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### Research Interests

(1) Polymer Science and Engineering:

Living Free-Radical Polymerization;  
Nano-Composite Polymer Materials  
(LDH-PMMA, LDH-Epoxy,  
DH-Polyimide, Clay-Nylon, Clay-PET,  
Clay-TPU);

Impact Polymer Materials

(2) Liquid Crystal Display (LCD):

Back-Light Module-Design of  
Diffusion Particles

(3) Nano-Technology:

Design of Molecule Template;  
Design of Nano-particles;  
Design of Dispersion Agents for  
Nano-Particles

Nano-composite materials

(4) Plasma Technology:

Plasma Treatment of CNT;  
Plasma Treatment of Polymer Surface

(5) Membrane Separation:

Prevaporization of Alcohol/Water;  
Bipolar Membrane for Hydrogen  
Generation

(6) Design of Polymer Catalyst: Synthesis of  
Peroxides

(7) Design of Electrolyte Materials for

Dye-Sensitive Solar Cell, Li-Battery and  
Fuel Cell

(8) Bio-Plastics: Synthesis and Application of  
Polyoxalate and PLA

(9) Flexible Conductive Transparent Film and  
photovoltaic film of CIGS

### Representative Publications

1. Y. F. Chan, C. C. Wang, and Chuh-Yung Chen\*, Journal of Materials Chemistry A, 1, 18, 5479-5486, 2013 (IF=5.968)
2. Y. F. Chan, C. C. Wang, and Chuh-Yung Chen\*, Progress in Photovoltaics, 21, 1, 47-57, 2013 (IF= 5.767).
3. Y. F. Chan, C. C. Wang, Chuh-Yung Chen\*, Carbon, 49, 4898-4910, 2011(IF= 4.893)
4. Chen, I-Han; Wang, Cheng Chien; Chen, Chuh-Yung\*, Journal of Physical Chemistry C, 114, 13532-13539, 2010 (IF= 4.224)
5. I. H. Chen, C. C. Wang, Chuh-Yung Chen\*, Carbon, 48 604-611, 2010 (IF= 4.504)
6. S. J. Hsieh, Chuh-Yung Chen\*, C. C. Wang, Macromolecules, 42 (13), pp. 4787-4794, 2009. (IF= 4.407)

2007

2008

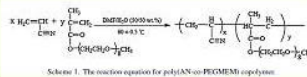
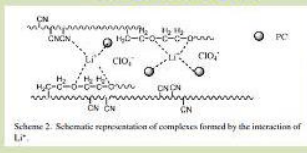
2009

2010

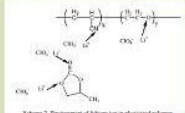
2011

# Energy

## Polyelectrolyte

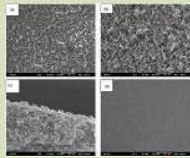
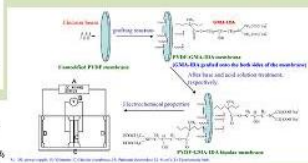


**J. Power Source., 2008**

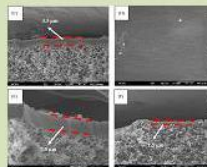


**J. Power Source., 2007, Elect.Chem. Acta., 2006,**

## Bipolar Membrane

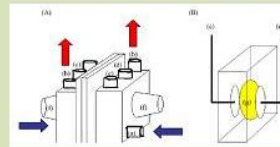


**J. Membr. Sci., 2008,**



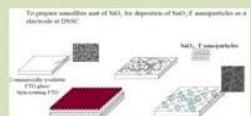
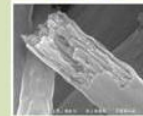
**J. Membr. Sci., 2009,**

## Hydrogen Production

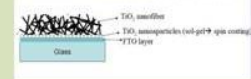


**Elect.Chem. Acta., 2009,**

## DSSC

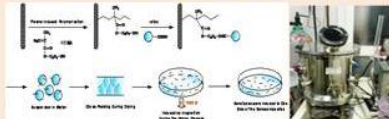


**Carbon, 2011,**



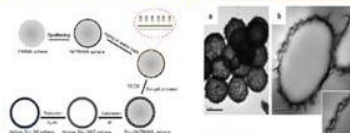
# Nanotechnology

## CNT Modification & Dispersion



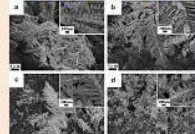
**J. Polym. Sci.; Part A., 2006  
J. Phy. Chem., B, 2006**

## Hollow Ni nanoparticle



**Scripta Material, 2008**

## Ag Dendrites



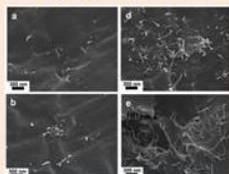
**J. Coll. & Int. Sci., 2010**

## Dynamic Electrospinning



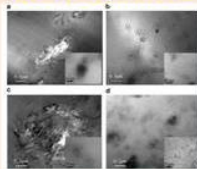
**Polymer, 2010,  
Eur. Polym. J., 2010,  
Polymer, 2011,**

## CNT/Epoxy Resin



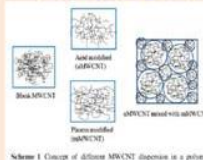
**Chem. Mat., 2007,**

## CNT/Polyimide

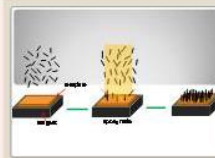


**Comp. Sci. & Tech., 2008 J. Inorg. & Org. Polym., 2009,**

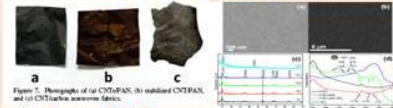
## MWCNT/Polymer



**J. Inorg. & Org. Polym., 2009,**



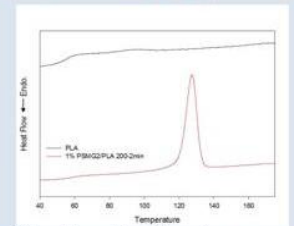
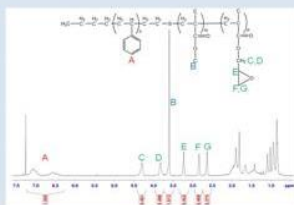
## CNT Composites



**Carbon, 2010  
J. Phy. Chem C, 2010,  
Plasma Processes and Polymers, 2010**

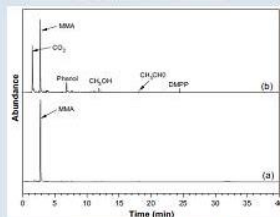
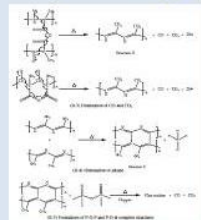
# Molecular Designed

## Chain extender for PLA



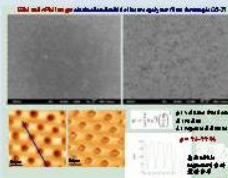
**Patent applications in progress**

## MEPP/MMA copolymer

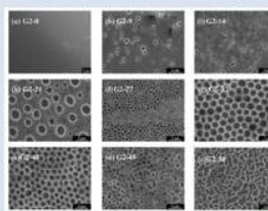


**Polymer, 2009**

## Self-Assembly

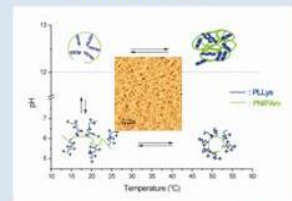


**Macromolecules, 2009,  
J. Polym. Sci.: Part A: Polym. Chem., 2010**



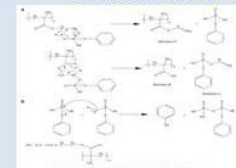
**J. Polym. Sci.: Part A., 2011**

## Biomaterials



**J. Polym. Sci.; Part A, 2010,  
J. Polym. Sci.; Part A, 2011,**

## Biomaterials



**Polym. Deg. & Stab., 2006,  
J. Polym. Sci.; Part A, 2011,**