研究成果目錄: (\* corresponding author) h-index:46

Journal papers 期刊論文 IF (impact factor: 2020; citation numbers from Web of Science)

- 1. Ganesh D. Sharma\*, Mukhamed. L. Keshtov, Igor. O. Konstantinov, Sergei. A. Kuklin, Yingping Zou, Anupam Agrawal and <u>Fang-Chung Chen</u>, "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**, accepted (2021). (**IF:8.928**)
- Sumit S. Bhosale, Efat Jokar, Yi-Ting Chiang, Chieh-Hsi Kuan, Kiana Khodakarami, Zahra Hosseini\*, <u>Fang-Chung Chen</u>\*, 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:6.024)
- 3. Prateek Malhotra, Subhyan Biswas, <u>Fang-Chung Chen</u>, Ganesh D. Sharma\*, "Prediction of non-radiative voltage losses in organic solar cells using machine learning", **Sol. Energy**, 228, 175-186 (2021) (**IF:5.742**)
- 4. M. L. Keshtov\*, S. A. Kuklin, Anupam Agrawal, Hemraj Dahiya, <u>Fang-Chung Chen</u>, 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:7.311**)
- 5. Huey-Shan Hung, Mei-Lang Kung, <u>Fang-Chung Chen</u>, 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:5.079**)
- 6. M. L. Keshtov\*, S. A. Kuklin, A. S. Peregudov, <u>Fang-Chung Chen</u>, Zhiyuan Xie, G. D Sharma\*, "Efficient ternary polymer solar cell using wide bandgap conjugated polymer donor with two nonfullerene small molecule acceptors enabled power conversion efficiency of 16% with low energy loss of 0.47 eV", **Nano Select**, 2, 1326-1335 (2021).
- 7. Chen-Min Yang and <u>Fang-Chung Chen</u>\*, "Position effects of metal nanoparticles on the performance of perovskite light-emitting diodes", **Nanomaterials** 11, 993 (2021) (**IF:5.079**) (**Times Cited:1**)
- 8. Gautham Kumar, G. D. Sharma and <u>Fang-Chung Chen</u>\*, "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:3.442**)
- 9. Lu-Syuan Jhuang, Gautham Kumar and <u>Fang-Chung Chen</u>\*, "Localized surface plasmon resonance of copper nanoparticles improves the performance of quasi-two-dimensional perovskite light-emitting diodes", **Dyes Pigm.** 188, 109204 (2021). (**IF:4.889**) (**Times Cited:2**)

- 10. G. D. Sharma\*, R. Suthar, A. A. Pestrikova, A. Y. Nikolaev, <u>Fang-Chung Chen</u>, 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:5.742**) (**Times Cited:1**)
- 11. Wun-Jhen Chen, Yu-Chang Lin, Gautham Kumar, Shun-Yu Xie, <u>Fang-Chung Chen</u>\*, "Polymer-capped copper nanoparticles trigger plasmonic field for improving performance of perovskite solar cells" **Synth. Met.** 273, 116675 (2021) (**IF:3.266**)
- 12. Yu-Tung Lin, Gautham Kumar, <u>Fang-Chung Chen</u>\*, "Interfacial plasmonic effects of gold nanoparticle-decorated graphene oxides on the performance of perovskite photovoltaic devices" **Sol. Energy**, 211, 822-830 (2020) (**IF:5.742**) (**Times Cited:5**)
- 13. Ming-Kai Chuang, Chun-Hao Lin, <u>Fang-Chung Chen</u>\*, "Accumulated plasmonic effects of gold nanoparticle decorated PEGylated graphene oxides in organic light-emitting diodes" **Dyes Pigm.** 180, 108412 (2020). (**IF:4.889**) (**Times Cited:4**)
- 14. Chien-Lun Huang, Gautham Kumar, Ganesh D. Sharma, <u>Fang-Chung Chen</u>\*, "Plasmonic Effects of Copper Nanoparticles in Polymer Photovoltaic Devices for Outdoor and Indoor Applications" **Appl. Phys. Lett.** 116, 253302 (2020). (**IF:3.791**) (**Times Cited:13**)
- 15. Hsin-Hung Sung, Chien-Chen Kuo, Hung-Sheng Chiang, Hong-Lin Yue, <u>Fang-Chung Chen</u>\*, "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: 8.582**) (**Times Cited:3**)
- 16. Ming-Ju Wu, Chien-Chen Kuo, Lu-Syuan Jhuang, Po-Han Chen, Yi-Fong Lai, and <u>Fang-Chung Chen</u>\*, "Bandgap Engineering Enhances the Performance of Mixed-Cation Perovskite Materials for Indoor Photovoltaic Applications" Adv. Energy Mater. 9, 1901863 (2019). (Inside Front Cover) (IF:29.368) (Times Cited:27)
- 17. Yu-Chi Wang, Heng Li, Yu-Heng Hong, Kuo-Bin Hong, <u>Fang-Chung Chen</u>, 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:15.881**) (**Times Cited:44**)
- 18. <u>Fang-Chung Chen</u>\*, "Virtual Screening of Conjugated Polymers for Organic Photovoltaic Devices Using Support Vector Machines and Ensemble Learning" **Int. J. Polym. Sci.**, 2019, 4538514 (2019). (**IF:2.702**) (**Times Cited:2**)
- Ming-Chuan Hsiao, Ping-Cheng Chien, Lu-Syuan Jhuang and <u>Fang-Chung Chen</u>\* "Bidentate Chelating Ligands as Effective Passivating Materials for Perovskite Light-Emitting Diodes", Phys. Chem. Chem. Phys., 21, 7867-7873 (2019). (IF:3.676) (Times Cited:10)

- 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:9.926) (Times Cited:46)
- 21. M. L. Keshtov, S. A. Kuklin, I. O. Konstantinov, <u>Fang-Chung Chen</u>, Zhi-yuan Xie and Ganesh D. Sharma\*, "New iridium-containing conjugated polymers for polymer solar cell applications", **New J. Chem.**, 42, 17296 (2018). (**IF:3.591**) (**Times Cited:4**)
- 22. Hong-Lin Yue, Hsin-Hung Sung and <u>Fang-Chung Chen</u>\*, "Seeded Space-Limited Crystallization of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> Single-Crystal Plates for Perovskite Solar Cells", **Adv. Electron. Mater.**, 4 (issue 7), 1700655, (2018). (**Times Cited:21**) (**IF:7.295**)
- 23. Nai-Wei Teng, Shun-Shing Yang, and <u>Fang-Chung Chen</u>\*, "Plasmonic-enhanced organic photovoltaic devices for low-power light applications", **IEEE J. Photovolt.**, 8, 752-756 (2018). (**Times Cited:27**) (**IF:3.887**)
- 24. Shun-Shing Yang, Zong-Chun Hsieh, Muchamed L. Keshtov, Ganesh D. Sharma, and <u>Fang-Chung Chen</u>\*, "Toward High-Performance Polymer Photovoltaic Devices for Low-Power Indoor Applications", **Solar RRL**, 1, 1700174 (2017). (**Times Cited:55**) (selected as the front cover) (**IF: 8.582**)
- 25. 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 <u>Fang-Chung Chen</u>\* "Plasmonic effects on bulk heterojunction polymer solar cells: a transient photovoltage and differential charging study" Sci. Adv. Mater. 9, 1435-1439 (2017). (Times Cited:3) (IF:1.474)
- 26. M.L. Keshtov, S. A. Kuklin, A.R. Khokhlo, S.N. Osipov, N.A. Radychev, D.Y. Godovskiy, I.O. Konstantinov, <u>F. C. Chen</u>, 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) (**Times Cited:7) (IF:3.721)**
- 27. Wai-Chen Lin, Ming-Kai Chuang, Muchamed L. Keshtov, Ganesh D. Sharma, and <u>Fang-Chung Chen</u>\* "Photoexfoliation of Two-Dimensional Materials through Continuous UV Irradiation" Nanotechnology 28, 125604 (2017). (Times Cited:3) (IF:3.874)
- 28. Mukhamed L. Keshtov\*, Alexei R. Khokhlov, Serge A. Kuklin, <u>Fang-Chung Chen</u>, 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). (Times Cited:14) (IF:9.229)
- 29. Tsung Sheng Kao, Yu-Hsun Chou, Kuo-Bin Hong, Jiong-Fu Huang, Chun-Hsien Chou, Hao-Chung Kuo, <u>Fang-Chung Chen</u>\* and Tien-Chang Lu\*, "Controllable lasing performance in

- solution-processed organicinorganic hybrid perovskites" Nanoscale 8, 18483-18488 (2016) (Times Cited:16) (IF:7.790).
- 30. Yuvraj Patil, Rajneesh Misra, Mukhamed Lostambievich Keshtov, <u>Fang-Chung Chen</u> 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) (**Times Cited:15**) (**IF:3.361**).
- 31. M. L. Keshtov\*, S. A. Kuklina, I. E. Ostapov, <u>Fang-Chung Chen</u>, 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) (**Times Cited:2**) (**IF: 0.636**).
- 32. Chiung-Fu Huang, M. L. Keshtov and <u>Fang-Chung Chen</u>\*, "Cross-Linkable Hole-Transport Materials Improve the Device Performance of Perovskite Light-Emitting Diodes" **ACS Appl.**Mater. Interfaces 8, 27006-27011 (2016). (Times Cited:29) (IF:9.229)
- 33. Yuvraj Patil, Rajneesh Misra,\* <u>F. C. Chen</u>, 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) (**Times Cited:16**) (**IF:3.676**).
- 34. Tsung Sheng Kao, Kuo-Bin Hong, Yu-Hsun Chou, Jiong-Fu Huang, <u>Fang-Chung Chen</u>\*, and Tien-Chang Lu\* "Localized surface plasmon for enhanced lasing performance in solution-processed perovskites" **Opt. Express**, 24, 20696-20702 (2016) (**Times Cited:21**) (**IF:3.894**).
- 35. M. L. Keshtov,\* A. R. Khokhlov, S. A. Kuklin, <u>F. C. Chen</u>, 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). (Times Cited:11) (IF:5.582)
- 36. <u>Yu-Sheng Hsiao</u>\*, Yan-Hao Liao, Huan-Lin Chen, Peilin Chen and <u>Fang-Chung Chen</u>\*, "Organic photovoltaics and bioelectrodes providing electrical stimulation for PC12 cell differentiation and neurite outgrowth" **ACS Appl. Mater. Interfaces** 8, 9275 (2016). (Times Cited:31) (IF:9.229)
- 37. M. L. Keshtov\*, S. A. Kuklin, D. Y. Godovsky, A. R. Khokhlov, R. Kurchania, <u>F. C. Chen</u>, 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). (Times Cited:9) (IF:2.702)
- 38. 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) (**Times Cited:6**) (**IF:3.721**).
- 39. Ming-Kai Chuang, Shun-Shing Yang and <u>Fang-Chung Chen</u>\*, "Metal Nanoparticle-Decorated Two-Dimensional Molybdenum Sulfide for Plasmonic-Enhanced Polymer Photovoltaic Devices" **Materials** 8, 5414-5425 (2015). (**Times Cited:18**) (**IF:3.623**)
- 40. M. L. Keshtov\*, S.A. Kuklin, <u>F. C. Chen</u>, 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). (Times Cited:9) (IF: 2.702)
- 41. Chung-Lei Chen, Ming-Kai Chuang, Chyong-Hua Chen, Chih-Wei Chu, Muchamed L. Keshtov, and <u>Fang-Chung Chen</u>\*, "Efficient and stable polymer solar cells prepared with plasmonic graphene oxides as the anode buffers" **Semicond. Sci. Tech.** 30, 085013 (2015) (**Times Cited:2**) (**IF:2.352**)
- 42. Chun-Hsien Chou, Min-Hung Hsu and <u>Fang-Chung Chen</u>\*, "Flexible luminescent waveguiding photovoltaics exhibiting strong scattering effects from the dye aggregation" **Nano Energy** 15, 729-736 (2015) (**Times Cited:12**) (**IF:17.881**)
- 43. M. L. Keshtov\*, G. D. Sharma\*, S. A. Kuklin, I. E. Ostapov, D. Yu. Godovsky, A. R. Khokhlov, and <u>F. C. Chen</u>, "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) (**Times Cited:13**) (**IF: 4.430**)
- 44. Ming-Kai Chuang, and <u>Fang-Chung Chen</u>\*, "Synergistic plasmonic effects of metal nanoparticle–decorated PEGylated graphene oxides in polymer solar cells" **ACS Appl. Mater. Interfaces** 7, 7397–7405 (2015) (**Times Cited:48**) (**IF:9.229**).
- 45. M. L. Keshtov\*, D. Yu. Godovsky, <u>F. C. Chen</u>, 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) (**Times Cited:4**) (**IF:3.676**)
- 46. M. L. Keshtov, D. Y. Godovsky, S. A. Kuline, Y. Zou, <u>Fang-Chung Chen</u>, and A. R. Khokhlov "New Thienofluoroanthenes as Building Blocks for Optoelectronic Applications" **Doklady Chem.** 461, 75 (2015) (**IF:0.636**).
- 47. Tsung Sheng Kao, Yu-Hsun Chou, Chun-Hsien Chou, <u>Fang-Chung Chen</u>\*, and Tien-Chang Lu\* "Lasing behaviors upon phase transition in solution-processed perovskite thin films" **Appl. Phys.**

- Lett. 105, 231108 (2014) (Times Cited:56) (IF:3.791)
- 48. An-Kai Ling, Chun-Hao Lin, Hsun Liang, and <u>Fang-Chung Chen</u>\* "Tunable microcavities in organic light-emitting diodes by way of low-refractive-index polymer doping" **Org. Electron.** 15, 3648 (2014) (**Times Cited:1**) (**IF:3.721**)
- 49. Ming-Kai Chuang, <u>Fang-Chung Chen</u>\*, and Chain-Shu Hsu "Gold nanoparticle–graphene oxide nanocomposites that enhance the device performance of polymer solar cells" **J. Nanomater.** 2014, 736879 (2014) (**Times Cited:15**) (**IF:2.986**)
- 50. Chun-Hsien Chou and <u>Fang-Chung Chen</u>\* "Plasmonic nanostructures for light trapping in organic photovoltaics devices" **Nanoscale** 6, 8444 (2014) (**Times Cited:128**) (**IF:7.790**).
- 51. Yen-Tseng Lin, Chu-Hsien Chou, <u>Fang-Chung Chen</u>,\* 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) (**Times Cited:5**) (**IF: 3.894**).
- 52. Yu-Hsuan Ho, Hsun Liang, Shun-Wei Liu, Wei-Cheng Tian, <u>Fang-Chung Chen</u> and Pei-Kuan Wei\* "Efficiency improvement of organic bifunctional devices by applying omnidirectional antireflection nanopillars" **RSC Adv.** 4, 9588 (2014) (**Times Cited:4**) (**IF:3.361**).
- 53. Ming-Kai Chuang, Shih-Wei Lin, <u>Fang-Chung Chen</u>,\* Chih-Wei Chu, and Chain-Shu Hsu "Gold nanoparticle—decorated graphene oxides for plasmonic-enhanced polymer photovoltaic devices" **Nanoscale** 6, 1573 (2014) (**Times Cited:88**) (**IF:7.790**).
- 54. Wei-Ting Lin, Yen-Tseng Lin, Chu-Hsien Chou, <u>Fang-Chung Chen</u>\* and Chain-Shu Hsu "Organic solar cells comprising multiple-device stacked structures exhibiting complementary absorption behavior" **Sol. Energy Mater. Sol. Cells** 120, 724 (2014) (**Times Cited:7**) (**IF: 7.267**).
- 55. Kim-Shih Tan, Ming-Kai Chuang, <u>Fang-Chung Chen</u>\*, 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) (Times Cited:41) (IF:9.229).
- 56. Chun-Hsien Chou, Jui-Kang Chuang and <u>Fang-Chung Chen</u>\* "High-Performance Flexible Waveguiding Photovoltaics" **Sci. Rep.** 3, 2244 (2013) (**Times Cited:32**) (**IF:4.379**).
- 57. M. L. Keshtov, <u>Fang-Chung Chen</u>, E. I. Maltsev, D. V. Marochkin, V. S. Kochurov, and A. R. Khokhlov "New conjugated electroluminescent triphenylamine containing polymers with sidechain pyridin-2-ylimidazo[1,5-a]pyridine groups for polymer light-emitting diodes" **Doklady Chem.** 450, 165 (2013) (**Times Cited:1**) (**IF:0.636**).
- 58. 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 Mat.** 4, 417-423 (2013) (**Times Cited:121**) (**IF: 29.368**).
- 59. Chuan-Sheng Kao, <u>Fang-Chung Chen</u>\*, 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) (**Times Cited:42**) (**IF:3.791**)
- 60. 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) (Times Cited:106) (IF:4.126)
- 61. Ya-Wei Chung, <u>Fang-Chung Chen</u>\*, 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) (**Times Cited:4**) (**IF:2.821**)
- 62. Jyh-Lih Wu, <u>Fang-Chung Chen</u>\*, 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) **(Times Cited:29) (IF:3.721)**
- 63. Wei-Chi Chen, Shang-Chieh Chien, <u>Fang-Chung Chen</u>\*, and Chain-Shu Hsu "Stacked structures for assembling multiple organic photovoltaic devices" **Appl. Phys. Express** 5, 072301 (2012) (**Times Cited:3**) (**IF:2.895**)
- 64. M.L. Keshtov, A.M. Lopatin, D.V. Marochkin, <u>Fang-Chung Chen</u>, A.R. Khokhlov "Conjugated poly(fluoroalkylesterthiophenes), synthesized in supercritical carbon dioxide" **Doklady Chem.** 443, 101 (2012) (**Times Cited:1**) (**IF:0.636**)
- 65. <u>Fang-Chung Chen</u>\*, 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). (**Times Cited:2**) (**IF:3.721**) (NSC 100-2221-E-009-082)
- 66. 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). (Times Cited:70) (IF: 6.626/2013 version)
- 67. Tsung-Hsien Kuo, <u>Fang-Chung Chen</u>, 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). (**Times Cited:4**) (**IF: 6.626/2013 version**)
- 68. Shang-Chieh Chien, <u>Fang-Chung Chen</u>\*, 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) (Times Cited:40) (IF:4.126)
- 69. Shao-Tang Chuang, Shang-Chieh Chien, and <u>Fang-Chung Chen</u>\* "Extended spectral response in organic photomultiple photodetectors using multiple near-infrared dopants" **Appl. Phys. Lett.** 100, 013309 (2012) (**Times Cited:41**) (**IF:3.791**)
- 70. <u>Fang-Chung Chen</u>\* and Hsiao-Fen Chang "Photo-erasable organic nonvolatile memory devices based on hafnium silicate insulators" **IEEE Electron Device Lett.** 32, 1740 (2011). (**Times Cited:2**) (**IF:4.187**)
- 71. 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) (Times Cited:66) (IF:9.811)
- 72. 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). (Times Cited:90) (IF: 6.626/2013 version)
- 73. Jyh-Lih Wu, <u>Fang-Chung Chen</u>,\* Ming-Kai Chuang and Kim-Shih Tan "Near-infrared laser-driven polymer photovoltaic devices and their biomedical applications" **Energy Environ. Sci.**, 4, 3374 (2011). (Times Cited:32) (IF:38.532) (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)
- 74. Jen-Hsien Huang, <u>Fang-Chung Chen</u>, 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) (**Times Cited:22**) (**IF:3.721**)
- 75. <u>Fang-Chung Chen</u>,\* 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) (Times Cited:17) (IF:6.626/2013 version)
- 76. Shih-Ching Chuang\*, Chih-Wei Chiu, Shang-Chieh Chien, Chih-Wei Chu, and <u>Fang-Chung Chen</u>\* "1-(3-Methoxycarbonyl)propyl-2-selenyl-[6,6]-methanofullerene as a n-Type Material for Organic Solar Cells" **Synth. Met.** 161, 1264 (2011) (**Times Cited:8**) (**IF:3.266**)
- 77. <u>Fang-Chung Chen</u>\*, 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) (IF:3.599)
- 78. Jyh-Lih Wu, <u>Fang-Chung Chen</u>\*, 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) (Times Cited:821) (IF:15.881) (WOS Highly Cited Papers, Top 10 Most Read ACS Nano Article Q1 2011)
- 79. 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) (**Times Cited:38**) (**IF:2.352**) (**invited paper**)
- 80. 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). (Times Cited:222) (IF:6.222)
- 81. Chang-Zhi Li, Shang-Chieh Chien, Hin-Lap Yip, Chu-Chen Chueh, <u>Fang-Chung Chen</u>, 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). (**Times Cited:85**) (**IF:6.222**)
- 82. <u>Fang-Chung Chen</u>\*, 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). (Times Cited:115) (IF:7.267)
- 83. <u>Fang-Chung Chen</u>\*, 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). (Times Cited:12) (IF:3.207) (NSC 98-2221-E-009-028)
- 84. <u>Fang-Chung Chen</u>\*, Shang-Chieh Chien, and Guan-Lin Cious "Highly sensitive, low-voltage, organic photomultiple photodetectors exhibiting broadband response" **Appl. Phys. Lett.** 97, 103301 (2010) (**Times Cited:57**) (**IF:3.791**)
- 85. <u>Fang-Chung Chen</u>\*, Jyh-Lih Wu, and Yi Hong "Spatial redistribution of the optical field intensity in inverted polymer solar cells" **Appl. Phys. Lett.** 96, 193304 (2010) (**Times Cited:46**) (**IF:3.791**)
- 86. Cheng-Dar Liu, De-Yu Shu, Ching-Ting Tsao, Jin-Lin Han, Feng-Yu Tsai, <u>Fang-Chung Chen</u>, 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) (**Times Cited:4**) (**IF:8.528**)
- 87. Jen-Hsien Huang, Hung-Yu Wei, Kuan-Chieh Huang, Cheng-Lun Chen, Rui-Ren Wang, Fang-

- <u>Chung Chen</u>, Kuo-Chuan Ho and Chih-Wei Chu\* "Using a low temperature crystallization process to prepare anatase TiO<sub>2</sub> buffer layers for air-stable inverted polymer solar cells" **Energy Environ.** Sci., 3, 654 (2010). (Times Cited:44) (IF:38.532)
- 88. <u>Fang-Chung Chen</u>\*, 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). (**Times Cited:16**) (**IF:3.207**) (**Selected to be part of Journal of Physics D's Highlights of 2010 collection**)
- 89. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, <u>Fang-Chung Chen</u>, Shiau-Shin Cheng, Yuh-Zheng Lee, Meng-Chyi Wu, and Chih-Wei Chu\*, "Hybrid TiO<sub>x</sub>/Fluoropolymer bilayer dielectrics for low voltage complementary inverters" **Org. Electronics** 11, 154 (2010). (**Times Cited:5**) (**IF:3.721**)
- 90. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, Yuh-Zheng Lee, <u>Fang-Chung Chen</u>, Meng-Chyi Wu, and Chih-Wei Chu\*, "Flexible fullerene field effect transistors fabricated through solution processing" **Adv. Mat.** 21, 4845 (2009) (**Times Cited:51**)
- 91. Jhih-Ping Lu\*, <u>Fang-Chung Chen</u>, Fu-Kang Chen, Chen-Chun Hsu, Yuan-Chang Liao, Yuh-Zheng Lee "A single-substrate multicolor cholesteric liquid crystal display prepared through inkjet printing" **J. Soc. Inf. Display** 17, 795 (2009). (Times Cited:1)
- 92. Jhih-Ping Lu, Wen-Kuei Huang and <u>Fang-Chung Chen</u>\*, "Self-positioning microlens arrays prepared using ink-jet printing" **Opt. Eng.** 48, 073606 (2009). (**Times Cited:15**) (**Selected by the Virtual Journal of Nanoscale Science and Technology, August 3, 2009)**
- 93. <u>Fang-Chung Chen</u>\*, 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). (Times Cited:287c) (WOS Highly Cited Papers, the 20 research articles with the most full-text downloads during July 2009)
- 94. <u>Fang-Chung Chen</u>\*, 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) (**Times Cited:32**)
- 95. <u>Fang-Chung Chen</u>\*, 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) (**Times Cited:30**)
- 96. Jhih-Ping Lu, <u>Fang-Chung Chen</u>\* and Yuh-Zheng Lee, "Ring-edged bank array made by inkjet printing for color filters" **IEEE/OSA J. Display Technology** 5, 162 (2009) (**Times Cited:7**)
- 97. <u>Fang-Chung Chen</u>\* 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). (Times Cited:7)
- 98. <u>Fang-Chung Chen</u>\*, 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). (**Times Cited:30**)
- 99. Mei-Hsiu Lai, Chu-Chen Chueh, Wen-Chang Chen\*, Jyh-Lin Wu, and <u>Fang-Chung Chen</u> "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). (Times Cited:40)
- 100. 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). (Times Cited:72)
- 101. <u>Fang-Chung Chen</u>\*, 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). (**Times Cited:41**)
- 102. <u>Fang-Chung Chen</u>\*, 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). (Times Cited:75)
- 103. Chiao-Shun Chuang, Jung-An Cheng, Yu-Jen Huang, Hsiao-Fen Chang, <u>Fang-Chung Chen</u>\*, and Han-Ping D. Shieh "Organic thin-film transistors with color filtering functional gate insulators" **Appl. Phys. Lett.** 93, 053305 (2008). (**Times Cited:2**)
- 104. <u>Fang-Chung Chen</u>\*, 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). (Times Cited:97)
- 105. <u>Fang-Chung Chen</u>\*, Shang-Chieh Chien and Shih-Wei Lee "High performance single-layer polymer electrophosphorescent devices with polymer oxides" **Electrochem. Solid-State Lett.** 11, J50, (2008). (**Times Cited:9**)
- 106. <u>Fang-Chung Chen</u>\*, Hisn-Chen Tseng, and Chu-Jung Ko, "Solvent mixtures for improving device efficiency of polymer photovoltaic devices" **Appl. Phys. Lett.** 92, 103316 (2008). (**Times Cited:123**)
- 107. <u>Fang-Chung Chen</u>\*, Yi-Kai Lin, and Chu-Jung Ko, "Submicron-scale manipulation of phase separation in organic solar cells" **Appl. Phys. Lett.** 92, 023307, (2008). (Times Cited:35) (Selected by the Virtual Journal of Nanoscale Science and Technology, January 28, 2008; highlighted by a feature article in SPIE Newsroom, 2008)
- 108. 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). (**Times Cited:10**)
- 109. Chu-Jung Ko, Yi-Kai Lin, and <u>Fang-Chung Chen</u>\* "Microwave annealing of polymer photovoltaic devices" **Adv. Mat.** 19, 3520, (2007) (**Times Cited:81**)
- 110. Chiao-Shun Chuang, <u>Fang-Chung Chen</u>\*, and Han-Ping D. Shieh "Organic thin-film transistors with reduced photosensitivity" **Org. Electron.** 8, 767 (2007). (**Times Cited:13**)
- 111. Jhih-Ping Lu\*, Ying-Pin Chen, Yuh-Zheng Lee, Kevin Cheng, and <u>Fang-Chung Chen</u>, "Ring edge in film morphology: benefit or obstacle for ink jet fabrication of organic thin film transistors" J. Imaging Sci. Technol. 51, 461, (2007).
- 112. <u>Fang-Chung Chen</u>\*, 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). (Times Cited:17) (highlighted by a feature article in SPIE Newsroom, 2007)
- 113. <u>Fang-Chung Chen</u>\*, 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). (**Times Cited:54**)
- 114. Chu-Jung Ko, Yi-Kai Lin, <u>Fang-Chung Chen</u>\*, and Chi-Wei Chu "Modified buffer layers for polymer photovoltaic devices" **Appl. Phys. Lett.** 90, 063509 (2007). (**Times Cited:155**) (**Selected by the Virtual Journal of Nanoscale Science and Technology, February 19, 2007**)
- 115. H.H. Liao, H.F. Meng\*, S.F. Horng, W.S. Lee, J.M. Yang, J. T. Shy, <u>F. C. Chen</u> 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). (**Times Cited:20**)
- 116. <u>Fang-Chung Chen</u>\*, 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). **(Times Cited:6)**
- 117. Wen-Kuei Huang, Wen-Sheng Wang, Hui-Chun Kan, and <u>Fang-Chung Chen</u>\*, "Enhanced Light Out-coupling Efficiency of Organic Light-emitting Diodes with Self-organized Microlens Arrays" **Jap. J. Appl. Phys.**, 45, L1100, (2006). (Times Cited:19) (Selected by the Virtual Journal of Nanoscale Science and Technology, February 19, 2007)
- 118. <u>Fang-Chung Chen</u>\*, 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). **(Times Cited:66)**
- 119. Wen-Kuei Huang, Chu-Jung Ko, and <u>Fang-Chung Chen</u>\* "Organic selective-area patterning method for microlens array fabrication" **Microelectronic Engineering**, 83, 1333, (2006). (**Times**

#### **Cited:15**)

- 120. Jianyong Ouyang, Chi-Wei Chu, <u>Fang-Chung Chen</u>, Qianfei Xu, and Yang Yang\*, "High-Conductivity Poly(3,4-Ethylenedioxythiophene): Polystyrenesulfonate Film and its Application in Polymer Optoelectronic Devices" **Adv. Funct. Mat.** 12.124, 203, (2005). (**Times Cited:665**)
- 121. Meng Lu, Baohan Xie, Jeonghee Kang, <u>Fang-Chung Chen</u>, Yang Yang, and Zhonghua Peng\*, "Synthesis of Main-Chain Polyoxometalate-Containing Hybrid Polymers and Their Applications in Photovoltaic Cells" **Chem. Mat.** 17, 402, (2005) **(Times Cited:129)**
- 122. Jianyong Ouyang, Chi-Wei Chu, <u>Fang-Chung Chen</u>, 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). (Times Cited:65)
- 123. <u>Fang-Chung Chen</u>, 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). (Times Cited:202) (Selected by the Virtual Journal of Nanoscale Science and Technology)
- 124. <u>Fang-Chung Chen</u>, Qianfei Xu, and Yang Yang\*, "Enhanced efficiency of plastic photovoltaic devices by blending with ionic solid electrolytes" **Appl. Phys. Lett.** 84, 3181, (2004). (**Times Cited:30**)
- 125. <u>Fang-Chung Chen</u>, 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). (**Times Cited:141**)
- 126. <u>Fang-Chung Chen</u>, Gufeng He, Yang Yang\*, "Triplet exciton confinement in phosphorescent polymer light-emitting diodes" **Appl. Phys. Lett.** 82, 1006, (2003). **(Times Cited:133)**
- 127. <u>Fang-Chung Chen</u>, Yang Yang\*, Qibing Pei "Phosphorescent light-emitting electrochemical cells" **Appl. Phys. Lett.** 81, 4278 (2002). **(Times Cited:57)**
- 128. Gufeng He, Shun-Chi Chang, <u>Fang-Chung Chen</u>, Yongfang Li, Yang Yang\* 'Highly efficient polymer light-emitting devices using a phosphorescent sensitizer" **Appl. Phys. Lett.** 81, 1509 (2002). (Times Cited:51)
- 129. <u>Fang-Chung Chen</u>, 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) (SCI). (Times Cited:249)
- 130. Shun-Chi Chang, Gufeng He, <u>Fang-Chung Chen</u>, Tzung-Fang Guo, Yang Yang\* "Degradation mechanism of phosphorescent-dye-doped polymer light-emitting diodes" **Appl. Phys. Lett.** 79, 2088 (2001). (**Times Cited:118**)
- 131. 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). (Times Cited:28)
- 132. <u>Fang-Chung Chen</u>, 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). (Times Cited:38)

# Book Chapters 專書論文

- 1. <u>Fang-Chung Chen</u>\*, "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 <u>Fang-Chung Chen</u>\*, "Surface Plasmonic Effects of Nanostructures on the Performance of Polymer Solar Cells", pp. 299-313, in "Progress in High-Efficient Solution Process Organic Photovoltaic Devices" edited by Y. Yang and G. Li, Springer, 2015. (ISBN 978-3-662-45508-1 for Hardcover; 978-3-662-45509-8 for eBook).
- 3. <u>Fang-Chung Chen</u>\*, 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 <u>Fang-Chung Chen</u>\*, "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 <u>Fang-Chung Chen</u>\*, "Annealing methods for controlling the morphology of polymer solar cells" in "Photovoltaics: Developments, Applications and Impact" Chapter 3, pp. 63-87, edited by H. Tanaka and K. Yamashita, Nova Science Publishers, Inc., New York, 2010.

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

# International Conference Papers 國外研討會論文

- Fang-Chung Chen\* "Emerging organic and perovskite photovoltaic devices for indoor applications", Advanced Nanomaterials Congress, Sweden (2021) (invited oral presentation online)
- 2. Chien-Chen Kuo and <u>Fang-Chung Chen</u>\*, "Modified hole transport layers for high-performance single-crystal perovskite solar cells" SPIE Optics + Photonics 2021, San Diego, USA (2021) (online oral presentation)

- 3. Hsin-Hung Sung, Hong-Lin Yue, Chien-Chen Kuo, Hung-Sheng Chiang, <u>Fang-Chung Chen</u>\*, "Asymmetric thin-plate perovskite single crystals for photovoltaic applications", The 5th Inernational Conference on Advanced Electromaterials (ICAE), Jeju, Korea (2019). (invited oral presentation)
- 4. Hsin-Hung Sung, Hong-Lin Yue, Chien-Chen Kuo, Hung-Sheng Chiang, <u>Fang-Chung Chen</u>\*, "Asymmetric thin-plate perovskite single crystals for solar energy applications" 2019 Collaborative Conference on Materials Research (CCMR), Goyang, South Korea (2019). (**invited oral presentation**)
- 5. <u>Fang-Chung Chen</u>, 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)
- M. L. Keshtov, S. A. Kuklin, A. Yu. Nikolaev, <u>Fang-Chung Chen</u>, and Zhi-Yuan Xie, "Synthesis, characterization and photovoltaic properties of new iridium-containing conjugated polymers" AIP Conference Proceedings 1981, 020151 (2018).
- 7. 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)
- 8. Shun-Shing Yang, Po-Han Chen, Zong-Chun Hsieh, Nai-Wei Teng, <u>Fang-Chung Chen\*</u> "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**)
- 9. <u>Fang-Chung Chen</u>\* "High-efficient organic and perovskite photovoltaic devices for low-power indoor applications" The 12<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology, Hawaii, U.S.A., May 2017 (**invited oral presentation**)
- Ming-Kai Chuang, Chun-Hao Lin, and <u>Fang-Chung Chen</u>\* "Plasmonic Effects of Amphiphilic Gold Nanoparticles in Polymer Optoelectronic Devices" 2016 International Conference on Optical MEMS and Nanophotonics (IEEE OMN 2016), Singapore, Aug. 2016.
- 11. <u>Fang-Chung Chen</u>,\* "Plasmonic nanostructures for organic photovoltaic devices" The 7<sup>th</sup> Asian Conference on Organic Electronics (A-COE 2015), Beijing, China, Oct. 2015 (invited oral presentation).
- 12. Ming-Kai Chuang and <u>Fang-Chung Chen</u>\* "Plasmonic nanostructures for organic photovoltaic devices", International Photonics and OptoElectronics Meetings 2015 (Wuhan Photonics Week), Wuhan, China, June 2015 (invited oral presentation).

- 13. <u>Fang-Chung Chen</u>,\* 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)
- V.S. Kochurov, M.L.Keshtov, C.D.Sharma, <u>Fang-Chung Chen</u>, A.R.khokhlov, "New Donor Acceptor Conjugated Copolymers for Solar Cells" XII International Conference on Nanostructured Materials (NANO 2014), Moscow, July 13-18, pp. 07.024
- 15. D.Yu.Godovsky, M.L.Keshtov, Y. Zou, <u>Fang-Chung Chen</u>, A.R.Khokhlov, "Synthesis and Photovoltaic Properties of New Donor–Acceptor thienofluorantenes Containing Copolymers with quinoid nature of π-conjugation" International Fall School on Organic Electronics (IFSOE) Moscow Russia, September 21-26, 2014.
- M. Keshtov, D. Godovsky, V. Kochurov, G. D. Sharma, <u>Fang-Chung Chen</u>, 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)
- 17. Ming-Kai Chuang, <u>Fang-Chung Chen</u>\*, 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)
- 18. <u>Fang-Chung Chen</u>\* "Surface plasmonic effects of metallic nanostructures on the performance of polymer solar cells" 9<sup>th</sup> World Congress of Chemical Engineering (Seoul, Korea, Aug. 2013) (invited oral presentation)
- 19. <u>Fang-Chung Chen</u>\* "Light Harvesting Schemes for High-performance Polymer Solar Cells" The 12<sup>th</sup> Emerging Information & Technology Conference (Toronto, Canada, Aug. 2012) (invited oral presentation
- 20. <u>Fang-Chung Chen</u>\*, Jyh-Lih Wu, Chia-Ling Lee, Yi Hong, Ming-Kai Chuang and Kim-shih Tan "Light Harvesting Schemes for High-performance Polymer Solar Cells" 4<sup>th</sup> International Conference Smart Materials, Structures and Systems (Italy, June 2012) (invited oral presentation)
- 21. <u>Fang-Chung Chen</u>\*, 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).
- 22. <u>Fang-Chung Chen</u>\*, Tzung-Da Chen, Bing-Ruei Zeng and Ya-Wei Chung "Electrical Characteristics of Flexible Organic Thin-film Transistors under Bending Conditions" The 17<sup>th</sup> International Display Workshops (IDW) (Dec. 2010 Japan).
- 23. <u>Fang-Chung Chen</u>\*, 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)
- 24. <u>Fang-Chung Chen</u>\*, and Shang-Chieh Chien "Nanoscale functional interlayers formed through spontaneous vertical phase separation in polymer photovoltaic devices" MRS (Spring 2010) (oral presentation).
- 25. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, Yuh-Zheng Lee, <u>Fang-Chung Chen</u>, Meng-Chyi Wu, and Chih-Wei Chu\*, "Fullerene C<sub>60</sub> thin film transistors fabricated by solution processing" MRS (Spring 2010) (oral presentation).
- 26. <u>Fang-Chung Chen</u>\* "Morphology manipulation for polymer solar cells" Progress in Electromagnetics Research Symposium PIERS 2010 Xi'an (oral presentation).
- 27. Li Fen Chu, Chao-Feng Sung, Yuh-Zheng Lee, <u>Fang Chung Chen</u>, 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)
- Yi-Hsing Chu, Gao-Ming Wu, Chiao-Shun Chuang, Wei-Kuan Yu, <u>Fang Chung Chen</u>, Han-Ping
   D. Shieh "CMOS-Like Ambipolar Organic/Inorganic TFTs for AMLCD and AMOLED Applications" Society for Information Display (2009).
- 29. Jyh-Lih Wu, Kuo-Huang Hsieh, Wen-Chang Chen and <u>Fang-Chung Chen</u>\*, "Highly efficient inverted bulk-heterojunction polymer photovoltaic devices with transparent contacts" 215<sup>th</sup> Electrochemical Society Meeting (2009).
- 30. Shang-Chieh Chien and <u>Fang-Chung Chen</u>\* "Improved Hole-Mobility of Polymer Bulk Heterojunction Photovoltaic Cells Incorporating Hole Transporting Materials" 215<sup>th</sup> Electrochemical Society Meeting (2009)
- 31. <u>Fang-Chung Chen</u>\* "High-performance polymer solar cells" Printed electronics Asia 08' (**invited oral presentation**)
- 32. <u>Fang-Chung Chen</u>\*, 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)
- 33. Yung-Shiuan Chen, Shang-Chieh Chien, <u>Fang-Chung Chen</u>,\* 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).
- 34. J. P. Lu, <u>F. C. Chen</u>, 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).
- 35. Fang-Chung Chen\*, Hisn-Chen Tseng, and Chu-Jung Ko, "Efficient polymer solar cells prepared

- from co-solvent systems" MRS (Spring 2008).
- 36. Chu-Jung Ko, <u>Fang-Chung Chen</u>\*, and Wei-Chi Chen "In-situ, dynamic investigation of phase separation in P3HT/PCBM blends during the solvent annealing process" MRS (Spring 2008)
- 37. <u>Fang-Chung Chen</u>\*, Chu-Jung Ko, and Yi-Kai Lin "Highly efficient polymer photovoltaic devices with bulk heterogeneous *p-n* junctions" 212<sup>th</sup> ECS meeting (2007) (oral presentation)
- 38. Shang-Chieh Chien and <u>Fang-Chung Chen</u>\* "Polymeric electrophosphorescent devices with low turn-on voltage and high power efficiency by blending with poly(ethylene glycol)" Society for Information Display (2007)
- 39. Chiao-Shun Chuang, Su-Ting Tsai, Yung-Sheng Lin, Jung-An Cheng, <u>Fang-Chung Chen</u>\*, and Han-Ping D. Shieh "Transparent OTFTs with color filtering functional gate insulators" Society for Information Display (2007).
- 40. <u>Fang-Chung Chen</u>\*, Chu-Jung Ko, and Yi-Kai Lin "Microwave annealing processes in polymer photovoltaic devices" MRS (Spring 2007) (oral presentation)
- 41. <u>Fang-Chung Chen</u>\*, 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)
- 42. Chiao-Shun Chuang, Shu-Ting Tsai, <u>Fang-Chung Chen</u>\*, and Han-Ping D. Shieh "Organic thin-film transistors with reduced-photosensitivity" The 13<sup>th</sup> International Display Workshops, Otsu, Japan, Dec. 6 (2006)
- 43. <u>Fang-Chung Chen</u>\*, 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)
- 44. Wen-Kuei Huang, Jhih-Ping Lu and <u>Fang-Chung Chen</u>\* "Fabrication of a microlens array using ink-jet printing on a pre-patterned substrate by self-assembled monolayers" Micro & Nano Engineering, (2006).
- 45. <u>Fang-Chung Chen</u>\*, 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)
- 46. Wen-Kuei Huang, Wen-Sheng Wang, Hui-Chun Kan, and <u>Fang-Chung Chen</u>\* "Enhanced Light Out-coupling Efficiency of OLEDs with Self-organized Microlens Arrays" Society for Information Display (2006).
- 47. <u>Fang-Chung Chen</u>\*, Chiao-Shun Chuang, Yung-Sheng Lin, Li-Jen Kung, and Dong-Sian Chen, "Polymeric Nanocomposite Dielectrics for Organic thin-film Transistors" MRS (Spring 2006).
- 48. Chiao-Shun Chuang, Yung-Sheng Lin, Li-Jen Kung, Dong-Sian Chen, <u>Fang-Chung Chen</u>\*, and Han-Ping D. "Organic Thin-Film Transistors based on Nanocomposite Gate Insulators for High-

- current Driving Applications" International Display Workshops (2005). (oral presentation)
- 49. Wen-Kuei Huang, <u>Fang-Chung Chen</u>\* and Chu-Jung Ko "Fabrication of microlens arrays on glass substrates by lotus effect" Micro & Nano Engineering, (2005).
- 50. <u>Fang-Chung Chen</u>, 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).
- 51. <u>Fang-Chung Chen</u>, and Yang Yang\*, "Enhanced efficiency of plastic photovoltaic devices by blending with ionic solid electrolytes" MRS (Spring 2003) (oral presentation)
- 52. <u>Fang-Chung Chen</u>, and Yang Yang\*, Qibing Pei, "Phosphorescent light-emitting electrochemical cells" MRS (Spring 2003) (post presentation)
- 53. Yang Yang\*, <u>Fang-Chung Chen</u>, Mark. E. Thompson, "High performance polymer light-emitting diodes" ACS (Fall 2002). This paper is published in **Polymer Reprints**, 43, 487 (2002).
- 54. <u>Fang-Chung Chen</u>, 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)
- 55. <u>Fang-Chung Chen</u>, 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)
- 56. Shun-Chi Chang, <u>Fang-Chung Chen</u>, Shu-Chi Chang, Yang Yang\* "The search of host materials in phosphorescent polymer light-emitting diodes" MRS (2001) (post presentation)

## Domestic Conference Papers 國內研討會論文

- Gautham Kumar and <u>Fang-Chung Chen</u>\* "Plasmonic Effect of Bimetallic Au-Cu Alloy Nanoparticles on Indoor Performance of Organic Photovoltaics" Optics & Photonics Taiwan, International Conference 2020 (OPTIC 2020).
- Yi-Fong Lai, Shun-Yu Xie and <u>Fang-Chung Chen</u>\* "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).
- 3. Tzu-Hsueh Wu, Yung-Fang Yang and <u>Fang-Chung Chen</u>\* "Surface Passivation on Single-Crystal Perovskite Micro-Plates Improves the Performance of Solar Cells" Optics & Photonics Taiwan, International Conference 2020 (OPTIC 2020).
- 4. Hao-Yeu Tsai, Hung-Wen Huang and <u>Fang-Chung Chen</u>\* "Vertical Oriented Quasi-Two-Dimensional Perovskite Single Crystal Micro-Plates for Highly Efficient Solar Cells" Optics &

- Photonics Taiwan, International Conference 2020 (OPTIC 2020).
- 5. <u>Fang-Chung Chen</u>,\* 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.
- 6. <u>Fang-Chung Chen</u>\*, 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)
- 7. Yi-Fong Lai, and Fang-Chung Chen\*, "Virtual Screening of Conjugated Polymers for Organic Photovoltaic Devices Using Support Vector Machines and Ensemble Learning" The 7<sup>th</sup> RIKEN-NCTU Symposium on Physical and Chemical Sciences (2019). (Master Student Paper Award)
- 8. <u>Fang-Chung Chen</u>\* "Off-grid Photovoltaics for Smart Applications" The EITA Conference on New Materials, Nanotechnology and New Energy 2019, Hsinchu, Taiwan (**invited oral presentation**)
- 9. Wun-Jhen Chen, Tzu-Hsueh Wu, <u>Fang-Chung Chen</u>\* "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.
- 10. Shi-Da Huang, Ren-Yung Yang, <u>Fang-Chung Chen</u>\* "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.
- 11. Hsin-Hung Sung, Hung-Sheng Chiang, Ren-Yung Yang, <u>Fang-Chung Chen</u>\* "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.
- 12. Yu-Chang Lin, Wun-Jhen Chen, and <u>Fang-Chung Chen</u>\* "Solution-Processable Copper Nanoparticles for Plasmonic-Enhanced Perovskite Solar Cells" Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).
- Chen-Min Yang, Lu-Syuan Jhuang, <u>Fang-Chung Chen</u>\* "Plasmonic Effects of Gold Nanoparticles on the Performance of Perovksite Light-Emitting Diodes" Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).
- 14. Ming-Ju Wu, Chien-Chen Kuo, and <u>Fang-Chung Chen</u>\* "Band-gap Engineering of Perovskite Photovoltaic Devices for Indoor Applications" Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).
- 15. Xin-Jie Chen, Ming-Ju Wu, and <u>Fang-Chung Chen</u>\* "Semitransparent Perovskite Solar Cells and their Tandem Structures Assembled with Si Cells" Optics & Photonics Taiwan, International Conference 2017 (OPTIC 2017)

- Pang-Hua Huang, Yi-Chun Lai, Sih-Han Chen, Peichen Yu\*, and <u>Fang-Chung Chen</u> "Hybrid Carbon Nanotube/Silicon Schottky Junction Solar Cells" Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016)
- 17. Chi-Yu Yang, Hao-Wu Lin\*, Ken-Tsung Wong\*, and <u>Fang-Chung Chen</u>\* "Efficient Excimer Delay Fluorescence Organic Light Emission Devices Based on Fluorene Derovatives" Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016)
- 18. Guan Yu Chen, Tsung Sheng Kao, Kuo Bin Hong, Yu Hsun Chou, Jiong Fu Huang, <u>Fang Chung Chen</u>\*, Tien Chang Lu\* "Lasing performance enhanced by localized surface plasmon in solution-processed perovskites" Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016) (oral presentation)
- 19. Zong-Chun Hsieh, Po-Han Chen and <u>Fang-Chung Chen</u>\* "Organic Photovoltaic Devices Prepared with a Low-Band-Gap Polymer for Low Light Applications" Optics & Photonics Taiwan, International Conference 2015 (OPTIC 2015)
- 20. Shun-Shing Yang, Nai-Wei Teng, and <u>Fang-Chung Chen</u>\* "Organic Photovoltaic Devices for Indoor Applications" Optics & Photonics Taiwan, International Conference 2015 (OPTIC 2015)
- 21. Shun-Shing Yang and <u>Fang-Chung Chen</u>\* "Organic Photovoltaic Devices for Indoor Applications" 2015 International Conference on Flexible and Printed Electronics, (The 6th ICFPE, 2015, Taipei)
- 22. Zong-Chun Hsieh and <u>Fang-Chung Chen</u>\* "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)
- 23. Wai-Chen Lin, Hung-Wen Hsu, and <u>Fang-Chung Chen</u>\* "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)
- 24. Chun-Hao Lin, Jiong-Fu Huang, and <u>Fang-Chung Chen</u>\*, "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).
- 25. Ming-Kai Chuang, Shun-Shing Yang and <u>Fang-Chung Chen</u>\*, "PEGylated gold nanoparticle-decorated graphene oxides for realizing synergistic plasmonic effects on polymer solar cells" Optics & Photonics Taiwan, International Conference 2014 (OPTIC 2014).
- 26. <u>Fang-Chung Chen</u>\* "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**).
- 27. <u>Fang-Chung Chen</u>\* Ming-Kai Chuang, and Shih-Wei Lin, "Graphene Derivatives for Organic Optoelectronics" Graphene 2014 International Conference (Nov. 2014) (**invited talk**).

- 28. <u>Fang-Chung Chen</u>\*, Ming-Kai Chuang, and Shih-Wei Lin, "Plasmonic nanostructures for polymer photovoltaic devices" International Symposium on Organic Photovoltaics (OPV-2014) (**invited talk**).
- 29. Chun-Hsien Chou, <u>Fang-Chung Chen</u>\*, 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.
- 30. Chun-Hsien Chou and <u>Fang-Chung Chen</u>\* "Ray-tracing Designed Microlenses for Improving Flexible Waveguiding Photovoltaics" Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013) (student paper award).
- 31. An-Kai Ling, Chun-Hao Lin, and <u>Fang-Chung Chen</u>\* "Enhanced Light Out-Coupling Efficiency of Polymer Light-Emitting Devices by Blending Low Refractive Index materials" Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013).
- 32. Yan-Hao Liao, <u>Fang-Chung Chen</u>\*, 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).
- 33. Yen-Tseng Lin, and <u>Fang-Chung Chen</u>\* "Multiple-device stacked structures for High-performance organic cells" Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013).
- 34. Chun-Hsien Chou and <u>Fang-Chung Chen</u>\* "A Novel Concentrator Design with High Performance Flexible Waveguiding Photovoltaics" Photovoltaic Science and Engineering Conference (International PVSEC-23).
- 35. Shih-Wei Lin, Ming-Kai Chuang, and <u>Fang-Chung Chen</u>\* "Gold nanoparticle–decorated graphene oxide nanocomposites for plasmonic-enhanced polymer photovoltaic devices" Photovoltaic Science and Engineering Conference (International PVSEC-23).
- 36. Kim-Shih Tan, Jyh-Lih Wu, <u>Fang-Chung Chen</u>\*, 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).
- 37. Chuan-Sheng Kao and <u>Fang-Chung Chen</u>\* "Plasmonic-Enhanced Polymer Solar Cells with Inverted Structures", Optics & Photonics Taiwan, International Conference 2012 (OPTIC 2012, formerly OPT 2012).
- 38. <u>Fang-Chung Chen</u>\* "Light Harvesting Schemes for High-performance Polymer Solar Cells" International Conference on Functional Organic Materials and Related Devices 2012.
- 39. Chen-Wei Lin and <u>Fang-Chung Chen</u>\* "Small Molecule Sensitizers in Polymer Photodetectors for Extended Spectral Response" Symposium on Nano Device Technology 2012.
- 40. 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).
- 41. Shao-Tang Chuang, and <u>Fang-Chung Chen</u>\* "Realization of Board Spectral Response of Organic Photomultiple Photodetectors through Codoping Near-Infrared Dyes" International Photonics Conference (IPC 2011).
- 42. Jyh-Lih Wu, Ming-Kai Chuang, Kim-Shih Tan, and <u>Fang-Chung Chen</u>\* "Near-Infrared Laser-Driven Polymer Photovoltaic Devices and Their Biomedical Applications" International Photonics Conference (IPC 2011).
- 43. Shu-Cheng Lin, and <u>Fang-Chung Chen</u>\* "Charge Blocking Layers for Improving Detectivity of Organic Photomultiple Photodetectors" International Photonics Conference (IPC 2011).
- 44. Wai-Chen Lin\*, Mei-Ju Lee, Chao-Feng Sung, <u>Fang-Chung Chen</u> "Inverted and semitransparent polymer solar cells" The Asian Conference on Organic Electronics" (ACOE 2011).
- 45. <u>Fang-Chung Chen</u>\* "Light Harvesting Schemes for High-performance Polymer Solar Cells" 2011 Asia Pacific Academy of Materials (APAM) (2011) (**Invited**)
- 46. <u>Fang-Chung Chen</u>\*, Jyh-Lih Wu, Yi Hong, and Chia-Ling Lee "Light Trapping Approaches for High-performance Polymer Solar Cells" 16<sup>th</sup> Opto-electronics and Communications Conference (OECC) (2011). (**Invited**)
- 47. Ya-Wei Chung, Ying-Pin Chen, and <u>Fang- Chung Chen</u>\* "Solution-Processed ZrInZnO Semiconductor for Thin Film Transistors" International Display Manufacturing Conference (IDMC) (2011).
- 48. <u>Fang-Chung Chen</u>\*, 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)
- 49. Ming-Kai Chuang and <u>Fang-Chung Chen</u>\* "A novel transfer-printing technique for flexible polymer solar cells" 2010 International Conference on Optics and Photonics in Taiwan (OPT' 10)
- 50. 陳宗達、<u>陳方中</u>\*,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)
- 51. Tzung-Han Tsai, Shang-Chieh Chien, and <u>Fang-Chung Chen</u>\* "Performance-enhanced n-channel organic thin-film transistors incorporating poly(ethylene glocol)" Taiwan Display Conference (2010).
- 52. Shang-Chieh Chien, and <u>Fang-Chung Chen</u>\*, "Nanoscale functional interlayers formed through spontaneous vertical phase separation in high-performance polymer photovoltaic devices", Optics and Photonics Taiwan (OPT) (2009). (Student paper award)
- 53. 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)
- 54. Bing-Ruei Zeng, <u>Fang-Chung Chen</u>\*, 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).
- 55. Yi-Hsing Chu, Gao-Ming Wu, Wei-Kuan Yu, <u>Fang-Chung Chen</u>, 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)
- 56. Jyh-Lih Wu, <u>Fang-Chung Chen</u>\*, 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)
- 57. Wen-Che Huang, Shang-Chieh Chien and <u>Fang-Chung Chen</u>\*, "Highly efficient semi-transparent polymer solar cells", International Conference on Optics and Photonics in Taiwan (OPT) (2008)
- 58. Shang-Chieh Chien, Hsin-Chen Tseng and <u>Fang-Chung Chen</u>\* "Solvent mixtures for improving device efficiency of polymer photovoltaic devices" International Conference on Optics and Photonics in Taiwan (OPT) (2008).
- 59. Yu-Jen Huang, Hsiao-Fen Chang, Su-Ting Tsai, Chiao-Shun Chuang, Jung-An Cheng, <u>Fang-Chung Chen</u>\*, and Han-Ping D. Shieh "Color filtering functional organic thin-film transistors" International Display Manufacturing Conference & Exhibition, (2007).
- 60. Yin-Ting Shih and <u>Fang-Chung Chen</u>\* "The post-annealing effect on the electrical properties of pentacene thin film transistors" International Display Manufacturing Conference & Exhibition, (2007).
- 61. Shu-Ting Tsai and <u>Fang-Chung Chen</u>\* "Effect of the surface treatments on the turn-on voltages of pentacene-based thin film transistors" International Display Manufacturing Conference & Exhibition, (2007).
- 62. Ying-Pin Chen and <u>Fang-Chung Chen</u>\* "Effect of deposition temperature on the channel and contact resistance of pentacene thin film transistors" International Display Manufacturing Conference & Exhibition, (2007).
- 63. Hao-Wei Ting and <u>Fang-Chung Chen</u>\* "Triplet energy transfer between a conjugated polymer and phosphorescent molecules" International Display Manufacturing Conference & Exhibition, (2007).
- 64. Yan-Chu Tsai, Shu-Ting Tsai, Chiao-Shun Chuang, Jung-An Cheng, <u>Fang-Chung Chen</u>, and Han-Ping D. Shieh\* "Organic thin-film transistors with novel solution-process polymeric gate insulators" International Display Manufacturing Conference & Exhibition, (2007).

- 65. <u>Fang-Chung Chen\*</u> "Recent Developments in polymer photovoltaic devices" Flexible Electronics

  Organic Photovoltaic Workshop (2007). (**Invited**)
- 66. <u>Fang-Chung Chen\*</u> "Recent development of phosphorescent polymer light-emitting diodes and other organic electronics" The 5<sup>th</sup> International OLED and PLED workshop in Taipei (2007). (**Invited**)
- 67. Jyh-Lih Wu, <u>Fang-Chung Chen</u>\*, and Sidney S. Yang "Highly Efficient Organic Solar Cell with an Interlayer of Cesium Carbonate" Optics and Photonics Taiwan (2006).
- 68. Yi-Kai Lin, <u>Fang-Chung Chen</u>\* 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).
- 69. Shang-Chieh Chien, and <u>Fang-Chung Chen</u>\* "Polymer electrophosphorescent devices with Low turn-on voltage and high power conversion efficiencies" Optics and Photonics Taiwan (2006).
- 70. Ying-Pin Chen and <u>Fang-Chung Chen</u>\* "Effect of deposition temperature on the device properties of pentacene thin-film transistors" Optics and Photonics Taiwan (2006).
- 71. Chu-Jung Ko, Yi-Kai Lin, and <u>Fang-Chung Chen</u>\* "Microwave annealing processes in polymer photovoltaic devices" International Symposium on Flexible electronics and Display, (2006)
- 72. Tung-Hsien Chen, and <u>Fang-Chung Chen</u>\* "Metal oxides as the buffer layers for organic thin-film transistors" Taiwan Display Conference (2006)
- 73. Li-Jen Kung, and <u>Fang-Chung Chen</u>\* "High-performance organic thin-film transistors with copper phthalocyanine-modified source/drain contacts" Taiwan Display Conference (2006)
- 74. 劉思芳,王文生,<u>陳方中</u>\*,偏極化高分子發光二極體之新型導電配向層, Taiwan Display Conference (2006)
- 75. 甘惠君,王文生,黄文奎,<u>陳方中</u>\*,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)
- 76. <u>Fang-Chung Chen</u>\* "The development of high-performance organic electronics" ITRI 學員交流論壇, (June 2006) (invited).
- 77. <u>Fang-Chung Chen</u>\* "Organic Photovoltaic Devices for Low Power Sensor Networks" Wireless Sensor Network Workshop 2005
- 78. Chiao-Shun Chuang, Han-Ping D. Shieh, Yang Yang, and <u>Fang-Chung Chen</u>\* "Numerical Prediction of Effective Dielectric Constant in Organic Thin-film Transistors with Nanocomposite Gate Insulator" International Display Manufacturing Conference & Exhibition, (2005).
- 79. Wen-Kuei Huang, Chu-Jung Ko, Hui-Chun Kan, and <u>Fang-Chung Chen</u>\* "Fabrication of self-organized microlens array on plastic substrates" Optics and Photonics Taiwan (2005).

#### **Other Publications**

## 其他 (中文專刊)

- 1. 高宗聖、<u>陳方中</u>、盧廷昌,2017年,「淺談鈣鈦礦材料雷射發光特性之操控」,科儀新知,211期,p60-67。
- 2. 陳新傑、岳宏霖、莊名凱、陳方中,2017年,「鈣鈦礦太陽能電池」,奈米通訊,二十四卷,p21-26。
- 3. 陳方中,2013年,「有機光偵測器與三維空間動作感知技術」,電子月刊,第216期。
- 4. 莊名凱、<u>陳方中</u>,2011 年,「以轉印製程製作高分子太陽能電池」,光學工程,第114 期。
- 5. <u>陳方中</u>,2011 年,「高分子太陽能電池與其新穎集光方式的探討」,化工,第58卷,第2期。
- 6. <u>陳方中</u>,2009 年,「可撓性高效能高分子薄膜太陽能電池的發展」,化合物半導體與光電 技術。
- 4. 陳方中,2008年,「高分子薄膜太陽能電池」,化合物半導體與光電技術。
- 5. 吳志力、陳方中,2008年,「透明與疊層式有機太陽能電池」,光學工程,第102期。
- 6. 黄昱仁、廖呈祥、<u>陳方中</u>,2008年,「有機半導體材料與電晶體技術」,電子月刊,第 153期。
- 7. 葛祖榮、陳方中,2007年,「高分子太陽能電池之退火技術」,光學工程,第100期。
- 8. 葛祖榮、陳方中,2007年,「有機高分子太陽能電池的發展現況」,奈米通訊,十四卷。
- 9. 葛祖榮、林義凱、<u>陳方中</u>,「高分子太陽能電池光電轉換效率的提升」,電子月刊,第 145 期。
- 10. <u>陳方中</u>、陳東賢、林永昇,「有機薄膜電晶體的發展與應用」,化合物半導體與光電技術。
- 11. <u>陳方中</u>,2006 年,「磷光高分子發光二極體與其三重態的能量轉移」,光學工程,第94期。
- 12. 葛祖榮、黃文奎、<u>陳方中</u>,2006 年,「有機高分子太陽能電池的發展現況」,工業材料雜誌,第230期。
- 13. 陳方中,2005 年,「有機薄膜太陽能電池」,工業材料雜誌,第219期。
- 14. <u>陳方中</u>、楊陽, No. 9, Octorber、2004 年, 「奈米技術於有機太陽能電池的應用」,產業 奈米技術應用資訊園地奈米粉體與應用專刊。

15. 陳方中,2004 年,「有機電激磷光顯示器的發展及現況」,光訊,第108 期。

#### Patents 專利

- 1. 「鈣鈦礦單晶的合成方法」,陳方中、岳宏霖 。中華民國專利第 I657172 號。
- 2. 「鈣鈦礦型發光元件及其製造方法」,<u>陳方中</u>、黃炯福 。中華民國專利第 I657123 號。(美國專利申請中)
- 3. 「一種太陽能電池抗反射封裝膜之製程方法」,吳政翰、倪國裕、薄慧雲、林遙冷、<u>陳方</u>中、周俊賢。中華民國專利第 I497736 號。
- 4. 「製備二維材料的方法」,陳方中、林渭澄。中華民國專利第 I548448 號。
- 5. 「可撓性照明光伏打複合模組及其製備方法」, <u>陳方中</u>、周俊賢。中華民國專利第 I542826 號。
- 6. 「用於刺激神經增生之裝置及其製法」,陳方中、莊名凱、陳鍵熙 (中華民國專利申請中)
- 7. 「Device for stimulating neural regeneration and fabrication method thereof」, <u>陳方中</u>、莊名 凱、陳鍵熙;美國專利: US 9,108,042 B2
- 8. 「Manufacturing method for organic optoelectronic thin film」,<u>陳方中</u>、莊名凱。美國專利: US 8,252,627 B2。
- 9. 「提高有機有機發光二極體之光萃取之方法及其結構」,<u>陳方中</u>、凌安愷。中華民國專利 第 I513078 號。
- 10.「一種太陽能電池抗反射封裝膜之製程方法」,吳政翰、倪國裕、薄慧雲、林遙冷、<u>陳方</u>中、周俊賢。中華民國專利第 I497736 號。
- 11.「有機光電薄膜元件之製造方法」,陳方中、莊名凱。中華民國專利第 I437744 號。
- 12. 「高分子太陽能電池及其製作方法」,陳方中、簡上傑;中華民國專利第 I497740 號。
- 13.「太陽能電池模組及其製造方法」,<u>陳方中</u>、周俊賢、莊睿綱、林晏增。中華民國專利第 I493744 號。
- 14. 「提高光偵測度之光偵測元件及其形成方法」, 陳方中、林書丞;中華民國專利第 I458105;日本專利特許第 5787170 號。
- 15.「有機太陽能電池及其製作方法」,陳方中、李佳霖、吳志力,中華民國專利第 I458151。
- 16.「倒置式有機太陽能元件及其製作方法」,<u>陳方中</u>、吳志力、洪毅,中華民國專利第 I426633 號。
- 17.「有機電致發光元件」,陳方中、陳永軒、簡上傑、莫啟能、鄒健龍、連詹田,中華民國

- 專利第 I388056 號。
- 18.「薄膜電晶體、畫素結構及液晶顯示面板」,莊喬舜、<u>陳方中</u>、謝漢萍,中華民國專利第 I345671 號。
- 19.「微波退火法提升有機電子元件特性之方法」, 陳方中、葛祖榮、林義凱 , 中華民國專利 第 I341561 號
- 20. 「高分子太陽能電池及其製造方法」,<u>陳方中</u>、朱治偉、葛祖榮、林義凱,中華民國專利 第 I328290 號
- 21. 「透鏡陣列的製造方法、透鏡陣列及其光學元件陣列裝置」, 黃文奎、葛祖榮、<u>陳方中</u>, 中華民國專利第 I315321 號。
- 22. 「光學元件微透鏡模組及其製造方法」, 呂志平、黃文奎、<u>陳方中</u>、李裕正、鄭兆凱, 中華民國專利第 I306954 號; 中國大陸發明第 ZL200610101384.1 號專利。
- 23. 「閘極介電結構及其在有機薄膜電晶體之應用」, <u>陳方中</u>、莊喬舜、林永昇, 中華民國專利第 I300273 號。
- 24. 「有機半導體元件之接面結構及有機電晶體及其製造方法」, 陳方中、莊喬舜, 中華民國專利第 I260785 號。