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**Education**

Degree : Ph.D. (Macromolecular (Polymer) Science and Engineering) Case Western Reserve University, USA

M.Sc. (Polymer Science and Engineering) Lehigh University, USA

B.Sc. (Agro-Industry) Prince of Songkla University, Thailand

**Present employment :**

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**Field of interest:**

Polymer physical chemistry;

Polymer packaging materials;

Barrier properties of polymers;

Bio-related polymer materials;

Biodegradable/edible films (emphasis on protein-based films);

Bio-based polymer blend and (nano)composite;

Utilization of agro-based biopolymers

### Current researches:

- Effect of epoxidized natural rubber on properties of polyvinyl alcohol Thai government
- Effect of gelatin extraction conditions and clove extract incorporation on some properties of film from bigeye snapper skin gelatin Prince of Songkla University
- Properties of gelatin film prepared by thermo-compression molding technique as affected by forming conditions Prince of Songkla University
- Study on film formation and improvement of properties of film from cuttlefish (*Sepia pharanois*) skin gelatin Thai government (NRU project)
- Discoloration and its prevention of protein film from red tilapia muscle Thai government (NRU project)
- Study on functional properties of seaweed extracts and film from fish-skin gelatin incorporated with seaweed extract Thai government

Property improvement of gelatin film using epoxidized natural rubber Thai government

### Awards:

- นักวิจัยที่มีผลงานตีพิมพ์สูงสุด 20 อันดับแรก จากฐานข้อมูล ISI ในปี 2009 (พ.ศ. 2552) ของมหาวิทยาลัยสงขลานครินทร์. งานวันนักวิจัยและนวัตกรรม ม.อ. ประจำปี 2553 (PSU Researcher & Innovation Day 2010). มหาวิทยาลัยสงขลานครินทร์. 14-17 พฤษภาคม 2553.
- Listed name in the International Biographical Centre (IBC)-Top 100 Educators 2009. The International Biographical Centre, Cambridge, England.
- Listed name in Who's Who in the World 2008, Who's Who Publications, Marquis, USA.
- กรรมการที่ปรึกษาวิทยานิพนธ์ดีเด่น ประจำปี 2550 กลุ่มวิทยาศาสตร์ชีวภาพ เรื่อง “ปัจจัยที่มีผลต่อคุณสมบัติฟิล์มโปรตีนกล้ามเนื้อปลาหูแขกและการปรับปรุงคุณสมบัติทางกลและสมบัติการป้องกันการซึมผ่านไอน้ำของฟิล์ม”. มหาวิทยาลัยสงขลานครินทร์. งานวันนักวิจัย ม.อ. ประจำปี 2551. 16 มิถุนายน 2551.

### Publication:

Hoque, Md.S., Benjakul, S. and Prodpran, T. 2011. Properties of film from cuttlefish (*Sepia pharaonis*) skin gelatin incorporated with cinnamon, clove and star anise extracts. *Food Hydrocolloids*. (*In press*, Corrected Proof, Available online 27 October 2010).

- Tongnuanchan, P., Benjakul, S. and Prodpran, T. 2011. Roles of lipid oxidation and pH on properties and yellow discolouration during storage of film from red tilapia (*Oreochromis niloticus*) muscle protein. *Food Hydrocolloids*. **25(3)**: 426-433. (May 2011)
- Hoque, Md.S., Benjakul, S. and Prodpran, T. 2011. Effects of partial hydrolysis and plasticizer content on the properties of film from cuttlefish (*Sepia pharaonis*) skin gelatin. *Food Hydrocolloids*. **25(1)**: 82-90. (January 2011)
- Limpan, N., Prodpran, T., Benjakul, S. and Prasanparn, S. 2010. Properties of biodegradable blend films based on fish myofibrillar protein and polyvinyl alcohol as influenced by blend composition and pH level. *J. Food Eng.* **100(1)**: 85-92. (September, 2010)
- Benjakul, S., Thiansilakul, Y., Visessanguan, W., Roytrakul, S., Prodpran, T. and Meesane, J. 2010. Extraction and characterization of pepsin solubilized collagens from the skin of bigeye snapper, *Priacanthus tayenus* and *Priacanthus macracanthus*. *Journal of The Science of Food and Agriculture*. **90(1)**: 132-138. (January, 2010).
- Hoque, Md.S., Benjakul, S. and Prodpran, T. 2010. Effect of heat treatment of film forming solution on the properties of film from cuttlefish (*Sepia pharaonis*) skin gelatin. *J. Food Eng.* **96(1)**: 66-73. (January, 2010).
- Nuthong, P., Benjakul, S. and Prodpran, T. 2009. Effect of some factors and pretreatment on the properties of porcine plasma protein-based films. *LWT-Food Sci. Tech.* **42(9)**: 1545-1552. (November, 2009)
- Rattaya, S., Benjakul, S. and Prodpran, T. 2009. Properties of fish skin gelatin film incorporated with seaweed extract. *J. Food Eng.* **95(1)**: 151-157. (November, 2009)
- Artharn, A., Prodpran, T. and Benjakul, S. 2009. Round scad protein-based film: storage stability and its application for food packaging. *LWT-Food Sci. Tech.* **42(7)**: 1238-1244. (September, 2009)
- Nuthong, P., Benjakul, S. and Prodpran, T. 2009. Effect of phenolic compounds on the properties of porcine plasma protein-based film. *Food Hydrocolloids*. **23(3)**: 736-741. (May, 2009)
- Nuthong, P., Benjakul, S. and Prodpran, T. 2009. Characterization of porcine plasma protein-based films as affected by pretreatment and cross-linking agents. *Inter. J. Biol. Macromol.* **44(2)**: 143-148. (1 March 2009)

- Artharn, A., Benjakul, S. and Prodpran, T. 2008. The effect of myofibrillar/sarcoplasmic protein ratios on the properties of round scad muscle protein based film. *European Food Research and Technology*. **227(1)**: 215-222. (May 2008)
- Benjakul, S., Artharn, A. and Prodpran, T. 2008. Properties of protein-based film from round scad (*Decapterus maruadsi*) muscle as influenced by fish quality. *LWT-Food Sci. Tech.* **41(5)**: 753-763.
- Prodpran, T., Benjakul, S. and Artharn, A. 2007. Properties and microstructure of protein-based film from round scad (*Decapterus maruadsi*) muscle as affected by palm oil and chitosan incorporation. *Inter. J. Biol. Macromol.* **41(5)**: 605-614.
- Artharn, A., Benjakul, S., Prodpran, T. and Tanaka, M. 2007. Properties of a protein-based film from round scad (*Decapterus maruadsi*) as affected by muscle types and washing. *Food Chem.* **103**: 867-874.
- Intarasirisawat, R., Benjakul, S., Visessanguan, W., Prodpran, T., Tanaka, M. and Howell, N.K. 2007. Autolysis study of bigeye snapper (*Priacanthus macracanthus*) skin and its effect on gelatin. *Food Hydrocoll.* **21**: 537-544.
- Chinabhark, K., Benjakul, S. and Prodpran, T. 2007. Effect of pH on the properties of protein-based film from bigeye snapper (*Priacanthus tayenus*) surimi. *Bioresource Tech.* **98**: 221-225.
- Jongjareonrak, A., Benjakul, S., Visessanguan, W., Prodpran, T. and Tanaka, M. 2006. Characterization of edible films from skin gelatin of brownstripe red snapper and bigeye snapper. *Food Hydrocolloids.* **20**: 492-501.
- Prodpran, T., Chinabhark, K. and Benjakul, S. 2005. Properties of composite film based on bigeye snapper surimi protein and lipids. *Songklanakarin J. Sci. Technol.* **27(Suppl. 3)**: 775-788.
- Prodpran, T. and Benjakul, S. 2005. Effect of acid and alkaline solubilization on the properties of surimi based film. *Songklanakarin J. Sci. Technol.* **27**: 563-574.
- Prodpran, T., Shenogin, S. and Nazarenko, S. 2002. Gas transport behavior of semicrystalline syndiotactic polystyrene containing a and b crystalline forms. *Polymer.* **43**:2295-2309.
- Olson, B.G., Prodpran, T., Jamieson, A.M. and Nazarenko, S. 2002. Positron annihilation in syndiotactic polystyrene containing a and b crystalline forms. *Polymer.* **43**:6775-6784.

- Hodge, K., Prodpran, T., Shenogina, N.B. and Nazarenko, S. 2002. Solid-state structure of thermally crystallized syndiotactic polystyrene. *J. Appl. Polym. Sci.* **83**:2705-2715.
- Hodge, K., Prodpran, T., Shenogina, N.B. and Nazarenko, S. 2001. Diffusion of oxygen and carbon dioxide in thermally crystallized syndiotactic polystyrene. *J. Polym. Sci., Part B Polym. Phys.* **15**:1519-2538.
- Prodpran, T., Dimonie, V.L., Sudol, E.D. and El-Aasser, M.S. 2000. Nitroxide-mediated living free radical miniemulsion polymerization of styrene. *Macromol. Symp.* **155**:1-14.
- Prodpran, T.; Dimonie, V. L.; Sudol, E. D.; El-Aasser, M. S. 1999. *Proc. Am. Chem. Soc., Div. Polym. Mater.: Sci. Eng.* **80**: 534.

#### **Conferences/Meeting and Proceeding:**

- Tongnuanchan, P., Benjakul, S. and Prodpran, T. 2010. Roles of lipid oxidation and pH on properties and yellow discolouration of red tilapia muscle based film. Food Innovation Asia Conference 2010: Indigenous Food Research and Development to Global Market. BITEC, Bangkok. June 17 – 18, 2010. (*Proceeding*)
- Hoque, Md.S., Benjakul, S. and Prodpran, T. 2010. Properties and molecular characteristics of film from cuttlefish (*Sepia pharaonis*) skin gelatin as affected by partial hydrolysis and glycerol content. Food Innovation Asia Conference 2010: Indigenous Food Research and Development to Global Market. BITEC, Bangkok. June 17 – 18, 2010. (*Abstract*)
- Prodpran, T., Hoque, M.S. and Benjakul, S. 2009. Properties of cuttlefish skin gelatin film as affected by heat treatment. The 3<sup>rd</sup> Joint Trans-Atlantic Fisheries Technology Conference Copenhagen. Copenhagen, Denmark. September 15 – 18, 2009. (*Abstract*)
- Chamnanvatchakit, P., Prodpran, T. and Benjakul, S. 2009. Use of epoxidized natural rubber (ENR) to modify the properties of bovine gelatin film: Effect of gelatin/ENR ratio and epoxy content of ENR. The 47<sup>th</sup> Kasetsart University Annual Conference: Agro-Industry. Bangkok, Thailand. March 17 – 20, 2009. (*Proceeding*)
- Limpan, N., Prodpran, T., Benjakul, S. and Prasanparn, S. 2009. Influences of degree of hydrolysis and molecular weight of poly (vinyl alcohol) (PVA) on properties of biodegradable films based on fish myofibrillar protein and PVA blend. The 47<sup>th</sup> Kasetsart University Annual Conference: Agro-Industry. Bangkok, Thailand. March 17 – 20, 2009. (*Proceeding*)

- Chamnanvatchakit, P., Prodpran, T. and Benjakul, S. 2008. Influence of glycerol concentration on mechanical, physical and water-vapour barrier properties of bovine gelatin film. The Sixth Regional IMT-GT Uninet Conference 2008: Sustaining Naural Resources Towards Enhancing the Quality of Life Within the IMT-GT Zone. Penang, Malaysia. August 28 – 30, 2008. (*Proceeding*)
- Limpan, N., Prodpran, T. and Benjakul, S. 2008. Effects of compositions and pH levels on properties of biodegradable blend films based on fish myofibrillar protein and polyvinyl alcohol. The Sixth Regional IMT-GT Uninet Conference 2008: Sustaining Naural Resources Towards Enhancing the Quality of Life Within the IMT-GT Zone. Penang, Malaysia. August 28 – 30, 2008. (*Proceeding*)
- Rattaya, S., Benjakul, S. and Prodpran, T. 2007. Antioxidative activity of of brown seaweed extracts (*Turbinaria ornate* and *Sargassum polycystum*). 33<sup>rd</sup> Congress on Science and Technology of Thailand. Science and Technology for Global Sustainability. Walailak University, Nakhon Si Thammarat, Thailand. October 18 – 20, 2007. (*Proceeding*)
- Nuthong, P., Benjakul, S. and Prodpran, T. 2008. Effect of phenolic compounds on the properties of porcine p;asma protein-based film. Food Innovation Asia Conference 2008: Healthy food for all. BITEC, Bangkok. June 12 – 13, 2008. (*Proceeding*)
- Prodpran, T., Artharn, A. and Benjakul, S. 2007. Effect of muscle types and washing on the properties of protein-based film from round scad (*Decapterus maruadsi*) meat. NZIFST Conference 2007: Food the Challenges. Wellington. New Zealand. 19<sup>th</sup> – 21<sup>st</sup> June 2007. (*Abstract*)
- Intarasirisawat, R., Benjakul, S. Prodpran, T. and Tanaka, M. 2006. Proteinase associated with bigeye snapper skin: characterization and its effect on gelatin. The 8<sup>th</sup> Agro-Industrial Conference: Food Innovation. BITEC Bangna, Bangkok, Thailand. June 15-16, 2006. (*Abstract*)
- Artharn, A., Benjakul, S. and Prodpran, T. 2005. Chemical composition and nitrogenous constituents of different mackerel (*Decapterus maruadsi*) muscle as influenced by washing. The 7<sup>th</sup> Agro-Industrial Conference, Advancing Food Technology: Bringing Thailand into the World's Kitchen, BITEC Bangna, Bangkok, Thailand. June 22-24, 2005. (*Abstract*)
- Chinabhark, K., Benjakul, S. and Prodpran, T. 2005. Effect of pH and protein content on the properties of protein-based film from bigeye snapper surimi. The 7<sup>th</sup> AGRO-INDUSTRIAL Conference, Advancing Food Technology: Bringing Thailand into the World's Kitchen, BITEC, Bangkok, Thailand. June 22-24, 2005. (*Abstract*)

Brian, O.G., Alexander, J., Prodpran, T. and Nazarenko, S. 2002. Positron Annihilation Lifetime Study of Semicrystalline Syndiotactic Polystyrene. American Physical Society, Annual APS March Meeting. Indianapolis, Indiana Meeting ID: MAR02, abstract #G11.013. March 18 – 22, 2002. (*Abstract*)

Nazarenko S., Prodpran T., Shenogin, S. and Shenogina, N. 2001. Diffusion of oxygen and carbon dioxide in semicrystalline syndiotactic polystyrene. American Physical Society, Annual March Meeting. Washington State Convention Center Seattle, Washington Meeting ID: MAR01, abstract #L18.009. March 12-16, 2001. (*Abstract*)

Prodpran T, Dimonie VL, Sudol ED and El-Aasser MS. Nitroxide-mediated living free radical miniemulsion polymerization of styrene. Abstract of Papers of the American Chemical Society. 1999; 217: 324-PMSE. (*Proceeding*)