



Professor Dr. Siriwan Suebnukarn

ศาสตราจารย์ ดร.ทันตแพทย์หญิง ศิริวรรณ สืบบุญการณ

### **CURRENT WORK**

Faculty of Dentistry, Thammasat University, Khlong Luang, Pathum Thani, Thailand 12121

Home Page: <https://www.dentistry.tu.ac.th/siriwan-suebnukarn>

E-Mail Address: [ssiriwan@tu.ac.th](mailto:ssiriwan@tu.ac.th), [siriwan.suebnukarn@gmail.com](mailto:siriwan.suebnukarn@gmail.com)

Phone: (66) 02-986-9213 Fax: (66) 02-986-9205

### **EDUCATION and TRAINING**

2005: Doctor of Philosophy, Asian Institute of Technology, School of Engineering and Technology, Computer Science and Information Management

2001: Master of Science, Asian Institute of Technology, School of Engineering and Technology, Computer Science and Information Management (Outstanding academic performance award, The James A. Linen III Prize)

1995: Graduate Diploma in Clinical Science (Endodontology), Chulalongkorn University, Faculty of Dentistry

1992: Doctor of Dental Surgery, Prince of Songkhla University, Faculty of Dentistry

### **RESEARCH AREA**

AI in Healthcare, Clinical Decision Support, Virtual Reality, Endodontics

ORCID: <https://orcid.org/0000-0003-1237-1274>

### **ACADEMIC POSITIONS**

2013-present: Professor, Thammasat University, Faculty of Dentistry

2009-2013: Associate Professor, Thammasat University, Faculty of Dentistry

2006-2009: Assistant Professor, Thammasat University, Faculty of Dentistry

1997-2006: Faculty, Thammasat University, Faculty of Dentistry

1992-1997: Faculty, Prince of Songkhla University, Faculty of Dentistry

### **ADMINISTRATION POSITIONS**

2018-2024: Vice Rector for Research and Innovation, Thammasat University

2020: Acting Dean, College of Interdisciplinary Studies, Thammasat University

2014-2017: Vice Dean for Research, Thammasat University, Faculty of Dentistry

### **RESEARCH FELLOW and VISITING SCHOLAR**

2017: Research Fellow, Hanse-Wissenschaftskolleg - Institute of Advanced Study, Germany

2017: Visiting Professor, Bremen Spatial Cognition Center, University of Bremen, Germany

2000: Research Fellow, School of Dentistry, Asahi University, Japan

## **ROYAL THAI DECORATIONS**

2020: Knight Grand Cordon (Special Class) of the Most Noble Order of the Crown of Thailand (มหาวชิรมงกุฎ)

2020: Companion (Fourth Class) of the Most Admirable Order of the Direkgunabhorn (จตุตถดิเรกคุณาภรณ์)

2014: Knight Grand Cross (First Class) of the Most Exalted Order of the White Elephant (ประถมาภรณ์ช้างเผือก)

2011: Knight Grand Cross (First Class) of the Most Noble Order of the Crown of Thailand (ประถมาภรณ์มงกุฎไทย)

## **HONORS**

2022: ASEAN-US Science Prize for Women 2022, Honourable Mention – Senior Scientist Category

2020: National Outstanding Researcher Award (นักวิจัยดีเด่นแห่งชาติ)

2019: Platinum Education / Research Development Category Winner, Global Inventors & Innovators Network Awards 2019, London, United Kingdom

2019: Special Recognition Award, Global Inventors & Innovators Network Awards 2019, London, United Kingdom

2019: Gold Medal and Special Prize from World Invention Intellectual Property Associations (WIIPA), ICOH Mobile Dental Unit

2014: Distinguished Alumni Award, Prince of Songkhla University

2013: Distinguished Alumni Award in Academia, Faculty of Dentistry Prince of Songkhla University

2012: Gold Medal, Seoul International Invention Fair (SIIF) for Virtual Reality Dental Simulation

2012: Gold Medal, Seoul International Invention Fair (SIIF) for Intelligent Posture Trainer

2012: Inventor's Award, from National Research Council of Thailand, for the work on DentSim-VR: Intelligent virtual reality for clinical training in dentistry

2009: Best paper award, the 20th SEAADE Annual Scientific Meeting

2008: Gold Medal, International Federation of Inventor Association (IFIA) for Computer Implemented Invention (held in China)

2007: Lady Prize for the Best Women-Invention, International Federation of Inventor Association (IFIA) (held in Taiwan)

2007: Inventor's Award, from National Research Council of Thailand, for the work on COMET: A collaborative intelligent tutoring system for medical problem-based learning.

2001: Outstanding academic performance award, The James A. Linen III Prize, Asian Institute of Technology

## **PATENT**

2016: Patent: Siriwan Suebnukarn, Peter Haddawy, Phattanapon Rhienmora. Intelligent Virtual Reality for Dental Skill Training (No. 49083)

## **PUBLICATIONS**

### **Book**

Suebnuakarn S. (2013) Dental Informatics. Thammasat University Press, ISBN 978-616-314-023-4

Suebnuakarn S. (2009) Clinical skill development in dentistry: Ergonomic approach. Thammasat University Press, ISBN 978-974-9900-75-8

Suebnuakarn, S. (2010) Intelligent tutoring system for medical problem-based learning. In Nata R.V. (Ed.) Progress in Education, Nova Science Publishers, ISBN: 978-161122572-3, pp. 233-302.

Suebnuakarn S. (2009) A Collaborative Medical Case Authoring Environment Based on the UMLS. In Hijon-Neira R. (Ed.) Advanced Learning. INTECH. ISBN: 978-953-370-010-0, pp. 61-76.

### **Research Articles**

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=8893011200>

Wongsapai M, Wudtjureepun K, Suthachai T, Tamdee D, Ittichaicharoen J, Wuttisarnwattana P, Suebnuakarn S. A Community-Based Usability Study of an AI-Enabled Oral Cancer Screening App Operated by Village Health Volunteers: Mixed Methods Study. JMIR Mhealth Uhealth 2026;14:e83738 doi: 10.2196/83738.

Poomrittigul S, Mittong S, Thanathornwong B, Suebnuakarn S. Deep learning-based object detection of restorative dental instruments with potential implications for workflow automation and infection control in dental supply units. Sci Rep. 2025 Dec 4;16(1):1168. doi: 10.1038/s41598-025-30774-z.

Theppitak S, Wongsapai M, Jaidee E, Sakdapreecha C, Ittichaicharoen J, Pongsiriwet S, Warin K, Suebnuakarn S, Wuttisarnwattana P, Photorealistic synthesis of oral lichen planus and lichenoid lesions enhances deep-learning segmentation in intra-oral photographs, Computerized Medical Imaging and Graphics, Volume 130, 2026, 102741, ISSN 0895-6111, doi.org/10.1016/j.compmedimag.2026.102741.

Srakoopun C, Suebnuakarn S, Haddawy P, Kaluschke M, Weller R, Yin MS, Aguilar P, Phumpatrakom P, Pinchamnankool K, Budsaba K, Zachmann G. Virtual reality simulation for learning minimally invasive endodontics: a randomized controlled trial. BMC Med Educ. 2025 Oct 2;25(1):1310. doi: 10.1186/s12909-025-07889-y.

Wongsapai M, Wudtjureepun K, Tamdee D, Suthachai T, Wuttisarnwattana P, Suebnuakarn S. Oral Cancer Surveillance in Remote Areas Using a Smartphone Digital Platform. Stud Health Technol Inform. 2025 Aug 7;329:1898-1899. doi: 10.3233/SHTI251270.

Engsomboon N., Thanathornwong B., Suebnuakarn S. Comparative in vitro study of a new silicone mouth swab for soft tissue cleaning under wet and dry brushing conditions (2025) Scientific Reports, 15 (1), art. no. 4837.

Vannaprathip N., Haddawy P., Schultheis H., Suebnukarn S. SDMentor: A virtual reality-based intelligent tutoring system for surgical decision making in dentistry (2025) *Artificial Intelligence in Medicine*, 162, art. no. 103092.

Imkome E. U., Soonthornchaiya R., Lakanavisid P., Deepaisarn S., Wongpatikasereeb K., Suebnukarn S., Matthews A. K. Ai-Aun Chatbot: A pilot study on the effectiveness of an artificial intelligence intervention for mental health among Thai older adults (2025) *Nurs Health Sci*, 27(2), art. No. e70093.

Dennis D., Suebnukarn S., Vicharueang S., Limprasert W. Development and evaluation of a deep learning segmentation model for assessing non-surgical endodontic treatment outcomes on periapical radiographs: A retrospective study (2024) *PLoS ONE*, 19 (12), art. no. e0310925.

Supavititpattana N., Suebnukarn S., Phumpatrakom P., Budsaba K. Micro-computed tomography evaluation of minimally invasive root canal preparation in 3D-printed C-shaped canal (2024) *Australian Endodontic Journal*, 50 (3), pp. 621 – 628.

Dennis D., Suebnukarn S., Heo M.-S., Abidin T., Nurliza C., Yanti N., Farahanny W., Prasetya W., Batubara F.Y. Artificial intelligence application in endodontics: A narrative review (2024) *Imaging Science in Dentistry*, 54 (4), pp. 305 – 312.

Engsomboon N., Thanathornwong B., Suebnukarn S. Comparative Analysis of Silicone Mouth Swabs with Varying Hardness Levels for Optimal Plaque Removal in Elderly Oral Care (2024) *Oral Health and Preventive Dentistry*, 22, pp. 617 – 622.

Chaowchuen, S., Warin, K., Somyanonthanakul, R., Panichkitkosolkul, W., Suebnukarn, S. The Discovery of Oral Cancer Prognostic Factor Ranking Using Association Rule Mining (2024) *European Journal of Dentistry*, . doi: 10.1055/s-0043-1777050. Epub ahead of print.

Somyanonthanakul, R., Warin, K., Chaowchuen, S., Jinaporntham, S., Panichkitkosolkul, W., Suebnukarn, S. Survival estimation of oral cancer using fuzzy deep learning (2024) *BMC Oral Health*, 24 (1), art. No. 519, .

Warin, K., Suebnukarn, S. Deep learning in oral cancer- a systematic review (2024) *BMC Oral Health*, 24 (1), art. No. 212, .

Wongsapai, M., Jaidee, E., Thanathornwong, B., Suebnukarn, S., Wuttisarnwattana, P. RISKOCA: A Smartphone-Based Digital Platform for Oral Cancer Self-Examination (2024) *Studies in health technology and informatics*, 316, pp. 164-165.

Wuttisarnwattana, P., Wongsapai, M., Theppitak, S., Ittichaicharoen, J., Warin, K., Thanathornwong, B., Suebnukarn, S. Precise Identification of Oral Cancer Lesions Using Artificial Intelligence (2024) *Studies in health technology and informatics*, 316, pp. 1096-1097.

Thanathornwong, B., Ouivirach, K., Wuttisarnwattana, P., Wongsapai, M., Suebnukarn, S. Enhancing Periodontal Treatment Through the Integration of Deep Learning-Based Detection with Bayesian Network Models (2024) *Studies in health technology and informatics*, 316, pp. 1729-1730.

Dwisaptarini, A.P., Nelwan, M.G., Gunardi, I., Ratnasari, D., Suebnukarn, S. Marginal fit difference between zirconia and lithium disilicate CAD/CAM onlay restoration (2024) *AIP Conference Proceedings*, 3127 (1), art. No. 020008, .

Kaluschke, M., Weller, R., Yin, M.S., Hosp, B.W., Kulapichitr, F., Suebnukarn, S., Haddawy, P., Zachmann, G. Reflecting on Excellence: VR Simulation for Learning Indirect Vision in Complex Bi-Manual Tasks (2024) *Proceedings – 2024 IEEE Conference on Virtual Reality and 3D User Interfaces, VR 2024*, pp. 712-721.

Kowitlawakul Y., Tan J.J.M., Suebnukarn S., Nguyen H.D., Poo D.C.C., Chai J., Kamala D.M., Wang W. Development of an Artificial Intelligence Teaching Assistant System for Undergraduate Nursing Students: A Field Testing Study (2024) *CIN - Computers Informatics Nursing*, 42 (5), pp. 334 - 342

Thanathornwong, B., Treebupachatsakul, T., Teechot, T., Poomrittigul, S., Warin, K., Suebnukarn, S. Temporomandibular Joint Disorders Multi-Class Classification Using Deep Learning (2024) *Studies in health technology and informatics*, 310, pp. 1495-1496.

Warin, K., Vicharueang, S., Jantana, P., Limprasert, W., Thanathornwong, B., Suebnukarn, S. Deep Learning for Midfacial Fracture Detection in CT Images (2024) *Studies in health technology and informatics*, 310, pp. 1497-1498.

Kaluschke, M., Yin, M.S., Haddawy, P., Suebnukarn, S., Zachmann, G. The effect of 3D stereopsis and hand-tool alignment on learning effectiveness and skill transfer of a VR-based simulator for dental training (2023) *PLoS ONE*, 18 (10 October), art. No. e0291389, .

Jaidee, E., Wongsapai, M., Suthachai, T., Theppitak, S., Ittichaicharoen, J., Warin, K., Suebnukarn, S., Wuttisarnwattana, P. Oral Tissue Detection in Photographic Images Using Deep Learning Technology (2023) *27<sup>th</sup> International Computer Science and Engineering Conference 2023, ICSEC 2023*, pp. 21-27.

Theppitak, S., Wongsapai, M., Wudtijureepun, K., Jaidee, E., Ittichaicharoen, J., Warin, K., Suebnukarn, S., Wuttisarnwattana, P. Automatic Oral View Classification in the Photographic Images (2023) *27<sup>th</sup> International Computer Science and Engineering Conference 2023, ICSEC 2023*, pp. 15-20.

Warin, K., Limprasert, W., Suebnukarn, S., Paipongna, T., Jantana, P., Vicharueang, S. Maxillofacial fracture detection and classification in computed tomography images using convolutional neural network-based models (2023) *Scientific Reports*, 13 (1), art. No. 3434, .

Poedjiastoeti, W., Ariesanti, Y., Gunardi, I., Suebnukarn, S. Quality of Life in Post Ameloblastoma Treatment: A Meta-Analysis (2023) *Journal of International Dental and Medical Research*, 16 (1), pp. 367-376.

Thanathornwong, B., Suebnukarn, S., Ouivirach, K. Clinical Decision Support System for Geriatric Dental Treatment Using a Bayesian Network and a Convolutional Neural Network (2023) *Healthcare Informatics Research*, 29 (1), pp. 23-30.

Somyanonthanakul, R., Warin, K., Amasiri, W., Mairiang, K., Mingmalairak, C., Panichkitkosolkul, W., Silanun, K., Theeramunkong, T., Nitikraipot, S., Suebnukarn, S. Forecasting COVID-19 cases using time series modeling and association rule mining (2022) *BMC Medical Research Methodology*, 22 (1), art. No. 281, .

Klaisiri, A., Suebnukarn, S., Krajangta, N., Rakmanee, T., Sriamporn, T., Thamrongananskul, N. The Effect of Morpholine on Composite-to-Composite Repair Strength Contaminated with Saliva (2022) *Polymers*, 14 (21), art. No. 4718, .

Warin, K., Limprasert, W., Suebnukarn, S., Inglam, S., Jantana, P., Vicharueang, S. Assessment of deep convolutional neural network models for mandibular fracture detection in panoramic radiographs (2022) *International Journal of Oral and Maxillofacial Surgery*, 51 (11), pp. 1488-1494.

Kowitlawakul, Y., Tan, J.J.M., Suebnukarn, S., Nguyen, H.D., Poo, D.C.C., Chai, J., Wang, W., Devi, K. Utilizing educational technology in enhancing undergraduate nursing students' engagement and motivation: A scoping review (2022) *Journal of Professional Nursing*, 42, pp. 262-275.

Warin, K., Limprasert, W., Suebnukarn, S., Jinaporntham, S., Jantana, P., Vicharueang, S. AI-based analysis of oral lesions using novel deep convolutional neural networks for early detection of oral cancer (2022) *PloS ONE*, 17 (8 August), art. No. E0273508, .

Vannapraphip, N., Haddawy, P., Schultheis, H., Suebnukarn, S. Intelligent Tutoring for Surgical Decision Making: a Planning-Based Approach (2022) *International Journal of Artificial Intelligence in Education*, 32 (2), pp. 350-381.

Warin, K., Limprasert, W., Suebnukarn, S., Jinaporntham, S., Jantana, P. Performance of deep convolutional neural network for classification and detection of oral potentially malignant disorders in photographic images (2022) *International Journal of Oral and Maxillofacial Surgery*, 51 (5), pp. 699-704.

Kaluschke, M., Yin, M.S., Haddawy, P., Suebnukarn, S., Zachmann, G. The Impact of 3D Stereopsis and Hand-Tool Alignment on Effectiveness of a VR-based Simulator for Dental Training (2022) *Proceedings – 2022 IEEE 10<sup>th</sup> International Conference on Healthcare Informatics, ICHI 2022*, pp. 449-455.

Amasiri, W., Warin, K., Mairiang, K., Mingmalairak, C., Panichkikosolkuli, W., Silanun, K., Somyanonthanakul, R., Theeramunkong, T., Nitikraipot, S., Suebnukarn, S. Analysis of characteristics and clinical outcomes for crisis management during the four waves of the covid-19 pandemic (2021) *International Journal of Environmental Research and Public Health*, 18 (23), art. No. 12633, .

Warin, K., Limprasert, W., Suebnukarn, S., Jinaporntham, S., Jantana, P. Automatic classification and detection of oral cancer in photographic images using deep learning algorithms (2021) *Journal of Oral Pathology and Medicine*, 50 (9), pp. 911-918.

Suebnukarn, S. Intelligent Clinical Training during the COVID-19 Pandemic (2021) *JCSSE 2021 – 18<sup>th</sup> International Joint Conference on Computer Science and Software Engineering: Cybernetics for Human Beings*, art. No. 9493841, .

Su Yin, M., Haddawy, P., Suebnukarn, S., Kulapichitr, F., Rhienmora, P., Jatuwat, V., Uthai-pattanacheep, N. Formative feedback generation in a VR-based dental surgical skill training simulator (2021) *Journal of Biomedical Informatics*, 114, art. No. 103659, .

Thanathornwong, B., Suebnukarn, S. A Personalized Pre-operative and Intra-operative Ergonomic Feedback to Improve the Dental Work Posture (2021) *International Journal of Human-Computer Interaction*, 37 (6), pp. 528-533.

Thanathornwong, B., Suebnukarn, S. Automatic detection of periodontal compromised teeth in digital panoramic radiographs using faster regional convolutional neural networks (2020) *Imaging Science in Dentistry*, 50 (2), pp. 169-174.

Thanathornwong, B., Suebnukarn, S. Improving postural balance in dentoalveolar malocclusion patients using a vibrotactile posture trainer device (2019) *Studies in Health Technology and Informatics*, 264, pp. 1791-1792.

Sararit, N., Haddawy, P., Suebnukarn, S. Effectiveness of a low-cost VR simulator for emergency management training in dental surgery (2018) *Proceeding of 2018 15<sup>th</sup> International Joint Conference on Computer Science and Software Engineering, JCSSE 2018*, art. No. 8457353, .

Poedjiastoeti, W., Suebnukarn, S. Application of convolutional neural network in the diagnosis of Jaw tumors (2018) *Healthcare Informatics Research*, 24 (3), pp. 236-241.

Dwisaptarini, A.P., Suebnukarn, S., Rhienmora, P., Haddawy, P., Koontongkaew, S. Effectiveness of the multilayered caries model and visuo-Tactile virtual reality simulator for minimally invasive caries removal: A randomized controlled trial (2018) *Operative Dentistry*, 43 (3), pp. E110-E118.

Vannaprathip, N., Haddawy, P., Schultheis, H., Suebnukarn, S., Limsuvan, P., Intaraudom, A., Aiemplaor, N., Teemuenvai, C. A planning-based approach to generating tutorial dialog for teaching surgical decision making (2018) *Lecture Notes in Computer Science (including sub-series Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 10858 LNCS, pp. 386-391.

Yin, M.S., Haddawy, P., Suebnukarn, S., Rhienmora, P. Automated outcome scoring in a virtual reality simulator for endodontic surgery (2018) *Computer Methods and Programs in Biomedicine*, 153, pp. 53-59.

Thanathornwong, B., Suebnukarn, S. Clinical decision support model to predict occlusal force in Bruxism patients (2017) *Healthcare Informatics Research*, 23 (4), pp. 255-261.

Sararit, N., Haddawy, P., Suebnukarn, S. A VR simulator for emergency management in endodontic surgery (2017) *International Conference on Intelligent User Interfaces, Proceedings IUI*, pp. 117-120.

Yin, M.S., Haddawy, P., Suebnukarn, S., Schultheis, H., Rhienmora, P. Use of haptic feedback to train correct application of force in endodontic surgery (2017) *International Conference on Intelligent User Interfaces, Proceedings IUI*, pp. 451-455.

Vannapraphip, N., Haddawy, P., Schultheis, H., Suebnukarn, S. Generating tutorial interventions for teaching situation awareness in dental surgery – Preliminary report (2017) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 10607 LNAI, pp. 69-74.

Yin, M.S., Haddawy, P., Suebnukarn, S., Rhienmora, P. Toward intelligent tutorial feedback in surgical simulation: Robust outcome scoring for endodontic surgery (2016) *International Conference on Intelligent User Interfaces, Proceedings IUI, 07-10-March-2016*, pp. 402-406.

Vannapraphip, N., Haddawy, P., Suebnukarn, S., Sangsartra, P., Sasikhant, N., Sangutai, S. Desitra: A simulator for teaching situated decision making in dental surgery (2016) *International Conference on Intelligent User Interfaces, Proceedings IUI, 07-10-March-2016*, pp. 397-401.

Thanathornwong, B., Suebnukarn, S., Ouivirach, K. Decision support system for predicting color change after tooth whitening (2016) *Computer Methods and Programs in Biomedicine*, 125, pp. 88-93.

Suebnukarn, S., Chanakarn, P., Phisutphatthana, S., Pongpatarat, K., Wongwaithongdee, U., Oupadissakoon, C. Understanding information synthesis in oral surgery for the design of systems for clinical information technology (2015) *British Journal of Oral and Maxillofacial Surgery*, 53 (10), pp. 968-975.

Rhienmora, P., Haddawy, P., Suebnukarn, S., Shrestha, P., Dailey, M.N. Recognizing Clinical Styles in a Dental Surgery Simulator (2015) *Studies in Health Technology and Informatics*, 216, pp. 163-167.

Thanathornwong, B., Suebnukarn, S. The Improvement of Dental Posture Using Personalized Biofeedback (2015) *Studies in Health Technology and Informatics*, 216, pp. 756-760.

Suebnukarn, S., Chaisombat, M., Kongpunwijit, T., Rhienmora, P. Construct validity and expert benchmarking of the haptic virtual reality dental simulator (2014) *Journal of Dental Education*, 78 (10), pp. 1442-1450.

Thanathornwong, B., Suebnukarn, S., Ouivirach, K. A system for predicting musculoskeletal disorders among dental students (2014) *International Journal of Occupational Safety and Ergonomics*, 20 (3), pp. 463-475.

Wongsapai, M., Suebnukarn, S., Rajchagool, S., Beach, D., Kawaguchi, S. Health-oriented electronic oral health record: Development and evaluation (2014) *Health Informatics Journal*, 20 (2), pp. 104-117.

Thanathornwong, B., Suebnukarn, S., Songpaisan, Y., Ouivirach, K. A system for predicting and preventing work-related musculoskeletal disorders among dentists (2014) *Computer Methods in Biomechanics and Biomedical Engineering*, 17 (2), pp. 177-185.

Kazi, H., Haddawy, P., Suebnukarn, S. Clinical reasoning gains in medical PBL: An UMLS based tutoring system (2013) *Journal of Intelligent Information Systems*, 41 (2), pp. 269-284.

Rasheed, A., Khawchareonporn, T., Muengtaweepongsa, S., Suebnukarn, S. An unusual presentation of subdural empyema caused by *Porphyromonas gingivalis* (2013) *Annals of Indian Academy of Neurology*, 16 (4), pp. 723-725.

Wongsapai, M., Suebnukarn, S., Rajchagool, S., Kijsanayotin, B. Health-oriented electronic oral health record for health surveillance (2013) *Studies in Health Technology and Informatics*, 192 (1-2), pp. 763-767.

Inglam, S., Chantarapanich, N., Suebnukarn, S., Vatanapatimakul, N., Sucharitpwatskul, S., Sitthiseripratip, K. Biomechanical evaluation of a novel porous-structure implant: Finite element study (2013) *International Journal of Oral and Maxillofacial Implants*, 28 (2), pp. e48-e56.

Suebnukarn, S., Rittipakorn, P., Thongyoi, B., Boonpitak, K., Wongsapai, M., Pakdeesan, P. Usability assessment of an electronic health record in a comprehensive dental clinic (2013) *SpringerPlus*, 2 (1), art. No. 220, pp. 1-8.

Suebnukarn, S., Rhienmora, P., Haddawy, P. The use of cone-beam computed tomography and virtual reality simulation for pre-surgical practice in endodontic microsurgery (2012) *International Endodontic Journal*, 45 (7), pp. 627-632.

Kazi, H., Haddawy, P., Suebnukarn, S. Employing UMLS for generating hints in a tutoring system for medical problem-based learning (2012) *Journal of Biomedical Informatics*, 45 (3), pp. 557-565.

Suebnukarn, S., Hataidechadusadee, R., Suwannasri, N., Suprasert, N., Rhienmora, P., Haddawy, P. Access cavity preparation training using haptic virtual reality and microcomputed tomography tooth models (2011) *International Endodontic Journal*, 44 (11), pp. 983-989.

Rhienmora, P., Haddawy, P., Suebnukarn, S., Dailey, M.N. Intelligent dental training simulator with objective skill assessment and feedback (2011) *Artificial Intelligence in Medicine*, 52 (2), pp. 115-121.

Kazi, H., Haddawy, P., Suebnukarn, S. METEOR: Medical tutor employing ontology for robustness (2011) International Conference on Intelligent User Interfaces, Proceedings IUI, pp. 247-256.

Kazi, H., Haddawy, P., Suebnukarn, S. Leveraging a domain ontology to increase the quality of feedback in an intelligent tutoring system (2010) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 6094 LNCS (PART 1), pp. 75-84.

Rhienmora, P., Gajananan, K., Haddawy, P., Dailey, M.N., Suebnukarn, S. Augmented reality haptics system for dental surgical skills training (2010) Proceedings of the ACM Symposium on Virtual Reality Software and Technology, VRST, pp. 97-98.

Suebnukarn, S., Haddawy, P., Rhienmora, P., Jittimanee, P., Viratket, P. Augmented kinematic feedback from haptic virtual reality for dental skill acquisition (2010) Journal of Dental Education, 74 (12), pp. 1357-1366.

Rhienmora, P., Haddawy, P., Khanal, P., Suebnukarn, S., Dailey, M.N. A virtual reality simulator for teaching and evaluating dental procedures (2010) Methods of Information in Medicine, 49 (4), pp. 396-405.

Inglam, S., Suebnukarn, S., Tharanon, W., Apatananon, T., Sitthiseripratip, K. Influence of graft quality and marginal bone loss on implants placed in maxillary grafted sinus: A finite element study (2010) Medical and Biological Engineering and Computing, 48 (7), pp. 681-689.

Rhienmora, P., Gajananan, K., Haddawy, P., Suebnukarn, S., Dailey, M.N., Supataratarn, E., Shrestha, P. Haptic augmented reality dental trainer with automatic performance assessment (2010) International Conference on Intelligent User Interfaces, Proceedings IUI, pp. 425-426.

Suebnukarn, S., Ngamboonsirisingh, S., Rattanabanlang, A. A Systematic Evaluation of the Quality of Meta-analyses in Endodontics (2010) Journal of Endodontics, 36 (4), pp. 602-608.

Suebnukarn, S. Intelligent tutoring system for medical problem-based learning (2010) Progress in Education, Volume 18, pp. 233-302.

Haddawy, P., Suebnukarn, S. Intelligent clinical training systems (2010) Methods of Information in Medicine, 49 (4), pp. 388-389.

Suebnukarn, S., Haddawy, P., Rhienmora, P., Gajananan, K. Haptic Virtual Reality for Skill Acquisition in Endodontics (2010) Journal of Endodontics, 36 (1), pp. 53-55.

Kazi, H., Haddawy, P., Suebnukarn, S. Expanding the space of plausible solutions in a medical tutoring system for problem-based learning (2009) International Journal of Artificial Intelligence in Education, 19 (3), pp. 309-334.

Rhienmora, P., Haddawy, P., Suebnukarn, S., Dailey, M.N. Providing objective feedback on skill assessment in a dental surgical training simulator (2009) Lecture Notes in Computer

Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5651 LNAI, pp. 305-314.

Suebnu-karn, S. Intelligent tutoring system for clinical reasoning skill acquisition in dental students (2009) *Journal of Dental Education*, 73 (10), pp. 1178-1186.

Suebnu-karn, S., Phatthanasathiankul, N., Sombatweroje, S., Rhienmora, P., Haddawy, P. Process and outcome measures of expert/novice performance on a haptic virtual reality system (2009) *Journal of Dentistry*, 37 (9), pp. 658-665.

Rhienmora, P., Haddawy, P., Suebnu-karn, S., Dailey, M.N. A VR environment for assessing dental surgical expertise (2009) *Frontiers in Artificial Intelligence and Applications*, 200 (1), pp. 746-748.

Suebnu-karn, S., Rungcharoenporn, N., Sangsuratham, S. A Bayesian decision support model for assessment of endodontic treatment outcome (2008) *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontology*, 106 (3), pp. e48-e58.

Suebnu-karn, S., Haddawy, P., Rhienmora, P. A collaborative medical case authoring environment based on the UMLS (2008) *Journal of Biomedical Informatics*, 41 (2), pp. 318-326.

Kazi, H., Haddawy, P., Suebnu-karn, S. Expanding the plausible solution space for robustness in an intelligent tutoring system (2008) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 5091 LNCS, pp. 583-592.

Kazi, H., Haddawy, P., Suebnu-karn, S. Enriching solution space for robustness in an intelligent tutoring system (2007) *15<sup>th</sup> International Conference on Computers in Education: Supporting Learning Flow through Integrative Technologies, ICCE 2007*, pp. 547-550.

Suebnu-karn, S., Rhienmora, P., Haddawy, P. A collaborative medical case authoring environment based on UMLS (2007) *Proceedings – The 7<sup>th</sup> IEEE International Conference on Advanced Learning Technologies, ICALT 2007*, art. No. 4280941, pp. 26-30.

Suebnu-karn, S., Haddawy, P. COMET: A collaborative tutoring system for medical problem-based learning (2007) *IEEE Intelligent Systems*, 22 (4), pp. 70-77.

Kazi, H., Haddawy, P., Suebnu-karn, S. Towards human-like robustness in an intelligent tutoring system (2007) *Proceedings of ICCM 2007 – 8<sup>th</sup> International Conference on Cognitive Modeling*, pp. 247-252.

Suebnu-karn, S., Haddawy, P. A Bayesian approach to generating tutorial hints in a collaborative medical problem-based learning system (2006) *Artificial Intelligence in Medicine*, 38 (1), pp. 5-24.

Suebnu-karn, S., Haddawy, P. Modeling individual and collaborative problem-solving in medical problem-based learning (2006) *User Modeling and User-Adapted Interaction*, 16 (3-4), pp. 211-248.

Suebnuakarn, S., Haddawy, P. Clinical-reasoning skill acquisition through intelligent group tutoring (2005) IJCAI International Joint Conference on Artificial Intelligence, pp. 1425-1430.

Suebnuakarn, S., Haddawy, P. Modeling individual and collaborative problem solving in medical problem-based learning (2005) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 3538 LNAI, pp. 377-386.

Suebnuakarn, S., Haddawy, P. A collaborative intelligent tutoring system for medical problem-based learning (2004) International Conference on Intelligent User Interfaces, Proceedings IUI, pp. 14-21.

### **Conferences**

Wongsapai M, Wudtjureepun K, Tamdee D, Suthachai T, Wuttisarnwattana P, Suebnuakarn S. Oral Cancer Surveillance in Remote Areas Using a Smartphone Digital Platform. The 20<sup>th</sup> World Congress on Medical and Health Informatics (Medinfo 2025), Taipei, Taiwan, Aug 9-13, 2025.

Thanathornwong B, Ouivirach K, Wuttisarnwattana P, Wongsapai M and Suebnuakarn S. Enhancing Periodontal Treatment through the Integration of Deep Learning-Based Detection with Bayesian Network Models. The 34<sup>th</sup> Medical Informatics Europe Conference (MIE2024), Eugenides Foundation, Athens, Greece, 25-29 August 2024.

Wongsapai M, Jaidee E, Thanathornwong B, Suebnuakarn S and Wuttisarnwattana P. RISKOCA: a Smartphone-based Digital Platform for Oral Cancer Self-examination. The 34<sup>th</sup> Medical Informatics Europe Conference (MIE2024), Eugenides Foundation, Athens, Greece, 25-29 August 2024.

Wuttisarnwattana P, Wongsapai M, Theppitak S, Ittichaicharoen J, Warin K, Thanathornwong B and Suebnuakarn S. Precise Identification of Oral Cancer Lesions using Artificial Intelligence. The 34<sup>th</sup> Medical Informatics Europe Conference (MIE2024), Eugenides Foundation, Athens, Greece, 25-29 August 2024.

Thanathornwong B, Treebupachatsakul T, Teechot T, Poomrittikul S, Warin K, Suebnuakarn S. Temporomandibular joint disorders multi-class classification using deep learning. The 19<sup>th</sup> World Congress on Medical and Health Informatics (Medinfo 2023), Sydney, Australia, Jul 8-12, 2023.

Warin K, Vicharueang S, Jantana P, Thanathornwong B, Suebnuakarn S. Deep learning for midfacial fracture detection in CT images. The 19<sup>th</sup> World Congress on Medical and Health Informatics (Medinfo 2023), Sydney, Australia, Jul 8-12, 2023.

Thanathornwong B, Suebnuakarn S. Improving Postural Balance in Dentoalveolar Malocclusion Patients using a Vibrotactile Posture Trainer Device The 17<sup>th</sup> World Congress on Medical and Health Informatics (Medinfo 2019), Lyon, France, Aug 25-30, 2019.

Suebnuakarn S. University graduate startups strengthening research capacity and capability: the case of Thammasat University. The 14<sup>th</sup> Annual Strategic Summit for the Advancement of University Excellence in all its Forms, QS-APPLE 2018, 21–23 November 2018, Seoul, Republic of Korea.

Suebnuakarn S, Srinaprom D, Poolthananunt P, Rangsantham P, Wongsapai M. Interoperability Evaluation of a Mobile Health-oriented Electronic Oral Health Record. The 94<sup>th</sup> International Association for Dental Research General Session & Exhibition, June 22-25, 2016, Seoul, Republic of Korea.

Dwisaptarini A, Suebnuakarn S. Development and Face Validation of a Minimally Invasive Caries Removal Simulator With Haptic Feedback. The 94<sup>th</sup> International Association for Dental Research General Session & Exhibition, June 22-25, 2016, Seoul, Republic of Korea.

Thanathornwong B, Suebnuakarn S, Klatt P. A Bayesian-based Decision Support System for Assessing the Need for Orthodontic Treatment. The 94<sup>th</sup> International Association for Dental Research General Session & Exhibition, June 22-25, 2016, Seoul, Republic of Korea.

Thanathornwong B, Suebnuakarn S. The improvement of dental posture using personalized biofeedback. The 15<sup>th</sup> World Congress on Medical and Health Informatics (Medinfo 2015), São Paulo, Brazil, Aug 19-23, 2015.

Rhienmora P, Haddawy P, Suebnuakarn S, Shrestha P, Dailey MN. Recognizing Clinical Styles in a Dental Surgery Simulator. The 15<sup>th</sup> World Congress on Medical and Health Informatics (Medinfo 2015), São Paulo, Brazil, Aug 19-23, 2015.

Suebnuakarn S. Construct validity and expert benchmarking of the haptic virtual reality dental simulator. The 36<sup>th</sup> Asia Pacific Dental Congress (APDC 2014), Dubai, United Arab Emirates, 17-19 June, 2014.

Wongsapai M., Suebnuakarn S., Rajchagool S., Kijsanayotin B. Health-oriented Electronic Oral Health Record for Health Surveillance. The 14<sup>th</sup> World Congress on Medical and Health Informatics (Medinfo 2013), Copenhagen, Denmark, Aug 20-23, 2013.

Suebnuakarn S. Recognition of Clinical Process in Dental Virtual Reality Environment. The 7<sup>th</sup> Asia Pacific Association of Medical Informatics Conference, Oct 22-25, 2012, Beijing, China. Suebnuakarn S., Thanathornwong B., Wongsapai M., Dental Informatics. The 21<sup>st</sup> Thai Medical Informatics Association Annual Meeting, Nov 21-23, 2012, Thailand.

Suebnuakarn S. Decision support systems and knowledge representation under uncertainties. The 20<sup>th</sup> Thai Medical Informatics Association Annual Meeting, Jan 26-27, 2012, Thailand.

Thanathornwong B., Suebnuakarn S, Songpaisan Y. An electronic instrumentation for predicting musculoskeletal disorders among dentists. The 25<sup>th</sup> IADR-SEA Annual Scientific Meeting, Oct 29-30, 2011, Singapore.

Thanathornwong B., Suebnukarn S. An electronic instrumentation for predicting musculo-skeletal disorders among dentists, The 10<sup>th</sup> Dental Faculty Consortium of Thailand Academic Meeting and Research Presentation, Oct 13-14, 2011, Bangkok, Thailand.

Suebnukarn S, Yamaguchi T. Endodontic Training on Haptic Virtual Reality using Micro-CT Tooth Models. The 89<sup>th</sup> International Association for Dental Research General Session & Exhibition, March 16-19, 2011, San Diego, LA.

Suebnukarn S. Intelligence clinical training systems. The 19<sup>th</sup> Thai Medical Informatics Association Annual Conference, November 10-12, 2010, Bangkok, Thailand.

Suebnukarn S, Haddawy P, Rhienmora P, Jittimanee P, Viratket, P. Augmented feedback from haptic virtual reality for dental skill acquisition. The 88<sup>th</sup> International Association for Dental Research General Session & Exhibition, July 14-17, 2010, Barcelona, Spain.

Phattanapon Rhienmora, Kugamoorthy Gajananan, Peter Haddawy, Siriwan Suebnukarn, Matthew N. Dailey, Ekarin Supataratarn, Poonam Shrestha: Haptic augmented reality dental trainer with automatic performance assessment. IUI 2010: 425-426

Suebnukarn S, Haddawy P, Rhienmora P, Gajananan K. Haptic Virtual Reality for Clinical Skill Acquisition. The 20<sup>th</sup> SEAAD Annual Scientific Meeting, November 23-24, 2009, Chiang Mai, Thailand. **(Best paper award)**

Suebnukarn S, Songpaisan Y, Phantumvanit P. Clinical Skill Acquisition through Problem-based Learning and Haptic Virtual Reality. The 6<sup>th</sup> International Conference on PBL in Dentistry, November 13-15, 2009, Hong Kong.

Suebnukarn S, Phatthanasathienkul N, Sombatveroje S, Rhienmora P, Khanal P, Haddawy P, Dailey M. A Process-Outcome Study of Expert and Novice Clinical Performance. The 87<sup>th</sup> International Association for Dental Research General Session & Exhibition, April 1-4, 2009, Miami, USA.

Suebnukarn S. Process and Outcome Measure of Experts and Novices Clinical Performance, The 9<sup>th</sup> Dental Faculty Consortium of Thailand Academic Meeting and Research Presentation, Feb 18-20, 2009, Rayong, Thailand.

Suebnukarn S, Rungcharoenporn N, Saengsuratham S. A Decision Support Model for Assessment of Endodontic Treatment Outcome, The 86<sup>th</sup> International Association for Dental Research General Session & Exhibition, July 2-5, 2008, Toronto, Canada.

Suebnukarn S, Haddawy P, Sitthiseripratip K, Rhienmora P, Intelligent virtual reality for clinical skill training, NECTEC Annual Conference, Bangkok, Thailand. NECTEC, Volume 14, No.74 (Nov-Dec 2007) p. 23-25.

Inglam S, Suebnukarn S, Tharanon W, Sitthiseripratip K (2007) Effect of marginal bone loss on bone strains around implants placed in grafted maxillary sinuses: 3D-finite element analysis, International Bone and Dental Technology Symposium, Bangkok, Thailand.

Inglam S, Suebnukarn S, Tharanon W, Sitthiseripratip K (2007) Biomechanical Analysis of Implants Placed in Grafted Maxillary Sinuses. The IADR-SEA, Bali, Indonesia.

Suebnukarn S\*, Haddawy P (2007) Predicting students' actions in web-based problem-based learning. The 85<sup>th</sup> International Association for Dental Research General Session and Exhibition, New Orleans, USA.

Suebnukarn S\*, Haddawy P, Songpaisan Y, Phantumvanit P, Suksudaj N, and Chetpak-deechit W (2005) A Bayesian Network Clinical Reasoning Model for an Automated PBL Tutor. The 4<sup>th</sup> International Symposium on Problem-Based Learning in Dental Education, Thailand.

Suebnukarn S\*, Benjasupattananan S, Songpaisan Y, and Phantumvanit P (1998) SATV and GPF in Dental Education. The 9<sup>th</sup> Annual Scientific and General Meeting South-East Asia Association for Dental Education. Malaysia.

Suebnukarn S\*, Koonthongkaew S, and Yapong B (1997) Correlation between the Bacterial Culture Result in Root Canal and Postobturation Evaluation. The 12<sup>th</sup> International Association for Dental Research Southeast Asian Division. Thailand.

### **Keynote Speakers/Invited Talks/Workshops**

Collaborations to Enable Transnational Cyberinfrastructure Applications (CENTRA), Topic: "The PADIN Framework: A Comprehensive Approach to Privacy-Preserving Dental AI via Federated Learning, Standardization, and Ethical Governance", 11-13 January 2026, Pathum Thani, Thailand.

The International Conference on Future Healthcare and Economic Development (FHED 2025), Topic: "Advancing Healthcare Through AI: Integration, Implementation, and Impact", 17-21 November 2025, Tainan, Taiwan.

The International Conference on Cybernetics and Innovations (ICCI 2025), Topic: "The role of AI in advancing digital dentistry", 2-4 April 2025, Chonburi, Thailand.

The 77<sup>th</sup> Anniversary of Fakultas Kedokteran Gigi Universitas Gadjah Mada, Topic: "Digital Dentistry: Enhancing Efficiency in Indonesia Health Transformations", 27-28 February 2025, Universitas Gadjah Mada, Indonesia.

The 2<sup>nd</sup> International Conference in Dental Technology and Medical Sciences (ICDenTeMS): Current Research and Trends in Dental and Medical Technology, Topic: "AI-based models for assessing endodontic treatment outcomes", 21-22 Nov 2024, Faculty of Dentistry Universitas Trisakti, Indonesia.

The 3<sup>rd</sup> International Conference on TU Health Science (ICTUHS): The Future of Health Science: Integrating AI, Big Data, and Inclusive Education for Universal Well-being Conference, Topic: "Artificial Intelligence and its Influence on Dental Education and Student Learning", 30-31 May 2024, Thammasat Medical Skill and Education Center (TMEd), Thammasat University.

The 5th International Conference Brawijaya Dentistry (ICBD), 5-7 October 2023, Faculty of Dentistry Universitas Brawijaya, Malang, Indonesia.

The International Scientific Forum XIII – 2022 (FORIL XIII – 2022), 8-10 December 2022, Jakarta International Expo (JIExpo), Jakarta, Indonesia.

Workshop on Intelligent Virtual Environments for Surgical Training, 17 January 2022, Hanse-Wissenschaftskolleg - Institute for Advanced Study (HWK), Delmenhorst, Germany.

The 3rd International Symposium on Asia AI (AI for Life during & after COVID-19), Keynote Speaker “Thammasat AI Initiative” 17 November 2021, Hosted by Faculty of Data Science, Musashino University and Faculty of Engineering, Thammasat University, Thailand.

Global Smart Education Conference (GSE) 2021 - Smart Learning and Futures of Education, “Intelligence clinical training during the COVID-19 pandemic” 18-20 August 2021, Beijing, China (Hybrid).

The THE Asia Universities Summit 2021, Panel Discussion “What is the role of universities in supporting the SDGs? Are Asian universities making this a priority?” (2 June 2021), Fujita Health University, Aichi, Japan (Hybrid).

The 18th International Joint Conference on Computer Science and Software Engineering (2021), Keynote Speaker “Intelligent Clinical Training during the COVID-19 Pandemic” (30 June - 3 July 2021), Thammasat University, Lampang Campus, Thailand (Hybrid).

The 15th International Symposium on Artificial Intelligence and Natural Language Processing and International Conference on Artificial Intelligence & Internet of Things (2020), Keynote Speaker “Intelligent Clinical Training during the COVID-19 Pandemic” (18-20 November 2020), Bangkok, Thailand (Online).

The Asia Pacific Medical Education Conference (APMEC) 2020, Plenary Lecture “Artificial intelligence and its influence of dental education and student learning” (8-12 January 2020), Yong Loo Lin School of Medicine, National University of Singapore, Singapore.

The Asia Pacific Medical Education Conference (APMEC) 2020, Panel Discussion “Gathering evidence on student learning” (8-12 January 2020), Yong Loo Lin School of Medicine, National University of Singapore, Singapore.

The 2<sup>nd</sup> TCI-TRF-Scopus Thailand University Consortium, “Evidence-based Policy Making for Research Plan: A Case Study from Thammasat University” (5 July 2019), Bangkok, Thailand

The 21st Anniversary Global Inventors & Innovators Network (GWIIN), Conference, Showcase and Awards Ceremony 2019, “Intelligent Clinical Training Systems” (27 June 2019), Arab British Chamber of Commerce, London, United Kingdom

The IEEE 3<sup>rd</sup> International Conference on Engineering, Technologies and Social Sciences (ICETSS 2017), “Intelligent Clinical Training Systems” (7-8 August 2017) in Asian Institute of Technology, Thailand

The 3<sup>rd</sup> Dental Research Exhibition and Meeting (DREAM), “Virtual reality dental simulator” (6-7 May 2016), Yogyakarta, Indonesia (<http://dreamumy2016.wixsite.com/home/blank-c1pna>)

The 11<sup>th</sup> meeting of the Scientific Forum, “Virtual reality dental simulator” (9-11 April 2015), Faculty of Dentistry Universitas Trisakti, Balai Kartini, Jakarta, Indonesia

The 19<sup>th</sup> Anniversary of the Faculty of Dentistry Thammasat University, “Dental Informatics and Clinical Training” (20 February 2015).

The 3<sup>rd</sup> National Conference on Medical Informatics and the Annual Meeting of the Thai Medical Informatics Association (TMI-NCMedInfo 2014), “Healthcare Analytics” (26-28 November 2014), Chiang Mai, Thailand.

Research Unit, Faculty of Dentistry, Thammasat University, “Ethical guidelines for human subject research” (6-7 March 2014), Saraburi, Thailand.

The 2<sup>nd</sup> Asian Conference on Information Systems (ACIS 2013), “Virtual Reality Dental Simulator” (31 October-2 November 2013), Phuket, Thailand.  
(<https://saki.siit.tu.ac.th/acis2013/front/show/keynote>)

The 11<sup>th</sup> Dental Faculty Consortium of Thailand Academic Meeting and Research Presentation (DFCT2013), “Virtual Reality Dental Simulator” (7-9 May 2013), Chonburi, Thailand

Graduate School of Dentistry, Osaka University, “Virtual Reality Dental Simulator”. (6-7 April 2013), Osaka, Japan.

Faculty of Dentistry, Chulalongkorn University, “Evidence-based dentistry and systematic reviews”. (12 December 2012), Bangkok, Thailand

The 19<sup>th</sup> Thai Medical Informatics Association Annual Conference, “Artificial Intelligence and Medical Informatics” (10-12 November 2010), Bangkok, Thailand.

Graduate School of Dentistry, Osaka University, “Haptic dental education in Thailand”. (18 January 2010), Osaka, Japan.

Faculty of Dentistry, Chulalongkorn University, “Quality of Meta-analyses in Endodontics”. (8 January 2010), Bangkok, Thailand

Intercountry Center for Oral Health (ICOH), “Multidisciplinary and Clinical Skill for Dental Operator with MSD”. (2-5 February 2009), Chiangmai, Thailand.

Poverty Reduction and Agricultural Management Program, “Problem-based Learning”, (13-14 November 2008), Mukdaharn, Thailand.

Thammasat University Research Forum, "Intelligent Clinical Skill Training Systems", (12 November 2008), Thammasat University, Thailand.

Thammasat University Research Club, "Intelligent Clinical Skill Training Systems", (8 October 2008), Thammasat University, Thailand.

Shanghai Stomatology Disease Center, "Clinical Skill Program at Thammasat University Dental School". (26 September 2008), Shanghai, China.

Intercountry Center for Oral Health (ICOH), "pd Clinical skill program". (6 August 2008), Chiangmai, Thailand.

NECTEC Annual Conference 2008, "Intelligent virtual reality for clinical skill training". (25 March 2008), Bangkok, Thailand.

Health GIS 2008, "Distributed educational model for medical learning and instruction". (14-16 January 2008), Bangkok, Thailand.

Humanized health care in dentistry group, "Dental Ergonomics". (2-3 October 2007) Surin, Thailand.

Thammasat University (21 March 2007), "Computer Applications in Health Science".  
Global Engineering Production Education and Collaboration (21-25 September 2006)  
Shengzen, China, "Web-Based Problem-Based learning".

Intercountry Center for Oral Health (13-17 February 2006), "Proprioceptive Derivation Workshop".

Thai Medical Informatics Society, MED-IT (17 December 2004), "Dental Informatics".

Ministry of Health, Dental health division (25 March 2001), "Ergonomic in Dentistry".

Asahi University (10 March 2000), "Skill Acquisition Transfer and Verification".

Chulalongkorn University (24 January 2000), "Vertical Root Fracture of Endodontically Treated tooth".

Dental Association of Thailand (17 July 1998), "SATV and GPF in Dental Education".

Dental Association of Thailand (16 June 1995), "Endodontic Success and Failure".

## **RESEARCH PROJECTS**

Co-Principal Investigator with Yuta Seino and Prapaporn Rattanatamrong (2025-2026), Designing a Charter for International Medical AI Research Balancing Data Quality and Privacy Protection, Grant: Pfizer Health Research Foundation (Japan), Program: The 34th Health Research Grant - International Joint Research.

Co-Principal Investigator with Patiwet Wuttisarnwattana (2026-2027), An artificial intelligence platform for high-risk oral lesions screening in elderly Thais within the national dental health service network, Grant: National Research Council of Thailand, N84A690551.

Principal Investigator (2025), Comparative evaluation of minimally invasive endodontic access cavity preparation techniques on curved root canal instrumentation using micro-computed tomography: An in vitro study, Grant: Thammasat University Research Fund, TUFT0038/2569.

Principal Investigator (2025), Minimal endodontic access cavity preparation training using virtual reality simulation, Grant: Thammasat University Research Fund, TUFT0039/2568.

Principal Investigator (2025), Development of an AI-based model for automatic extraction of dental disease information from panoramic radiographs, Grant: Faculty of Dentistry Thammasat University Research Fund, 6/2568.

Principal Investigator (2024), Deep learning-based endodontic treatment outcome prediction from periapical radiographic images, Grant: Thammasat University Research Fund, TUFT 68/2567.

Co-Principal Investigator with Yanika Kowitlawakul (2021-2023), Development and effectiveness of Artificial Intelligence -Teaching Assistance System (AI-TAS) in enhancing nursing students' engagement, intrinsic motivation, and knowledge applications, Grant: MOE Tertiary Education Research Fund, Singapore, MOE2020-TRF-043.

Research Advisor for Kritsasith Warin and Wasit Limprasert (2022), A Mobile Online Platform and Deep-Learning AI for Oral Cancer Screening, Grant: Health Systems Research Institute, HSRI65-025.

Research Advisor for Kritsasith Warin and Wasit Limprasert (2021), Application of deep learning in diagnosis of oral potentially malignant disorders and oral cancer, Grant: Thammasat University Research Grant, TUFT24/2564.

Principal Investigator (2017-2018), A virtual reality system for dental skill training, Grant: Thailand Research Fund, RDG6050029.

Principal Investigator (2018), Development micro-computed tomography carious tooth model used and virtual reality for minimal intervention caries removal, Grant: National Research Council of Thailand (NRCT).

Co-Principal Investigator with Mansuang Wongsapai (2015-2016) Development of Mobile Health-oriented Electronic Oral Health Record for Surveillance System, Ministry of Public Health.

Co-Principal Investigator with Bhornsawan Thanathornwong (2015), Research to develop a personalized wireless splint for detection, monitoring and preventing bruxism, Grant: National Research Council of Thailand (NRCT).

Principal Investigator (2015), Intelligent dental simulation research group, Grant: National research university project, Office of the higher education commission of Thailand.

Principal Investigator (2014), Intelligent dental simulation research group, Grant: National research university project, Office of the higher education commission of Thailand.

Co-Principal Investigator with Bhornsawan Thanathornwong (2014), Computerized models for prediction of work related musculoskeletal disorders among dentists, Grant: National Research Council of Thailand (NRCT).

Co-Principal Investigator with Mansuang Wongsapai (2013-2014), Research and Developing of Mobile Electronic Health Records, Ministry of Public Health.

Co-Principal Investigator with Stanislav Makhanov (2013-present), Biomedical Informatics Excellence Center, Thammasat University.

Principal Investigator (2011-2013), Intelligent dental simulation research group, Grant: National research university project, Office of the higher education commission of Thailand.

Co-Principal Investigator with Bhornsawan Thanathornwong (2012-2013), Wireless sensor system for monitoring and guiding dental postures, Grant: National Research Council of Thailand (NRCT).

Principal Investigator (2011-2012), Development and evaluation of a virtual reality simulator using computed tomography models and dental surgery preoperative planning, Thailand Research Fund, MRG5480204.

Co-Principal Investigator with Bhornsawan Thanathornwong (2012), Research development of postural monitorial device for dentist, Grant: National Research Council of Thailand (NRCT).

Co-Principal Investigator with Mansuang Wongsapai (2011-2012), Research and Developing Dental Decision Supported Health 09 (DDSH09) Program for Decision Supported in Treatment Planning, Control and Assessment of the quality in dental services, Ministry of Public Health.

Principal Investigator (23 May 2007 - 22 November 2008), Intelligent virtual reality haptic device for clinical dentistry, Grant: National Electronics and Computer Technology Center (NECTEC) No. NT-B-22-MS-14-50-04.

Principal Investigator (1 October 2007 - 30 September 2008), Web-based clinical skill training in dentistry, Grant: National Research Council of Thailand (NRCT).

Principal investigator (2000), Asahi University Research Grant, "Skill Acquisition Transfer and Verification".

Principal investigator (1997), Price of Songkla University Research Grant, "Correlation between the Bacterial Culture Result in Root Canal and Postobturation Evaluation".

### ***Other research related activities***

2015-present: Editor-in-Chief, Journal of the Thai Medical Informatics Association

2011-2016: Editor, Thai Medical Informatics Association Newsletter

2014-present: Editorial board, Srinakharinwirot University Dental Journal

2009: Guest editor, Methods of Information in Medicine, Special issue on Intelligent Clinical Training Systems.

2006-present: Reviewer: International Journal of Computer Assisted Radiology and Surgery, Journal of Biomedical Informatics, Journal of Public Health and Development, Journal of Dental Education, Thai Journal of Oral and Maxillofacial Surgery, International Workshop on Artificial Intelligence and NetMedicine (NetMed), Multi-Disciplinary International Workshop on Artificial Intelligence, National Conference on Medical Informatics, Mahidol Dental Journal

2006-present: Program committees: International Workshop on Artificial Intelligence and NetMedicine (NetMed), Multi-Disciplinary International Workshop on Artificial Intelligence, National Conference on Medical Informatics, the 14th International Conference on Intelligent User Interface, the 11th International Conference on Intelligent User Interface

### **TEACHING**

#### ***Master Degree Students***

Dr. Chalinee Srakooopun (2023), Thesis: Virtual reality simulation for learning minimally invasive endodontics: a randomized controlled trial

Dr. Natcha Suppavitipattana (2022), Thesis: Micro-computed tomography evaluation of minimally invasive root canal preparation in 3D printed c-shape canal

#### ***PhD Students***

Dr. Aryadi Subrata (2024)

Dr. Dennis Dennis (2019), Dissertation: Application of deep convolutional neural network models in intra oral periapical radiograph for prediction of endodontic treatment outcomes

Dr. Awiruth Klaisiri (2016), Dissertation: The Effect of Morpholine on Composite-to-Composite Repair Strength Contaminated with Saliva

Dr. Wiwiek Poedjiastoeti (2015), Dissertation: Case-based Reasoning for Clinical Decision Support for Diagnosis of Benign Pathological Lesions of the Jaws

Dr. Ade Prijanti (2014), Dissertation: Development of micro-computed tomography caries model for virtual reality training of minimally invasive dentistry

Dr. Mansuang Wongsapai (2013), Dissertation: Health-oriented electronic oral health record: development and evaluation, Best paper award, The 7<sup>th</sup> National Health Promotion and Environmental Health Congress (2014), Very good thesis award, Thammasat University (2014)

Dr. Bhornsawan Thanathornwong (2012), Dissertation: A system for predicting and preventing work related musculoskeletal disorders among dentists, Gold Medal, Seoul International Invention Fair (2012), Silver Medal, Geneva Inventions (2013)

Dr. Samroeng Inglam (2009), Dissertation: Influence of graft quality and marginal bone loss on implants placed in maxillary grafted sinus: a finite element study, Very good thesis award, Thammasat University (2010)

#### ***Courses***

2025-present: Esthetics and digital dentistry, Faculty of Dentistry, Thammasat University

2006-present: PhD Thesis Supervisor, Doctor of Dental Science, Faculty of Dentistry, Thammasat University

2021-present: Master degree in Endodontics, Faculty of Dentistry, Thammasat University  
2006-present: Undergrad research supervisor, Faculty of Dentistry, Thammasat University  
2006-present: Master and Doctoral Thesis committee, School of engineering and Technology, Asian Institute of Technology  
2015-present: The Summer Education Camp and Education Tour, Asian Institute of Technology  
2012-2014: Lecturer, Clinical decision making and clinical decision support systems, Chief Information Officer Program, Ramathibordi Hospital.  
2010-2015: Lecturer, Clinical skill development course, Intercountry for Oral Health, Chiang Mai, Thailand  
1997-present: Lecturer, pre-clinical instructor in Clinical skill development for dental students, Faculty of Dentistry, Thammasat University  
1997-present: Lecturer, pre-clinical and clinical instructor in Endodontics, Faculty of Dentistry, Thammasat University  
1997-present: Clinical instructor for 5<sup>th</sup> and 6<sup>th</sup> year undergrad students, Faculty of Dentistry, Thammasat University  
1992-1997: Lecturer, pre-clinical and clinical instructor in Endodontics, Faculty of Dentistry, Prince of Songkla University

### **Theses**

Siriwan Suebnukarn (2005), "Intelligent Tutoring for Medical Problem-Based Learning". IM-05-01, Doctoral Dissertation, Asian Institute of Technology.  
Siriwan Suebnukarn (2001), "E-Collaborative Telemedicine". IM-01-11, Master Thesis, Asian Institute of Technology.

### **ADMINISTRATION**

2018-2024: Vice Rector for Research and Innovation, Thammasat University  
2020: Acting Dean, College of Interdisciplinary Studies, Thammasat University  
2015-2016: Vice Dean for Academic Affairs, Faculty of Dentistry, Thammasat University  
2012-2015: Vice Dean for Research, Faculty of Dentistry, Thammasat University  
1998-2000: Assistant Dean for Academic Affairs, Faculty of Dentistry, Thammasat University  
1996-1997: Assistant Dean for Academic Affairs, Faculty of Dentistry, Prince of Songkla University

### **SERVICE**

1997-present: Thammasat University hospital, Thammasat University

### **MEMBERSHIPS in PROFESSIONAL and SCIENTIFIC SOCIETIES**

2003-present: International Medical Informatics Association  
2003-present: Thai Medical Informatics Association  
2001-present: International Artificial Intelligence in Education Society  
2008-present: Dental Informatics online community  
1992-present: Thai Dental Association  
1995-present: Thai Endodontics Association

*Last updated: March 2026*