

## Fang-Chung Chen

Professor

Chairman, Department of Photonics

National Yang Ming Chiao Tung University

Fellow of the Royal Society of Chemistry (FRSC)

Tel: 03-5131484

Fax: 03-5735601

E-mail: fcchendop@nycu.edu.tw; fcchen@mail.nctu.edu.tw

Lab Website: <https://dop.nctu.edu.tw/Labs/oedlab/>

Personal Website: <https://fc-richard-chen.github.io/cv/>

## CURRICULUM VITAE

---

### Education

#### **PhD**

06/2000 ~ 09/2003

Materials Science & Engineering, Major in Electronic Materials and Devices

University of California, Los Angeles, USA

**Advisor:** Prof. Yang Yang

**Thesis Title:** High Performance Polymer Light-Emitting and Light-Harvesting Devices

#### **Master of Science**

09/1996 ~ 06/1998

Chemistry, National Taiwan University, Taiwan

**Advisor:** Prof. Yuhlong Oliver Su

**Thesis Title:** Electrochemical and Spectral Characterization of High-Valent Metal-Porphyrins

#### **Bachelor of Science**

09/1992 ~ 06/1996

Chemistry, National Taiwan University, Taiwan

### Professional Experience

**Chairman of Department of Photonics** (Aug. 2021 - present)

**Professor** (Aug. 2012 - present)

Department of Photonics

National Yang Ming Chiao Tung University

**Vice Chairman of Department of Photonics** (Aug. 2018 - July 2021)

**Associate Professor** (Aug. 2008 – July 2012)

**Assistant Professor** (Feb. 2004 – July 2008)

Department of Photonics

National Chiao Tung University

Research focuses are: (a) Organic-Inorganic hybrid perovskite electronics, including photovoltaic devices, light-emitting devices, lasers and others. (b) Polymer LEDs with emphasis on triplet emitters, polarized emission, flexible LEDs and related device physics, photochemistry and photophysics. (c) Organic FETs. (d) Photovoltaic devices and related green energy technologies. (e) Polymer Photosensors with emphasis on near-infrared photodetections. (f) Polymer microlens fabrication and applications. (g) other flexible

electronics, such as flexible waveguiding photovoltaics and luminescent solar cells.

**Chairman** (Aug. 2009 – July 2011)

**Vice Chairman** (Feb. 2009 – Aug. 2009)

Degree Program of Flat Panel Display Technology, National Chiao Tung University

### **Post-Doctoral Follower**

**Organic Electronic Materials and Devices** (Oct. 2003 - Dec. 2003)

University of California, Los Angeles,

Department of Materials Science & Engineering

Major Achievements:

- (a) improved the efficiency of plastic photovoltaic cells;
- (b) demonstrated high performance organic thin-film transistors with nano-composition dielectrics;
- (c) demonstrated polymer temperature sensor integrated with Reconfigurable Fabric.

### **Graduate Student Researcher**

**Organic Electronic Materials and Devices** (June 2000 – Sep. 2003)

University of California, Los Angeles,

Department of Materials Science & Engineering

Research focus on organic electronics and displays with emphasis on high performance OLEDs and solar cells.

Major Achievements:

- (a) initiated a research project of polymer photovoltaic devices in Yang's lab;
- (b) demonstrated highly efficient plastic photovoltaic cells;
- (c) demonstrated the first phosphorescent light-emitting electrochemical cell in the world;
- (d) demonstrated highly efficient phosphorescent PLEDs (among the highest efficient polymer devices);
- (e) synthesis of very high purity semiconducting polymer and organic molecules;
- (f) setup organic electronics lab, including device fabrication and characterization instruments.

### **Visiting Graduate Student**

**Organic Molecular Electronics** (Feb. 2002)

Prof. Kido's lab, Yamagata University, Japan

- (a) synthesis and purification of molecules and polymers;
- (b) deposition of small molecular thin films;
- (c) characterization of organic electronics;
- (d) encapsulation of organic devices.

**Graduate Student Teaching Assistant** (Oct. 1999 – June 2000)

University of Southern California, Department of Materials Science and Engineering, USA

- (a) tutoring students in Fundamentals of Materials Science;
- (b) homework correction;

**Full-Time Teaching Assistant** (Aug. 1998 – July 1999)

National Taiwan University, Department of Chemistry, Taiwan

- (a) instructed students in analytical and organic-synthesis laboratory of chemistry;
- (b) successful demonstration of the first stable electrogenerated chemiluminescence of organic compounds in water.

### **Teaching Courses**

- 1. Chemistry (I) (2005 - present)
- 2. Organic Electronics and Optoelectronics (2004 - present)
- 3. Introduction to Display Technologies (Organic Light-Emitting Diodes and Display Applications) (2004 - present)
- 4. Materials and Fabrication Processes of Displays (2005 - 2016)
- 5. Colloquium for graduate students (Aug. 2018 – July, 2021)

### **Professional Activities**

#### **Award**

- 1. 2021 IoT Innovation Award, Pen Wen Yuan Foundation
- 2. 2021 Fellow of the Royal Society of Chemistry (FRSC)
- 3. 2020 Y. Z. Hsu Scientific Paper Award
- 4. 2020 The Most Potential IoT Innovation Award, Pen Wen Yuan Foundation
- 5. 2019 Volunteer Service Awards - The EITA Hall of Fame
- 6. 2012-2015 Project for Excellent Junior Research Investigators, Ministry of Science and Technology
- 7. 2008 Academic Sinica : Award for Junior Research Investigators
- 8. 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. International Conference on Emergent Functional Matter Science 2019, (Hsinchu, Taiwan, Dec. 2019).
- 2. Optics & Photonics Taiwan, International Conference (OPTIC 2019), (Taichung, Taiwan, Dec. 2019).
- 3. The 5th International Conference on Advanced Electromaterials (ICAE 2019), (Jeju, Korea, Nov. 2019).
- 4. The 7th RIKEN-NCTU Symposium on Physical and Chemical Sciences, (Hsinchu, Taiwan, Oct. 2019).
- 5. 2019 Collaborative Conference on Materials Research (CCMR), (Gyeonggi Goyang/Seoul, South Korea, June 2019).
- 6. 14th IUPAC International Conference on Novel Materials and their Synthesis (NMS-XIV) (Guangzhou, China, Oct. 2018)
- 7. Taiwan-Japan-US Joint Workshop on Energy Materials for Sustainable Development (Sep. 2018)
- 8. The 27th International Conference on Amorphous and Nanocrystalline Semiconductors (Seoul, Korea, Aug. 2017).
- 9. The EITA Conference on New Materials, Nanotechnology and New Energy 2017, (Ann Arbor, MI, USA, July 2017)
- 10. 12th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 12), (Hawaii, USA, May 2017)
- 11. The 7<sup>th</sup> Asian Conference on Organic Electronics (A-COE 2015) (Beijing, Oct. 2015).

12. International Photonics and OptoElectronics Meetings 2015 (POEM 2015) (Wuhan Photonics Week) (Wuhan, China, June 2015)
13. Materials Challenges in Alternative & Renewable Energy (MCARE 2015) (Jeju, Korea, Feb. 2015).
14. International Conference on New Materials, Nanotechnology and New Green Energy 2014 (EITA–New Materials 2014)
15. Graphene 2014 International Conference (Nov. 2014)
16. International Symposium on Organic Photovoltaic (OPV-2014), (Sep. 2014)
17. 9<sup>th</sup> World Congress of Chemical Engineering (Seoul, Korea, Aug. 2013)
18. The 12<sup>th</sup> Emerging Information & Technology Conference “Research, Innovation, and Commercialization” (Toronto, Canada, Aug. 2012)
19. International Conference on Functional Organic Materials and Related Devices (June 2012)
20. 4<sup>th</sup> International Conference Smart Materials, Structures and Systems (Italy, June 2012)
21. Science Conference on Materials for Green energy and Forum on Material Characteristics Using Synchrotron Radiation (2011 APAM) (Aug., 2011)
22. 16<sup>th</sup> Opto-Electronics and Communications Conference (OECC 2011) (July, 2011)
23. OSA-IEEE Topical Conference, Advanced in Optoelectronics and Micro/nano-optics (AOM 2010) (Dec., 2010)
24. The International Conference on Flexible and Printed Electronics (Oct., 2010)
25. Plastic Electronics Asia 2009 (June, 2009)
26. The 3rd International conference in Solar Taiwan 2009 (OPTO 2009) (June, 2009)
27. Printed Electronics Asia, Japan (Oct., 2008)
28. 2008 International Symposium on Flexible Electronics and Displays (ISFED) (Nov., 2008)
29. The 5<sup>th</sup> International OLED and PLED Workshop in Taipei (April/2007)

#### **Conference Chairman/Committee**

1. Section Chair, Optics & Photonics Taiwan, International Conference (OPTIC 2020), (Taipei, Dec. 2020).
2. Technical Program Committee and Session Chair, 2020 International Electron Devices & Materials Symposium (IEDMS 2020), (Taoyuan, Oct. 2020).
3. Program Committee, Optics & Photonics Taiwan, International Conference (OPTIC 2019), (Taichung, Dec. 2019).
4. Section Chair, The 5th International Conference on Advanced Electromaterials (ICAE 2019), (Jeju, Korea, Nov. 2019).
5. Technical Program Committee and Section Chair, 2019 The International Conference on Flexible and Printed Electronics (ICFPE), (Taipei, Oct. 2019).
6. 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).
7. International Advisory Committee, Materials Challenges in Alternative & Renewable Energy 2019 (MCARE 2019), (Jeju, Korea, Aug. 2019).
8. Program Committee, Optics & Photonics Taiwan, International Conference (OPTIC 2018), (Tainan, Dec. 2018).
9. Invited section chairman, 14th IUPAC International Conference on Novel Materials and their Synthesis (NMS-XIV) (Guangzhou, China, Oct. 2018)
10. Technical Program Committee Member, 6th Annual International Conference on Material Science and Engineering (Suzhou, China, June 2018)
11. Section Chair, Taiwan Solid State Lighting (2018 tSSL), (April 2018)

12. Section Chair, The 27th International Conference on Amorphous and Nanocrystalline Semiconductors (Seoul, Korea, Aug. 2017).
13. Program Steering Committee and Section Chair , The EITA Conference on New Materials, Nanotechnology and New Energy 2017, (Ann Arbor, MI, USA, July 2017)
14. Invited section chairman , 12<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 12), (Hawaii, USA, May 2017)
15. International Advisory Committee , Materials Challenges in Alternative & Renewable Energy (MCARE 2017), (Jeju, Korea, Feb. 2017).
16. Invited section chairman , Optics & Photonics Taiwan, International Conference (OPTIC 2016), (Taipei, Dec. 2016)
17. Invited section chairman , Display Innovation Taiwan Conference 2016 (Taipei, Aug. 2016)
18. Section Chair , The 10<sup>th</sup> Taiwan Solid State Lighting (2016 tSSL), (April 2016)
19. Session Committee (Photovoltaic Technology), Optics & Photonics Taiwan, International Conference (OPTIC 2015), (Dec. 2015)
20. Section Chair and Technical Program Committee , The International Conference on Flexible and Printed Electronics (2015 ICFPE), (Oct. 2015)
21. Program Steering Committee and Workshop Track Co-Chair , International Conference on New Materials, Nanotechnology and New Green Energy 2014 (EITA–New Materials 2014)
22. Presiding , International Symposium on Organic Photovoltaic (OPV-2014), (Sep. 2014)
23. Program Section Co-Chair and Section Chair , Photovoltaic Science and Engineering Conference (PVSEC-23), (Nov. 2013)
24. Invited section chairman , 9<sup>th</sup> World Congress of Chemical Engineering (Seoul, Korea, Aug. 2013)
25. Invited section chairman , Display Taiwan 2013 , Section of AMOLED Panel & Microdisplay (Taipei, June 2013)
26. Invited chairman , 4<sup>th</sup> International Conference Smart Materials, Structures and Systems (Italy, June 2012)
27. Invited chairman and program committee , Taiwan Display Conference (2012)
28. International Photonics conference (IPC 2011) (Dec. 2011), Program Committee
29. Section Chair, OECC 2011, 16<sup>th</sup> Opto-Electronics and Communications Conference (July, 2011)
30. OSA-IEEE Topical Conference, Advanced in Optoelectronics and Micro/nano-optics (AOM 2010), (Dec. 2010) International Technical Program Committee.
31. 2010 International Conference on Optics and Photonics in Taiwan (OPT10) (Dec. 2010), Program Committee.
32. Section Program Committee , Optics and Photonics Taiwan (2009)
33. Invited chairman , Plastic Electronics Asia 2009
34. Local Organizer and section chairman, International Symposium on Solar Cell Technologies (ISSCT/OPT) 2008.
35. Invited chairman , OPTO 2008 , The 2<sup>nd</sup> International conference in Solar Taiwan 2008
36. Invited co-chairman , International Display Manufacturing Conference (IDMC) (2007)
37. Invited chairman , Taiwan Display Conference(2006)
38. Invited chairman , The 4<sup>th</sup> Asian Photochemistry Conference (2005)
39. Invited co-chairman , International Display Manufacturing Conference (IDMC) (2005)

#### **Journal Editor or Editorial Board**

1. Encyclopedia of Modern Optics, edition II, Elsevier (Section Editor: Organic Optoelectronics)

2. Current Smart Materials, Editorial Board
3. Processes (MDPI), Guest Editor, Editorial Board
4. Polymers (MDPI), Reviewer Board
5. Active and Passive Electronic Components (Editorial Board, 2012-2016)
6. Electronic Monthly (Guest Editor, 2008)

**International External reviewer**

1. 2014 Work Programme, the French National Research Agency ANR Project Proposal
2. Global Research Network Program 2014, National Research Foundation of Korea
3. 2012 *New University Researchers Start-up Program* of the Fonds de recherche du Québec
4. Chilean Government Commission for Scientific and Technological Development (CONICYT) 2010 Regular Research Funding Competition
5. Work Programme, the French National Research Agency ANR Project Proposal

## **Published Materials**

**Number of:**

**SCI Papers:** 130

**Book Chapters:** 5

**Conference Papers:** 135

**Patents:** 17

**h-index:** 46(Google Scholar) ; 41(Scopus)

**Publication List** (\*Corresponding author)

**Journal papers** 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 Fang-Chung Chen, “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 (20tk921). (IF:8.928)
2. 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:7.311)
3. 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:5.079)
4. 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).
5. 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:5.079)
6. 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:3.442)
7. 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:4.889) (Times Cited:1)
8. 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:5.742) (Times Cited:1)

9. 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:3.266)
10. 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:5.742) (Times Cited:5)
11. 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:4.889) (Times Cited:4)
12. 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:3.791) (Times Cited:11)
13. 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:8.582) (Times Cited:3)
14. 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:29.368) (Times Cited:22)
15. 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:15.881) (Times Cited:37)
16. 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:2.702) (Times Cited:2)
17. 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:3.676) (Times Cited:10)
18. 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:41)
19. 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:3.591) (Times Cited:4)



20. Hong-Lin Yue, Hsin-Hung Sung and Fang-Chung Chen\*, “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:20) (IF:7.295)**
21. 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). **(Times Cited:26) (IF:3.887)**
22. 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). **(Times Cited:51) (selected as the front cover) (IF: 8.582)**
23. 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). **(Times Cited:3) (IF:1.474)**
24. 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) **(Times Cited:7) (IF:3.721)**
25. 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). **(Times Cited:3) (IF:3.874)**
26. 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). **(Times Cited:14) (IF:9.229)**
27. 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 organiceinorganic hybrid perovskites” **Nanoscale** 8, 18483-18488 (2016) **(Times Cited:15) (IF:7.790).**
28. 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) **(Times Cited:14) (IF:3.361).**
29. M. L. Keshtov\*, S. A. Kuklina, 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) **(Times Cited:2) (IF: 0.636)**.
30. 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). **(Times Cited:28) (IF:9.229)**
  31. 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) **(Times Cited:15) (IF:3.676)**.
  32. 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) **(Times Cited:19) (IF:3.894)**.
  33. 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). **(Times Cited:11) (IF:5.582)**
  34. 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). **(Times Cited:31) (IF:9.229)**
  35. 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). **(Times Cited:9) (IF:2.702)**
  36. 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:3',2'-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)**.
  37. 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). **(Times Cited:16) (IF:3.623)**
  38. 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). **(Times Cited:9) (IF: 2.702)**
  39. 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) **(Times Cited:2) (IF:2.352)**
40. 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) **(Times Cited:12) (IF:17.881)**
  41. 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) **(Times Cited:13) (IF: 4.430)**
  42. 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) **(Times Cited:48) (IF:9.229).**
  43. M. L. Keshtov\*, D. Yu. Godovsky, F. C. Chen, A. R. Khokhlov, S. A. Siddiqui, and G. D. Sharma\* “Synthesis and characterization of  $\pi$ -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)**
  44. 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 (2015) **(IF:0.636).**
  45. 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) **(Times Cited:56) (IF:3.791)**
  46. 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) **(Times Cited:1) (IF:3.721)**
  47. 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) **(Times Cited:14) (IF:2.986)**
  48. Chun-Hsien Chou and Fang-Chung Chen\* “Plasmonic nanostructures for light trapping in organic photovoltaics devices” **Nanoscale** 6, 8444 (2014) **(Times Cited:127) (IF:7.790).**
  49. 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) **(Times Cited:5) (IF: 3.894).**
  50. 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) **(Times Cited:4) (IF:3.361).**
  51. 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) (Times Cited:87) (IF:7.790).

52. 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) (Times Cited:7) (IF: 7.267).
53. 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) (Times Cited:40) (IF:9.229).
54. Chun-Hsien Chou, Jui-Kang Chuang and Fang-Chung Chen\* “High-Performance Flexible Waveguiding Photovoltaics” **Sci. Rep.** 3, 2244 (2013) (Times Cited:31) (IF:4.379).
55. 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) (Times Cited:1) (IF:0.636).
56. 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:120) (IF: 29.368).
57. 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) (Times Cited:41) (IF:3.791)
58. 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:105) (IF:4.126)
59. 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) (Times Cited:3) (IF:2.821)
60. 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) (Times Cited:26) (IF:3.721)
61. 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) (Times Cited:3) (IF:2.895)
62. 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) (**Times Cited:1**) (**IF:0.636**)

63. 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). (**Times Cited:2**) (**IF:3.721**) (NSC 100-2221-E-009-082)
64. 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:68**) (**IF: 6.626/2013 version**)
65. 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). (**Times Cited:4**) (**IF: 6.626/2013 version**)
66. 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) (**Times Cited:40**) (**IF:4.126**)
67. 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) (**Times Cited:40**) (**IF:3.791**)
68. 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). (**Times Cited:2**) (**IF:4.187**)
69. 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:65**) (**IF:9.811**)
70. 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:88**) (**IF: 6.626/2013 version**)
71. 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). (**Times Cited:30**) (**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**)
72. 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) (**Times Cited:21**) (**IF:3.721**)

73. 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) (**Times Cited:17**) (**IF:6.626/2013 version**)
74. 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) (**Times Cited:8**) (**IF:3.266**)
75. 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) (**IF:3.599**)
76. 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) (**Times Cited:800**) (**IF:15.881**) (**WOS Highly Cited Papers, Top 10 Most Read ACS Nano Article Q1 2011**)
77. 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**)
78. 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:215**) (**IF:6.222**)
79. Chang-Zhi Li, Shang-Chieh Chien, Hin-Lap Yip, Chu-Chen Chueh, Fang-Chung Chen, and Alex K.-Y. Jen\* “Facile synthesis of 56 $\pi$ -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**)
80. 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). (**Times Cited:110**) (**IF:7.267**)
81. 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). (**Times Cited:12**) (**IF:3.207**) (NSC 98-2221-E-009-028)
82. 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) (**Times Cited:55**) (**IF:3.791**)
83. 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) **(Times Cited:45) (IF:3.791)**
84. 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) **(Times Cited:4) (IF:8.528)**
  85. 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<sub>2</sub> buffer layers for air-stable inverted polymer solar cells” **Energy Environ. Sci.**, 3, 654 (2010). **(Times Cited:44) (IF:38.532)**
  86. 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). **(Times Cited:14) (IF:3.207) (Selected to be part of Journal of Physics D's Highlights of 2010 collection)**
  87. 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<sub>x</sub>/Fluoropolymer bilayer dielectrics for low voltage complementary inverters” **Org. Electronics** 11, 154 (2010). **(Times Cited:5) (IF:3.721)**
  88. 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) **(Times Cited:50)**
  89. 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). **(Times Cited:1)**
  90. Jhih-Ping Lu, Wen-Kuei Huang and Fang-Chung Chen\*, “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)**
  91. 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). **(Times Cited:280) (WOS Highly Cited Papers, the 20 research articles with the most full-text downloads during July 2009)**
  92. 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) **(Times Cited:32)**
  93. 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) **(Times Cited:30)**
  94. 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) **(Times Cited:7)**

95. 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). **(Times Cited:7)**
96. 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). **(Times Cited:27)**
97. 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). **(Times Cited:40)**
98. 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:70)**
99. 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). **(Times Cited:37)**
100. 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). **(Times Cited:73)**
101. 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). **(Times Cited:2)**
102. 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). **(Times Cited:94)**
103. 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). **(Times Cited:9)**
104. 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). **(Times Cited:120)**
105. 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). **(Times Cited:34) (Selected by the Virtual Journal of Nanoscale Science and Technology, January 28, 2008; highlighted by a feature article in SPIE Newsroom, 2008)**
106. 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)**
107. Chu-Jung Ko, Yi-Kai Lin, and Fang-Chung Chen\* “Microwave annealing of polymer photovoltaic devices” **Adv. Mat.** 19, 3520, (2007) **(Times Cited:80)**
  108. Chiao-Shun Chuang, Fang-Chung Chen\*, and Han-Ping D. Shieh “Organic thin-film transistors with reduced photosensitivity” **Org. Electron.** 8, 767 (2007). **(Times Cited:13)**
  109. 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).
  110. 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). **(Times Cited:17) (highlighted by a feature article in SPIE Newsroom, 2007)**
  111. 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). **(Times Cited:52)**
  112. 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). **(Times Cited:145) (Selected by the Virtual Journal of Nanoscale Science and Technology, February 19, 2007)**
  113. 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). **(Times Cited:19)**
  114. 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). **(Times Cited:6)**
  115. 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). **(Times Cited:19) (Selected by the Virtual Journal of Nanoscale Science and Technology, February 19, 2007)**
  116. 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). **(Times Cited:66)**
  117. Wen-Kuei Huang, Chu-Jung Ko, and Fang-Chung Chen\* “Organic selective-area patterning method for microlens array fabrication” **Microelectronic Engineering**, 83, 1333, (2006). **(Times Cited:15)**
  118. 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.** 12.124, 203, (2005). **(Times Cited:655)**

119. 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) **(Times Cited:124)**
120. 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). **(Times Cited:61)**
121. 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). **(Times Cited:202) (Selected by the Virtual Journal of Nanoscale Science and Technology)**
122. 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). **(Times Cited:30)**
123. 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). **(Times Cited:137)**
124. Fang-Chung Chen, Gufeng He, Yang Yang\*, “Triplet exciton confinement in phosphorescent polymer light-emitting diodes” **Appl. Phys. Lett.** 82, 1006, (2003). **(Times Cited:125)**
125. Fang-Chung Chen, Yang Yang\*, Qibing Pei “Phosphorescent light-emitting electrochemical cells” **Appl. Phys. Lett.** 81, 4278 (2002). **(Times Cited:57)**
126. 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). **(Times Cited:49)**
127. 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) (SCI). **(Times Cited:240)**
128. 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). **(Times Cited:111)**
129. 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:27)**
130. 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). **(Times Cited:37)**

## 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. 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**)
2. Hsin-Hung Sung, Hong-Lin Yue, Chien-Chen Kuo, Hung-Sheng Chiang, Fang-Chung Chen\*, “Asymmetric thin-plate perovskite single crystals for photovoltaic applications”, The 5th International Conference on Advanced Electromaterials (ICAE), Jeju, Korea (2019). (**invited oral presentation**)
3. 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**)
4. 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**)
5. 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).

6. 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)**
7. 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)**
8. Fang-Chung Chen\* “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, May 2017 **(invited oral presentation)**.
9. 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.
10. Fang-Chung Chen,\* “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)**.
11. 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)**.
12. 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)**
13. 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).
14. 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).
15. 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  $\pi$ -conjugation” International Fall School on Organic Electronics (IFSOE) (Moscow Istra Russia, September, 2014).
16. 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).
17. 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).

18. Fang-Chung Chen\* “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. Fang-Chung Chen\* “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. 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” 4<sup>th</sup> International Conference Smart Materials, Structures and Systems (Italy, June 2012) (**invited oral presentation**)
21. 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).
22. 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 17<sup>th</sup> International Display Workshops (IDW) (Dec. 2010 Japan).
23. Fang-Chung Chen\*, Jyh-Lih Wu, Yi Hung “Light Harvesting Schemes for High-performance Polymer Solar Cells” Advances in Optoelectronics and Micro/nano-optics (AOM) (Dec. 2010 Guangzhou, China) (**invited oral presentation**)
24. 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).
25. Chao-Feng Sung, Dhananjay Kekuda, Li Fen Chu, Yuh-Zheng Lee, Fang-Chung Chen, 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. Fang-Chung Chen\* “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, Fang Chung Chen, Meng-Chyi Wu, and Chih Wei Chu “Ambipolar charge carrier transport in C<sub>60</sub> 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)
28. 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).
29. Jyh-Lih Wu, Kuo-Huang Hsieh, Wen-Chang Chen and Fang-Chung Chen\*, “Highly efficient inverted bulk-heterojunction polymer photovoltaic devices with transparent contacts” 215<sup>th</sup> Electrochemical

Society Meeting (2009).

30. Shang-Chieh Chien and Fang-Chung Chen\* “Improved Hole-Mobility of Polymer Bulk Heterojunction Photovoltaic Cells Incorporating Hole Transporting Materials” 215<sup>th</sup> Electrochemical Society Meeting (2009)
31. Fang-Chung Chen\* “High-performance polymer solar cells” Printed electronics Asia 08’ (**invited oral presentation**)
32. 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)
33. 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).
34. 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).
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, 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)
37. Fang-Chung Chen\*, 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 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)
39. 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).
40. Fang-Chung Chen\*, Chu-Jung Ko, and Yi-Kai Lin “Microwave annealing processes in polymer photovoltaic devices” MRS (Spring 2007) (oral presentation)
41. 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)
42. Chiao-Shun Chuang, Shu-Ting Tsai, Fang-Chung Chen\*, 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. 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)

44. 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).
45. 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)
46. 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).
47. 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).
48. 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)
49. Wen-Kuei Huang, Fang-Chung Chen\* and Chu-Jung Ko “Fabrication of microlens arrays on glass substrates by lotus effect” Micro & Nano Engineering, (2005).
50. 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” Communication Networks and Distributed Systems Modeling and Simulation Conference, (2004).
51. Fang-Chung Chen, and Yang Yang\*, “Enhanced efficiency of plastic photovoltaic devices by blending with ionic solid electrolytes” MRS (Spring 2003) (oral presentation)
52. Fang-Chung Chen, and Yang Yang\*, Qibing Pei, “Phosphorescent light-emitting electrochemical cells” MRS (Spring 2003) (post presentation)
53. 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).
54. 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)
55. 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)
56. 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. 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).

2. 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).
3. 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).
4. 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).
5. 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.
6. Fang-Chung Chen\*, Ming-Ju Wu, Chien-Chen Kuo, Lu-Syuan Jhuang, Shun-Shing Yang, Po-Han Chen, Zong-Chun Hsieh, Nai-Wei Teng, “Emerging Organic and Perovskite Photovoltaic Devices for Indoor Applications” Optics & Photonics Taiwan, International Conference 2019 (OPTIC 2019).  
**(invited oral presentation)**
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. 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)**
9. 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.
10. Shi-Da Huang, Ren-Yung Yang, Fang-Chung Chen\* “Plasmonic Effects of Gold Nanoparticles on the Performance of Perovskite Quantum Dot Light-Emitting Diodes” The EITA Conference on New Materials, Nanotechnology and New Energy 2019, Hsinchu, Taiwan.
11. 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.
12. 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).
13. Chen-Min Yang, Lu-Syuan Jhuang, Fang-Chung Chen\* “Plasmonic Effects of Gold Nanoparticles on the Performance of Perovskite Light-Emitting Diodes” Optics & Photonics Taiwan, International Conference 2018 (OPTIC 2018).



14. 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).
15. 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)
16. 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)
17. Chi-Yu Yang, Hao-Wu Lin\*, Ken-Tsung Wong\*, and Fang-Chung Chen\* “Efficient Excimer Delay Fluorescence Organic Light Emission Devices Based on Fluorene Derivatives” Optics & Photonics Taiwan, International Conference 2016 (OPTIC 2016)
18. 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)
19. 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)
20. Shun-Shing Yang, Nai-Wei Teng, and Fang-Chung Chen\* ”Organic Photovoltaic Devices for Indoor Applications” Optics & Photonics Taiwan, International Conference 2015 (OPTIC 2015)
21. 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)
22. 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)
23. Wai-Chen Lin, Hung-Wen Hsu, and Fang-Chung Chen\* ” Polymer Solar Cells Prepared with Photoexfoliated Fluorinated Graphite as Cathode Buffer Layer” 2015 International Conference on Flexible and Printed Electronics, (The 6th ICFPE, 2015, Taipei)
24. 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).
25. 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).
26. 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**).

27. Fang-Chung Chen\* Ming-Kai Chuang, and Shih-Wei Lin, “Graphene Derivatives for Organic Optoelectronics” Graphene 2014 International Conference (Nov. 2014) (**invited talk**).
28. 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**).
29. 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.
30. 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**).
31. 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).
32. 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).
33. Yen-Tseng Lin, and Fang-Chung Chen\* “Multiple-device stacked structures for High-performance organic cells” Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013).
34. 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).
35. 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).
36. 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).
37. 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).
38. Fang-Chung Chen\* “Light Harvesting Schemes for High-performance Polymer Solar Cells” International Conference on Functional Organic Materials and Related Devices 2012.
39. Chen-Wei Lin and Fang-Chung Chen\* “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 Fang-Chung Chen\* “Realization of Broad 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 Fang-Chung Chen\* “Near-Infrared Laser-Driven Polymer Photovoltaic Devices and Their Biomedical Applications” International Photonics Conference (IPC 2011).
43. Shu-Cheng Lin, and Fang-Chung Chen\* “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, Fang-Chung Chen “Inverted and semitransparent polymer solar cells” The Asian Conference on Organic Electronics” (ACOE 2011).
45. Fang-Chung Chen\* “Light Harvesting Schemes for High-performance Polymer Solar Cells” 2011 Asia Pacific Academy of Materials (APAM) (2011) **(Invited)**
46. Fang-Chung Chen\*, 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 Fang-Chung Chen\* “Solution-Processed ZrInZnO Semiconductor for Thin Film Transistors” International Display Manufacturing Conference (IDMC) (2011).
48. Fang-Chung Chen\*, Shang-Chieh Chien, Shao-Tang Chuang, and Guan-Lin Cious “High-performance organic photomultiple photodetectors exhibiting broadband response” 2010 International Conference on Optics and Photonics in Taiwan (OPT’ 10)
49. 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)
50. 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)
51. Tzung-Han Tsai, Shang-Chieh Chien, and Fang-Chung Chen\* “Performance-enhanced n-channel organic thin-film transistors incorporating poly(ethylene glycol)” Taiwan Display Conference (2010).
52. 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)
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, 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).

55. 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)
56. 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)
57. 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)
58. 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).
59. 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).
60. 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).
61. 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).
62. 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).
63. Hao-Wei Ting and Fang-Chung Chen\* “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, 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).
65. Fang-Chung Chen\* “Recent Developments in polymer photovoltaic devices” Flexible Electronics – Organic Photovoltaic Workshop (2007). **(Invited)**
66. Fang-Chung Chen\* “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, Fang-Chung Chen\*, and Sidney S. Yang “Highly Efficient Organic Solar Cell with an Interlayer of Cesium Carbonate” Optics and Photonics Taiwan (2006).
68. 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).

69. 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).
70. 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).
71. 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)
72. Tung-Hsien Chen, and Fang-Chung Chen\* “Metal oxides as the buffer layers for organic thin-film transistors” Taiwan Display Conference (2006)
73. Li-Jen Kung, and Fang-Chung Chen\* “High-performance organic thin-film transistors with copper phthalocyanine-modified source/drain contacts” Taiwan Display Conference (2006)
74. 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)
75. 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)
76. Fang-Chung Chen\* “The development of high-performance organic electronics” ITRI 學員交流論壇, (June 2006) (invited).
77. Fang-Chung Chen\* “Organic Photovoltaic Devices for Low Power Sensor Networks” Wireless Sensor Network Workshop 2005
78. 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).
79. 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、黃炯福。鈣鈦礦型發光元件及其製造方法，中華民國專利: I657123。
6. 陳方中、岳宏霖。鈣鈦礦單晶的合成方法，中華民國專利: I657172。

7. 陳方中、林渭澄。製備二維材料的方法，中華民國專利: I548448。
8. 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。
9. 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。
10. 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。
11. 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。
12. 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。
13. 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。
14. 陳方中、林書丞。?出能?高????????????及???形成方法，日本專利特許第 5787170 號。
15. 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。
16. 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。
17. 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。