

CENTRE OF EXCELLENCE IN MATHEMATICS

TABLE OF RESEARCH PROJECTS

| Institute | Research Topic | Principal Researcher | Co-researchers and Institutes |
|-----------------------|---|--|---|
| Mahidol University | 1. Mathematical modelling of bone formation and resorption: effects of parathyroid hormone and prolactin | Asst.Prof.Dr. Chontita Rattanakul | - |
| | 2. The encapsulation of TiO ₂ into nanocapsules as a potential targeted drug delivery | Dr. Duangkamon Baowan | - |
| | 3. Mathematical modelling of the cement flow in cemented hip replacement | Asst.Prof.Dr. Somkid Amornsamankul | - |
| Chiang Mai University | 1. Mathematical modelling and statistical estimation of risk in economics | Dr. Rujira Ouncharoen | - |
| | 2. Functorial properties of endo-Cayley graph constructions | Dr. Sayan Panma | - |
| | 3. Stability and controller design of dynamical systems and applications | Assoc.Prof.Dr. Piyapong Niamsup | Assoc.Prof.Dr. Radom Pongvuthithum Chiang Mai University |
| | 4. Applications of geometric algebras to robot motion planning | Assoc.Prof.Dr. Sorasak Leeratanavalee | Dr. Chaiporn Thangthong Chiang Mai University Dr. Tippawan Puttasontiphot Chiang Mai University Dr. Thanasak Mouktonglang Chiang Mai University Dr. Natee Tongsiri Chiang Mai University |
| | 5. The financial mathematics involving the option prices of the stock by applying the Black-Sholes equation | Prof. Amnuay Kananthai | Dr. Chalampol Boonpok Chiang Mai University |

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| | 6. Using a multiple perspectives methodology to investigate tenth-grade student's representations | Asst.Prof.Dr. Pongchawee Vaiyavutjamai | - |
| Thammasat University | 1. On the strong rates of convergence for arrays of rowwise negatively dependent random variables | Assoc.Prof.Dr. Kamon Budsaba | - |
| Naresuan University | 1. Bayesian propensity score analysis for determination of treatment effect of G-CSF in oncology patients obtained from observational study | Asst.Prof.Dr. Katechan Jampachaisri | - |
| | 2. Construction of optimal designs using optimization search algorithms | Dr. Anamai Na-udom | - |
| | 3. Solutions of generalized variational inequality problems for fuzzy mappings and random mappings | Dr. Narin Petrot | Dr. Poom Kumam King Mongkut's University of Technology Thonburi Asst.Prof.Dr. Hansuk Tasee Naresuan University Dr. Winate Sanhan Kasetsart University |
| Burapha University | 1. Approximating fixed points of nonexpansive mappings in metric spaces and the stability of the market | Asst.Prof.Dr. Attapol Kaewkhao | Dr. Anchalee Kaewcharoen Naresuan University Dr. Bancha Panyanak Chiang Mai University |
| Silpakorn University | 1. Sequence spaces of operators on l_2 | Dr. Jitti Rakbud | - |
| | 2. Soil salinity profile in the western of Thailand | Asst.Prof.Dr. Suabsagun Yooyuanyong | - |
| Kasetsart University | 1. Positivity of elements satisfying a third order recurrence relation | Prof.Dr. Vichian Laohakosol | Mr. Kantaphon Kuhapatanakul Srinakharinwirot University Miss Pinthira Tangsupphathawat Kasetsart University |
| Khon Kaen University | 1. The distributional product of dirac's delta distribution in hypercone | Dr. Kamsing Nonlaopon | - |
| | 2. Constructive methods in fixed point theory | Asst.Prof.Dr. Satit Saejung | Assoc.Dr. Somchit Chotchaisthit Khon Kaen University |
| | 3. Investigation of geometric thinking based on semiotic activity in open-approach context | Asst.Prof.Dr. Kiat Sangaroon | - |
| | 4. Implementing lesson study and open approach for professional development of mathematics teachers | Asst.Prof.Dr. Maitree Inprasitha | Assoc.Prof. Auijit Pattanajak Khon Kaen University Dr. Kanokporn Changtong Ubonrajathani University |

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| | 5. Development of students' mathematical connection and mathematical creativity using open approach | Assoc.Prof.Dr. Suladda Loipha | Dr. Nongkhran Sasom Ubonrajathani University |
| Chulalongkorn University | 1. Probability approximation of random sum via Stein's method | Dr. Nattakarn Chaidee | - |
| | 2. Connections between Cohen-Egyptian fraction and Engel series expansions and their dependent characterization properties | Dr. Tuangrat Chaichana | - |
| | 3. Analysis of singularity curves | Asst.Prof.Dr. Songkiat Sumetkijakan | - |
| | 4. Contractibility of fixed point sets through weak convergence sets | Assoc.Prof.Dr. Phichet Chaoha | - |
| | 5. Geometry of planar soap bubbles for many areas | Asst.Prof.Dr. Wacharin Wichiramal | - |
| | 6. Linear transformation semigroups containing $G_R(V, W)$ and admitting the structure of a semihyperring with zero | Asst.Prof.Dr. Sureeporn Chaopraknoi | - |
| Thaksin University | 1. Mathematical modeling of wastewater filtration for the removal of heavy metal by zeolite | Asst.Prof.Dr. Konvika Kongkul | - |
| | 2. Simple rings over which every cyclic singular right module is CS | Dr. Sarapee Chairat | - |
| | 3. Developing algebraic reasoning in elementary school students : relational thinking | Dr. Vishnu Napaphun | - |
| | 4. A study and remedy for the deficiency of Thaksin University students in learning derivatives and its applications | A.Alongkorn Saetung | - |

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| King Mongkut's Institute of Technology Ladkrabang | 1. Theories and methods of intelligent information systems | Assoc.Prof.Dr. Veera Boonjing | Ms. Jarunee Zalee King Mongkut's Institute of Technology Ladkrabang Ms. Jirapond Tadrat King Mongkut's Institute of Technology Ladkrabang Ms. Panida Songram King Mongkut's Institute of Technology Ladkrabang Asst.Prof. Supatra Sahapong King Mongkut's Institute of Technology Ladkrabang |
| Suranaree University of Technology | 1. Applications of group analysis to stochastic differential equations | Prof.Dr. Sergey Meleshko | Dr. Boonlert Srihirun Kasetsart University |
| | 2. Analysis of credit risk by using FIGARCH diffusion model | Prof.Dr. Pairote Sattayatham | Asst.Prof. Pradit Wichai Rajchapat University loei Dr. Tidarut Plienpanich Suranaree University of Technology Mr. Artit Intrasit Prince Songkla University Pattani |
| Srinakharinwirot University | 1. Some constructions of group divisible designs | Prof.Dr. Narong Punnim | Asst.Prof.Dr. Chariya Uiyasathian Chulalongkorn University |
| Prince of Songkla University | 1. A scale of function space involving BV _{phi} | Dr. Varayu Boonpogkrong | - |
| Ubon Ratchathani University | 1. Common fixed points of a new three-step iteration with errors for quasi-nonexpansive and asymptotically quasi-nonexpansive mappings in Banach spaces. | Dr. Hathaikarn Wattanataweekul | - |
| | 2. Gesture in mathematical communication through open approach | Dr. Sasitorn Pasjuso | - |
| | 3. Developing a classroom community of inquiry by using T5 model | Dr. Supot Seebut | - |

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| King Mongkut's University of Technology Thonburi | 1. Construction and finding the efficiency of computer aid instruction(CAI) in the sequences and series of real numbers | Assoc.Prof.Dr. Ungsana Chundang | Assoc.Prof. Wipawaan Singpring King Mongkut's University of Technology Thonburi Assoc.Prof. Adisak Pongpullponsak King Mongkut's University of Technology Thonburi Asst.Prof. Tasanee Tantipisankul King Mongkut's University of Technology Thonburi Asst.Prof. Puchong Praekhao King Mongkut's University of Technology Thonburi |
| Suan Sunandha Rajabhat University | 1. Developing mathematical materials of fundamental analytic geometry and conic sections using the Geometer's Sketchpad (GSP) in matthayomsuksa 4's students | Assoc.Prof. Ubol Klongkratoke | - |