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HILIGHT ACCOMPLISHMENTS

- 154 articles published in the peer reviewed journals including in Science, with over 15,000 peers citations (as 08/18/2015); H-index=48
- 35 pending/granted patents
- 9 book chapters
- 100 invited talks in conferences and academic institutions

AWARDS AND HONORS

- The World's Most Influential Scientific Minds 2014 (2015)
- Top 1 % Highly Cited Researcher by Thomson Reuters (2014)
- NSF CAREER award (2014)
- Key International Collaboration Project Award, NSF of China (NSFC) (2013)
- 3M Non-tenured Faculty Award (2011)
- The University of Akron, Summer Research Award (2011)
- Overseas Outstanding Chinese Young Scientist Awards, NSFC (2008)
- K. C. Wong Education Foundation Fellow (2009)
- Alexander von Humboldt Research Fellowship (1999)

EMPLOYMENT

- **Assistant and Associate Professor** August 2010 - present
  Department of Polymer Engineering, College of Polymer Science and Polymer Engineering, The University of Akron, Akron, OH, USA
- **Adjunct Professor and Adjunct Chair Professor** July 2007 - present
  State Key Laboratory of Luminescence Materials and Devices, South China University of Technology, P. R. China
- **Senior Research Scientist** January 2005 - August 2010
  Center for Polymers and Organic Solids, University of California, Santa Barbara, CA, USA
- **Manager and Senior Scientist** January 2004 - August 2010
  CBrite, Inc. Goleta, CA, USA

EDUCATION AND PROFESSIONAL TRAINING

- **B. Sc.** in Chemistry, Northwest Normal University, P. R. China, 1986
  Thesis Title: Ru-coordination compounds and its medical applications
  Supervisor: Prof. Yuchen Pan
- **M. Sc.** in Chemistry (Solid State Chemistry), Lanzhou University, P. R. China, 1994

Dissertation: The effect of γ-ray irradiation on catalytic properties of rare-earth doped inorganic nanostructured materials
Advisors: Prof. Zhongqian Ma and Prof. Hongxie Yang

- **Ph. D.** in Physics (Optics), Nankai University, P. R. China, 1997
  Dissertation: Inorganic nanoparticles doped with rare Earths: preparation, linear and nonlinear optical properties
  Advisors: Prof. Wenju Chen
- **Alexander von Humboldt Research Fellow** June 1999 - January 2000
  Carl-Zeis Optical Institute, Jena, Germany
- **Post-doctoral Fellow and Research Project Assistant** April 2001 - December 2003
  Center for Polymers and Organic Solids, University of California, Santa Barbara, CA, with Professor Alan J Heeger (2000 Noble Prize Winner)

RESEARCH INTERESTS AND EXPERTISE

- Organic/polymer electronics and optoelectronics including organic/polymer photovoltaic cells (solar cells and photodetectors), white light light-emitting diodes and displays, organic/polymer thin films diodes, thin film transistors, light-emitting thin film transistors, electrochemical cells and biosensors
- Pervoskite hybrid materials and electronics, and organic thermoelectric devices
- Graphene based supercapacitors and self-powered electronics
- Chemistry and physics of semiconducting organic/polymer materials and inorganic quantum dots and nanoparticles, inorganic nanostructured materials and coordination compounds: synthesis, characterization and applications

PUBLICATIONS

As 08/20/2015, more than 154 publications, with over 15,000 peer citations, H-index=48

154. Pengcheng Du, Huckleberry C. Liu, Chao Yi, Kai Wang and Xiong Gong
Polyaniline Modified Oriented Graphene Hydrogel Film as the Free-Standing Electrode for Flexible Solid-state Supercapacitors
ACS Applied Materials & Interfaces, 2015, in press.

153. Kai Wang, Chang Liu Chao Yi, Long Chen, Jiahua Zhu, Robert Weiss and Xiong Gong
Efficient Perovskite Hybrid Solar Cells via Ionomer Interfacial Engineering
Adv. Func. Mater., 2015, in press.

152. S. X. Sun, Y. Huo, M. M. Li, X. W. Hu, Y. W. Zhang, X. L. **X. Gong**, H. L. Zhang
Towards Understanding the Halogenation Effects in Diketopyrrolopyrrole-Based Small Molecule Photovoltaics
ACS Applied Materials & Interfaces, 2015, in press.

151. M. Z. Zhang, R. D. Hu, H. Chen, **X. Gong**, F. M. Zhang J. Zheng
Polymorphic Associations and Structures of the Cross-Seeding of Aβ1-42 and hIAPP1-37 Polypeptides
Journal of Chemical Information and Modeling, 2015, in press.

150. Chang Liu, Kai Wang, Pengcheng Du, Enming Wang and **Xiong Gong***
Ultrasensitive Solution-Processed Near-Infrared Photodetectors using $CH_3NH_3PbI_3$ and PbS Quantum Dots as the Light Harvesters
Nanoscale, **2015**, in press.

149. XiaowenHu, Pengcheng Du, Kai Wang, Chao Yi, Chang Liu, Yan Sun, Alamgir Karim, **Xiong Gong*** and Yong Cao
Process Controllable Crystallization Morphology of Planar Heterojunction Perovskite Solar Cells with High Efficiency
J Photovoltaics, **2015**, in press.
148. Chang Liu, Kai Wang, Pengcheng Du, Chao Yi, Tianyu Meng, **Xiong Gong***
Efficient Solution-Processed Bulk Heterojunction Perovskite Solar Cells
Adv. Energy Mater. **2015**, DOI:10.1002/aenm.201402024.
147. Kai Wang, Chang Liu, Pengcheng Du, Hao-Li Zhang, and **Xiong Gong***
Efficient Perovskite Hybrid Solar Cells through Homogeneous High-Quality Organolead Iodide Layer
Small, **2015**, DOI: 10.1002/smll.201403399.
146. Qingduan Li, Feng Liu, Xiaowen Hu, Wenzhan Xu, Liping Wang, Xuhui Zhu, **Xiong Gong*,** and Yong Cao
Efficient Small-Molecule-Based Inverted Organic Solar Cells With Conjugated Polyelectrolyte as a Cathode Interlayer
J. Photovoltaics, **2015**, 5,1118-1124.
145. Chang Liu, Kai Wang, Pengcheng Du, Chao Yi, Tianyu Meng, **Xiong Gong***
Solution-Processed Inverted Perovskite Hybrid Photodetectors
J. Mater. Chem. C. **2015**, 3, 6600-6606. (The Journal Front Cover)
144. Ke Liu, Chengli Song, Lu-Ya Gup, Cheng Zhang, Yu Liu, **Xiong Gong**, Hao-LI Zhang
Tuning the ambipolar charge transport properties of N-heteropentacenes by their frontier molecular orbital energy levels
Journal of Materials Chemistry C, **2015**, 3(16), 4188-4196
143. Pengcheng Du, Xiaowen Hu, Chao Yi, Huckleberry C. Liu, Peng Liu, Hao-Li Zhang, and **Xiong Gong***
Self-powered electronics by integration of flexible solid-state graphene-based supercapacitors with high performance perovskite solar cells
Advanced Functional Materials, **2015**, 25, 2420-2427.
142. Chao Yi, Abigail Wilhite, Pengcheng Du, Hucklee Chang Liu, Rundong Hu, Yiwen Chen, Jie Zheng, **Xiong Gong***
High performance organic thermoelectric materials with tunable film morphology
ACS Applied Materials & Interfaces, **2015**, 7, 8984-8989.
141. Wenzhan Xu, Xiaowen Hu, Fei Huang, **Xiong Gong***, Y. Cao
Efficient inverted polymer solar cells by bi–electron-extraction layer
J. Photovoltaics, **2015**, 5, 912-916.
140. Kai Wang, Chao Yi, Chang Liu, Chih-Hao Hsu, Steven Chuang, and **Xiong Gong***
Effects of Magnetic Nanoparticles and External Magnetostatic Field on the Bulk Heterojunction Polymer Solar Cells
Scientific Reports, **2015**, 5, 9265.
139. M. Z. Zhang, R. D. Hu, H. Chen, Y. Chang, **X. Gong**, F. F. Liu and J. Zheng
Interfacial interaction and lateral association of cross-seeding assemblies between hIAPP and rIAPP oligomers
Phys. Chem. Chem. Phys., **2015**, 17, 10373-10382.
138. Kai Wang, Chang Liu, Pengcheng Du, Jie Zheng and **Xiong Gong***
Bulk Heterojuntion Perovskite Hybrid Solar Cells with Large Fill-Factor

Energy & Environ. Sci., **2015**, 8(4), 1245-1255.

137. Kai Wang, Chang Liu, Xiaowen Hu, Pengcheng Du, Long Chen, Chao Yia, Jiahua Zhu, Jie Zheng, Alamgir Karima, and **Xiong Gong***
Efficiencies of Perovskite Hybrid Solar Cells Influenced by Film Thickness and Morphology of $CH_3NH_3PbI_{3-x}Cl_x$ Layer
Organic Electronics, **2015**, 21, 19-26.

136. C. Liu, C. Yi, Y. L. Yang, K. Wang, S. Xiao and **X. Gong***
A Novel Donor-Acceptor Conjugated Polymer for Single-Junction Polymer Solar Cell with 10% Power Conversion Efficiency
ACS Applied Materials & Interfaces, **2015,** 7(8), 4928-4935.

135. Chang Liu, Kai Wang, Pengcheng Du, Tianyu Meng Xinfei Yu, Stephen Z. D. Cheng and **Xiong Gong***
High Performance Planar Heteojunction Perovskite Solar Cells with Fullerene Derivatives as the Electron Transport Layer
ACS Applied Materials & Interfaces, **2015, 7,** 1153-1159.

134. C. Yi, X. W. Hu, H. C. Liu, R. D. Hu, C. H. Hsu, J. Zheng and **X. Gong***
Efficient Polymer Solar Cells Fabricated from Solvent Processing Additive Solution
J. Mater. Chem. C., **2015**, 3, 26-32.

133. Liu, Chun, Wenzhan Xu, Xiong Guan, Hin-Lap Yip, **Xiong Gong,** Huang Fei, Yong Cao,
Synthesis of Anthracene-Based Donor-Acceptor Copolymers with a Thermally Removable Group for Polymer Solar Cells
Macromolecules, **2014**, 47(24), 8585-8593.

132. C. Liu, X. W. Hu, C. M. Zhong, M. J. Huang, K. Wang, Y. Cao, **X. Gong,*** A. J. Heeger
Influence of Binary Processing Additives on the Performance of Polymer Solar Cells
Nanoscale, **2014**, 6, 14297-14304.

131. X. W. Hu, K. Wang, C. Liu, T. Y. Meng, Y. Dong,F. Huang, **X. Gong,*** Y. Cao
High-Detectivity Inverted Near-Infrared Polymer Photodetectors using Cross-Linkable Conjugated Polyfluorene as an Electron Extraction Layer,
J. Mater. Chem. C. **2014**, 2, 9592-9598.

130. C. Yi, K. Yue, H. Ren, W. B. Zhang, L. Huang, X. Lu, J. Zheng, G. R. Newkome, S. Z. D. Cheng and **X. Gong***
Water/Alcohol Soluble Neutral Fullerene Derivative to Reengineer the Surface of the Electron Extraction Layer for High Efficiency Inverted Polymer Solar Cells
ACS Appl. Mater. & Interface, **2014**, 6, 14189-14195.

129. X. W. Hu, C. Yi, M. Wang, C.-H. Hsu, S. J. Liu, K. Zhang, C. M. Zhong, F. Huang, **X. Gong*** and Y. Cao
High-Performance Inverted Organic Photovoltaics with Over 1-μm Thick Active Layers
Adv. Eng. Mater., **2014**, DOI: 10.1002/aenm.201400378

128. K. Wang, H. Ren, C. Yi, Y. Sun, A. Karim and **X. Gong***
Enhanced efficiency and stability of polymer solar cells by PEDOT:PSS doped with Fe_3O_4 magnetic nanoparticles as an anode buffer layer
ACS Appl. Mater. & Interfaces, **2014**, 6, 13201-13208.

127. R. D. Hu, M. Z. Zhang, K. Patel, Q. M. Wang, Y. Chang, X. **Gong, G.** Zhang, J. Zheng
Cross-Sequence Interactions between Human and Rat Islet Amyloid Polypeptides
Langmuir, **2014**, 30, 5193-5201.

126. P. Pitliya, Y. Sun; J. C. Garza; C. Liu, **X. Gong**, A. Karim, D. Raghavan
Synthesis and characterization of novel fulleropyrrolidine in P3HT blended bulk heterojunction Solar Cells
Polymer, **2014**, 55, 1769.

125. X. Liu, Q. D. Li, Y. C. Li, **X. Gong**, S. J. Su, Y. Cao
Indacenodithiophene core-based small molecules with tunable side chains for solution-processed bulk heterojunction solar cells
J. Mater. Chem. A: Mater. Ener. Sust., **2014**, 2, 4004-4013.

124. Chao Yi, Rong Hu, He Ren, Xiaowen Hu, Shu Wang, **Xiong Gong*** and Yong Cao
Protonation process of conjugated polyelectrolytes on enhanced power conversion efficiency in the inverted polymer solar cells
Journal of Photonics for Energy, **2014**, 4, 04309901-04309908.

123. Bohao Li, He Ren, Hongyi Yuan, Alamgir Karim and **Xiong Gong***
Room-Temperature Solution-Processed MoO_x Thin Film as a Hole Extraction Layer to Substitute PEDOT:PSS in Polymer Solar Cells,
ACS Photonics**, 2014,** 1, 87-90.

121. Ming Liu, Yamin Liang, Peihong Chen, Dongcheng Chen, Kunkun Liu, Yunchuan Li, Shengjian Liu, **Xiong Gong**, Fei Huang, Shi-Jian Su, Yong Cao
Three pyrido[2,3,4,5-lmn]phenanthridine derivatives and their large band gap copolymers for organic solar cells
Journal of Materials Chemistry A: Materials for Energy and Sustainability, **2014**, 2(2), 321-325.

120. R. Zhou, Q. D. Li, X.C. Liu, X. H. Zhu, J. B. Peng, Y. Cao, **X. Gong***
A solution-processable diketopyrrolopyrrole dye molecule with (fluoronaphthyl)thienyl endroups for organic solar cells
Dyes and Pigments, **2014**, 101, 51-57.

119. Chang Liu, Kai Wang, Xiaowen Hu, Wei Zhang, Yali Yang, Steven Xiao, **Xiong Gong*** and Yong Cao
Molecular weight effect on the efficiency of polymer solar cells
ACS Appl. Mater. & Interface, **2013**, 5(22), 12163-12167.

118. Xilan Liu, Jinjun Zhou, Jie Zheng, Matthew L. Becker, and **Xiong Gong***
Water-soluble CdTe quantum dots as an anode interlayer for solution-processed near infrared polymer photodetectors
Nanoscale, **2013**, 5, 12474-12479.

117. **Xiong Gong***
Towards High Performance Inverted Polymer Solar Cells through Interfacial Reengineering
SPIE, **2013**, 8830, 88300G1-88300G16.

116. Kai Wang, He Ren, Hangxing Wang, Chao Yi, Li Huang, Haoli Zhang, Alamgir Karim, and **Xiong Gong***
Solution-Processed Fe_3O_4 Magnetic Nanoparticle Thin Film Aligned by an External Magnetostatic Field as a Hole Extraction Layer for Polymer Solar Cells
ACS Appl. Mater. & Interface, **2013**, 5, 10325-10330.

115. C. Zhao, X. Li, L. Li, **X. Gong**, Y. Chang, and J. Zheng
Mimicking the binding and unbinding of Fe3+ with transferrin using a single biomimetic nanochannel

Chem. Comm., **2013**, 49: 9317-9319.

114. Yang Dong, Xiaowen Hu, Chunhui Duan, Peng Liu, Shengjian Liu, Liuyuan Lan, Dongcheng Chen, Lei Ying, Shijian Su**, Xiong Gong**, Fei Huang, and Yong Cao
A Series of New Medium Band Gap Conjugated Polymers Based on Naphtho[1,2-c:5,6-c]bis(2-octyl- [1,2,3]triazole) for High Performance Polymer Solar Cells
Adv. Mater., **2013**, *25*, 3638-3688.

113. Chao Zhao, Xiaosi Li, Jiang Wu, Shenfu Chen, Qiuming Wang, Qiuming, **Xiong Gong**, Lingyan Li, and Jie Zheng
Probing structure-antifouling activity relationships of polyacrylamides and polyacrylates.
Biomaterials, **2013**, *34(20)*, 4714-4724.

112. X. W. Hu, D. Yang , F. Huang, **X. Gong**,* and Y. Cao
Solution-processed high-detectivity near-infrared polymer photodetectors fabricated by a novel low-bandgap semiconducting polymer
J. Phys. Chem. C., **2013**, *117(13)*, 6537-6543.

111. Y. Hua, X. W. Hu, Z. X. Jiang, D. C. Chen, X. Liu, H Nie, S. J. Su, **X. Gong**, and Y. Cao
Pyridinium salt-based molecules as cathode interlayers for enhanced performance in polymer solar cells
J. Mater. Chem. A: Mater. Eng. And Sustainability, **2013**, *1(10)*, 3387-3394.

110. H. X. Wang, X. F. Yu, C. Yi, H. Ren, C. Liu, Y. Yang, S. Xiao, A. Karim, S. D. Cheng, and **X. Gong***
Fine-tuning of fluorinated thieno[3,4-b]thiophene copolymer for efficient polymer solar cells
J. Phys. Chem. C. **2013**, *117(9)*, 4358-4363.

109. C. Yi, **X. Gong***
Towards high performance inverted polymer solar cells
Current Opinion in Chemical Engineering, **2013**, *2*, 125.

108. X. W. Hu, M. Wang, F. Huang, **X. Gong**,* and Y. Cao
23% enhanced efficiency of polymer solar cells processed with 1-chloronaphthalene as the solvent additive
Synthetic Metals, **2013**, *164*, 1.

107. H. Ye, X. W. Hu, Z. X. Jiang, D. C. Chen, X. Liu, Xin; H. Nie, S. J. Su, **X. Gong**, and Y. Cao
Pyridinium salt-based molecules as cathode interlayers for enhanced performance in polymer solar cells
J. Mate. Chem. A: Materials for Energy and Sustainability, **2013**, *1(10)*, 3387.

106. C. Zhao, X. S. Li, L. Y. Li, G. Cheng, **X. Gong**, and J. Zheng
Dual functionality of antimicrobial and antifouling of poly(N-hydroxyethylacrylamide)/salicylate hydrogels
Langmuir, **2013**, *29(5)*, 1517.

105. B. Zhang, X. W. Hu, M. Q. Wang, H. P. Xiao, **X. Gong**, W. Yang, and Y. Cao.
Highly efficient polymer solar cells based on poly(carbazole-alt-thiophene-benzofurazan)
New. J. Chem., **2012**, *36*, 2042.

104. X. L. Liu, T. B. Yang, H. X. Wang, W. Zhang, I. F. Hsieh, S. D. Cheng, and **X. Gong***
Solution-processed Near-infrared Polymer Photodetectors with an Inverted Device Structure
Organic Electronics, **2012**, *13*, 2929.

103. C. L. Wang, W. B, Zhang, H. J. Sun, C. C. Tsai, B. Lotz, **X. Gong**,* and S. Z. D. Cheng
A supramolecular "double-cable" structure with a 129_{44} helix in a columnar porphyrin-C_{60} dyad and the implication in polymer solar cells
Adv. Eng. Mater., **2012**, *2*, 1375.

100. **X. Gong***
Towards high performance inverted polymer solar cells
Polymer (Feature Articles), **2012**, 53, 5437.

99. X. L. Liu, H. X. Wang, T. B. Yang, T. Z. Yu and **X. Gong***
Solution-processed ultrasensitive polymer photodetector with high external quantum efficiency and low dark current
Appl. Mater. & Inter., **2012**, *4*, 3701.

98. T. B. Yang, M. Wang, C. H. Duan, X. W. Hu, L. Huang, J. P. Peng, F. Huang, and **X. Gong***
Inverted polymer solar cells with 8.4% efficiency by conjugated polyelectrolyte
Ener. & Envir. Sci., **2012**, *5*, 8208.

97. T. B. Yang, K. Sun, X. L. Liu, W. Wei, T. Z. Yu, **X. Gong**,* D. L. Wang, and Y. Cao
Zninc oxide nanowire as an electron-extraction layer for broadband polymer photodetectors with an inverted device structure
J. Phys. Chem. C., **2012**, *116*, 13650.

96. T. B. Yang, D. G Qin, L. F. Lan, W. B. Huang, **X. Gong**,* J. B. Peng and Y. Cao
Inverted structure polymer solar cells with solution processed zinc oxide thin film as an Electron collection Layer
Science China (Chemistry), **2012**, *55*, 755.

95. T. B. Yang, M. Wang, Y. Cao, F. Huang, L. Huang, J. B. Peng, **X. Gong**,* S. Z. D. Cheng and Y. Cao
Polymer solar cells with a low temperature-annealed sol-gel-derived MoO_x film as an hole extraction layer
Adv. Ene. Mat., **2012**, *2*, 523.

94. W. B. Zhang, Y. F. Tu, H. J. Sun, K. Yue, **X. Gong**,* and S. Z. D. Cheng
Polymer solar cells with an inverted device configuration using polyhedral oligomeric silsesquioxane-[60] fullerene dyad as a novel electron acceptor
Science China (Chemistry), **2012**, *55*, 749.

93. H. L. Dong, H. F. Zhu, Q. Meng, **X. Gong**, and W. P. Hu
Organic photoresponse materials and device
Chem. Soc. Rev., **2012**, *41*, 1754.

92. **X. Gong**,* T. Z. Yu, Y. Cao, and A. J. Heeger
Large open-circuit voltage polymer solar cells by poly (3-hexylthiophene) with multi-adducts fullerenes
Science China, **2012**, *55*, 743.

91. C. L. Wang, W. B. Zhang, R. Van Horn, Y. F. Tu, **X. Gong**,* S. Z. D. Cheng, Y. M. Sun, M. H. Tong, J. H. Seo, B. B. Y. Hsu, and A. J. Heeger
A porphyrin-fullerene dyad with a supramolecular "double-cable" structure as a novel electron acceptor for bulk heterojunction polymer solar cells
Adv. Mater., **2011**, *23(26)*, 2951.

90. M. Wang, X. W. Hu, P. Liu, W. Li, **X. Gong**, F. Huang, and Y. Cao
Donor-acceptor conjugated polymer based on naphtho[1,2-c:5,6-c] bis[1,2,5] thiadiazole

for high-performance polymer solar cells
JACS, **2011**, *133(25)*, 9638.

89. **X. Gong**, M. H. Tong, F. G. Brunetti, J. H. Seo, Y. M. Sun, D. Moses, F. Wudl, and A. J. Heeger
Bulk heterojunction solar cells with large open-circuit voltage and electron transfer with small donor-acceptor energy offset
Adv. Mater. **2011**, *23(20)*, 2272.

88. Y. M. Sun, C. J. Takacs, S. R. Cowan, J. H. Seo, **X. Gong**, A. Roy, and A. J. Heeger
Efficient, air-stable bulk heterojunction polymer solar cells using MoOx as the anode interfacial layer
Adv. Mater., **2011**, *23(19)*, 2226.

87. Y. M. Sun, M. F. Wang, **X. Gong**, J. H. Seo, B. B. Y. Hsu, F. Wudl, and A. J. Heeger
Polymer bulk heterojunction solar cells: function and utility of inserting a hole transport and electron blocking layer into the device structure
J. Mater., Chem., **2011**, *21*, 1365.

86. C. L. Song, C. B. Ma, F. Yang, W. J. Zeng, H. L. Zhang, and **X. Gong**
Synthesis of tetrachloro-azapentacene as an ambipolar organic semiconductor with high and balanced carrier mobilities
Organic Letters, **2011**, *13(11)*, 2880.

85. W. Z. Cai, M. Wang, E. G. Wang, T. B. Yang, J. S. Moon, X. Gong,* and Y. Cao
Solvent effect leading to high performance of bulk heterojunction polymer solar cells by novel polysilafluorene derivatives
J. Phy. Chem., **2011**, *115(5)*, 2314.

84. Y. M. Sun, **X. Gong**, B. H., H. L. Yip, A. K.-Y. Jen and A. J. Heeger
Solution processed crosslinkable hole selective layer for polymer solar cells in the inverted structure
Appl. Phys. Lett., **2010**, *97(19)*, 193310/1-193310/3.

83. Y. M. Sun, M. F. Wang, **X. Gong**, J. H. Seo, B. B. Y. Hsu, F. Wudl and A. J. Heeger,
Polymer bulk heterojunction solar cells: function and utility of inserting a hole transport and electron blocking layer into the device structure
J. Mater. Chem., **2010**, *132(46)*, 16349-16351.

82. F. Xia, R. J. White, X. L. Zuo, A. Patterson, Y. Xiao, D. Kang, **X. Gong**, K. W. Plaxco, and A. J. Heeger
An electrochemical super sandwich assay for sensitive and selective DNA detection in complex matrices
JACS, **2010**, *132*, 14346.

81. Y. Y. Liu, C. L. Song, W. J. Zeng, K. G. Zhou, Z. F. Shi, C. B. Ma, Q. Han, H. L. Zhang, and **X. Gong**
High and balanced hole and electron mobilities from ambipolar thin film transistors by nitrogen containing oligoacences.
JACS, **2010**, *132(46)*, 16349.

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Solution-processed zinc oxide thin film as a buffer layer for polymer solar cells with an inverted device structure
J. Phys. Chem. C, **2010**, *114(14)*, 6849-6853.

79. F. Xia, X. L. Zuo, R. Q. Yang, Y. Xiao, D. Kang, A. Valle, **X. Gong**, A. J. Heeger, and K. W. Plaxco
On the binding of cationic, water-soluble conjugated polymers to DNA: electrostatic and hydrophobic interactions
JACS, **2010**, *132(4)*, 1252-1254.
78. W. Zhao, W. Z. Cai, R. Xi. Xu, W. Yang, **X. Gong**, H. B. Wu, and Y. Cao
Novel conjugated alternating copolymer based on 2,7-carbazole and 2,1,3-benzoselenadiazole,
Polymer, **2010**, *51(14)*, 3196-3202.
77. **X. Gong**,* M. H. Tong, S. H. Park, M. liu, A. Jen, and A. J. Heeger
Semiconducting polymer photodetectors with electron and hole blocking layers: high detectivity in the near-infrared
Sensors, **2010**, *10*, 6488-6496.
76. F. Xia, X. L. Zuo, R. Q. Yang, R. J. White, Y. Xiao, D. Kang, **X. Gong**, A. A. Lubin, A. Vallee-Belisle, J. D. Jonathan, BYB, Hsu, and K.W. Paxco
Label-free, dual-analyte electrochemical biosensors: a new class of molecular-electronic logic gates
JACS, **2010**, *132(25)*, 8557.
75. F. Xia, X. L. Zuo, R. Q. Yang, R. J. White, Y. Xiao, D. Kang, **X. Gong**, A. A. Lubin, A. Vallee-Belisle, J. D. Jonathan, BYB, Hsu, A. J. Heeger, and K.W. Paxco
On the binding of cationic, water-soluble conjugated polymers to DNA: electrostatic and hydrophobic interactions
PNAS, **2010**, *107(24)*, 10837.
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Novel silafluorene-based conjugated polymers with pendant acceptor groups for high performance solar cells
Macro., **2010**, *43(12)*, 5262.
73. F. Xia, X. L. Zuo, R. Q. Yang, R. J. White, Y. Xiao, D. Kang, **X. Gong**, A. A. Lubin, A. Vallee-Belisle, A. J. Heeger, and K.W. Paxco
On the binding of cationic, water-soluble conjugated polymers to DNA: electrostatic and hydrophobic interactions
JACS, **2010**, *132(13)*, 4971.
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Strain and Hückel aromaticity driving forces for a promising new generation of electron acceptors in organic electronics
Angew. Chem., **2010**, *49*, 532.
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Polymer solar cells: recent development and possible routes for improvement of power conversion efficiency
Solar Energy Materials and Solar Cells, **2010**, *94*, 114.
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Thin film transistor by single crystalline nanowires semiconducting polymer
JACS, **2009**, *131(47)*, 17315-17320.
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Ultrasensitive solution processed polymer photodetectors

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25. W.K. Chan, **X. Gong**, and W.Y. Ng
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Red-band holographic storage in azo dye sensitized by noncoherent light
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Another 21 publications with Chinese version

BOOK CHAPTERS

1. **X. Gong** (invited)
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2. C. Yi and **X. Gong** (invited)
Towards high performance inverted polymer solar cells
Progress in Polymer Engineering, edited by Thein Kyu, Elsevier, 2012
3. **X. Gong** (invited)
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4. **X. Gong** (invited)

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5. **X. Gong** (invited), A. J. Heeger
   Polymer White Light-emitting Diodes
   Pan Stanford Publishing, 2008
6. **X. Gong** (invited), S. Wang
   Polymer Light-Emitting Diodes: Devices and Materials
   CRC published, 2008
7. **X. Gong**, D. Moses, A. J. Heeger
   Polymer Based Light Emitting Diodes (PLEDs) and Displays Fabricated from Arrays of PLEDs in a book entitled "Electroluminescence-from Synthesis to Devices" edited by Prof. Klaus Műllen, Wiley-VCH Verlag, 2005.
8. **X. Gong** with other 20 co-authors
   Modern Science and Technological English-Chinese Dictionary
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9. H. X. Yang and **X. Gong**
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PATENTS

1. Patents Granted and Pending through Universities (20 patents)
   1) Multilayer polymer light-emitting diodes for solid state lighting applications WO 2006094101 A1 20060908
   2) White electrophosphorescence from semiconducting polymer blends. U.S. Pat. Appl. Publ. (2005), 13 pp. US 2005073245 A1 20050407
   3) Water Soluble Conjugated Copolymer as Electron-transport Layer in Polymer Light Emitting Diodes, US 60/607,335
   4) Methods and Devices Comprising Soluble Conjugated Polymers PCT/US04/30566
   5) Multilayer Polymer Light-emitting Diodes for Solid State Lighting Applications, US 60/657,836
   6) Multilayer LED and Deposition Method, US & PCTUS 11/221,026
   7) Methods and Devices Utilizing Soluble Conjugated Polymers PCT/US2005/031911
   8) Multilayer LED/White LEDs, US & PCT US 11/366,186.
   9) Multilayer Polymer Light-emitting Diodes for Solid State Lighting Applications, PCT/US06/007373.
   10) Water Soluble ETL Polymers, US 60/607,155.
   11) Soluble Conjugated Polymers, US 11/221,123.
   12) System and Methods for Improving the Qualities of Polymer Light-Emitting Electrochemical Cells
   13) Methods for Improving the Qualities of Polymer Light-Emitting Electrochemical Cells
   14) Bulk Heterojunction Solar Cells with Large Open-Circuit Voltage: New π-Electron Acceptors Based on 9,9'-Bifluorenylidene Derivatives
   15) Polymer Solar Cells with a Low Temperature-Annealed Sol-Gel-Derived MoO_3 Film as a Hole Transport Layer, USPTO 61551958
   16) Polyhedral Oligomeric Silsesquioxane-Fullerene Dyads and its Application as the Interfacial Layer in Inverted Polymer Solar Cells, USPTO xxxx.xxx.

17) Polymer solar cells with novel electron acceptor, UA 988
18) Filed-induced alignment for high performance polymer solar cells, UA 967 USPTO 61/614.741
19) High Sensitivity Solution-processed Polymer Photodetectors with an Inverted Device Structure, USPTO 61-614684
20) Infrared polymer photodetectors, USPTO 61/702,785
21) Room-temperature solution-processed metal oxides for organic electronics, filed on Oct. 20, 2013
22) Broadband polymer photodetectors using zinc oxides nanowire as an electron-transporting layer, US 61/614,684
23) Solution-processed Perovskite Based Organic Inorganic Hybrid Photodetectors, USPTO: 61/951,567, filed on March 12, 2014.
24) Enhanced electrical conductivity and thermoelectric performance of poly(3,4-ethylenedioxythiophene):poly(styrene sulfonate) by binary secondary dopants, UA USPTO: 62/110,642.
25) Methods and devices comprising soluble conjugated polymers, US 9017766 B2 20150428.
26) Metal-oxide thin film as a hole-extraction layer for heterojunction solar cells, WO 2015070013 A1 20150514.

2. Patents Granted/Pending at CBrite Inc. (9 patents)

The titles of patents filed through CBrite cannot be currently listed due to disclosure agreements.

INVITED PRESENTATIONS

100. "Magnetic effects on polymer solar cells", 10th International Chinese Organic Electronics, Aug. 7th to 10th, Beijing,, P. R. China.
99. "Possibility to observe 15% efficiency form single junction polymer solar cells", Beijing University and Technology, Aug. 6th, Beijing, P. R. China.
98. "Solution-processed perovskite hybrid solar cells" Ningbo Institute of Materials Science, CAS, Ningbo, P. R. China, June 29, 2015.
97. "Magnetic effect on polymer solar cells" 13th International Conference of Polymer for Advanced Technology, Hangzhou, P. R. China, June 27, 2015.
96. "Approaching 15% Efficiency Polymer Solar Cells" Hangzhou University, P. R. China, Hangzhou, June 26, 2015.
96. "Perovskite hybrid solar cells" Northwest Normal University, Lanzhou, P. R. China, June 15 2015.
96. "Perovskite hybrid solar cells" Northwest Normal University, Lanzhou, P. R. China, June 6 2015.
95. "Polymer electronics" Hexi University, Zhangye, P. R. China, June 18, 2015.
94. "Solution-processed high performance polymer solar cells" Northwest Normal University, Lanzhou, P. R. China, June 5, 2015.
93. "Printable flexible polymer electronics" Lanzhou University, Lanzhou, P. R. China, June 16, 2015.
92. "Polymer solar cells by novel materials" Lanzhou University, Lanzhou, P. R. China, June 2, 2015.
91. "Little Science of Plastics" Hudson Elementary School, Feb. 17, 2015, Hudson, OH, USA

90. "High efficiency of planar heterojunction perovskite solar cells by fine-tuning crystallization morphology" MRS Fall Conferences, Nov. 30th, 2014, Boston, MA, USA.
89. "High performance solution-processed polymer solar cells via novel materials and interfacial engineering" The Akron Polymer Conferences, Akron, OH, Oct. 2-3, 2014.
88. "Towards 15% Efficiency Polymer Solar Cells" The First International Symposium on the Science of Plastic Electronics, Beijing, P. R. China, Sept. 25, 2014.
87. "Polymer electronics" Nanjing Chemical Company, Nanjing, P. R. China, Sept. 23, 2014
86. "High performance polymer solar cells via novel materials" Suzhou Nanoinstitute, CAS, Suzhou, P. R. China, Sept. 22, 2014.
85. "High performance polymer solar cells via interfacial engineering" Suzhou University, Suzhou, P. R. China, Sept. 22, 2014.
84. "Inverted polymer solar cells via novel materials" Nanjing University, Nanjing, P. R. China, Sept. 21, 2014.
83. "Printable Polymer Electronics", Dutong University, Datong, P. R. China, Sept. 17, 2014.
82. "High performance solution-processed polymer solar cells" First Ohio Conference on the sustainable use of greenhouse gases, Columbus, OH, Aug. 18, 2014.
81. "Polymer solar cells with over 1 μm thickness active layer" Chinese Chemistry Annual Congress, Beijing, Aug. 5th, 2014.
80. "2D conjugated polymers for polymer solar cells with over 10% efficiency" Chinese Chemistry Annual Congress, Beijing, Aug. 4th, 2014.
79. "Over 10% efficiency from single junction polymer solar cells", 6th International symposium on polymer materials science, Akron, OH, July 28, 2014.
78. "High performance polymer solar cells via novel materials and interfacial engineering", Beihang University, Beijing, China, June 30, 2014.
77. "High performance polymer solar cells via novel materials and interfacial engineering", Chemistry Institute, CAS, Beijing, China, June 29, 2014.
76. "High performance polymer solar cells via device engineering", Nankai University, Tianjin, China, June 18, 2014.
75. "High performance polymer solar cells via novel materials", Tianjin University, Tianjin, China, June 17, 2014.
74. "Polymer electronics", Lanzhou City University, Lanzhou, China, June 10, 2014.
73. "Inorganic Chemist meets with Polymer Scientist", Northwest Normal University, Lanzhou, China, June 9, 2014.
72. "Interfacial engineering for high performance polymer solar cells", Lanzhou University, Lanzhou, China, June 12, 2014.
71. "Inverted infrared polymer photodetectors", Lanzhou Institute of Chemical Physics, CAS, Lanzhou, China, June 13, 2014.
70. "High performance single junction polymer solar cells by 2D conjugated polymers", International conference on polymer chemistry, Shanghai, P. R. China, June 4, 2014.
69. "Interfacial engineering for high performance inverted polymer solar cells", ACS Dallas Meeting, March 17, 2014
68. "High performance polymer solar cells through device design and novel materials", Tsinghua University, Nov. 20th, 2013, Beijing, China
67. "Polymer Solar Cells: Device and Materials", Norfolk State University, Sept. 27th, 2013, Norfolk, VA, USA.
66. "Novel "electron donor-fullerene" conjugated molecules for polymer solar cells with an

inverted device structure", 246 ACS conference, Sept. 12, 2013, Indianapolis, IN, USA
65. "Towards high performance solar cells" South China University and Technology, June, 2013, Guangzhou, China.
64. "Polymer solar cells by novel conjugated fullerene molecules", Oka Ridge National Laboratory users' workshop, Aug. 12-15th, 2013, Oak Ridge, TN, USA
63. "Over 10 % efficiency polymer solar cells", University of Tennessee, Aug. 15th, 2013, Knoxville, TN, USA.
62. "Towards high performance inverted polymer solar cells through interfacial engineering", SPIE, Aug. 2013, San Diego, CA, USA.
60. "Hybrid infrared polymer photodetectors", Lanzhou University, Jul. 2013, Lanzhou, China
59. "Solution-processed high performance polymer solar cells: device structures and materials", Lanzhou Institute of Chemical Physics, CAS, Jul. 2013, Lanzhou, China
58. "Renewable energy", Invited by Government of Dunhuang City, Gansu Province, July 2013, Dunhuang, China
57. "How to approach high performance organic solar cells", National Science Foundation of China, Jul. 2013, Beijing, China
56. "Inverted infrared polymer photodetectors", International workshop on organic electronics, Jun. 2013, Beijing, China
55. "Science of Plastics", Evamere Elementary School, May, 2013, Hudson, OH, USA
54. "High performance inverted polymer solar cells", Department of Chemical Engineering, University of Akron, April 2013, Akron, OH, USA
53. "High performance inverted polymer solar cells", MRS Spring meeting, Apr. 2013, SFO, CA, USA
52. "Approaching high performance polymer solar cells by interfacial engineering and novel materials", 2nd symposium of organic photovoltaic, Kent State University, April 2013, Kent, OH, USA
51. "Towards high performance solar cells", APS March conference, Mar. 2013, Baltimore, Maryland, USA
50. "Solution-processed polymer electronics", Research for Lunch, Research office of University of Akron, Feb. 2013, Akron, OH, USA
49. "Towards high performance polymer photovoltaic cells", Lanzhou University, Dec. 2012, Lanzhou, China
48. "Inverted polymer solar cells", Northwest Normal University, Dec. 2012, Lanzhou, China
47. "Interface engineering for high performance polymer solar cells", Nov. 2012, MRS Fall meeting, Boston, MA
46. "High performance polymer solar cells by novel materials", University of California Santa Barbara, Oct. 30th, 2012, CA, USA
45. "High performance solution-processed polymer solar cells", University of Pittsburgh, Oct. 2012, PA, USA
44. "Solution-processed organic photovoltaic cells", Case Western Reserve University, Sept. 2012, Cleveland, OH, USA
43. "High performance inverted polymer solar cells", NSF and ONR workshop, Sept. 2012, DC, USA
42. "Inverted polymer solar cells", Institute of Chemistry, CAS, Jul. 2012, Beijing, China
41. "Towards high performance inverted polymer solar cells", IUPAC Polymer Congress, June 2012, USA

40. "Polymer solar cells" June 2012, Polymer Conferences, Akron, OH
39. "Flexible electronics", Plastic Society of Akron and Cleveland, Apr. 2012, Akron, OH
38. "Organic electronics", Akron Polymer Society, Nov. 2011, Akron, OH, USA
37. "Polymer solar cells with an inverted device structure", MRS meeting, Nov. 2011, Boston, USA
36. "Polymer solar cells with an inverted device structure", International Chinese Organic Electronics, Oct. 2011, Zhang Jiajie, China
35. "Solution-processed polymer photodetectors", Akron Advanced Materials, Sept. 2011, Akron, OH, USA
34. "Solution processed infrared polymer photodetector", SPIE conference, Aug. 2011, San Diego, CA, USA
33. "Ultrasensitive polymer photodetectors", South China University of Science and Technology, Jun. 2011, Guangzhou, China
32. "Printable polymer electronics", Lanzhou University, Jun. 2011, Lanzhou, China
31. "Polymer solar cells by novel electron acceptor", Polymer Congress, May, 2011, Beijing, China
30. "Infrared polymer photodetector", Peking University, May. 2011, Beijing, China
29. "Polymer solar cells with an inverted device structure", Beijing University Chemical Technology, May 2011, Beijing, China
28. "Solution-processed Organic Electronics", Dec. 2010, Cleveland, OH, USA
27. "Infrared polymer photodetector", SPIE conference, Aug. 2010, San Diego, CA, USA
26. "Solution-processed organic photodetectors", Xi An 3rd International Organic Electronics, June 2010, Xian, China
25. "Polymer solar cells", Northwest Normal University, June 2010, Lanzhou, China
24. "Solution-processed organic photodetectors", Lanzhou University, Jun. 2010, Lanzhou, China
23. "Solution-processed organic photodetectors", South China University of Science and Technology, June 2010, Guanzhou, China
22. "Polymer photodetector", MRS Spring Meeting, SFO, April 2010, CA, USA
21. "Polymer solar cells with larger open-circuit voltage", MRS Spring Meeting, SFO, April 2010, CA, USA
20. "Ultrasensitive polymer photodetectors", UCSB Organic Electronics Workshop, Sept. 2009, Santa Barbara, CA, USA
19. "Polymer photodetector", SPIE, Aug. 2009, San Diego, CA, USA
18. "Solution-processed ultrasensitive polymer photodetectors", PS, Mar. 2009, Pittsburgh, PA, USA
17. "Polymer photodetectors", US-Japan Polymat, Aug. 2008, Ventura, CA, USA
16. "Semiconducting polymers and its applications", Lanzhou City University, Oct. 2007, Lanzhou, China
15. "Organic/polymer optoelectronic devices", Lanzhou University, Sept. 2007, Lanzhou, China
14. "Polymer electronic and optoelectronic devices", Northwest Normal University, Sept. 2007, Lanzhou, China
13. "Polymer solar cells", South China University of Science and Technology, June 2007, Guanzhou, China

12. "Fluorenone defects in polyfluorens", Workshop on Organic/Polymer Devices, May, 2007, Montreal, Canada
11. "Materials and devices of PLEDs and polymer Solar Cells", Peking University, Sept. 2006, Beijing, China
10. "Semiconducting polymers and polymer optoelectronic devices", Lanzhou Jiaoton University, Sept. 2006, Lanzhou, China
10. "Single- and multilayer white PLEDs for solid state lighting application", Department of Electrical and Computer Engineering, University of California, San Diego, Aug. 2006, San Diego, CA, USA
8. "Plastic electronics", Institute of Chemistry, Chinese Academy of Science, Aug. 2006, Beijing, China
   "Recently progress on PLEDs and solar cells at UCSB", International Conference on Organic/Polymer Devices, Jul. 2006, Changchun, China
6. "Multilayer white PLEDs", SPIE Conference, 2006, San Diego, CA, USA
5. "White PLEDs", SPIE Conference, 2005, Denver, CO, USA
4. "Polymer electrophosphorescent LEDs", SPIE Conference, Aug. 2004, San Diego, CA, USA
3. "White light PLEDs", ICSM, 2004, Australia
2. "Stabilized blue emission from PLEDs made by polyfluorenes", APS meeting, Mar. 2003, Austin, TX, USA
1. "Single layer white PLEDs", ACS Conference, 2003, Anaheim, CA, USA

GRANTS

1. **Past Grants**
   1) **Mitsubishi Chemical Corporation** Aug. 2001 - Aug. 2006
      Title: High performance electrophosphorescenct polymer light-emitting diodes
      Award Amount: $1,500,000
      Role: Project Assistant (PI: Prof. A. J. Heeger)
   2) **DARPA**
      Title: Hemispherical Array Detector for Imaging (**HARDI**) July 2007 - Aug. 2010
      Award Amount: $22,500,000
      Role: Project manager (PI: Prof. A. J. Heeger)
   3) **The University of Akron**
      Title: Organic electronics Aug. 2010 - July 2013
      Award amount: $500,000
      Role: PI
   4) **The University of Akron**
      Title: POSS-Polymer for flexible electronics July 2012 - Aug. 2012
      Award Amount: $10,000
      Role: PI
   5) **DOE**
      Title: In-situ Neutron Scattering Determination of 3D Phase-Morphology Correlations in Fullerene-Block Copolymer Systems Block Copolymer System
      Award Amount: $831,066
      Role: Co-PI
   6) **3M Company**

Title: Polymer electronics July 2011 - June 2013
Award Amount: $45,000
Role: PI

2. **Current Grants**
   1) **NSF**
   Title: Ultrasensitive Solution-Process Inverted Polymer Photodetectors
   Award Amount: $408,000
   Role: PI
   2) **1-Materil Inc**.
   Title: Novel Polymers: Characterization and Applications
   Award Amount: $250,000
   Role: PI
   3) **BringSpring Science and Technology**
   Title: High Performance Inverted Polymer Solar Cells
   Award Amount: $600,000
   Role: PI
   4) **NSF of China (key international collaboration project)**
   Title: High performance inverted polymer solar cells
   Award Amount: RMB 3,000,000
   Role: PI
   5) **Air Force Research**
   Title: Broadband solution-processed photodetectors
   Total Award Amount: $819,543
   Role: PI
   6) **OH I-Corp**
   Title: Solution-processed polymer photodetectors
   Award Amount: $15,000
   Role: PI

TEACHING AND MENTORING EXPERIENCE

1. 2010-present, Department of Polymer Engineering, University of Akron
   (1) Mentoring/Supervising:
   - 3 post-docs, 9 Ph. D. students and 12 M. Sc. students, 3 undergraduate students, 2 high-school students;
   - 1 Ph. D. and 10 M Sc students graduated in 2013, 2014 and 2015

   (2) Teaching
   - Semiconducting Polymers (graduate course, evaluation rating: 2010, 4.67/5; 2012, 4.80/5; 2015, 4.80/5)
   - Flexible Electronics (2011, graduate course, evaluation rating: 4.92/5)
   - Polymer Science for Engineers (2012, undergraduate course, evaluation rating: 4.38/5)
   - Electrical Properties of Materials (2013, 4.76/5)

2. 2007~present State Key Laboratory of Luminescence Materials and Devices, South China University of Technology, P. R. China
   (1) Mentoring/supervising:
   - 8 Ph. D. students and 6 M.Sc. students
   - 6 Ph.D. students and 3 M. Sc. students graduated

SERVICES

- Committees (Admissions, Faculty Search (3), Library, Dean Search, etc.)
- Review Panel (Air Force, NSF, Canada, Swiss NSF, Hong Kong, China NSF, Iowa State)
- Conference organizer (ACS Dallas, PPS Cleveland, ACS Philadelphia, ICSM Guangzhou)

REGULAR REVIEWER (25 journals)

Science	Nature Photonics	Nature Comm.
Chem. Rev.	J. Am. Chem. Soc.	Ange. Chem. Inter. Edi.
Adv. Mater.	Adv. Func. Mater.	Adv. Eng. Mater.
J. Phys. Chem.	Chem. Phys.	Polymer
J. Polymer Science	Appl. Phys. Lett.	J. Photovoltaic Cells
J. Phys. D. Appl. Phys.	Nano Sci.	Langmuir
Macromolecule	Macr. Rapid Comm.	Synth. Metal
Sol. Ener. Mate. and Sol. Cells	ACS Appl. Mate. & Inter.	Nano Scale

MEMBERSHIP OF ACADEMIC ASSOCIATIONS

- Member of Materials Research Society (MRS)
- Member of American Chemistry Society (ACS)
- Member of Society of Displays (SID)