solar cell applications" **Sol. Energy Mater. Sol. Cells** 94, 2426 (2010).
116. Fang-Chung Chen*, Ying-Pin Chen, Yu-Jen Huang, and Shang-Chieh Chien "Morphological study on pentacene thin-film transistors : influence of grain boundary on the electrical properties" **J. Phys. D : Appl. Phys.** 43, 405103 (2010).
117. Fang-Chung Chen*, Shang-Chieh Chien, and Guan-Lin Cious "Highly sensitive, low-voltage, organic photomultiple photodetectors exhibiting broadband response**" Appl. Phys. Lett.** 97, 103301 (2010)
118. Fang-Chung Chen*, Jyh-Lih Wu, and Yi Hong "Spatial redistribution of the optical field intensity in inverted polymer solar cells" **Appl. Phys. Lett.** 96, 193304 (2010)
119. Cheng-Dar Liu, De-Yu Shu, Ching-Ting Tsao, Jin-Lin Han, Feng-Yu Tsai, Fang-Chung Chen, Wen-Chang Chen, Kuo-Huang Hsieh "Synthesis and characterization of well-dispersed multi-walled carbon nanotube/low-bandgap poly(3,4-alkoxythiophene) nanocomposites" **Comp. Sci. Tech.** 70, 1242 (2010)
120. Jen-Hsien Huang, Hung-Yu Wei, Kuan-Chieh Huang, Cheng-Lun Chen, Rui-Ren Wang, Fang-Chung Chen, Kuo-Chuan Ho and Chih-Wei Chu* "Using a low temperature crystallization process to prepare anatase TiO_2 buffer layers for air-stable inverted polymer solar cells" **Energy Environ. Sci.**, 3, 654 (2010).
121. Fang-Chung Chen*, and Cheng-Hao Lin "Construction and characteristics of tandem organic solar cells featuring small molecule–based films on polymer-based subcells" **J. Phys. D : Appl. Phys.** 43, 025104 (2010). **(Selected to be part of Journal of Physics D's Highlights of 2010 collection)**
122. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, Fang-Chung Chen, Shiau-Shin Cheng, Yuh-Zheng Lee, Meng-Chyi Wu, and Chih-Wei Chu*, "Hybrid TiO_x/Fluoropolymer bilayer dielectrics for low voltage complementary inverters" **Org. Electronics** 11, 154 (2010).
123. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, Yuh-Zheng Lee, Fang-Chung Chen, Meng-Chyi Wu, and Chih-Wei Chu*, "Flexible fullerene field effect transistors fabricated through solution processing" **Adv. Mat.** 21, 4845 (2009).
124. Jhih-Ping Lu*, Fang-Chung Chen, Fu-Kang Chen, Chen-Chun Hsu, Yuan-Chang Liao, Yuh-Zheng Lee "A single-substrate multicolor cholesteric liquid crystal display prepared through ink-jet printing" **J. Soc. Inf. Display** 17, 795 (2009).
125. Jhih-Ping Lu, Wen-Kuei Huang and Fang-Chung Chen*, "Self-positioning microlens arrays prepared using ink-jet printing" **Opt. Eng.** 48, 073606 (2009). **(Selected by the Virtual Journal of Nanoscale Science and Technology, August 3, 2009)**
126. Fang-Chung Chen*, Jyh-Lih Wu, Chia-Ling Lee, Yi Hong, Chun-Hong Kuo, and Michael H. Huang, "Plasmonic-enhanced polymer photovoltaic devices incorporating solution-processable metal nanoparticles" **Appl. Phys. Lett.** 95, 013305 (2009). **(WOS Highly Cited Papers, the 20 research articles with the most full-text downloads during July 2009)**

127. Fang-Chung Chen*, Jyh-Lih Wu, Chia-Ling Lee, Wen-Che Huang, Huang-Ming Philips Chen, and Wen-Chang Chen "Flexible polymer photovoltaic devices prepared with inverted structures on metal foils" **IEEE Electron Device Lett.** 30, 727 (2009)**.**
128. Fang-Chung Chen*, Jhih-Ping Lu, and Wen-Kuei Huang "Using inkjet printing and coffee ring effect to fabricate refractive microlens arrays" **IEEE Photon. Tech. Lett.** 21, 648 (2009).
129. Jhih-Ping Lu, Fang-Chung Chen* and Yuh-Zheng Lee, "Ring-edged bank array made by inkjet printing for color filters" **IEEE/OSA J. Display Technology** 5, 162 (2009).
130. Fang-Chung Chen* and Yu-Jen Huang, "Air stable ambipolar organic field effect transistors and complementary-like inverters prepared with surface modified gate dielectrics" **Electrochem. Solid-State Lett.** 12, H252 (2009).
131. Fang-Chung Chen*, Shang-Chieh Chien, and Yung-Shiuan Chen, "Single-layer triplet white polymer light-emitting diodes incorporating polymer oxides: effect of charge trapping at phosphorescent dopants" **Appl. Phys. Lett.** 94, 043306 (2009).
132. Mei-Hsiu Lai, Chu-Chen Chueh, Wen-Chang Chen*, Jyh-Lin Wu, and Fang-Chung Chen "Synthesis and properties of new dialkoxyphenylene quinoxaline based donor-acceptor conjugated polymers and their applications on thin film transistors and solar cells" **J. Polym. Sci. Part A: Polym. Chem.** 47, 973 (2009).
133. Fang-Chung Chen*, and Shang-Chieh Chien," Nanoscale functional interlayers formed through spontaneous vertical phase separation in polymer photovoltaic devices" **J. Mat. Chem.** 19, 6865 (2009).
134. Fang-Chung Chen*, Jyh-Lih Wu, Kuo-Huang Hsieh, Wen-Chang Chen and Shih-Wei Lee "Polymer photovoltaic devices with highly transparent cathodes" **Org. Electron.** 9, 1132 (2008).
135. Fang-Chung Chen*, and Cheng-Hsiang Liao, "Improved air stability of n-channel organic thin-film transistors with surface modification on gate dielectrics" **Appl. Phys. Lett.** 93, 103310 (2008).
136. Chiao-Shun Chuang, Jung-An Cheng, Yu-Jen Huang, Hsiao-Fen Chang, Fang-Chung Chen*, and Han-Ping D. Shieh "Organic thin-film transistors with color filtering functional gate insulators" **Appl. Phys. Lett.** 93, 053305 (2008).
137. Fang-Chung Chen*, Jyh-Lih Wu, Sidney S. Yang, Kuo-Huang Hsieh and Wen-Chang Chen "Cesium carbonate as a functional interlayer for polymer photovoltaic devices" **J. Appl. Phys.** 103, 103721, (2008).
138. Fang-Chung Chen*, Shang-Chieh Chien and Shih-Wei Lee "High performance single-layer polymer electrophosphorescent devices with polymer oxides" **Electrochem. Solid-State Lett.** 11, J50, (2008).
139. Fang-Chung Chen*, Hisn-Chen Tseng, and Chu-Jung Ko, "Solvent mixtures for improving device efficiency of polymer photovoltaic devices" **Appl. Phys. Lett.** 92, 103316 (2008).
140. Fang-Chung Chen*, Yi-Kai Lin, and Chu-Jung Ko, "Submicron-scale manipulation of phase separation in organic solar cells" **Appl. Phys. Lett.** 92, 023307, (2008). **(Selected by the Virtual Journal of Nanoscale Science and Technology, January 28, 2008; highlighted by a feature article in SPIE Newsroom, 2008)**
141. Chiao-Shun Chuang, Shu-Ting Tsai, Yung-Sheng Lin, Fang-Chung Chen*, and Hang-Ping D. Shieh "Photocurrent suppression of transparent organic thin film transistors" **Jap. J. Appl. Phys.**, 46, L1197, (2007).
142. Chu-Jung Ko, Yi-Kai Lin, and Fang-Chung Chen* "Microwave annealing of polymer photovoltaic devices" **Adv. Mat.** 19, 3520, (2007).
143. Chiao-Shun Chuang, Fang-Chung Chen*, and Han-Ping D. Shieh "Organic thin-film transistors with reduced photosensitivity" **Org. Electron.** 8, 767 (2007).
144. Jhih-Ping Lu*, Ying-Pin Chen, Yuh-Zheng Lee, Kevin Cheng, and Fang-Chung Chen, "Ring edge in film morphology: benefit or obstacle for ink jet fabrication of organic thin film transistors" **J.**

Imaging Sci. Technol. 51, 461, (2007).

145. Fang-Chung Chen*, Yung-Sheng Lin, Tung-Hsien Chen and Li-Jen Kung "Efficient hole-injection in highly transparent organic thin-film transistors" **Electrochem. Solid-State Lett**. 10, H186 (2007). **(highlighted by a feature article in SPIE Newsroom, 2007**)
146. Fang-Chung Chen*, Li-Jen Kung, Tung-Hsien Chen and Yung-Sheng Lin "Copper phthalocyanine buffer-layer to enhance the charge injection in organic thin-film transistors" **Appl. Phys. Lett.** 90, 073504 (2007).
147. Chu-Jung Ko, Yi-Kai Lin, Fang-Chung Chen*, and Chi-Wei Chu "Modified buffer layers for polymer photovoltaic devices" **Appl. Phys. Lett.** 90, 063509 (2007). **(Selected by the Virtual Journal of Nanoscale Science and Technology, February 19, 2007)**
148. H.H. Liao, H.F. Meng*, S.F. Horng, W.S. Lee, J.M. Yang, J. T. Shy, F. C. Chen and C. S. Hsu "Triplet exciton energy transfer in polyfluorene doped with heavy metal complexes studied using photoluminescence and photoinduced absorption" **Phys. Rev. B** 74, 245211, (2006).
149. Fang-Chung Chen*, Wen-Kuei Huang, and Chu-Jung Ko "Self-organization of microlens arrays caused by the spin-coating-assisted hydrophobic effect" **IEEE Photon. Tech. Lett.** 18, 2454, (2006).
150. Wen-Kuei Huang, Wen-Sheng Wang, Hui-Chun Kan, and Fang-Chung Chen*, "Enhanced Light Out-coupling Efficiency of Organic Light-emitting Diodes with Self-organized Microlens Arrays" **Jap. J. Appl. Phys.**, 45, L1100, (2006). **(Selected by the Virtual Journal of Nanoscale Science and Technology, February 19, 2007)**
151. Fang-Chung Chen*, Chiao-Shun Chuang, Yung-Sheng Lin, Li-Jen Kung, Tung-Hsien Chen, and Han-Ping D. Shieh "Low-voltage organic thin-film transistors with polymeric nanocomposite dielectrics" **Org. Electron.** 7, 435, (2006).
152. Wen-Kuei Huang, Chu-Jung Ko, and Fang-Chung Chen* "Organic selective-area patterning method for microlens array fabrication" **Microelectronic Engineering**, 83, 1333, (2006).
153. Jianyong Ouyang, Chi-Wei Chu, Fang-Chung Chen, Qianfei Xu, and Yang Yang*, "High-Conductivity Poly(3,4-Ethylenedioxythiophene): Polystyrenesulfonate Film and its Application in Polymer Optoelectronic Devices" **Adv. Funct. Mat.** 15, 203 (2005).
154. Meng Lu, Baohan Xie, Jeonghee Kang, Fang-Chung Chen, Yang Yang, and Zhonghua Peng*, "Synthesis of Main-Chain Polyoxometalate-Containing Hybrid Polymers and Their Applications in Photovoltaic Cells" **Chem. Mat.** 17, 402, (2005).
155. Jianyong Ouyang, Chi-Wei Chu, Fang-Chung Chen, Qianfei Xu, and Yang Yang*, "Polymer Optoelectronic Devices with High-Conductivity Poly(3,4-Ethylenedioxythiophene) Anodes" **J. Macromolecular Sci, Part A-Pure and Appl. Chem.** 41, 1497, (2004).
156. Fang-Chung Chen, Chih-Wei Chu, Jun He, Yang Yang* and Jen-Lien Lin, "Organic thin-film transistors with nano-composite dielectric gate insulator" **Appl. Phys. Lett.** 85, 3295, (2004). **(Selected by the Virtual Journal of Nanoscale Science and Technology)**
157. Fang-Chung Chen, Qianfei Xu, and Yang Yang*, "Enhanced efficiency of plastic photovoltaic devices by blending with ionic solid electrolytes" **Appl. Phys. Lett.** 84, 3181, (2004).
158. Fang-Chung Chen, Shun-Chi Chang, Gufeng He, Seungmoom Pyo, Yang Yang*, Masayuki Kurotaki, Junji Kido *"*Energy transfer and triplet exciton confinement in polymeric electrophosphorescent devices*"* **J. Polymer Science: Polymer Physics.** 41, 2681, (2003).
159. Fang-Chung Chen, Gufeng He, Yang Yang*, "Triplet exciton confinement in phosphorescent polymer light-emitting diodes" **Appl. Phys. Lett.** 82, 1006, (2003).
160. Fang-Chung Chen, Yang Yang*, Qibing Pei *"*Phosphorescent light-emitting electrochemical cells*"* **Appl. Phys. Lett.** 81, 4278 (2002).
161. Gufeng He, Shun-Chi Chang, Fang-Chung Chen, Yongfang Li, Yang Yang* 'Highly efficient polymer light-emitting devices using a phosphorescent sensitizer" **Appl. Phys. Lett.** 81, 1509 (2002).

162. Fang-Chung Chen, Yang Yang*, Mark E. Thompson, Junji Kido *"*High-performance polymer light-emitting diodes doped with a red phosphorescent iridium complex*"* **Appl. Phys. Lett.** 80, 2308 (2002).
163. Shun-Chi Chang, Gufeng He, Fang-Chung Chen, Tzung-Fang Guo, Yang Yang* "Degradation mechanism of phosphorescent-dye-doped polymer light-emitting diodes" **Appl. Phys. Lett.** 79, 2088 (2001).
164. Fang-Chung Chen, Jinn-Hsuan Ho, Chin-Yu Chen, Yuhlong Oliver Su*, Tong-Ing Ho*, "Electrogenerated chemiluminescence of sterically hindered porphyrins in aqueous media" **J. Electroanal. Chem**. 499, 17 (2001).
165. Fang-Chung Chen, Shu-Hua Cheng, Chih-Hsing Yu, Mao-Huang Liu, Yuhlong Oliver Su*, "Electrochemical characterization and electrocatalysis of high valent manganese meso-tetrakis(N-methyl-2-pyridyl)porphyrin" **J. Electroanal. Chem**. 474, 52 (1999).

Book Chapters

1. Fang-Chung Chen*, "Organic Semiconductors" in "Encyclopedia of Modern Optics II", vol. 5, pp. 220-231, Editor(s)-in-Chief: B. D. Guenther and D. G. Steel, Elsevier, 2018. (ISBN 978-0-12-814982-9).
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, edited by Y. Yang and G. Li, Springer, 2015. (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. (ISBN 978-1-60876-022-0).

Conference papers

International Conference Papers (sorted by conference location)

1. 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)**
2. 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)
3. Fang-Chung Chen*, Gajendra Suthar and Chih-Wei Chu, "Photomultiplication narrowing in self-filtering organic photodetectors" CLEO Pacific Rim 2024, (Incheon, Korea, Aug. 2024). (oral presentation)
4. 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

5. 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
6. 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)
7. 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)**
8. Fang-Chung Chen* "Toward high-performance single-crystal perovskite solar cells", 3rd International Conference on Materials Science and Engineering (Hybrid), (Boston, USA, April 2022) **(invited oral presentation online)**
9. Fang-Chung Chen* "Emerging organic and perovskite photovoltaic devices for indoor applications", 10th Advanced Materials Congress : Advanced Nanomaterials Congress, Sweden (2021) **(invited oral presentation online)**
10. 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)**
11. 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 Inernational Conference on Advanced Electromaterials (ICAE), Jeju, Korea (2019). **(invited oral presentation)**
12. 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)**
13. 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)**
14. 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).
15. 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)**
16. 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)**
17. 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, May 2017 **(invited oral presentation)**.

18. 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.
19. 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).**
20. 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).**
21. 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)**
22. 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 Electronic (ISFOE 15) (Thessaloniki, Greece, July 2015).
23. 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, 2014).
24. 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 Istra Russia, September, 2014).
25. 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).
26. 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).
27. 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)**
28. 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**
29. 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)**
30. 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).
31. 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).
32. 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 Guangxhou, China) **(invited oral presentation)**

33. 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).
34. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, Yuh-Zheng Lee, Fang-Chung Chen, Meng-Chyi Wu, and Chih-Wei Chu*, "Fullerene C_{60} thin film transistors fabricated by solution processing" MRS (Spring 2010) (oral presentation).
35. Fang-Chung Chen* "Morphology manipulation for polymer solar cells" Progress in Electromagnetics Research Symposium PIERS 2010 Xi'an (oral presentation).
36. 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)
37. 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).
38. 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).
39. 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)
40. Fang-Chung Chen* "High-performance polymer solar cells" Printed electronics Asia 08' **(invited oral presentation)**
41. 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)
42. 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).
43. 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).
44. Fang-Chung Chen*, Hisn-Chen Tseng, and Chu-Jung Ko, "Efficient polymer solar cells prepared from co-solvent systems" MRS (Spring 2008).
45. 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)
46. 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)
47. 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)
48. 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).
49. Fang-Chung Chen*, Chu-Jung Ko, and Yi-Kai Lin **"**Microwave annealing processes in polymer photovoltaic devices**"** MRS (Spring 2007) (oral presentation)

50. 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)
51. 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)
52. 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)
53. 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).
54. 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)
55. 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).
56. 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).
57. 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)
58. Wen-Kuei Huang, Fang-Chung Chen* and Chu-Jung Ko "Fabrication of microlens arrays on glass substrates by lotus effect" Micro & Nano Engineering, (2005).
59. 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).
60. Fang-Chung Chen, and Yang Yang*, "Enhanced efficiency of plastic photovoltaic devices by blending with ionic solid electrolytes" MRS (Spring 2003) (oral presentation)
61. Fang-Chung Chen, and Yang Yang*, Qibing Pei, "Phosphorescent light-emitting electrochemical cells" MRS (Spring 2003) (post presentation)
62. 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).
63. 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)
64. 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)
65. 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

1. Nutcha Khambunkoed, 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**)
2. 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**)

3. Yan-Yu Shiu, Chen-Hsin Tu, Fang-Chung Chen*, "Lead-Less Red Emitting Perovskite Quantum Dots" Optics & Photonics Taiwan, International Conference 2024 (OPTIC 2024).
4. 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).
5. 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).
6. 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).
7. 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**)
8. 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**)
9. 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).
10. 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).
11. 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).
12. 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).
13. 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).
14. 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).
15. 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).
16. 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**)
17. 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)

18. 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).
19. Yu-Ze Zhang, Nutcha 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).
20. 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**)
21. 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).
22. 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).
23. 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).
24. 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).
25. 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).
26. 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).
27. 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).
28. 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).
29. 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.
30. 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 Perovksite Photovoltaic Devices for Indoor Applications" Optics & Photonics Taiwan, International Conference 2019 (OPTIC 2019). **(invited oral presentation)**
31. 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)
32. 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)**
33. 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.

34. Shi-Da Huang, Ren-Yung Yang, Fang-Chung Chen* "Plasmonic Effects of Gold Nanoparticles on the Performance of Perovksite Quantum Dot Light-Emitting Diodes" The EITA Conference on New Materials, Nanotechnology and New Energy 2019, Hsinchu, Taiwan.
35. 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.
36. 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).
37. Chen-Min Yang, Lu-Syuan Jhuang, Fang-Chung Chen* "Plasmonic Effects of Gold Nanoparticles on the Performance of Perovksite Light-Emitting Diodes" Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).
38. 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).
39. 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)
40. 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)
41. Chi-Yu Yang, Hao-Wu Lin*, Ken-Tsung Wong*, and Fang-Chung Chen* "Efficient Excimer Delay Fluorescence Organic Light Emission Devices Based on Fluorene Derovatives" Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016)
42. 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)
43. 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)
44. Shun-Shing Yang, Nai-Wei Teng, and Fang-Chung Chen* "Organic Photovoltaic Devices for Indoor Applications" Optics & Photonics Taiwan, International Conference 2015 (OPTIC 2015)
45. 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)
46. 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)
47. Wai-Chen Lin, Hung-Wen Hsu, and Fang-Chung Chen* " Polymer Solar Cells Prepared with Photoexfoliated Fluornated Graphite as Cathode Buffer Layer" 2015 International Conference on Flexible and Printed Electronics, (The 6th ICFPE, 2015, Taipei)
48. 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).
49. 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).

50. 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)**.
51. Fang-Chung Chen* Ming-Kai Chuang, and Shih-Wei Lin, "Graphene Derivatives for Organic Optoelectronics" Graphene 2014 International Conference (Nov. 2014) **(invited talk)**.
52. 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)**.
53. 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.
54. 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)**.
55. 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).
56. 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).
57. Yen-Tseng Lin, and Fang-Chung Chen* "Multiple-device stacked structures for High-performance organic cells" Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013).
58. 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).
59. 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).
60. 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).
61. 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).
62. Fang-Chung Chen* "Light Harvesting Schemes for High-performance Polymer Solar Cells" International Conference on Functional Organic Materials and Related Devices 2012.
63. Chen-Wei Lin and Fang-Chung Chen* "Small Molecule Sensitizers in Polymer Photodetectors for Extended Spectral Response" Symposium on Nano Device Technology 2012.
64. 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).
65. Shao-Tang Chuang, and Fang-Chung Chen* "Realization of Board Spectral Response of Organic Photomultiple Photodetectors through Codoping Near-Infrared Dyes" International Photonics Conference (IPC 2011).
66. 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).
67. Shu-Cheng Lin, and Fang-Chung Chen* "Charge Blocking Layers for Improving Detectivity of Organic Photomultiple Photodetectors" International Photonics Conference (IPC 2011).

68. 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).
69. Fang-Chung Chen* "Light Harvesting Schemes for High-performance Polymer Solar Cells" 2011 Asia Pacific Academy of Materials (APAM) (2011) **(Invited)**
70. 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)**
71. Ya-Wei Chung, Ying-Pin Chen, and Fang- Chung Chen* "Solution-Processed ZrInZnO Semiconductor for Thin Film Transistors" International Display Manufacturing Conference (IDMC) (2011).
72. Fang-Chung Chen*, Shang-Chieh Chien, Shao-Tang Chuang, and Guan-Lin Cious "High-performance organic photomultiple photodetecors exhibiting broadband response" 2010 International Conference on Optics and Photonics in Taiwan (OPT' 10)
73. 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)
74. 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)
75. Tzung-Han Tsai, Shang-Chieh Chien, and Fang-Chung Chen* "Performance-enhanced n-channel organic thin-film transistors incorporating poly(ethylene glocol)" Taiwan Display Conference (2010).
76. 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)
77. 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)
78. 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).
79. 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)
80. 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)
81. 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)
82. 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).
83. 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).
84. 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).
85. 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).

86. 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).
87. Hao-Wei Ting and Fang-Chung Chen* "Triplet energy transfer between a conjugated polymer and phosphorescent molecules" International Display Manufacturing Conference & Exhibition, (2007).
88. 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).
89. Fang-Chung Chen* "Recent Developments in polymer photovoltaic devices" Flexible Electronics – Organic Photovoltaic Workshop (2007). **(Invited)**
90. 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)**
91. 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).
92. 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).
93. 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).
94. 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).
95. 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)
96. Tung-Hsien Chen, and Fang-Chung Chen* "Metal oxides as the buffer layers for organic thin-film transistors" Taiwan Display Conference (2006)
97. Li-Jen Kung, and Fang-Chung Chen* "High-performance organic thin-film transistors with copper phthalocyanine-modified source/drain contacts" Taiwan Display Conference (2006)
98. 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)
99. 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)
100. Fang-Chung Chen* "The development of high-performance organic electronics" ITRI 學員交流論壇, (June 2006) **(invited)**.
101. Fang-Chung Chen* "Organic Photovoltaic Devices for Low Power Sensor Networks" Wireless Sensor Network Workshop 2005
102. 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).
103. 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).

Patents

1. Fang-Chung Chen, Ming-Kai Chuang, Kim-Shih Tan, "Device for stimulating neural regeneration and fabrication method thereof" US Patent: 9,108,042 B2.
2. Chiao-Shun Chuang, Fang-Chung Chen, Han-Ping David Shieh, "Thin film transistor having highly dielectric organic layer" US Patent: 8,907,325.
3. Fang-Chung Chen, Ming-Kai Chuang, "Manufacturing method for organic optoelectronic thin film" US Patent: 8,252,627 B2.

4. Fang-Chung Chen, Yung-Shiuan Chen, Shang-Chieh Chien, Chi-Neng Mo, Chien-Lung Tsou, Jan-Tian Lian, “Organic electro-luminescence device with organic light emitting layer having particular ratio of contents” US Patent: 7,956,526.
5. 陳方中、李靖偉。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，中華民國專利第 I844323 號。
6. 陳方中、宋承翰。發光組成物及圖案化發光組成物之方法，中華民國專利第 I839726 號。
7. 陳方中、林伯恩。單色有機發光二極體血氧脈搏偵測裝置，中華民國專利第 I762142 號。
8. 陳方中、岳宏霖。鈣鈦礦單晶的合成方法，中華民國專利第 I657172 號。
9. 陳方中、黃炯福。鈣鈦礦型發光元件及其製造方法，中華民國專利: I657123。
10. 陳方中、岳宏霖。鈣鈦礦單晶的合成方法，中華民國專利: I657172。
11. 陳方中、林渭澄。製備二維材料的方法，中華民國專利: I548448 。
12. 陳方中、周俊賢。可撓性照明光伏打複合模組及其製備方法，中華民國專利: I542826。
13. 陳方中、凌安愷。提高有機發光二極體之光萃取率之方法及其結構，中華民國專利: I513078。
14. 陳方中、簡上傑。高分子太陽能電池及其製作方法，中華民國專利: I497740。
15. 吳政翰、倪國裕、薄慧雲、林遙冷、陳方中、周俊賢。一種太陽能電池抗反射封裝膜之製程方法，中華民國專利: I497736。
16. 陳方中、周俊賢、莊睿綱、林晏增。太陽能電池模組及其製造方法，中華民國專利: I493744。
17. 陳方中、林書丞。提高光偵測度之光偵測元件及其形成方法，中華民國專利: I458105。
18. 陳方中、林書丞。検出能を高めるフォトダイオードデバイス及びその形成方法，日本專利特許第 5787170 號。
19. 陳方中、李佳霖、吳志力。有機太陽能元件及其製作方法，中華民國專利: I458151。
20. 陳方中、莊名凱。有機光電薄膜元件之製造方法，中華民國專利: I437744。
21. 陳方中、李佳霖、吳志力。倒置式有機太陽能元件及其製作方法，中華民國專利: I426633。