

จ.ประวัตินักวิจัย

CURRICULUM VITAE

Name : Jatuphorn Wootthikanokkhan
Sex : Male
Education :
 1992-1997: Ph.D. (Industrial Chemistry)
 Polymer Science Program, University of New South Wales,
 Australia.
 Thesis: Interfacial adhesion in acrylic based adhesives
 1986-1989: B.Sc. (Chemistry)
 Mahidol University, Bangkok, Thailand
 Project: Radiation curing of natural rubber latex



Present Appointment:

Associate Professor

Division of Materials Technology,
 School of Energy, Environment and Materials,
 King Mongkut's University of Technology Thonburi (KMUTT)
 126 Pracha-utit Road, Bangmod, Thungkru, Bangkok 10140, Thailand
 Tel. (662) 4708693-99 ext. 316, Fax. (662) 4279062, 4708643
 E-mail : jatuphorn.woo@kmutt.ac.th

Fields of Specialization :

Polymers Synthesis, Chemical modification of polymers, Polymer Blends

Research Interest

Conducting polymers for solar cell and fuel cells
 Biopolymers

Professional Membership :

2004 Member, Rubber Division, American Chemical Society.

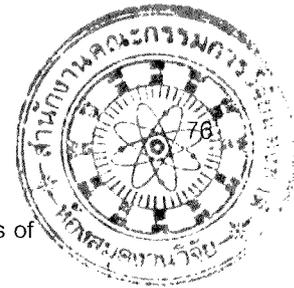
Research Grants

1. Preparation of Block Copolymer via Living Radical Polymerization (MT-B-S6-08-20-101). The National Metal and Materials Technology Center (MTEC). (03/01/1998-02/01/1999). (171,000 Baht)
2. Controlled Polymerization of Isoprene through a Living Radical Polymerization (PDF/04/2542). The Thailand Research Fund (TRF). (01/07/1999-30/06/2000), (200,000 Baht)
3. A study on the Effects of Block Copolymers on Natural-Synthetic Rubber Blends. The National Metal and Materials Technology Center (MTEC), (08/05/2000–07/05/2002) (457,408 Baht)
4. Examination and Control of Crosslink Distribution and Properties of Natural-Acrylic Rubber Blends (Grant code; RSA/17/2545).The Thailand Research Fund (TRF) (01/11/2001-31/10/2004). (1,080,000 Baht)
5. Feasibility on modification of cassava starch for packaging use in commercial (Phase 1: Chemical modification and blending with plastics) (MT-S-45-POL-20-203-G) The National Metal and Materials Technology Center (MTEC) (30/06/2002-29/06/2003) (192,045 Baht)
6. Development of rubber product from natural-acrylic rubber blends (MT-B-45-POL-20-220-G). The National Metal and Materials Technology Center (MTEC), (949,370 Baht)
7. Development of encapsulating materials for solar cells (C0-B-22-1H-20-4701), The National Science and Technology Development Center (NSTDA), (15/07/2004–14/07/2006),(1,357,600 Baht)
8. Modification of poly(vinylidene fluoride) for a development of electrolyte membrane in direct methanol fuel cell (The Thailand Research Fund (TRF), (1,200,000 Baht) (August 2005 – August 2008)
9. Development of nanocomposite membrane for use as an electrolyte in fuel cell (National Nanotechnology Center), (650,000 Baht), (2006-2008)
10. The Development of Plastic Food Containers from Polycarbonate [Phase 1.1: A Study on BPA leaching and health risk assessment of the BPA (Literature Search)] **PTT PHENOL Co. Ltd.** 1,000,000 Baht.
11. The Development of Plastic Food Containers from Polycarbonate [Phase 1.2: Database development and Patent Mapping] PTT PHENOL COMPANY LIMITED 400,000 Baht.
12. Synthesis and a study on structure-properties relationships of semi-conducting polymers for solar cell applications. cell (The Thailand Research Fund (TRF), (1,200,000 Baht) (May 2008 – May 2011)
13. Development of PVC Sheet for Livestock Housing, B.T. International Co. Ltd. (Betagro), 405,114 Baht. (August 2008 – January 2009).
14. Development of biodegradable packaging film from PLA (PTT research and technology Institute, 1,580,000 Baht (9th February 2009 – 8th December 2009)

15. Technology transfer and process development for producing PVC sheet for livestock housing use: From laboratory to factory scale production process. B.T. International Co. Ltd. (Betagro), 494,319 Baht (1st May 2009 – 31st October 2009)
16. Development of biodegradable packaging film from PLA: Phase II Improvement of PLA Compounding formulation for enhancing commercial competency. (PTT research and technology Institute, 1,03,000 Baht (22nd February 2010 – 30th December 2010)
17. Synthesis and study on relationships between structure and band gap energy of semiconducting polymers., MTEC, 494,888 Baht, (July 2009 – December 2010)

Publications:

1. J. Wootthikanokkhan, R.P.Burford and R.P.Chaplin, Effect of Acrylic Diblock Copolymer upon Interfacial Adhesion, *Journal of Applied Polymer Science*, 62, (1996) 835.
2. J. Wootthikanokkhan, R.P. Burford and R.P.Chaplin, Effect of Curing Agent upon Interfacial Adhesion in Acrylic Polymer Based Laminates, *Journal of Applied Polymer Science*, 67, (1998) 1277.
3. A. Kongkaew and J. Wootthikanokkhan, Polymerization of Isoprene by Using Benzyl diethyldithiocarbamate as an Iniferter, *ScienceAsia*, 25 (1999) 35-41.
4. A. Kongkaew and J. Wootthikanokkhan, Effects of Reaction Conditions on Poly(methyl methacrylate) polymerized via Living Radical Polymerization with an Iniferter, *Journal of Applied Polymer Science*, 75 No. 7 (2000) 938-944.
5. A. Kongkaew and J. Wootthikanokkhan, Synthesis of polyisoprene-poly(methyl methacrylate) block copolymers by using polyisoprene as a macroiniferter, *Polymer Bulletin*, 43 No. 4-5 (1999) 327-332.
6. E. Wimolmala, J. Wootthikanokkhan and N. Sopmbatsompop, Effect of Composition and Temperature on Extrudate Characteristics, Morphology and Tensile Properties of Acrylic Rubber Blended PVC, *Journal of Applied Polymer Science*, 80 No.13 (2001) 2523-2534.
7. J. Wootthikanokkhan, M.Peesan, and P.Phinyocheep, Atom Transfer Radical Polymerizations of (Meth)acrylic Monomers and Isoprene, *European Polymer Journal*, 37 No.10 (2001) 2063-2071.
8. P. Na Songkhla and J. Wootthikanokkhan, Effect of Copolymer Composition on K- and a- Constants of the Mark-Houwink Equation: Styrene-Methyl Methacrylate Random Copolymer, *Journal of Polymer Science Part B: Polymer Physics*, 40 No.6 (2002) 562-571.
9. R. Santayanon and J. Wootthikanokkhan, Modification of Cassava Starch by Using Propionic Anhydride and Properties of the Starch-Blended Polyester Polyurethane, *Carbohydrate Polymers*, 51 No. 1 (2003) 17-24.



10. J. Wootthikanokkhan and B. Thongrubbai A Study on Morphology and Physical Properties of Natural-Acrylic Rubber Blends, *Journal of Applied Polymer Science*, 86 No. 7 (2002) 1532-1539.
11. J. Wong-on and J. Wootthikanokkhan, Dynamic Vulcanization of PVC-Acrylic Rubber Blend, *Journal of Applied Polymer Science*, 88 No.11 (2003) 2657-2663.
12. J. Wootthikanokkhan and B. Thongrubbai, Compatibilizing Efficacy of Poly(isoprene-butyl acrylate) Block Copolymer in Natural-Acrylic Rubber Blends, *Journal of Applied Polymer Science*, 88 No. 4 (2003) 921-927.
13. J. Wootthikanokkhan and P. Tunjongnawin, Investigation of the Effect of Mixing Schemes on Crosslink Distribution and Tensile Properties of Natural-Acrylic Rubber Blends, *Polymer Testing*, 22/3 (2003) 309-316.
14. J. Wootthikanokkhan, A. Jaturapiree, and V. Meeyoo, Effects of Metal Compounds and Experimental Conditions on Distribution of Products from PVC pyrolysis, *Journal of Polymers and the Environment*, 11 No. 1 (2003) 1-6.
15. J. Wootthikanokkhan and N. Clythong, Effects of Accelerator Type and Curing Temperature on Crosslink Distribution and Tensile Properties of Natural-Acrylic Rubber Blends, *Rubber Chemistry and Technology*, 76 Issue 5 (Nov/Dec), 2003, p. 1116-1127.
16. J. Jeerupan, J. Wootthikanokkhan, P. Phinyocheep, Effects of epoxidation content of ENR on morphology and mechanical properties of natural rubber blended PVC, *Macromolecular Symposia*, 216 Issue 1, September, 2004, p. 281-292
17. J. Wootthikanokkhan and S. Santikunakorn, Effects of Propionyl Content on Morphology, Mechanical Properties and Biodegradability of Esterified Cassava Starch/PCL Blends, *Journal of Applied Polymer Science*, 96 issue 6 (2005) 2154-2162.
18. O. Montrrcool, J. Wootthikanokkhan, and V. Meeyoo, Effects of Maleic Anhydride on Degradation of PVC during Pyrolysis, *Journal of Analytical and Applied Pyrolysis*, 73 (2005) 77-84
19. C. Chanthad and J. Wootthikanokkhan, Effects of Crosslinking Time and Amount of Sulfophthalic Acid on Properties of the Sulfonated Poly(vinyl alcohol) Membrane, *Journal of Applied Polymer Science*, 101 issue 3, (2006), 1931-1936.
20. J. Wootthikanokkhan and N. Rattanathamawat, A Study on Distribution of Carbon Black in Natural Rubber/Acrylic Rubber Blends, *Journal of Applied Polymer Science*, 102 issue 1 (2006) 248-256).
21. J. Wootthikanokkhan and N. Seeponkai, Methanol Permeability and Properties of DMFC Membranes Based on Sulfonated PEEK/PVDF Blends, *Journal of Applied Polymer Science*, 102 issue 6 (2006) 5941-5947.

22. S. Seeponkai and J. Wootthikanokkhan, Proton Conductivity and Methanol Permeability of Sulfonated Poly(vinyl alcohol) Membranes Modified by Using Sulfoacetic Acid and Poly(acrylic acid), *Journal of Applied Polymer Science* 105 (2007) 838-845.
23. J. Wootthikanokkhan, P. Piboonsatsanasakul, S. Thanawan, Preparation and Characterizations of DMFC Membrane from Sulfonated Polystyrene/PVDF Blend Compatibilized with PS-b-PMMA Block Copolymer, *Journal of Applied Polymer Science*, 107 issue 2 (2008)1325-1336.
24. S. Isarankura na Ayutthaya and J. Wootthikanokkhan, Investigation of the Photodegradation Behaviors of an Ethylene/Vinyl Acetate Copolymer Solar Cell Encapsulant and Effects of Antioxidants on the Photostability of the Material, *Journal of Applied Polymer Science*, 107 (2008) 3853-3863.
25. P. Duangkaew, J. Wootthikanokkhan, Methanol Permeability and Proton Conductivity of Direct Methanol Fuel Cell Membranes Based on Sulfonated Poly(vinyl alcohol)-Layered Silicate Nanocomposites, *Journal of Applied Polymer Science*, 109 (2008) 452-458.
26. P. Changsuwan, J. Wootthikanokkhan, Dehydrofluorination of PVDF and Proton Conductivity of the Modified PVDF/sulfonated SEBS Blend Membranes, *Journal of Metals, Materials, and Minerals*, 18(2) December, 2008 18 (No.2) (2008) 57-62.
27. J. Wootthikanokkhan, C. Thanachayanont, and N. Seeponkai, Synthesis of graft copolymers based on polyphenylene xylylene and fullerene grafted polystyrene. *Journal of Applied Polymer Science* 116 (2010) 433-440.
28. N. Seeponkai, J. Wootthikanokkhan, Proton Exchange Membranes for a Direct Methanol Fuel Cell Based on Sulfonated Styrene-(ethylene-butylene)-Styrene/Polyvinylidene Fluoride Blends, *Journal of Applied Polymer Science*, 117(2010)393-399.
29. N. Seeponkai, N. Keaitsirisart, C. Thanachayanont, J. Wootthikanokkhan, Synthesis of fullerene functionalized polystyrene (PSFu) and morphology of fullerene based materials blended with P3HT. *Thin Solid Films*, (submitted on March, 2011)

Conferences

1. งานสัมมนาเรื่อง “วิจัยพลังงาน สร้างฐานเศรษฐกิจพอเพียง” 13 ธันวาคม 2549
2. Pattraporn Changsuwan and Jatuphorn Wootthikanokkhan, Proton exchange membranes from sulfonated SEBS/Modified poly(vinylidene fluoride) blend. 5th Thailand Materials Science and Technology Conference (MSAT-5) September 16-19, 2008, Bangkok, Thailand.
3. N. Seeponkai and J.Wootthikanokkhan, Synthesis of Donor-Acceptor Graft Copolymer Based on PPV and Fullerene Grafted Polystyrene for Solar Cell Applications. SDSE Conference, 7-9 April 2009, Millenium Hilton Bangkok Hotel, Thailand.
4. Nopparat Keatsirisart, Jatuphorn Wootthikanokkhan, and Chanchana Thanachayanont, 2010. "Effects of Electron Acceptor Content on Efficiency and Morphology of Polymer Solar Cell Based on P3HT", The First Polymer Conference of Thailand (PCT-1), 7-8 October, 2010, pp., 288-292.

บทความวิชาการ (Review papers in Thai)

1. “แนวทางใหม่ในการสังเคราะห์บล็อกโคโพลิเมอร์”, ดร. จตุพร วุฒิกนกกาญจน์ วารสารเทคโนโลยีวัสดุ ฉบับที่ 12 กรกฎาคม - กันยายน 2541
2. “การศึกษาสภาพพื้นผิวของโพลิเมอร์โดยใช้เทคนิค Atomic Force Microscopy “, ดร.จตุพร วุฒิกนกกาญจน์ วารสารเทคโนโลยีวัสดุ ฉบับที่ 15 เมษายน - มิถุนายน 2542

อนุสิทธิบัตรและสิทธิบัตร (Patents and Petty Patents)

1. อนุสิทธิบัตร เรื่อง “สูตรผสมยางวัลคาไนซ์ที่ทนความร้อนและน้ำมันและกรรมวิธีการผลิตสูตรผสมดังกล่าว” เลขที่ 2770 (ออกให้ ณ วันที่ 11 สิงหาคม 2549 – หมดอายุ วันที่ 7 พฤษภาคม 2555)
2. สิทธิบัตร เรื่อง “สูตรผสมฟิล์มโพลิเมอร์โปร่งแสงสำหรับใช้ห่อหุ้มเซลล์แสงอาทิตย์และกรรมวิธีการผลิตฟิล์มโพลิเมอร์โปร่งแสงดังกล่าว” เลขที่คำขอ 0601002985 (วันที่ 29 มิถุนายน 2549)
3. สิทธิบัตร เรื่อง “วัสดุห่อหุ้มเซลล์แสงอาทิตย์ประเภทที่ทำจากเอธิลีนออกไซด์โคโพลิเมอร์” เลขที่คำขอ 0801003446 (วันที่ 4 กรกฎาคม 2551)

รางวัลที่ได้รับ (Awards)

PTIT Awards ประเภท PTIT Scholar ประจำปี 2550-2551 จากสถาบันปิโตรเลียมแห่งประเทศไทย

CURRICULUM VITAE

Name : Narumon Seeponkai

Date of Birth June 30, 1980

Gender Female

Marital status Single

Nationality Thai

Home Address 58 M. 2 Hatai, Kosumpisai, Mahasarakham, 44140

Office Address Division of Materials Technology
School of Energy and Materials
King Mongkut's University of Technology Thonburi
Bangkok 10140, THAILAND

E-mail puy_namon@hotmail.com

Telephone no. +66-867-982-948



Education Background:

2006- present Ph.D. student, (Material Technology). King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand. Thesis "Synthesis and characterize conjugate polymer for solar cell applications" Under supervision of Assoc. Prof. Dr. Jatuphorn Wootthikanokkhan (advisor)

2003-2006 Master Degree of Engineer, (Material Technology). King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand. Thesis "Modification of Poly(vinyl alcohol) for use as an Electrolyte Membrane in Direct methanol Fuel Cell" Under supervision of Assoc. Prof. Dr. Jatuphorn Wootthikanokkhan (advisor)

1999-2003 Bachelor degree of science (Chemistry), Khonkaen University, Khonkaen, Thailand.

Scholarship:

2003-2006 Research fund from Energy Policy and Planing office (EPPO), Thailand, Ministry of Energy Royal Thai Government.

2009-present Thailand Graduate Institute of Science and Technology (TGIST), NSTDA.

Teaching Experience:

- 2/2004 Lecturer Assistance (Chemical Laboratory), Department Chemistry, Faculty of Science, King Mongkut's University of Technology Thonburi, Thungkru, Bangkok, 10140, THAILAND
- 1/2005 Teacher (MEN 214, Engineering Materials Laboratory), Tool and Materials Engineering Department, King Mongkut's University of Technology Thonburi, Thungkru, Bangkok, 10140, THAILAND
- 2/2005 Teacher (MEN 214, Engineering Materials Laboratory), Tool and Materials Engineering Department, King Mongkut's University of Technology Thonburi, Thungkru, Bangkok, 10140, THAILAND

Publication:

1. Wootthikanokkhan, J., Thanachayanont, C., Seeponkai, N., Synthesis of graft copolymers based on polyphenylene xylylene and fullerene grafted polystyrene, *Journal of Applied Polymer Science*, **2010**, 116, 433-440
2. Seeponkai, N., Wootthikanokkhan, J., Proton Exchange Membranes for a Direct Methanol Fuel Cell Based on Sulfonated Styrene-(ethylene-butylene)-Styrene/Polyvinylidene Fluoride Blends, *Journal of Applied Polymer Science*, **2010**, 117, 393-399.
3. Seeponkai N. and Wootthikanokkhan,* J., Proton conductivity and Methanol permeability of sulfonated Poly(vinyl alcohol) membrane modified by Using Sulfoacetic Acid and Poly(acrylic acid). *Journal of Applied Polymer Science*, **2007**, 105, 838-845.
4. Wootthikanokkhan, J. and Seeponkai, N, Methanol Permeability and Properties of DMFC Membranes Base on Sulfonated PEEK/PVDF blends. *Journal of Applied Polymer Science*, **2006**, 102, 5941-5947.

Conference Presentation:

1. Oral presentation "***Modification of Poly(vinyl alcohol) for use as an Electrolyte Membrane in Direct methanol Fuel Cell***", Energy Research Building Base for Sufficiency Economy, 13-14 December 2006, Bangkok, Thailand.



2. Oral presentation "***Synthesis of Donor-Acceptor Graft Copolymer Based on PPV and Fullerene Grafted Polystyrene for Solar Cell Applications.***", Sustainable Development to Save the Earth: Technologies and Strategies Vision 2050 (SDSE 2008), International Conference on the Occasion of the 4th Cycle Celebration of KMUTT. Millennium Hilton Bangkok hotel, Bangkok, Thailand, 11-13 December 2008

