

Dr. Sunny (Xingzhong) Yan

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Education

Ph.D. in Polymer Chemistry & Physics. Sun Yat-sen University (<http://www.sysu.edu.cn/>), Guangzhou, China

Dissertation: "Synthesis and Characterization of New Second-Order Nonlinear Optical Poled Polymer Films".

M.Sc. in Physical Chemistry. Chinese Academy of Sciences – Lanzhou Institute of Chemical Physics (<http://english.lipc.cas.cn/>), Lanzhou, China. Dissertation: "Part 1: Synthesis of Polyethers with Ultrahigh Molecular Weight by Coordination Polymerization; Part 2: Investigation of Immortal Polymerization of Cycle Ethers Initialized by Metalloporphyrins".

B.Sc. in Chemistry and Chemistry Education, Hunan Normal University (<http://english.hunnu.edu.cn/>), Changsha, China. Dissertation: "Analysis of Sulfides in Turpentine oil by Gas Chromatography"

Teaching Experience

Texas A&M University – Commerce, Commerce, TX.

Summer 2014, CHEM 479/579: Chemistry of Renewable Energy (new course)

Northern Michigan University (<http://www.nmu.edu/>), Marquette, MI

Fall 2013 CHEM105: Chemistry Principles

CHEM321/322L: Organic Chemistry

South Dakota State University (<https://www.sdstate.edu/>), Brookings, SD

Jan 2007 – June 2013

Chem106: Chemistry Survey (online)

EE 4/560: Sensors and Measurements

TP-EE-692: Microelectronic and Fabrication

EE691: Modern Optical Spectroscopy

EE791: Molecular Semiconductors

Sen Yat-sen University, Guangzhou, China

July 1996 – May 1999

Advanced Organic Materials

NMR Techniques for Polymers

Student Evaluation in the States: <http://www.ratemyprofessors.com/ShowRatings.jsp?tid=1734729>, and <http://www.ratemyprofessors.com/ShowRatings.jsp?tid=1849666>.

3. EMPLOYMENT

2014 – Present Chemical Inventory Manager / Instrument Coordinator of College of Science & Engineering,

8/2013 – 12/2013 Assistant Professor (term - position) with the Chemistry Department of Northern Michigan University, Marquette, MI.

2007 – 2013 Assistant Professor (non-tenure track) with Department of Electrical Engineering and Computer Science, College of Engineering, South Dakota State University, Brookings SD

2006 – 2007 Director of Research, Technova Corporation

2002 – 2006 Staff Scientist at both University of Michigan & Wayne State University (6 mo in Dept. Polym. & Coatings, NDSU)

2001 – 2002 Senior Scientist, New Span Opto-Technology Inc

1999 – 2001 Manager of City University of New York (CUNY) Pulsed-EPR System

1996– 1999 Associate Professor & Director of NMR Lab Sun Yat-Sen University

1994 – 1996 Chinese Governmental Awarded Postdoctoral Research, State Key Lab of Ultrafast Spectroscopy, Sun Yat-Sen University.

4. PUBLICATIONS (Authored or co-authored ~100 scientific articles in materials science and engineering, applied physics, nanotechnology, solar cells, and so on. *See more information in publications on* https://www.researchgate.net/profile/Xingzhong_Yan, *and* http://scholar.google.com/citations?sortby=pubdate&hl=en&user=GJv16YAAAAAJ&view_op=list_works (HI > 21).

Selected Publications (*, corresponding author):

- (1) Ngen, E.; Xia, L.; Rajaputra, P.; **Yan, X. Z.***; You, Y. J.* Enhanced Singlet Oxygen Generation from Porphyrin-Rhodamine B Dyad by Two-Photon Excitation through Resonance Energy Transfer. *Photochem. Photobiol.* 2013, 89(4):841-8.
- (2) Li, Y.; Lu, P. F.; **Yan, X. Z.***; Jin, L.; and Peng, Z. Non-aggregated hyperbranched phthalocyanines: single molecular nanostructures for efficient semi-opaque photovoltaics. *RSC Advances* 2013, 3, 545-558.
- (3) Li, Y.; Lu, P. F.; Jiang, M. L.; Dhakal, R.; Thapaliya, P.; Peng, Z. H.; Jha, B.; **Yan, X. Z.*** Femtosecond Time-Resolved Fluorescence Study of TiO₂ Coated ZnO Nanorods/P3HT Photovoltaic Films. *J. Phys. Chem. C* 2012, 116 (48), 25248–25256.
- (4) Li, Y.; Bian, Y.; Yan, M.; Thapaliya, P. S.; Daniel Johns; **Yan, X. Z.***; Galipeau, D.; Jiang, J. Z. Broadband organic-inorganic hybrid solar cells made from mixed (porphyrinato) (phthalocyaninato) rare-earth(III) double-decker complexes. *J. Mater. Chem.* 2011, 11131-11141.
- (5) Xie, Y.; Xiao, L. X.; Li, Y.; Zhang, Z. L.; Dhakal, R.; Qiao, Q. **Yan, X. Z.*** Femtosecond Time-Resolved Fluorescence Study of P3HT/PCBM Blend Films. *J. Phys. Chem. C* 2010, 114, 14590-14600.
- (6) Wang, Q.; Li, Y.; **Yan, X. Z.***; Ropp, M.; Galipeau, D.; Jiang, J. Z. Organic photovoltaic cells made from sandwich-type rare earth phthalocyaninato double- and triple-deckers. *Appl. Phys. Lett.* 2008, 93, 073303.
- (7) Guo, M.; **Yan, X. Z.**; Goodson III, T. Electron Mobility in a Novel Hyper-branched Phthalocyanine Dendrimer. *Adv. Mater.* 2008, 20(21), 4167-4171.
- (8) Varnaviski, O. P.; Ranasinghe, M.; **Yan, X. Z.**; Baur, C.; Chung, S.-J.; Perry, J. W.; Marder, S. R.; Goodson III, T. Ultrafast Energy Migration in Chromophore Shell-Metal Nanoparticle Assemblies *J. Am. Chem. Soc. (Communication)* 2006, 128, 10988-10989.

- (9) Yan, X. Z.; Pawlas, J.; Goodson, T.; Hartwig, J. F. Polaron delocalization in ladder macromolecular systems. *Journal of the American Chemical Society* **2005**, *127*, 9105-9116.
- (10) Yan, X. Z.; Goodson, T.; Imaoka, T.; Yamamoto, K. Up-conversion emission in a series of phenylzomethine dendrimers with a porphyrin core. *J. Phys. Chem. B* **2005**, *109* (19), 9321- 9329.

Publications and Papers (*, corresponding author) 1) Jiang, M.; Li, G.; * Yan, X. Z.* et al. The Effects of Se Incorporation in Water-based, Solution-Processed $\text{Cu}_2\text{ZnSn}(\text{S},\text{Se})_4$ Thin Film Solar Cells. *J. Photonics for Energy* 2015, 5, 053096-1-13. 2) Jiang, M. L.; Lan, F.; Yan, X. Z. *; Li, G. Y. * $\text{Cu}_2\text{ZnSn}(\text{S}_{1-x}\text{Se}_x)_4$ thin film solar cells prepared by waterbased solution Process. *physica status solidi - Rapid Research Letters*. 2014, 8(3), 223-227. 3) Li, Y.; Lu, P. F.; Yan, X. Z. *; Jin, L.; Peng, Z. Non-aggregated hyperbranched phthalocyanines: single molecular nanostructures for efficient semi-opaque photovoltaics. *RSC Advances* 2013, 3, 545-558. 4) Ngen, E.; Xia, L.; Rajaputra, P.; Yan, X. Z. *; You, Y. J. * Enhanced Singlet Oxygen Generation from Porphyrin-Rhodamine B Dyad by Two-Photon Excitation through Resonance Energy Transfer. *Photochem. Photobiol.* 2013, 89(4):841-8. 5) Li, Y.; Lu, P. F.; Jiang, M. L.; Dhakal, R.; Thapaliya, P.; Peng, Z. H.; Jha, B.; Yan, X. Z. * Femtosecond Time-Resolved Fluorescence Study of TiO_2 Coated ZnO Nanorods/P3HT Photovoltaic Films. *J. Phys. Chem. C* 2012, 116 (48), 25248–25256. 6) Jiang, M. L.; Li, Y.; Dhakal, R.; Thapaliya, P.; Mastro, M.; Caldwell, J. D.; Kub, F.; Yan, X. Z. * $\text{Cu}_2\text{ZnSnS}_4$ polycrystalline thin films with large densely packed grains prepared by sol-gel method. *Journal of Photonics for Energy* 2011, 1, 019501 (Top 10 downloads in all technical area of SPIE conference proceedings and journals, by Nov 13, 2011). 7) Li, Y.; Bian, Y.; Yan, M.; Thapaliya, P. S.; Daniel Johns; Yan, X. Z. * Galipeau, D.; Jiang, J. Z. Broadband organic-inorganic hybrid solar cells made from mixed (porphyrinato) (phthalocyaninato) rareearth(III) double-decker complexes. *J. Mater. Chem.* 2011, 11131-11141. (DOI: 10.1039/C1JM11246E). 8) Li, Y.; Yan, M.; Jiang, M.; Dhakal, R.; Thapaliya, P. S.; Yan, X. Z. * Organic-inorganic hybrid solar cells made from hyperbranched phthalocyanines. *Journal of Photonics for Energy* 2011, 1, 011115 [Top 10 downloads in photovoltaics in SPIE digital library, by Jan 12, 2012]. 9) Xiao, L. X.; Xu, Y. Q.; Yan, M.; Galipeau, D.; Peng, X. J.; Yan, X. Z. * Excitation dependent fluorescence of triphenylamine substituted tridentate pyridyl ruthenium complexes. *J. Phys. Chem. A.* 2010, 114, 9090-9097. 10) Wang, Q.; Li, Y.; Yan, X. Z. * Ropp, M.; Galipeau, D.; Jiang, J. Z. Organic photovoltaic cells made from sandwich-type rare earth phthalocyaninato double- and triple-deckers. *Appl. Phys. Lett.* 2008, 93, 073303 1-3. 11) Guo, M.; Yan, X. Z.; Goodson III, T. Electron Mobility in a Novel hyper-branched phthalocyanine dendrimer. *Adv. Mater.* 2008, 20(21), 4167-4171. 12) Varnaviski, O. P.; Yan, X. Z.; Margin, O.; Blanchard-Desce M.; Goodson III, T. Strongly Interacting Organic Conjugated Dendrimers with Enhanced Two-Photon Absorption. *J. Phys. Chem. C* 2007, 111(1); 149-162 13) Yan, X. Z.; Goodson III, T. High Dielectric Hyper-Branched Polyaniline Materials. *J. Phys. Chem. B* 2006, 110, 14667-14672. 14) Yan, X. Z.; Goodson III, Theodore; Imaoka, Takane and Yamamoto, Kimihisa. Up-converted emission in a series of phenylazomethine dendrimers with a porphyrin core. *J. Phys. Chem. B* 2005, 109, 9321- 9329. (DOI:10.1021/jp044105q). 15) Yan, X. Z.; Pawla, J.; Goodson III, Theodore; Hartwig, J. F. Polaron delocalization in ladder macromolecular systems. *Journal of the American Chemical Society* 2005, 127 (25), 9105-9116. (http://scholar.google.com/citations?sortby=pubdate&hl=en&user=GJv16YAAAAAJ&view_op=list_works, and https://www.researchgate.net/profile/Xingzhong_Yan/reputation)