



SIRIRAT TUBSUNGNOEN RATTANACHAN
Ph.D. | Associate Professor

CM08, 4th Floor, Academic Building 1
sirirat.b@g.sut.ac.th • +66(0) 4422 4489

EDUCATION

NAGAOKA UNIVERSITY OF TECHNOLOGY

Ph.D. in Materials Science and Engineering

Niigata, Japan

2003

CHULALONGKORN UNIVERSITY

M.Sc. in Materials Science

BANGKOK, Thailand

1997

CHIANG MAI UNIVERSITY

B.Sc. in Industrial Chemistry

Chiang Mai, Thailand

1995

ACADEMIC EXPERIENCE

ACADEMIC RANK

Suranaree University of Technology

Associate Professor

Nakhon Ratchasima, Thailand

2017 - present

ACADEMIC ADMINISTRATIVE WORKS

Suranaree University of Technology

Deputy Director of Technopolis (Administrative and Corporate Communications Department) **Nakhon Ratchasima, Thailand** 2023-present

Head, School of Ceramic Engineering 2018 – 2021

Committee of Institute of Engineering 2014-2018

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

INTERNATIONAL JOURNAL OF APPLIED CERAMIC TECHNOLOGY, WILEY

Associate editors

USA

Present

MATERIALS RESEARCH SOCIETY OF THAILAND

Member

Thailand

Present

HONORS AND AWARDS

SCIENCE PARK PROMOTION AGENCY

1st Runner-up NESP Innovation Awards

Thailand

2015

Newton Fund and Royal Academy of Engineering

Leader Innovation Fellowship

United Kingdom

2017

SERVICE ACTIVITIES

POWER INSULATOR Ltd.

Development of mechanical properties for Electrical Insulator Body

T.T. CERAMIC PUBLIC COMPANY LIMITED. CO.LTD.

Reducing cost for porcelain tile

Solving the sagging of fired porcelain body

SMART TANK PUBLIC COMPANY

Enamel Coating on Steel Sheet for Bolted Tank

Thailand

2005 – 2006

Thailand

2018

Thailand

2021 - 2022

PUBLICATIONS**JOURNAL**

- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Microstructure and Fracture Toughness of a Spark Plasma Sintered Al₂O₃-based Composite with BaTiO₃ Particulates, Journal of the European Ceramic Society, Vol. 23 [8], 2003, 1269-1276
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Effect of Polarization Fracture Toughness of BaTiO₃/Al₂O₃ Composites, Journal of the European Ceramic Society, Vol. 24[5], 2004, 775-783
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fabrication of piezoelectric laminate for smart material and crack sensing capability, Science and Technology of Advanced Materials, Vol. 6 [6], September, 2005, pp. 704-711.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃-MgO Composites Sintered by Spark Plasma Sintering, Fracture Mechanics of Ceramics, Vol. 14, White, K.W.; Bradt, R.C.; Sakai, H.; Munz, D. (Editors), 2005, XVIII, ISBN: 0-387-24134-5
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃ and BaTiO₃-Al₂O₃ Composites Sintered by Spark Plasma Sintering, Fracture Mechanics of Ceramics, Vol. 14, White, K.W.; Bradt, R.C.; Sakai, H.; Munz, D. (Editors), 2005, XVIII, ISBN: 0-387-24134-5
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fatigue Behavior of Al₂O₃-based Composite with BaTiO₃ Piezoelectric Phase, International Journal of Fatigue, 2006, Vol. 28 (10), pp. 1413-1419
- **Sirirat Rattanachan** and Charussri Lorprayoon, Korat clays as raw materials for lightweight aggregates, ScienceAsia, 2005, Vol.31, No. 3. pp.277-281
- **Sirirat Rattanachan**, Dan Kwian clays for slip casting, ScienceAsia, Vol. 33 No. 2. June 2007p. 239-243
- **Rattanachan, S.**, Lorpayoon, C, Bunphyun, P., Chitosan-crystallized apatite composites for bone cements: Mechanical strength and setting behavior, Key Engineering Materials, Vol. 330-332 II (2007), 839-842
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Synthesis of Chitosan/brushite Powders for Bone Cement Composites, Journal of Ceramic Society of Japan, 116[1] 2008, p.36-41
- Borrisutthekul, R., Mitsomwang, P., **Rattanachan, S.**, Mutoh, Y., TIG welding of dissimilar metals between steel/aluminum alloy, Welding in the World, Vol. 53, Special Issue (2009), 585-588

- Rattana Borrisutthekul, Pusit Mitsomwang, **Sirirat Rattanachan** and Yoshiharu Mutoh, Feasibility of Using TIG Welding in Dissimilar Metals between Steel/Aluminum Alloy, Energy Research Journal 1 (2), 2010, 82-86
- **Sirirat Rattanachan**, Piyanan Boonphayak and Charussri Lorprayoon, Development of chitosan/nanosized apatite composites for bone cements, Asian Biomedicine, Vol. 5, No. 4 (2011), 499-506
- N. Srakaew and **S. T. Rattanachan**, Effect of Apatite Wollastonite Glass Ceramic Addition on Brushite Bone Cement Containing Chitosan, Advanced Materials Research Vol. 506 (2012), p.106-109
- Phanuwat Krongarrom, **Sirirat T. Rattanachan** and Thipwan Fangsuwannarak, ZnO doped with Bismuth in case of in-phase behavior for Solar Cell application, Engineering Journal, Vol. 16, no.3 (2012) Special issue: Green Nanotechnology for the future, pp. 59-70.
- **Sirirat T. Rattanachan**, Phanuwat Krongarrom, and Thipwan Fangsuwannarak, Boron Doping Effects on the Structural and Optical Properties of Sol-gel Transparent ZnO Films, Key Engineering Materials (2013), Vol. 547, p. 145-151.
- **Sirirat T. Rattanachan**, Nuan La-ong Srakaew, Ratiya Pethnin and Nitinat Suppakarn, Effect of Zn Addition on Sol-gel Derived Apatite/Wollastonite Glass-Ceramics Scaffolds, J. Metals, Materials and Minerals (2012), Vol. 22(2), pp. 61-65.
- **Sirirat T. Rattanachan**, Phanuwat Krongarrom and Thipwan Fangsuwannarak, Influence of annealing temperature on characteristics of Bismuth doped Zinc Oxide films, American Journal of Applied Sciences (2013), Vol. 10(11), p. 1427-1438.
- Kaewphoka, J., Fangsuwannarak, T., **Rattanachan, S.T.**, Synthesis of surfactant-assisted nanostructured Bi-doped Zinc oxide for photo-sensing application, 2014 11th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology, ECTI-CON 2014; Nakhon Ratchasima; Thailand; 14 May 2014 through 17 May 2014; Category numberCFP1406E-USB; Code 106689
- Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan**, The pH-dependent properties of the Biphasic Calcium Phosphate for Bone Cements, Journal of Biomimetics, Biomaterials and Biomedical Engineering (2014), V. 21, pp. 3-16
- Ratiya Phetnin and **Sirirat Tubsungnoen Rattanachan**, Bio-hybrid composite scaffold from silk fibroin/chitosan/mesoporous bioactive glass microspheres for tissue engineering applications, Advanced Materials Research (2014) Vol. 1131, pp 79-83 doi:10.4028/www.scientific.net/AMR.1131.79.
- Ratiya Phetnin and **Sirirat T. Rattanachan**, Preparation and antibacterial property on silver incorporated mesoporous bioactive glass microspheres, J. sol-gel Science and Technology (2015), DOI 10.1007/s10971-015-3697-1.
- Pisitpipathsin, N., Sratta, Y, Unruan, S., Promsawat, M., Marungsri, B., Yimnirun, R., **Rattanachan, S.**, Pojprapai, S., Effect of Temperature on Ferroelectric and Piezoelectric Behaviour of Mn-Doped 0.75BF-0.25BT Multiferroic Ceramics, Ferroelectrics, Volume 489, Issue 1, 20 November 2015, Pages 110-117

- Kempet, W., Marungsri, B., Yimnirun, R., Klysubun, W., Fangsuwannarak, T, **Rattanachan, S.**, Pisitpipathsin, N., Promsawat, M., Pojprapai, S., Polarization Switching of PZT under Electrical Field via in-situ Synchrotron X-ray Absorption Spectroscopy, *Ferroelectrics*, Volume 492, Issue 1, 19 February 2016, Pages 35-42.
- Sumalee CHANRAWANGYOT, **Sirirat T. RATTANACHAN**, Apichon WATCHARENWONG and Thipwan FANGSUWANNARAK, Antibacterial Activity of ZnO Nanoparticles Coated on Ceramic Tiles Prepared by Sol-Gel Method, *Journal of Metals, Materials and Minerals*, Vol. 27 No. 2 pp. 1-5, 2017.
- Buatip, N., Promsawat, N., Pisitpipathsin, N., Namsar, O., Pawasri, P., Ounsung, K., Phabsimma, K., **Rattanachan, S.T.**, Janphuang, P., Projprapai, S., Investigation on electrical properties of BCZT ferroelectric ceramics prepared at various sintering conditions, *Integrated Ferroelectrics*, Volume 187, Issue 1, 12 February 2018, Pages 45-52.
- Paritat Thaitalay, Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan***, Comparison Among Alpha-tricalcium Phosphate Synthesized by Solid State Reaction and Wet Chemical Reaction for Calcium Phosphate Cements, *Chiang Mai J. Sci.* 2018; 45(5) : 2123-2131
- **Sirirat Tubsungnoen Rattanachan***, Sanong Suksaweang, Ting-Xin Jiang, Randall B. WidELITZ, Cheng-Ming Chuong and Nuan La-ong Srakaew, Self-setting Calcium Phosphate Enhanced with Osteoconduction and Bioactivity for Bone Cement, *Chiang Mai J. Sci.* 2018; 45(5) : 2132-2139
- Rattanawichai, P., Fangsuwannarak, T., Phatthanakun, R., **Rattanachan, S.T.**, High photocurrent gain of spherical nano-crystalline ZnO:Bi film for advanced solar cells application, *Chiang Mai Journal of Science*, Volume 45, Issue 5, August 2018, Pages 1995-2004
- **Sirirat Tubsungnoen Rattanachan**, Nuan La-ong Srakaew, Paritat Thaitalay, Oranich Thongsri, Rawee Dangviriyakul, Sawitri Srisuwan, Sanong Suksaweang, Randell B WidELITZ, Cheng-Ming Chuong, Thanikul Srithunyarat, Naruepon Kampa, Duangdaun Kaenkangploo, Somphong Hoisang, SUPHATTRA JITTIMANEE, Piyasak Wipoosak, Phanthit Kamlangchai and Pongsatorn Tuchpramuk, Development of injectable chitosan/biphasic calcium phosphate bone cement and In Vitro and In Vivo evaluation, *Biomedical Materials*, Accepted Manuscript online 27 March 2020.
- Ratiya Buapa Phetnin, Sanong Suksaweang, Chiara Giannasi, Anna Teresa Brini, Stefania Niada, Sawitri Srisuwan, **Sirirat Tubsungnoen Rattanachan**, 3D mesoporous bioactive glass/silk/chitosan scaffolds and their compatibility with human adipose-derived stromal cells, *International Journal of Applied Ceramic Technology*, Volume 17, Issue 6, November/December 2020, Pages 2779-2791
- Rawee Dangviriyakul, Oranich Thongsri, Paritat Thaitalay, Sawitri Srisuwan, **Sirirat Tubsungnoen Rattanachan**, ENHANCING THE MECHANICAL PROPERTIES OF THE SOL-GEL GLASS IONOMER CEMENT BY TREATED CHITOSAN FIBER REINFORCEMENT, *Suranaree Journal of Science and Technology*, 2021 Accepted
- Paritat Thaitalay, Oranich Thongsri, Rawee Dangviriyakul, Sawitri Srisuwan, Chutima Talabnin, Sanong Suksaweang, Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan**, Influence of Polyacrylic acid/Na₂HPO₄ mixture on biphasic calcium phosphate cement: Enhancing strength and cell viability, *International Journal of Applied Ceramic Technology*, Volume 18, Issue 4, July/August 2021, Pages 1365-1378 March 2021, <https://doi.org/10.1111/ijac.13761>
- Oranich Thongsri, Sawitri Srisuwan, Paritat Thaitalay, Rawee Dangviriyakul, Prasert Aengchuan, Narong Chanlek, Chutima Talabnin, Sanong Suksaweang and **Sirirat Tubsungnoen Rattanachan** Influence of Al₂O₃ and P₂O₅ contents in sol-gel ionomer glass system on the structure and their cement properties, *Journal of Sol-Gel Science and Technology*, 2021, 98(3), 441-451, DOI 10.1007/s10971-021-05519-9
- Thaitalay, P., Giannasi, C., Niada, S., Thongsri, O., Dangviriyakul, R., Srisuwan, S., Suksaweang, S., Brini, AT., **Rattanachan, S.T.** (2022). Nano-bioactive glass incorporated polymeric

Apatite/Tricalcium phosphate cement composite supports proliferation and osteogenic differentiation of human adipose-derived stem/stromal cells. *Materials Today Communications*, 103590.

- Thongsri, O., Srisuwan, S., Thaitalay, P., ...Suksaweang, S., **Rattanachan, S.T.**, Structural evaluation of ZnO substitution for CaO in glass ionomer cement synthesized by sol-gel method and their properties, *Journal of Materials Science*, 57(1), pp. 633–650 (2023)
- Paritat Thaitalay, Oranich Thongsri, Rawee Dangviriyakul, Sawitri Srisuwan, Louise Carney, Julie Elizabeth Gough, **Sirirat Tubsungnoen Rattanachan**, Primary human osteoblast and mesenchymal stem cell responses to apatite/tricalcium phosphate bone cement modified with polyacrylic acid and bioactive glass, *J Biomed Mater Res.* 2023;1–17.

CONFERENCE

- **Sirirat Rattanachan**, Al₂O₃-based Composite with BaTiO₃ Sintered by Spark Plasma Sintering, JSME/ASME International Conference on Materials and Processing 2002, The 10th JSME Materials and Processing Conference, October 15-18, 2002, 270-275
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Effect of Polarization on the Fracture Toughness of BaTiO₃-Al₂O₃ Composites, National Metal and Materials Conference, National Metal and Materials Technology Center, Thailand, August, 2002.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃-MgO Composites Sintered by Spark Plasma Sintering, 8th International Symposium on Fracture Mechanics of Ceramics, February 25 - 28, 2003, Houston, TX, USA.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃ and BaTiO₃-Al₂O₃ Composite under applied electric field, 8th International Symposium on Fracture Mechanics of Ceramics, February 25 - 28, 2003, Houston, TX, USA
- **Sirirat Rattanachan**, 長谷川寛, 宮下幸雄, 武藤 睦治, Fatigue behavior of BaTiO₃/Al₂O₃ Ceramic Composites, JSME Materials Science and Ceramics Conference, Japan, May 2003.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Effect of Electric Field on Fracture Toughness of BaTiO₃-Al₂O₃ Composites, International Symposium on Advanced Materials in Nagoya 2003, October 2-3, 2003, 69-70
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Piezoelectric Laminates for Smart Materials Sintered By Spark Plasma Sintering, The 5th International Symposium on the 21st Century COE Program of Nagaoka University of Technology, Miracle Grand Convention Hotel, Bangkok, August 10-11, 2004
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fatigue Behavior of Al₂O₃-based Composite with BaTiO₃ Piezoelectric Phase, Third International Conference on Fatigue of Composites, Doshisha University, Kyoto, Japan, September 13-15, 2004.
- Yoshiharu Mutoh, **Sirirat Rattanachan** and Yukio Miyashita, Fracture Toughness of BaTiO₃-Al₂O₃ Composite Under Applied Electric Fields, The 8th 21st Century COE international Symposium on Creation of Hybridized Materials with Super-Functions and Formation of International Research and Education Center, Park Royal Hotel, Batu Feringghi, Penang, Malaysia, August 7-10, 2005
- Yoshiharu Mutoh, **Sirirat Rattanachan** and Yukio Miyashita, Fracture Toughness and Crack sensing of MgO-Based Smart Composites with Piezoelectric Phase, International Symposium on Frontiers in Design of Materials 2005, Indian Institute of Technology Madras, Chennai, November 12-13, 2005.
- Piyanan Bunpayun and **Sirirat Rattanachan**, Low temperature synthesis of crystallized apatite nanoparticles, Asia Bioceramic Symposium 2006, November 7-10, 2006

- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Chitosan-crystallized Apatite Composites for Bone Cements: Mechanical Strength and Setting Behavior, Bioceramics 19, China, Oct. 10-13, 2006.
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Chitosan-calcium phosphate cement composites for bone substitutes, Asian symposium on materials and processing 2006, Bangkok November 9-10, 2006.
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Synthesis of Chitosan/brushite powders for Bone Cement Composites, 7th Asian BioCeramics Symposium 2007, September 25-28, 2007, Osaka, Japan
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Preparation of Chitosan/apatite nanocomposite by co-precipitation with potential bone cement, Second International Conference on Mechanics of Biomaterials & Tissue, December 9-13, 2007, Lihue, Hawaii, USA
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Development of Apatite Composite for Bone Cement, The Joint Symposium Between National Science and Technology Center and Nagaoka University of Technology, 22 May 2009, NSTDA Thailand
- Phanuwat Krongarrom, **Sirirat T. Rattanachan** and Thipwan Fangsuwannarak, Structural and optical characterizations of n-type doped ZnO by Sol-gel method for photovoltaic, The 8th Electrical Engineering/ Electronic, Computer, Telecommunication and Information Technology (ECTI-CON 2011), Thailand, 17-19 May 2011.
- N. Srakaew and **S.T. Rattanachan**, Effect of apatite-wollastonite glass ceramic addition on brushite bone cement containing chitosan, Chiang Mai International Conference on Biomaterials & Applications 2011, Chiang Mai, Thailand, 9-10 August 2011
- Phanuwat Krongarrom, **Sirirat T. Rattanachan** and Thipwan Fangsuwannarak, ZnO doped with Bismuth in case of in-phase behavior for Solar Cell application, Green Nanotechnology for the future (German-Thai Symposium on nanoscience and nanotechnology), Synchrotron Light Research Institute, Nakhon Ratchasima, Thailand, September 13-16, 2011.
- **Sirirat T. Rattanachan**, Phanuwat Krongarrom, and Thipwan Fangsuwannarak, Boron Doping Effects on the Structural and Optical Properties of Sol-gel Transparent ZnO Films, International Conference on Electroceramics, 12-16 Dec. 2011, Sydney, Australia
- **S. Rattanachan**, N. Srakaew, R. Pethnin and N. Suppakarn, Effect of Zn addition on Sol-gel derived Apatite/Wollastonite Glass-Ceramics Scaffolds, 7th International Conference on Materials Science and Technology, June 7-8, 2012, Swissotel Le Concorde, Bangkok, Thailand
- **Sirirat T. Rattanachan** and Nuan La-ong Srakaew, Effect of pH on the properties of biphasic calcium phosphate for bone cement, European Congress and Exhibition on Advanced Materials and Processes, September 8-13, 2013, Sevilla, Spain.
- Kaewphoka, J., Fangsuwannarak T. and **Rattanachan S.T.** (2014). Synthesis of Surfactant-assisted nanostructured Bi-doped Zinc oxide for photo-sensing application. 11th International conference on Electrical Engineering/ Electronic, Computer, Telecommunications and Information Technology, ECTI-CON 2014, 14-17 May 2014 Nakhon Ratchasima, Thailand
- **T.Rattanachan, S.**, Kaewphoka, J. and Fangsuwannarak T. (2014). Annealing atmosphere of bismuth doped Zinc oxide thin films prepared by CTAB-assisted sol-gel method. In the Grand Renewable Energy 2014 (GRE2014) International Conference. 27 July – 1 August 2014, Tokyo, Japan (Published in Advanced Materials Research Submitted: 2014-12-07, ISSN: 1662-8985, Vol. 1131, pp 79-83)
- Ratiya Phetnin and **Sirirat T. Rattanachan**, Bio-hybrid Composite Scaffold from silk fibroin/chitosan/mesoporous bioactive glass microspheres for tissue engineering applications, Nano

Thailand 2014 the 4th Thailand International Nanotechnology Conference 2014, 26-28 Nov., 2014, Bangkok Thailand.

- S. Chanrawangyot, A. Watcharenwong, T. Fangsuwannarak and **S.T.Rattanachan**, Antibacterial activity of ZnO Nanoparticles on Silica Thin Film for Wastewater treatment, 3rd International Conference on Applied Physics and Material Applications (ICAPMA2017), 31 May-2 June 2017, Pattaya Thailand.
- **Sirirat Tubsungnoen Rattanachan**, Sanong Suksaweang, Ting-Xin Jiang, Randall B. Widelitz, Cheng-Ming Chuong and Nuan La-ong Srakaew, Self-setting calcium phosphate enhanced with osteoconduction and bioactivity for bone cement, The First Materials Research Society of Thailand International Conference, Convention Center, The Empress Hotel, Chiang Mai, Thailand, October 31st - November 3rd, 2017.
- Oranich Thongsri and **Sirirat Tubsungnoen Rattanachan**, Synthesis of glass ionomer dental cement by sol-gel method, The First Materials Research Society of Thailand International Conference, Convention Center, The Empress Hotel, Chiang Mai, Thailand, October 31st - November 3rd, 2017.
- Paritat Thaitalay, Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan**, Comparison among Alpha-tricalcium phosphate synthesized by solid state reaction and wet chemical reaction for calcium phosphate cements, The First Materials Research Society of Thailand International Conference, Convention Center, The Empress Hotel, Chiang Mai, Thailand, October 31st - November 3rd, 2017.
- Paritat Thaitalay, and **Sirirat Tubsungnoen Rattanachan**, Poly (acrylic acid) modified calcium phosphate cements: the effect of the mixing ratios and the setting reaction, The 8th International Congress on Engineering and Information, 1-4 May, 2018, Hokkaido, Japan
- Paritat Thaitalay, Rawee Dangwiriyaikul, Chutima Talabnin and **Sirirat Tubsungnoen Rattanachan**, The setting reaction and properties of calcium phosphate cement incorporating polyacrylic acid and disodium hydrogen phosphate, 14th International Conference on Materials Chemistry (MC14), 8-11/07/2019, Aston University, Birmingham, United Kingdom
- Oranich Thongsria, Narong Chanlekb, Paritat Thaitalaya, Sawitri Srisuwana, Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachana**, The effect of aluminosilicate glass crystallization synthesized by sol-gel method on the setting reaction of glass ionomer cements, The 2nd Materials Research Society of Thailand International Conference (MRS-Thailand 2019) The Zign Hotel, Pattaya, Thailand July 10 - 12, 2019
- **Sirirat Tubsungnoen Rattanachan**, Rawee Dangwiriyaikul, Oranich Thongsri, Paritat Thaitalay and Sawitri Srisuwan, Chloride and sulfate resistance of the alternative raw materials-based geopolymer, 5th International Conference on Environmental Sciences and Renewable Energy (ESRE 2023), 19-21 June 2023, Vienna, Austria



ศิริรัตน์ ทับสูงเนิน รัตน์จันทร์
 ด.ร. | รองศาสตราจารย์



CM08, ชั้น 4, อาคารวิชาการ 1
 Sirirat.b@g.sut.ac.th • +66(0) 4422 4489

การศึกษา/คุณวุฒิ

NAGAOKA UNIVERSITY OF TECHNOLOGY
 PH.D. IN MATERIALS SCIENCE AND ENGINEERING

นิกะตะ, ประเทศญี่ปุ่น
 2546

จุฬาลงกรณ์มหาวิทยาลัย
 วท.ม (วัสดุศาสตร์)

กรุงเทพฯ, ประเทศไทย
 2540

มหาวิทยาลัยเชียงใหม่
 วท.บ. (เคมีอุตสาหกรรม)

เชียงใหม่, ประเทศไทย
 2538

ประสบการณ์ทางวิชาการ

ตำแหน่งวิชาการ
 มหาวิทยาลัยเทคโนโลยีสุรนารี
 รองศาสตราจารย์

นครราชสีมา, ประเทศไทย
 2560 - ปัจจุบัน

ตำแหน่งบริหาร
 มหาวิทยาลัยเทคโนโลยีสุรนารี
 รักษาการรองผู้อำนวยการเทคโนโลยีสุรนารี ฝ่ายบริหารและสื่อสารองค์กร
 หัวหน้าสาขาวิชาวิศวกรรมเซรามิก สำนักวิชาวิศวกรรมศาสตร์
 คณะกรรมการประจำสำนักวิชาวิศวกรรมศาสตร์

นครราชสีมา, ประเทศไทย
 2566 - ปัจจุบัน
 2561- 2565
 2557- 2561

สมาชิกองค์กรวิชาชีพ

วารสารนานาชาติ International Journal of Applied Ceramic Technology
 รองบรรณาธิการ
 สมาคมวิจัยวัสดุแห่งประเทศไทย
 ภาควิชาสมาชิก

สหรัฐอเมริกา
 ปัจจุบัน
 ประเทศไทย
 ปัจจุบัน

เกียรติยศและรางวัล

สำนักงานเลขาธิการคณะกรรมการส่งเสริมกิจการอุทยานวิทยาศาสตร์ (สอว.) กระทรวงวิทยาศาสตร์และเทคโนโลยี
 รางวัลรองชนะเลิศอันดับ 1 การประกวด NESP Innovation Awards 2015 ประเภทนวัตกรรมเชิงพาณิชย์ ผลิตภัณฑ์นวัตกรรม
 Newton fund และ สกว. 2560
 ทุน Leaders in Innovation Fellowships

ประเทศไทย
 ประเทศไทย

งานบริการวิชาการ

บริษัท พาวเวอร์ อินซูเลเตอร์ (มหาชน)

ประเทศไทย

การพัฒนาเนื้อผลิตภัณฑ์ลูกถ้วยไฟฟ้าที่มีสมบัติเชิงกลสูง

2548 – 2549

บริษัท ที ที เซรามิค จำกัด (มหาชน)

ประเทศไทย

ลดต้นทุนในการผลิต White Body

การแก้ปัญหาการโก่งเพิ่มขึ้นของกระเบื้องพอร์ซเลนหลังเผา

2561

บริษัท สมาร์ท แทงค์ จำกัด

ประเทศไทย

การวิจัยเคลือบอนาเมลบนแผ่นเหล็กกล้าสำหรับประยุกต์ใช้ในถังทอดประกอบด้วยสลักเกลียว

2564 – 2565

ผลงานตีพิมพ์

วารสารวิชาการ

- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Microstructure and Fracture Toughness of a Spark Plasma Sintered Al₂O₃-based Composite with BaTiO₃ Particulates, Journal of the European Ceramic Society, Vol. 23 [8], 2003, 1269-1276
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Effect of Polarization Fracture Toughness of BaTiO₃/Al₂O₃ Composites, Journal of the European Ceramic Society, Vol. 24[5], 2004, 775-783
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fabrication of piezoelectric laminate for smart material and crack sensing capability, Science and Technology of Advanced Materials, Vol. 6 [6], September, 2005, pp. 704-711.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃-MgO Composites Sintered by Spark Plasma Sintering, Fracture Mechanics of Ceramics, Vol. 14, White, K.W.; Bradt, R.C.; Sakai, H.; Munz, D. (Editors), 2005, XVIII, ISBN: 0-387-24134-5
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃ and BaTiO₃-Al₂O₃ Composites Sintered by Spark Plasma Sintering, Fracture Mechanics of Ceramics, Vol. 14, White, K.W.; Bradt, R.C.; Sakai, H.; Munz, D. (Editors), 2005, XVIII, ISBN: 0-387-24134-5
- Sirirat Rattanachan, Yukio Miyashita and Yoshiharu Mutoh, Fatigue Behavior of Al₂O₃-based Composite with BaTiO₃ Piezoelectric Phase, International Journal of Fatigue, 2006, Vol. 28 (10), pp. 1413-1419
- **Sirirat Rattanachan** and Charussri Lorprayoon, Korat clays as raw materials for lightweight aggregates, ScienceAsia, 2005, Vol.31, No. 3. pp.277-281
- **Sirirat Rattanachan**, Dan Kwian clays for slip casting, ScienceAsia, Vol. 33 No. 2. June 2007p. 239-243
- **Rattanachan, S.**, Lorpayoon, C, Bunphyun, P., Chitosan-crystallized apatite composites for bone cements: Mechanical strength and setting behavior, Key Engineering Materials, Vol. 330-332 II (2007), 839-842
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Synthesis of Chitosan/brushite Powders for Bone Cement Composites, Journal of Ceramic Society of Japan, 116[1] 2008, p.36-41
- Borrisutthekul, R., Mitsomwang, P., **Rattanachan, S.**, Mutoh, Y., TIG welding of dissimilar metals between steel/aluminum alloy, Welding in the World, Vol. 53, Special Issue (2009), 585-588
- Rattana Borrisutthekul, Pusit Mitsomwang, **Sirirat Rattanachan** and Yoshiharu Mutoh, Feasibility of Using TIG Welding in Dissimilar Metals between Steel/Aluminum Alloy, Energy Research Journal 1 (2), 2010, 82-86
- **Sirirat Rattanachan**, Piyanan Boonphayak and Charussri Lorprayoon, Development of chitosan/nanosized apatite composites for bone cements, Asian Biomedicine, Vol. 5, No. 4 (2011), 499-506
- N. Srakaew and **S. T. Rattanachan**, Effect of Apatite Wollastonite Glass Ceramic Addition on Brushite Bone Cement Containing Chitosan, Advanced Materials Research Vol. 506 (2012), p.106-109
- Phanuwat Krongarrom, **Sirirat T. Rattanachan** and Thipwan Fangsuwannarak, ZnO doped with Bismuth in case of in-phase behavior for Solar Cell application, Engineering Journal, Vol. 16, no.3 (2012) Special issue: Green Nanotechnology for the future, pp. 59-70.
- **Sirirat T. Rattanachan**, Phanuwat Krongarrom, and Thipwan Fangsuwannarak, Boron Doping Effects on the Structural and Optical Properties of Sol-gel Transparent ZnO Films, Key Engineering Materials (2013), Vol. 547, p. 145-151.
- **Sirirat T. Rattanachan**, Nuan La-ong Srakaew, Ratiya Pethnin and Nitinat Suppakarn, Effect of Zn Addition on Sol-gel Derived Apatite/Wollastonite Glass-Ceramics Scaffolds, J. Metals, Materials and Minerals (2012), Vol. 22(2), pp. 61-65.

- **Sirirat T. Rattanachan**, Phanuwat Krongarrom and Thipwan Fangsuwannarak, Influence of annealing temperature on characteristics of Bismuth doped Zinc Oxide films, *American Journal of Applied Sciences* (2013), Vol. 10(11), p. 1427-1438.
- Kaewphoka, J., Fangsuwannarak, T., **Rattanachan, S.T.**, Synthesis of surfactant-assisted nanostructured Bi-doped Zinc oxide for photo-sensing application, 2014 11th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology, ECTI-CON 2014; Nakhon Ratchasima; Thailand; 14 May 2014 through 17 May 2014; Category number CFP1406E-USB; Code 106689
- Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan**, The pH-dependent properties of the Biphasic Calcium Phosphate for Bone Cements, *Journal of Biomimetics, Biomaterials and Biomedical Engineering* (2014), V. 21, pp. 3-16
- Ratiya Phetnin and **Sirirat Tubsungnoen Rattanachan**, Bio-hybrid composite scaffold from silk fibroin/chitosan/mesoporous bioactive glass microspheres for tissue engineering applications, *Advanced Materials Research* (2014) Vol. 1131, pp 79-83 doi:10.4028/www.scientific.net/AMR.1131.79.
- Ratiya Phetnin and **Sirirat T. Rattanachan**, Preparation and antibacterial property on silver incorporated mesoporous bioactive glass microspheres, *J. sol-gel Science and Technology* (2015), DOI 10.1007/s10971-015-3697-1.
- Pisitpipathsin, N., Sratta, Y, Unruan, S., Promsawat, M., Marungsri, B., Yimnirun, R., **Rattanachan, S.**, Pojprapai, S., Effect of Temperature on Ferroelectric and Piezoelectric Behaviour of Mn-Doped 0.75BF-0.25BT Multiferroic Ceramics, *Ferroelectrics*, Volume 489, Issue 1, 20 November 2015, Pages 110-117
- Kempet, W., Marungsri, B., Yimnirun, R., Klysubun, W., Fangsuwannarak, T, **Rattanachan, S.**, Pisitpipathsin, N., Promsawat, M., Pojprapai, S., Polarization Switching of PZT under Electrical Field via in-situ Synchrotron X-ray Absorption Spectroscopy, *Ferroelectrics*, Volume 492, Issue 1, 19 February 2016, Pages 35-42.
- Sumalee CHANRAWANGYOT, **Sirirat T. RATTANACHAN**, Apichon WATCHARENWONG and Thipwan FANGSUWANNARAK, Antibacterial Activity of ZnO Nanoparticles Coated on Ceramic Tiles Prepared by Sol-Gel Method, *Journal of Metals, Materials and Minerals*, Vol. 27 No. 2 pp. 1-5, 2017.
- Buatip, N., Promsawat, N., Pisitpipathsin, N., Namsar, O., Pawasri, P., Ounsung, K., Phabsimma, K., **Rattanachan, S.T.**, Janphuang, P., Projprapai, S., Investigation on electrical properties of BCZT ferroelectric ceramics prepared at various sintering conditions, *Integrated Ferroelectrics*, Volume 187, Issue 1, 12 February 2018, Pages 45-52.
- Paritat Thaitalay, Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan***, Comparison Among Alpha-tricalcium Phosphate Synthesized by Solid State Reaction and Wet Chemical Reaction for Calcium Phosphate Cements, *Chiang Mai J. Sci.* 2018; 45(5) : 2123-2131
- **Sirirat Tubsungnoen Rattanachan***, Sanong Suksaweang, Ting-Xin Jiang, Randall B. Widelitz, Cheng-Ming Chuong and Nuan La-ong Srakaew, Self-setting Calcium Phosphate Enhanced with Osteoconduction and Bioactivity for Bone Cement, *Chiang Mai J. Sci.* 2018; 45(5) : 2132-2139
- Rattanawichai, P., Fangsuwannarak, T., Phatthanakun, R., **Rattanachan, S.T.**, High photocurrent gain of spherical nano-crystalline ZnO:Bi film for advanced solar cells application, *Chiang Mai Journal of Science*, Volume 45, Issue 5, August 2018, Pages 1995-2004
- **Sirirat Tubsungnoen Rattanachan**, Nuan La-ong Srakaew, Paritat Thaitalay, Oranich Thongsri, Rawee Dangviriyakul, Sawitri Srisuwan, Sanong Suksaweang, Randell B Widelitz, Cheng-Ming Chuong, Thanikul Srithunyarat, Naruepon Kampa, Duangdaun Kaenkangploo, Somphong Hoisang, SUPHATTRA JITTIMANEE, Piyasak Wipoosak, Phanthit Kamlangchai and Pongsatorn Tuchpramuk, Development of injectable chitosan/biphasic calcium phosphate bone cement and In Vitro and In Vivo evaluation, *Biomedical Materials*, Accepted Manuscript online 27 March 2020.
- Ratiya Buapa Phetnin, Sanong Suksaweang, Chiara Giannasi, Anna Teresa Brini, Stefania Niada, Sawitri Srisuwan, **Sirirat Tubsungnoen Rattanachan**, 3D mesoporous bioactive glass/silk/chitosan scaffolds and their compatibility with human adipose-derived stromal cells, *International Journal of Applied Ceramic Technology*, Volume 17, Issue 6, November/December 2020, Pages 2779-2791
- Rawee Dangviriyakul, Oranich Thongsri, Paritat Thaitalay, Sawitri Srisuwan, **Sirirat Tubsungnoen Rattanachan**, ENHANCING THE MECHANICAL PROPERTIES OF THE SOL-GEL GLASS IONOMER CEMENT BY TREATED CHITOSAN FIBER REINFORCEMENT, *Suranaree Journal of Science and Technology*, 2021 Accepted
- Paritat Thaitalay, Oranich Thongsri, Rawee Dangviriyakul, Sawitri Srisuwan, Chutima Talabnin, Sanong Suksaweang, Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan**, Influence of Polyacrylic acid/Na₂HPO mixture on biphasic calcium phosphate cement: Enhancing

strength and cell viability, , International Journal of Applied Ceramic Technology, Volume18, Issue4, July/August 2021, Pages 1365-1378 March 2021, <https://doi.org/10.1111/ijac.13761>

- Oranich Thongsri, Sawitri Srisuwan, Paritat Thaitalay, Rawee Dangwiryakul, Prasert Aengchuan, Narong Chanlek, Chutima Talabnin, Sanong Suksaweang and **Sirirat Tubsungnoen Rattanachan**, Influence of Al₂O₃ and P₂O₅ contents in sol-gel ionomer glass system on the structure and their cement properties, Journal of Sol-Gel Science and Technology, 2021, 98(3), 441-451, DOI 10.1007/s10971-021-05519-9
- Thaitalay, P., Giannasi, C., Niada, S., Thongsri, O., Dangwiryakul, R., Srisuwan, S., Suksaweang, S., Brini, AT., **Rattanachan, S.T.** (2022). Nano-bioactive glass incorporated polymeric Apatite/Tricalcium phosphate cement composite supports proliferation and osteogenic differentiation of human adipose-derived stem/stromal cells. Materials Today Communications, 103590.
- Thongsri, O., Srisuwan, S., Thaitalay, P., ...Suksaweang, S., **Rattanachan, S.T.**, Structural evaluation of ZnO substitution for CaO in glass ionomer cement synthesized by sol-gel method and their properties, Journal of Materials Science, 57(1), pp. 633–650 (2023)
- Paritat Thaitalay, Oranich Thongsri, Rawee Dangwiryakul, Sawitri Srisuwan, Louise Carney, Julie Elizabeth Gough, **Sirirat Tubsungnoen Rattanachan**, Primary human osteoblast and mesenchymal stem cell responses to apatite/tricalcium phosphate bone cement modified with polyacrylic acid and bioactive glass, J Biomed Mater Res. 2023;1–17.

ประชุมวิชาการ

- **Sirirat Rattanachan**, , Al₂O₃-based Composite with BaTiO₃ Sintered by Spark Plasma Sintering, JSME/ASME International Conference on Materials and Processing 2002, The 10th JSME Materials and Processing Conference, October 15-18, 2002, 270-275
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Effect of Polarization on the Fracture Toughness of BaTiO₃-Al₂O₃ Composites, National Metal and Materials Conference, National Metal and Materials Technology Center, Thailand, August, 2002.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃-MgO Composites Sintered by Spark Plasma Sintering, 8th International Symposium on Fracture Mechanics of Ceramics, February 25 - 28, 2003, Houston, TX, USA.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fracture toughness of BaTiO₃ and BaTiO₃-Al₂O₃ Composite under applied electric field, 8th International Symposium on Fracture Mechanics of Ceramics, February 25 - 28, 2003, Houston, TX, USA
- **Sirirat Rattanachan** ,長谷川寛, 宮下幸雄, 武藤 睦治, Fatigue behavior of BaTiO₃/Al₂O₃ Ceramic Composites, JSME Materials Science and Ceramics Conference, Japan, May 2003.
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Effect of Electric Field on Fracture Toughness of BaTiO₃-Al₂O₃ Composites, International Symposium on Advanced Materials in Nagoya 2003, October 2-3, 2003, 69-70
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Piezoelectric Laminates for Smart Materials Sintered By Spark Plasma Sintering, The 5th International Symposium on the 21st Century COE Program of Nagaoka University of Technology, Miracle Grand Convention Hotel, Bangkok, August 10-11, 2004
- **Sirirat Rattanachan**, Yukio Miyashita and Yoshiharu Mutoh, Fatigue Behavior of Al₂O₃-based Composite with BaTiO₃ Piezoelectric Phase, Third International Conference on Fatigue of Composites, Doshisha University, Kyoto, Japan, September 13-15, 2004.
- Yoshiharu Mutoh, **Sirirat Rattanachan** and Yukio Miyashita, Fracture Toughness of BaTiO₃-Al₂O₃ Composite Under Applied Electric Fields, The 8th 21st Century COE international Symposium on Creation of Hybridized Materials with Super-Functions and Formation of International Research and Education Center, Park Royal Hotel, Batu Feringghi, Penang, Malaysia, August 7-10, 2005
- Yoshiharu Mutoh, **Sirirat Rattanachan** and Yukio Miyashita, Fracture Toughness and Crack sensing of MgO-Based Smart Composites with Piezoelectric Phase, International Symposium on Frontiers in Design of Materials 2005, Indian Institute of Technology Madras, Chennai, November 12-13, 2005.
- Piyanan Bunpayun and **Sirirat Rattanachan**, Low temperature synthesis of crystallized apatite nanoparticles, Asia Bioceramic Symposium 2006, November 7-10, 2006
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Chitosan-crystallized Apatite Composites for Bone Cements: Mechanical Strength and Setting Behavior, Bioceramics 19, China, Oct. 10-13, 2006.
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Chitosan-calcium phosphate cement composites for bone substitutes, Asian symposium on materials and processing 2006, Bangkok November 9-10, 2006.

- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Synthesis of Chitosan/brushite powders for Bone Cement Composites, 7th Asian BioCeramics Symposium 2007, September 25-28, 2007, Osaka, Japan
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Preparation of Chitosan/apatite nanocomposite by co-precipitation with potential bone cement, Second International Conference on Mechanics of Biomaterials & Tissue, December 9-13, 2007, Lihue, Hawaii, USA
- **Sirirat Rattanachan**, Charussri Lorprayoon and Piyanan Bunpayun, Development of Apatite Composite for Bone Cement, The Joint Symposium Between National Science and Technology Center and Nagaoka University of Technology, 22 May 2009, NSTDA Thailand
- Phanuwat Krongarrom, **Sirirat T. Rattanachan** and Thipwan Fangsuwannarak, Structural and optical characterizations of n-type doped ZnO by Sol-gel method for photovoltaic, The 8th Electrical Engineering/ Electronic, Computer, Telecommunication and Information Technology (ECTI-CON 2011), Thailand, 17-19 May 2011.
- N. Srakaew and **S.T. Rattanachan**, Effect of apatite-wollastonite glass ceramic addition on brushite bone cement containing chitosan, Chiang Mai International Conference on Biomaterials & Applications 2011, Chiang Mai, Thailand, 9-10 August 2011
- Phanuwat Krongarrom, **Sirirat T. Rattanachan** and Thipwan Fangsuwannarak, ZnO doped with Bismuth in case of in-phase behavior for Solar Cell application, Green Nanotechnology for the future (German-Thai Symposium on nanoscience and nanotechnology), Synchrotron Light Research Institute, Nakhon Ratchasima, Thailand, September 13-16, 2011.
- **Sirirat T. Rattanachan**, Phanuwat Krongarrom, and Thipwan Fangsuwannarak, Boron Doping Effects on the Structural and Optical Properties of Sol-gel Transparent ZnO Films, International Conference on Electroceramics, 12-16 Dec. 2011, Sydney, Australia
- **S. Rattanachan**, N. Srakaew, R. Pethnin and N. Suppakarn, Effect of Zn addition on Sol-gel derived Apatite/Wollastonite Glass-Ceramics Scaffolds, 7th International Conference on Materials Science and Technology, June 7-8, 2012, Swissotel Le Concorde, Bangkok, Thailand
- **Sirirat T. Rattanachan** and Nuan La-ong Srakaew, Effect of pH on the properties of biphasic calcium phosphate for bone cement, European Congress and Exhibition on Advanced Materials and Processes, September 8-13, 2013, Sevilla, Spain.
- Kaewphoka, J., Fangsuwannarak T. and **Rattanachan S.T.** (2014). Synthesis of Surfactant-assisted nanostructured Bi-doped Zinc oxide for photo-sensing application. 11th International conference on Electrical Engineering/ Electronic, Computer, Telecommunications and Information Technology, ECTI-CON 2014, 14-17 May 2014 Nakhon Ratchasima, Thailand
- **T.Rattanachan, S.**, Kaewphoka, J. and Fangsuwannarak T. (2014). Annealing atmosphere of bismuth doped Zinc oxide thin films prepared by CTAB-assisted sol-gel method. In the Grand Renewable Energy 2014 (GRE2014) International Conference. 27 July – 1 August 2014, Tokyo, Japan (Published in Advanced Materials Research Submitted: 2014-12-07, ISSN: 1662-8985, Vol. 1131, pp 79-83)
- Ratiya Phetnin and **Sirirat T. Rattanachan**, Bio-hybrid Composite Scaffold from silk fibroin/chitosan/mesoporous bioactive glass microspheres for tissue engineering applications, Nano Thailand 2014 the 4th Thailand International Nanotechnology Conference 2014, 26-28 Nov., 2014, Bangkok Thailand.
- S. Chanrawangyot, A. Watcharenwong, T. Fangsuwannarak and **S.T.Rattanachan**, Antibacterial activity of ZnO Nanoparticles on Silica Thin Film for Wastewater treatment, 3rd International Conference on Applied Physics and Material Applications (ICAPMA2017), 31 May-2 June 2017, Pattaya Thailand.
- **Sirirat Tubsungnoen Rattanachan**, Sanong Suksaweang, Ting-Xin Jiang, Randall B. Widelitz, Cheng-Ming Chuong and Nuan La-ong Srakaew, Self-setting calcium phosphate enhanced with osteoconduction and bioactivity for bone cement, The First Materials Research Society of Thailand International Conference, Convention Center, The Empress Hotel, Chiang Mai, Thailand, October 31st - November 3rd, 2017.
- Oranich Thongsri and **Sirirat Tubsungnoen Rattanachan**, Synthesis of glass ionomer dental cement by sol-gel method, The First Materials Research Society of Thailand International Conference, Convention Center, The Empress Hotel, Chiang Mai, Thailand, October 31st - November 3rd, 2017.
- Paritat Thaitalay, Nuan La-ong Srakaew and **Sirirat Tubsungnoen Rattanachan**, Comparison among Alpha-tricalcium phosphate synthesized by solid state reaction and wet chemical reaction for calcium phosphate cements, The First Materials Research Society of Thailand International Conference, Convention Center, The Empress Hotel, Chiang Mai, Thailand, October 31st - November 3rd, 2017.
- Paritat Thaitalay, and **Sirirat Tubsungnoen Rattanachan**, Poly (acrylic acid) modified calcium phosphate cements: the effect of the mixing ratios and the setting reaction, The 8th International Congress on Engineering and Information, 1-4 May, 2018, Hokkaido, Japan

- Paritat Thaitalay, Rawee Dangwiryakul, Chutima Talabnin and **Sirirat Tubsungnoen Rattanachan**, The setting reaction and properties of calcium phosphate cement incorporating polyacrylic acid and disodium hydrogen phosphate, 14th International Conference on Materials Chemistry (MC14), 8-11/07/2019, Aston University, Birmingham, United Kingdom
- Oranich Thongsria, Narong Chanlekb, Paritat Thaitalaya, Sawitri Srisuwana, Nuan La-ong Srakaewc and **Sirirat Tubsungnoen Rattanachana**, The effect of aluminosilicate glass crystallization synthesized by sol-gel method on the setting reaction of glass ionomer cements, The 2nd Materials Research Society of Thailand International Conference (MRS-Thailand 2019) The Zign Hotel, Pattaya, Thailand July 10 - 12, 2019
- **Sirirat Tubsungnoen Rattanachan**, Rawee Dangwiryakul, Oranich Thongsri, Paritat Thaitalay and Sawitri Srisuwan, Chloride and sulfate resistance of the alternative raw materials-based geopolymer, 5th International Conference on Environmental Sciences and Renewable Energy (ESRE 2023), 19-21 June 2023, Vienna, Austria

กิจกรรมการพัฒนาทักษะและความรู้

สมาคมเครือข่ายการพัฒนาวิชาชีพอาจารย์และองค์กรระดับอุดมศึกษาแห่งประเทศไทย (ควอท)	ประเทศไทย
ความสำคัญของ Thailand-PSF และการขอการรับรอง	2565
สำนักวิชาวิศวกรรมศาสตร์ มหาวิทยาลัยเทคโนโลยีสุรนารี	ประเทศไทย
การประเมิน MOCK PEV TABEE เพื่อเตรียมความพร้อมเพื่อขอรับการประเมินหลักสูตรตามมาตรฐานคุณภาพการศึกษา (TABEE)	2566
ฝ่ายวิชาการและประกันคุณภาพ มหาวิทยาลัยเทคโนโลยีสุรนารี	ประเทศไทย
คู่มือการบริหารจัดการหลักสูตร มหาวิทยาลัยเทคโนโลยีสุรนารี พ.ศ. 2566 และ ข้อเสนอแนะการประเมินผลลัพธ์การเรียนรู้ของผู้เรียน และผู้สำเร็จการศึกษา และการปรับปรุงพัฒนาคุณภาพอย่างต่อเนื่อง	2566
สำนักงานการวิจัยแห่งชาติ	ประเทศไทย
โครงการยกระดับความพร้อมนักวิจัยสู่เวทีสิ่งประดิษฐ์โลก และยกระดับมาตรฐานนวัตกรรมสิ่งประดิษฐ์ทางด้านการแพทย์สู่การใช้ประโยชน์	2566