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EDUCATION

Ph.D. – Materials Science and Engineering (Ceramics) CASE WESTERN RESERVE UNIVERSITY, Cleveland, OH, USA	January 1999
M.S. – Materials Science and Engineering (Ceramics) CASE WESTERN RESERVE UNIVERSITY, Cleveland, OH, USA	January 1996
B.Sc. – Chemistry (1st Honor) KHON KAEN UNIVERSITY, Khon Kaen, Thailand	April 1993
Mini MBA THAMMASAT UNIVERSITY, Thailand	September 2002

WORK EXPERIENCE

Head of Ceramics Processing Laboratory	September 2007 - Present
Principal Researcher	May 2007- Present
Senior Researcher	May 2004- May 2007
Researcher	February 1999 - May 2004

RESEARCH INTERESTS

- **Functional coating.** This industrial-driven research focuses on hierarchical engineering of surface by mimicking surface feature found in nature, particularly the surface of lotus leaf. The properties of particular interest include self-cleaning, anti-dusting, anti-fouling, anti-reflection, as well as flame-retardant. The study covers both hierarchical structural design of the coating and chemical composition manipulation that give rise to the desired properties at an acceptable cost. The coatings are deposited by using the dip-coating and spray on methods which are simple, versatile, and can be modified for large-scaled coating for large panels such as solar cells.
- **Nanostructured materials.** The research covers the synthesis of nanomaterials such as WO₃-based nanowires, SnO₂ nanorod, TiO₂-based nanofibers, and electrospun TiO₂ fibers, and covers the application of the nanomaterials for anti-bacterial and depollution.
- **Solar-reflective pigments.** The NIR reflective pigments (cool pigments) are synthesized by solid-state reaction and be utilized in building envelopes for energy saving.

ACADEMIC CONTRIBUTION

Dr. Supothina is currently the external faculty member of the Advanced and Sustainable Environmental Engineering program (TAIST-Tokyo Tech), the department of Chemical Engineering, Kasetsart University. and adjunct faculty in the School of Energy Environment and Materials, King Mongkut's University of Technology Thonburi and School of Engineering and Technology, Asian Institute of Technology. He has been the co-advisor for graduate studies, and invited lecture in several universities.

Dr. Supothina has published more than 80 research articles in international journals, more than 70 articles in the international conferences, and delivered more than 50 international conference

presentations. He has served as a regular reviewer for many international journals in the field of *Materials Synthesis and Characterization, Nanostructured Materials, Environmental Technology, Coating Technology and Chemical Sensors.*

PUBLICATIONS

1. Piya Soranakom, Naratip Vittayakorn, Pattana Rakkwamsuk, Sitthisuntorn Supothina and Panpailin Seeharaj, Effect of surfactant concentration on the formation of Fe₂O₃@SiO₂ NIR-reflective red pigments, *Ceramics International*, (2021) In press.
2. Chanitsara Ngamsakpasert, Achariya Suriyawong, Sitthisuntorn Supothina, Paradee Chuaybamroong, Post-harvest treatment of carbendazim in Chinese chives using TiO₂ nanofiber photocatalysis with different anatase/rutile ratios, *Journal of Nanoparticle Research*, **22** (2020) 174.
3. Nuchjarin Saengwong, Mantana Suwan and Sitthisuntorn Supothina, Synthesis of NIR-reflective CoFe₂O₄ black pigments doped with CaO, MgO and Al₂O₃ derived from minerals, *Chiang Mai Journal of Science*, **47**[4] (2020) 686-699.
4. Mantana Suwan, Nuchjarin Sangwong and Sitthisuntorn Supothina, Effect of Ni doping on the properties of NIR-reflective ZnFe₂O₄ black pigments, *Ceramics-Silikaty*, **64**[2] (2020) 172-179.
5. Ladawan Chotirat, Sutham Niyomwas, Sitthisuntorn Supothina, Witthawat Wongpisan and Kirati Waree, Synthesis and electrical resistance property of vanadium oxide thin films by DC magnetron sputtering, to be published in *Materials Science Forum*, **998** (2020) 185-190.
6. Nuchjarin Sangwong, Mantana Suwan, Sitthisuntorn Supothina, Effect of calcination temperature and dolomite or Al₂O₃ doping on properties of NIR-reflective CoFe₂O₄ black pigment, *Materials Today: Proceedings*, **15** (2019) 1595-1601.
7. Sunisa Jindasuwan and Sitthisuntorn Supothina, Hydrophobic and oleophilic filter paper for oil/water separation, *Key Engineering Materials*, **798** (2019) 385-390.
8. Sunisa Jindasuwan, Mantana Suwan and Sitthisuntorn Supothina, Bifunctional water-repellent and flame-retardant cotton fabric coated with poly(methylhydrogen siloxane) and ammonium phosphate, *Chiang Mai Journal of Science*, **45**[5] (2018) 2211-2219.
9. On-uma Nimitrakoolchai, Mantana Suwan and Sitthisuntorn Supothina, Transparent, super-hydrophobic coating on interlocking clay block for the mitigation of microbial growth, *IOP Conference Series: Materials Science and Engineering*, **283** (2017) 012013.
10. Sunisa Jindasuwan and Sitthisuntorn Supothina, Top layer coating of latex cup to improve anti-adhesive property of rubber latex, *Key Engineering Materials*, **757** (2017) 52-56.
11. Mantana Suwan and Sitthisuntorn Supothina, Fabrication of robust, transparent PMMA/SiO₂ nanocomposite superhydrophobic films with self-cleaning property, *Journal of Ceramic Processing Research*, **18**[7] (2017) 521-525.
12. Ramida Rattanakam, Pinitpon Pituya, Mantana Suwan and Sitthisuntorn Supothina, Assessment of hydrophilic biochar effect on sandy soil water retention, *Key Engineering Materials*, **751** (2017) 790-795.

13. Mantana Suwan, Paveena Premjit, Parjaree Thavorniti, Pinit Kidkhunthod and Sitthisuntorn Supothina, Synthesis of near infrared-reflective Mo-doped $\text{Sm}_2\text{Ce}_2\text{O}_7$ yellow pigment and near infrared-reflective glaze, *Journal of Ceramic Processing Research* **18**[1] (2017) 10-15.
14. Mantana Suwan, Nuchjarin Saengwong and Sitthisuntorn Supothina, Effect of Co and Pr doping on the properties of solar-reflective ZnFe_2O_4 dark pigment, *IOP Conference Series: Materials Science and Engineering*, **182** (2017) 012003.
15. Sunisa Jindasuwan, On-uma Nimittrakoolchai and Sitthisuntorn Supothina, Surface property and stability of transparent superhydrophobic coating based on SiO_2 - polyelectrolyte multilayer, *Materials Science*, **22**[2] (2016) 309-313.
16. Sunisa Jindasuwan, Pim Chakornnimit and Sitthisuntorn Supothina, Influences of inhibitor and firing temperature on efflorescence reduction of clay products, *Key Engineering Materials*, **659** (2015) 111-115.
17. Mantana Suwan, Pantip Sakchaikul, Sorachon Yoriya and Sitthisuntorn Supothina, Effect of firing temperature and Mo doping on the synthesis of solar-reflective $\text{Sm}_2\text{Ce}_2\text{O}_7$ yellow pigment, *Key Engineering Materials*, **659** (2015) 175-179.
18. Chuleewan Thunyasirion, Pipat Sribenjalux, Sitthisuntorn Supothina and Paradee Chuaybamroong, Enhancement of air filter with TiO_2 photocatalysis for *Mycobacterium tuberculosis* removal, *Aerosol and Air Quality Research*, **15** (2015) 600-610.
19. Mantana Suwan and Sitthisuntorn Supothina, Increasing synthesis yield of K-doped tungsten oxide nanowire by using stirred hydrothermal reactor and its NIR reflectance property, *Micro&Nano Letter*, **9**[12] (2014) 877-880.
20. Atthaboon Witowitaya, Sitthisuntorn Supothina and Paradee Chuaybamroong, Photocatalysis disinfection of *Bacillus subtilis* spore in water under sunlight irradiation, *Thammasat International Journal of Science and Technology*, **19**[3] (2014) 44-54.
21. Sitthisuntorn Supothina, Mantana Suwan and Anurat Wisitsoraat, Hydrothermal synthesis of $\text{K}_2\text{W}_4\text{O}_{13}$ nanowire with high H_2S gas sensitivity, *Microelectronic Engineering*, **126** (2014) 88-92.
22. Krisaneeya Sungkajuntranon, Pipat Sribenjalux, Sitthisuntorn Supothina and Paradee Chuaybamroong, Effect of binders on airborne microorganism inactivation using TiO_2 photocatalytic fluorescent lamps, *Journal of Photochemistry and Photobiology B: Biology*, **138** (2014) 160-171.
23. Mantana Suwan, Pantip Sakchaikul, Sorachon Yoriya and Sitthisuntorn Supothina, Synthesis, characterization and solar-reflective properties of Cr_2O_3 -based green pigment, *Advanced Materials Research*, **931-932** (2014) 142-146.
24. Sitthisuntorn Supothina, Manatna Suwan and Anurat Wisitsoraat, Hydrothermal synthesis and gas sensing property of SnO_2 nanorod clusters, *Journal of Ceramic Processing Research*, **14**[2] (2013) 226-229.
25. Sunisa Jindasuwan, Nattinee Sukmanee, Chanida Supanpong, On-uma Nimittrakoolchai and Sitthisuntorn Supothina, Preparation of water-repellent and flame-retardant coating on mulberry paper, *Advanced Materials Research*, **770** (2013) 100-103.

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28. Seehararch Larpkern, Sitthisuntorn Supothina and Paradee Chuaybamroong, Appropriate binder for titanium dioxide coating onto fluorescent lamps for microorganism removal from the air (in Thai), *KKU Research Journal*, **18**[2] (2013) 270-279.
29. Kanokwan Sowichai, Sitthisuntorn Supothina, On-uma Nimittrakoolchai, Takafumi Seto, Yoshio Otani and Tawatchai Charinpanitkul, Facile method to prepare magnetic multi-walled carbon nanotubes by in-situ co-precipitation route, *Journal of Industrial and Engineering Chemistry*, **18**[3] (2012) 1568-1571.
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32. Sittinun Tawkaew and Sitthisuntorn Supothina, Preparation and photocatalytic activity of iron oxide-loaded potassium titanate layered compounds, *Journal of Nanoscience and Nanotechnology*, **12** (2012) 4969–4974.
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35. On-uma Nimittrakoolchai and Sitthisuntorn Supothina, Fabrication of silica-based multilayer films with self-cleaning and antireflective properties, *Journal of Nanoscience and Nanotechnology*, **11** (2011) 8880-8884.
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- and A. Poyai, An effect of viscosity of coating materials on silicon micro-patterning arrays for superhydrophobic surface, *Advanced Materials Research*, **93-94** (2010) 447 - 450.
51. Nithi Atthi, On-uma Nimittrakoolchai, Wutthinan Jeamsaksiri, Sitthisuntorn Supothina, Charndet Hruanun and Amporn Poyai, Study of Optimization Condition for Spin Coating of the Photoresist Film on Rectangular Substrate by Taguchi Design of an Experiment, *Songklanakarin Journal of Science and Technology*, **31**[3] (2009) 331 - 335.
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