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About me

I teach chemistry education and innovation in science education at the Institute for Innovative Learning. I have also worked on low-cost silica aerogel since 2011, from the first lab samples to a production line in Thailand. My students work either on how people learn science or on materials, and some bring the two together, for example by turning current materials research into lessons for school students.

Academic backgrounds

- Ph.D. in Science and Technology Education (2006 – 2010)
Institute for Innovative Learning, Mahidol University, Thailand
- B.Sc. in Chemistry (2001– 2005)
Faculty of Science, Maha Sarakham Rajabhat University, Thailand

Workings research topics

- Nanostructured Materials Processing and Characterization
- Silica Aerogel-Based Thermal Insulation Technologies
- Energy-Efficient Functional Coatings (Solar Reflective & Passive Cooling)
- Thermal Management Materials for Net-Zero Energy Systems
- Chemical Education

Patents

1. **Supan Yodyingyong.** (Thailand Patent, 2013). “Process for the Preparation of a Silica Aerogel”; Patent Number: 98428
2. **Supan Yodyingyong.** (2017) “A Method for Producing a Micron-Size Spherical Silica Aerogel”; Patent Number: 93934
3. **Supan Yodyingyong.** (2019) “A Method for Producing a Micron-Size Spherical Silica Aerogel”; Patent Number: AU 2017384966 B2, JP 6907321 B, EP 3562782 B1, US 11124419 B2, CN 110088040 B
4. Noppakun SANPOKoichi, FukudaJaturong JITPUTTI, Darapond TRIAMPO, and **Supan YODYINGYONG.** (2020) “Thermal insulation coating”; Application Number: WO2020076242A1

Publications

Google Scholar

https://scholar.google.com/citations?hl=en&user=YweVa_MAAAAJ&view_op=list_works&sortby=pubdate

1. Boonrawd, C., Vittayakorn, W., Triampo, D., Yodyingyong, S. (2026). Effect of pre-vulcanization time on structure and thermal insulation of natural rubber latex/silica aerogel composites. *Gels*, 12(7), 599.
2. Putthithanas, P., Kaenphakdee, S., Yodyingyong, S., Triampo, W., Sanpo, N., Jitputti, J., Triampo, D. (2024). Preparation of copper-doped zinc oxide (CZO) nanoparticles and CZO/acrylic copolymer emulsion with polyvinylpyrrolidone (PVP) coated on glass substrate for optical properties. *Coatings*, 14(4), 502.
3. Duangpummet, P., Yodyingyong, S., Chenprakhon, P. (2022). Fruit Puzzle: An inquiry-based activity to investigate high school students' understanding of the relationship between the concepts of density and concentration of solution at the submicroscopic level. *Journal of Chemical Education*, 99(12), 4175–4180.
4. Boonrawd, C., Yodyingyong, S., Benyahia, L., Triampo, D. (2022). Novel solvent–latex mixing: Thermal insulation performance of silica aerogel/natural rubber composite. *Gels*, 8(1), 7.
5. Mahardthai, S., Yodyingyong, S., Sriwattanarothai, N., Jittam, P. (2020). The experiential learning unit for promoting students' understanding of vapor pressure and related concepts. *Communications in Computer and Information Science*, 13–22.
6. Lati, W., Triampo, D., Yodyingyong, S. (2019). Exposure to nanoscience and nanotechnology using guided-inquiry-based activities with silica aerogel to promote high school students' motivation. *Journal of Chemical Education*, 96(6), 1109–1116.
7. Triampo, W., Yodyingyong, S., Panijpan, B., Triampo, D. (2009). An inexpensive furnace for calcination: Simple TiO₂ synthesis. *Journal of Chemical Education*, 86(8), 950.

Awards and Distinctions:

- Outstanding Technologist Award 2026, The Foundation for the Promotion of Science and Technology under the Patronage of H.M. the King
- Mahidol University Jongjate Metheewit Award – Real World Impact for Sustainability (Early Career Researcher), Mahidol University, 2026
- 7 Innovation 2026 (Technology Category); CP All Public Company Limited
- คนดี ศรีมหิดล 2569; Mahidol University Alumni
- National Research Council of Thailand (2025), NRCT Quality Achievement Award for "Silica Aerogel Insulation Coating"
- National Research Council of Thailand (2020), Invention Award, “A Method for Producing a Micron-Size Spherical Silica Aerogel”

- Foundation for the Promotion of Science and Technology (2018) Outstanding Technology Achievement Award at the Outstanding Technologist and Young Technologist Awards
- Gold Medal Award, the 13th Taipei International Invention Show & Technomart (INST 2017), “Method of Preparing a Spherical Silica Aerogel” Taiwan
- Invention and Innovation Award, Mahidol University (2016) “A Cost-Effective Synthesis of Silica Aerogel by Ambient Pressure Drying Route”
- National Research Council of Thailand (2015), Invention Award, “Silica Aerogel - the Material for the Future”

Co-Founder/Director

- Sahara Dry Co., Ltd.; <https://www.saharadry.com/>
- Thilium Co., Ltd.; <https://thilium.co.th/>
- Inno Material Co., Ltd.