

CURRICULUM VITAE

รศ. ดร. ศรัญญา พรหมโคตร

Assoc.Prof.Dr. Sarunya Promkotra



Personal Details	<p>Country of birth: Thailand Nationality: Thai Work address: สาขาวิชาเทคโนโลยีธรณี คณะเทคโนโลยี มหาวิทยาลัยขอนแก่น 40002 Department of Geotechnology, Faculty of Technology, Khon Kaen University (KKU), 40002 Thailand e-mail address: spromkotra@gmail.com, sarunya@kku.ac.th</p>
Educational Background	<p>1984-1989 B.S. (Chemistry), Chiang Mai University, Chiang Mai, Thailand 1993-1995 M.S. (Geology), Chiang Mai University, Chiang Mai, Thailand Master's Degree Thesis Topic: Depositional environment of Pa Kha Coalfield, Amphoe Li, Changwat Lamphun</p> <p>1997-2004 Ph.D. (Metallurgical and Materials Engineering) Colorado School of Mines, Colorado, USA Dissertation Title: Micromechanical Testing of Two-Dimensional Aggregated Suspensions of Colloidal Particles Supervisor: Prof. Dr. Kelly T. Miller</p> <p>2007 Diploma in Groundwater Exploration, Water Resource Exploitation and Conservation International Post Graduate Course Division for External Studies Faculty of Agriculture, Food and Environmental Quality Sciences The Hebrew University of Jerusalem, Rehovot, Israel</p>
Professional Experiences	<p>Geochemist & Material Scientist (Nanocomposites) Faculty of Technology, Khon Kaen University (KKU), Thailand</p> <p>2016 Co-researcher, SERVIR-Mekong program, implemented by the Asian Disaster Preparedness Center (ADPC), funded by USAID and NASA</p> <p>2010-2011 Visiting Professor Faculty of Engineering, Namibia University of Science and Technology (former Polytechnic of Namibia), Windhoek, Namibia</p>
Working Experiences	<p>1995-present Department of Geotechnology, Faculty of Technology, Khon Kaen University, Khon Kaen, Thailand Associate Professor in Material Sciences ▪ Teaching:</p>

	<p>Undergraduate Level: Nanotechnology, Geochemistry, Groundwater pollution monitoring and control, Introduction to groundwater, Analysis of geological material, Elementary engineering materials</p> <p>Graduate Level: Clay technology & engineering, Advance thermodynamic geochemistry, Geochemical analysis for minerals and rocks, Geotechnology of waste management, Research methodology in geotechnology, Hydrogeochemistry</p> <p>1993-1994 P.T. Industry Co., Ltd. Lumphun, Thailand</p> <p>Chemist</p> <ul style="list-style-type: none"> ▪ Managing in Production Process of Activated Carbon from Lignite ▪ Production Control <p>1992-1993 Department of Mining Engineering, Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand</p> <p>Scientist</p> <ul style="list-style-type: none"> ▪ Mineral analysis ▪ Research assistant in Mineral Processing <p>1991-1992 M.T. Manufacturing Co., Ltd. Bangkok, Thailand</p> <p>Head, R&D in Cosmetic Plant</p> <ul style="list-style-type: none"> • Created New Products, e.g. Shaving Foam, Shampoo, Liquid Soap <p>1989-1991 Mun Ying Co., Ltd. Ratchaburi, Thailand</p> <p>Head of QC Section and Production Process</p> <ul style="list-style-type: none"> ▪ Chemist (dyeing and finishing) <p>1989 Sithinan Co., Ltd. Pathumthani, Thailand</p> <p>Chemist, R&D</p> <ul style="list-style-type: none"> ▪ Setting up a New Standard Method for Testing Mung Bean Starches and Vermicelli
<p>Research Interests</p>	<p>Mechanical properties of materials, Nanomaterials (clays & composite materials), Groundwater pollution, Hydrogeochemistry, Colloidal aggregation, Petroleum geochemistry, Biopolymer</p>
<p>Research Activities</p>	<ol style="list-style-type: none"> 1. Co-researcher: Development of Assistive Technology for Agricultural Workers based on Congenital Disabilities Orthotic Devices (2018-present), The Thailand Research Fund (TRF) 2. Material production for water filtration by using agricultural waste mixing in clay-fired ball for drinking-water filtration (2015), KKU Research Fund, Thailand 3. Research Project and Synthetic Fuel Oil Development for Aircraft by Hydroprocessing Process (2014), Air Force Fund, Thailand 4. Water quality investigation for water resources sustainability to evaluate potentials for consumables in Ban Kong, Nong Rue District, Khon Kaen Province (2013), KKU Research Fund, Thailand 5. Correlation of geochemical equilibria and dynamic transport of evaporite dissolution (2012-2015), KKU Research Fund, Thailand 6. Variation of Hydrogeochemical Composition of Brines for the Sinkhole Assessment in Udonthani and Sakon Nakhon Province (2008), NSTDA, Thailand

	<p>7. Mass Transport Processes and Concentrated Distributions of Trace Metals in Loei River (2005), Khon Kaen University's Research Fund, Thailand</p>
<p>Other Activities</p>	<ul style="list-style-type: none"> • Ad hoc reviewing of manuscripts for scientific journals American Society of Agricultural and Biological Engineers (ASABE), March 2018 Arabian Journal of Geosciences, Springer Nature (AJGS), April 2018-present • Membership in professional societies Publons (part of Clarivate Analytics) • Organization of conferences (conference committee) Technical committee (paper reviewer) <ul style="list-style-type: none"> ▪ 4th International Conference on Mechanics and Control Engineering (ICMCE 2015), 23-25 November 2015, Lisbon, Portugal ▪ Committee of International Conference (GEOINDO 2015), Khon Kaen University, Thailand ▪ 5th International Conference on Mechanics and Control Engineering (ICMCE 2016), 14-17 December 2016, Venice, Italy ▪ The 2nd International Conference on Smart Materials Technologies (ICSMT 2017) in St. Petersburg, Russia, 19-21 May 2017 ▪ Reviewer & Chairman: The National and International Graduate Research Conference 2017, 10 March 2017, Khon Kaen University, Thailand ▪ 7th International Conference on Mechatronics and Control Engineering (ICMCE 2018), Amsterdam, Netherlands, 27-29 November 2018 ▪ 8th International Conference on Mechatronics and Control Engineering (ICMCE 2019), Paris, France on July 23-25, 2019 ▪ 5th International Conference on Smart Materials Technologies (ICSMT 2020), Russian Federation, June 20-23, 2020 ▪ 5th International Conference on Civil and Building Materials (ICCBM 2021), Singapore, January 21-24, 2021 • Prizes awarded <ul style="list-style-type: none"> • 1st runner-up, Academic textbook contest, Khon Kaen University, Thailand (รองชนะเลิศอันดับ 1 จากการประกวดตำราวิชาการ สาขาวิทยาศาสตร์กายภาพ) Title: Essentials of Geochemistry (in Thai), November 2010 <u>Sarunya Promkotra</u>, 2010, Essentials of Geochemistry, Klung Na Na Vithya Press Limited Partnership, Khon Kaen, Thailand • 2nd runner-up, Bangkok SEAPEX, Southeast Asia Petroleum Exploration Society (Thailand Branch), 1 April 2010 (รองชนะเลิศอันดับ 2 จากการนำเสนอบทความวิจัย) Topic: Phase equilibria of condensate and natural gas in Sinphu Horm Gas Field • Distinctive Project: Academic Service Program for Society, Khon Kaen University, Thailand, April 2017 (โครงการบริการวิชาการแก่สังคมดีเด่น ประจำปี 2560) • Best Practice Awards 2017 in the branch of Academic Service Program for Society, Foundation for Thai Society, Thailand, November 2017 (รางวัล “ความดีตอบแทนคุณแผ่นดิน” ประจำปีพุทธศักราช 2560 สาขาบริการวิชาการแก่สังคม) • Other activities or public functions in the academic field <ul style="list-style-type: none"> • Guest lecturer: Regional training on renewable energy in the Greater Mekong Subregion (GMS), Thailand, 27-28 March 2017 • Committee for academic curriculum of graduate program, Department of Geotechnology, Faculty of Technology, Khon Kaen University, 2015-present • Head of Central Lab, Faculty of Technology, Khon Kaen University, Thailand

	<ul style="list-style-type: none"> Committee: Laboratory of research group for developing hydrogen production process from biomass raw materials by microorganisms, Khon Kaen University, 2018-present
Teaching at KKU Supervision of Master's and doctoral degree students	Master's degree: 2006 M.BA, Thesis Title: The feasibility study of Pin spa in Khon Kaen University 2015 M.S. (Biotechnology); Thesis Title: Production and biodegradation of cushion beads from polyhydroxyalkanoates (PHAs) blended with natural rubber 2017 M.S. (Geotechnology); Thesis Title: The Influence of Saturated Chemical Species on Hydrogeochemical Equilibria of Groundwater in Upper Nam Phong Catchment Doctoral degree: 2016 Ph.D. (Geotechnology); Thesis Title: Strength of fired-clay blocks from Lower Nam Phong sediments with variations in composition of rice husk ash and firing temperature
Book Publications	1. Sarunya Promkotra, 2005, Introduction to Nanotechnology , Klung Na Na Vithya Press Limited Partnership, Khon Kaen, Thailand (in Thai). 2. Sarunya Promkotra, 2010, Essentials of Geochemistry , Klung Na Na Vithya Press Limited Partnership, Khon Kaen, Thailand (in Thai). 3. Sarunya Promkotra, 2011, Geochemical Analysis , Klung Na Na Vithya Press Limited Partnership, Khon Kaen, Thailand (in Thai). 4. Sarunya Promkotra, 2014, Nanocomposite Technology , Khon Ken University Press, Khon Kaen, Thailand (in Thai). 5. Sarunya Promkotra, 2017, Rock Salt-Evaporite Geomaterials: Physico-Chemical Characteristics related to Mineralogy, Hydrogeochemistry, and Chemical Kenetics , Klung Na Na Vithya Press Limited Partnership, Khon Kaen, Thailand (in Thai).
Invention Patents	1. Patent number: 99203; Title: Bioplastic bead formula for shock absorption from rubber latex; Thailand; Granting Date: 28 Feb 2024 2. Patent number: IDP000085424; Title: Bioplastic rubber formula and bioplastic rubber production methods; Republic of Indonesia; Granting Date: 30 January 2023
Published Papers (the last 7 years)	Promkotra, S. , Kangsadan, T., 2024, Chemical Species Prediction for Development of Phase Behaviors of Natural Gas in Dry Gas Reservoir, <i>Advances in Science, Technology and Innovation</i> , 119–121. Promkotra, S. , Trakoolngam, K., Cotanont, T., Kangsadan, T., 2024, Strength of Dvāraṭī Fired-Clay Bricks Related to Mineral Components in Fa Daed Song Yang and U Thong Ancient City, Thailand, <i>RILEM Bookseries</i> 47, 322-331. Saengsri, S., Promkotra, S. , Cotanont, T., Kangsadan, T., 2023, Hydrogeochemical Groundwater Modeling in Waste Disposal Site, BKB Landfill, Thailand, <i>Advances in Science, Technology and Innovation</i> , 91-94 Singtuen, V., Phajan, S., Anumart, A., Phajuy, B., Srijanta, K., Promkotra, S. , 2021, Alteration of high alkaline and alkaline basaltic rocks: parent rocks in the Lava Durian orchard, Sisaket Province, NE Thailand, <i>Heliyon</i> , 7(12),e08619. Trakoolngam, K., Promkotra, S. , Kangsadan, T., 2019, Compressive Strength of Fired-Clay Brick with Variations in Composition of Rice Husk Ash Compared with Ancient Bricks in Dvāraṭī Peroid, Northeast Thailand, <i>RILEM Bookseries</i> , Springer International Publishing, 18, 2359–2367. Kristanto, A., Neubert, M.S., Promkotra, S. , Sessomboon, W., 2019, Fabrication and thermo-mechanical characteristics of PHBV/latex/vegetable oil composites-modifying on biocomposites, <i>Journal of Mechanical Engineering Research and Developments</i> , 42(5), 106–109.

Cheeranun Kaewku, **Sarunya Promkotra**, and Tawiwat Kangsadan, 2018, Mathematical Model of Viscous Petroleum Fluid for Consequential Migration in Porous Solid, *Energy Procedia*, 144, 143-149.

Nusara Surakotra, **Sarunya Promkotra**, Punya Charusiri, Teruyuki Maruoka and Ken-ichiro Hisada, 2018, Sulfur, Strontium, Carbon, and Oxygen Isotopes of Calcium Sulfate Deposits in Late Carboniferous Rocks of the Loei-Wang Saphung (LWS) Area, Loei Province, Thailand, *Geosciences*, 8, 229, 1-11.

Nusara S, Punya C, **Sarunya P**, and Ken-ichiro H, 2017, Petrology and Alteration of Calcium Sulphate Deposits in Late Paleozoic Rocks of Wang Saphung Area, Loei Province, Thailand, *J Earth Sci Clim Change*, Vol 8, Issue 1, 1000384.

Namthip Khuncharee, **Sarunya Promkotra**, and Tawiwat Kangsadan, 2017, Relationship of Lithostratigraphic Unit and Petroleum Qualities in some Gas Field and Oil Field of Thailand, ICES 2017: 1st International Congress on Earth Sciences in SE Asia, 15-17 November 2017, Brunei.

Sarunya Promkotra and Tawiwat Kangsadan, 2017, Morphological Arrangement of Two-Dimensional Aggregated Colloid, *AIP Conference Proceedings*, 1858, 020003-1-6.

Kritika Trakoolngam and **Sarunya Promkotra**, 2016, Mechanical Behavior of Fired-Clay Bricks from Stream Sediments under Uniaxial Compressive Loading, *Key Engineering Materials*, Vol. 690, 252-258.

Trakoolngam, K., and **Promkotra, S.**, 2016, Compressive mechanical behavior of red loess/black-rice husk ash composite material under variations of firing temperature. *Suranaree Journal of Science and Technology*, 23(4), 401-407.

Trakoolngam, K., and **Promkotra, S.**, 2016, Nam Phong Sediments for manufacturing of fired-clay bricks in the Northeast of Thailand, Thematic Session "Geoscience for the Society", 52nd CCOP Annual Session, Bangkok, Thailand.

Pimchanok Chartchonbot and **Sarunya Promkotra**, 2016, Characteristics of Hydrochemical Species in Upper Nam Phong Catchment, Thematic Session "Geoscience for the Society", 52nd CCOP Annual Session, Bangkok, Thailand.

Sarunya Promkotra and Tawiwat Kangsadan, 2015, Compressive Strength in Various Submersion Tests of Fired Clay Bricks from Chi River Sub-Basin, *Key Engineering Materials* Vol. 659, 64-68.

K. Kuntanoo, **S. Promkotra**, and P. Kaewkannetra, 2015, Fabrication of Novel Polyhydroxybutyrate-co-Hydroxyvalerate (PHBV) Mixed with Natural Rubber Latex, *Key Engineering Materials* Vol. 659, 404-408.

Sarunya Promkotra and Tawiwat Kangsadan, 2015, Evaluation of Phase Envelope on Natural Gas, Condensate and Gas Hydrate, *AIP Conference Proceedings*, 1653, 020089-1-020089-2.

K. Kuntanoo, **S. Promkotra**, and P. Kaewkannetra, 2015, Physical-biopolymer Characterization of Polyhydroxybutyrate-co-hydroxyvalerate (PHBV) Blended with Natural Rubber Latex, *AIP Conference Proceedings*, 1653, 020063-1-020063-8.

Sarunya Promkotra, 2014, Dynamics of Suspended Sediments related to Fine Particles in Lower Mekong River, *Applied Mechanics and Materials* Vols. 446-447, 1528-1533.

Sarunya Promkotra and Tawiwat Kangsadan, 2014, Chemical Thermodynamics of Hydrocarbon Compositions in Natural Gas Field, Northeast of Thailand, I. Dincer et al. (eds.), *Progress in*

Exergy, Energy, and the Environment, Springer International Publishing Switzerland, 1017-1027.

Sarunya Promkotra and Tawiwon Kangsadan, 2014, Mathematical Model of Petroleum Dynamics in Closed Conduit, I. Dincer et al. (eds.), Progress in Exergy, Energy, and the Environment, Springer International Publishing Switzerland, 1041-1053.

Sarunya Promkotra and Tawiwon Kangsadan, 2014, Interactive Force of Two-Dimensional Compressive Deformation by Discrete Element Method (DEM), Defect and Diffusion Forum Vol. 353, 106-110.

Sarunya Promkotra and Tawiwon Kangsadan, 2014, Dynamic Correlation Function of Monodispersed Colloid. Applied Mechanics and Materials Vols. 446-447, 176-180.

Sarunya Promkotra, 2014, Compressive Aggregates of Two-Dimensional Mono-disperse to Assess Flaw Dissemination, Defect and Diffusion Forum Vol. 353, 101-105.

Sarunya Promkotra, 2013, Applicable Fine Stream Sediments from Upper Chi River Produced Fired Clay Bricks, Applied Mechanics and Materials Vols. 423-426, 1041-1045.

K. Kuntanoo, **S. Promkotra**, and P. Kaewkannetra, 2013, Biodegradation of Polyhydroxybutyrate-Co-Hydroxyvalerate (PHBV) Blended with Natural Rubber in Soil Environment, World Academy of Science, Engineering and Technology, Vol. 7, No.12.

Sarunya Promkotra and Tawiwon Kangsadan, 2013, Characteristic Behaviors in Compressive Strength of Two-Dimensional Aggregates, Advanced Materials Research Vol. 746, 293-296.

Sarunya Promkotra, 2013, Chemical Kinetics between Brine and Rock Salt Transitions, Defect and Diffusion Forum Vols. 334-335, 43-48.

Sarunya Promkotra and Tawiwon Kangsadan, 2013, Geochemical Speciation Associated to Brine and Groundwater, Applied Mechanics and Materials Vols. 423-426, 1422-1426.

Sarunya Promkotra and Tawiwon Kangsadan, 2013, Groundwater Salt-Dissolution Distribution on Salt Producing Process Involved in Chemical Speciation in Sakon Nakhon Basin, Thailand, International Conference on Frontiers of Environment, Energy and Bioscience (ICFEEB 2013), 457-461.

Sarunya Promkotra and Tawiwon Kangsadan, 2013, Petroleum Sources by Dynamic Petroleum Migration in Gas Reservoir, International Conference on Frontiers of Environment, Energy and Bioscience (ICFEEB 2013), 475-479.

Sarunya Promkotra, 2013, Phase Equilibria of Condensate and Natural Gas, Advanced Materials Research Vol. 746, 529-532.

Pakawadee Kaewkannetra and **Sarunya Promkotra**, 2013, Quality Improvement and Characteristics of Polyhydroxyalkanoates (PHAs) and Natural Latex Rubber Blends, Defect and Diffusion Forum Vols. 334-335, 49-54.

Pakawadee Kaewkannetra and **Sarunya Promkotra**, 2011, Microstructural Evolution of Synthesized Polyhydroxyalkanoates (PHAs) Corresponding to Their Blends. Defect and Diffusion Forum Vols. 312-315, 688-693.

Sarunya Promkotra, 2011, Mechanisms of Microstructural Rearrangement on Two-Dimensional Aggregates under Compressive Stress, Defect and Diffusion Forum Vols. 312-315, 682-687.