PME 44

Mathematics Education in the 4th Industrial Revolution: *Thinking Skills for the Future*

THE 44th CONFERENCE OF THE INTERNATIONAL GROUP FOR THE PSYCHOLOGY OF MATHEMATICS EDUCATION

July 19-23, 2021
Khon Kaen, Thailand

First Announcement

Technion
Israel Institute
of Technology

HOSTED BY KHON KAEN UNIVERSITY
Virtually hosted by Technion, Israel Institute of Technology

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1. Welcome

The Local Organizing Committee invites you to attend the 44th Annual Meeting of the IGPME in Khon Kaen. The conference will be presented jointly by Khon Kaen University, Thailand Society of Mathematics Education, The Educational Foundation for Development of Thinking Skills and The institute for the Promotion of Teaching Science and Technology (IPST). **Due to the COVID-19 pandemic, the conference will be held in a hybrid format, where any participant who cannot attend physically will be able to both participate and present in a virtual (online) format.**

The theme of the conference is "*Mathematics Education in the 4th Industrial Revolution: Thinking Skills for the Future*", which is very timely for this era. This is the first time the conference will be hosted in Thailand and CLMV countries (Cambodia, Laos, Myanmar, Vietnam) where mathematics education is underrepresented in the community. Thus, this conference will provide chances to facilitate the activities and network associated in mathematics education in the region.

The Plenary speakers for PME44 are Roberto Araya (Chile), David Wagner (Canada), Michal Tabach (Israel) and Berinderjeet Kaur (Singapore). The Plenary panel discussion will be held on the topic "*The 4th Industrial Revolution will transform/disrupt the Teaching and Learning of Mathematics*". The Panel members will be Hamsa Venkatakrishnan (South Africa) (Chair), Hee-Chan Lew (South Korea), David Keith Jones (United Kingdom), Anna Baccaglini Frank (Italy) and Oi-Lam NG (Hong Kong SAR).

Photo: rabbitfinance.com/blog/reason-why-you-could-be-landowner

Full details can be found in the first announcement of the conference available on the Conference Website https://pme44.kku.ac.th/ News and information can also be found on the conference Facebook page PME44. The system for registration and proposal submission will open starting December 2020. PME44 welcomes new submissions, but will also hold place for submissions of Research Reports that were accepted in 2020. Further details regarding repeated submissions are provided below.

Onsite component

Khon Kaen is a province in the Northeast of Thailand. There are many flights to Khon Kaen airport such as from Bangkok (Suvarnabhumi Airport and Don Mueang Airport), Phuket, Chiang Mai, Hat Yai and U-Tapao (Pattaya), taking you around an hour. Khon Kaen University is the first university in the Northeast and geographically located close to the Indochina countries, and is a link for Indochinese knowledge. We hope that your visit and stay in Khon Kaen and Thailand will be exciting, impressing, and engender fondness of the conference, culture and nature in Thailand, and the great Mekong sub-region. We look forward to welcoming you to the conference in July, 2021.

Photo: TrueID Lifestyle
https://travel.trueid.net/detail/97yALyrA6Pd7

Virtual component

The Technion, Israel Institute of Technology will host the virtual component of the conference. A designated website will be prepared (a link to the virtual conference website will be available on the PME Conference Website https://pme44.kku.ac.th/). Further details will be provided toward May 2021.

1.1 Hosting Organisation and Conference Venue

Institute for Research and Development in Teaching Profession for ASEAN Khon Kaen University

Address: 123 Mittraphap Rd, Nai Mueang, Mueang Khon Kaen District, Khon Kaen 40002

Transportation: Shuttle bus from Pullman Khon Kaen Raja Orchid.

College of Local Administration, Khon Kaen University

Address: 123 Mittraphap Rd, Nai Mueang, Mueang Khon Kaen District, Khon Kaen 40002

Transportation: Shuttle bus from Pullman Khon Kaen Raja Orchid.

Photo: **http://4.bp.blogspot.com/-aZEhXt-oWHY/TzOYlI2GuRI/AAAAAAAAAsg/OGQDED_IZyU/s1600/020rs-760005.jpg**

Pullman Khon Kaen Raja Orchid

Address: 9-9 Prachasumran Rd, Nai Muang, Muang Khon Kaen District, Khon Kaen 40000

Transportation: Shuttle bus from Bayasita Khon Kaen University hotel.

Photo: https://www.ahstatic.com/photos/1877_ho_00_p_1024x768.jpg

1.2 Presenting Organisations

The Conference will be presented jointly by Center for Research in Mathematics Education (CRME), Centre of Excellence in Mathematics (CEM), Thailand Society of Mathematics Education (TSMEd), Institute for Research and Development in Teaching Profession for ASEAN Khon Kaen University (IRDTP), The Educational Foundation for Development of Thinking Skills and The institute for the Promotion of Teaching Science and Technology (IPST).

1.3 About Thailand (source Wikipedia)

Thailand, officially the Kingdom of Thailand, located in the heart of mainland Southeast Asia. Thailand is a country of mountains, hills, plains and a long coastline along the Gulf of Thailand and the Andaman Sea. Thailand's climate ranges from subtropical to tropical zones, with three distinct seasons: a hot and dry season from February to May, a monsoon season from June to October, and a cooler, dry season from November to January. Average seasonal temperatures vary between a low of 23.0 °C and a high of 32.2 °C.

More information: https://en.wikipedia.org/wiki/Thailand

1.4 About Khon Kaen

Khon Kaen is one of the largest major provinces in Northeastern Thailand. The province has an airport with several direct flights from Bangkok and a vast variety of accommodations are available for different needs and budget. With these well-developed infrastructure and facilities, Khon Kaen has been promoted to be one of the major tourist cities of Thailand.

Photo: https://th.wikipedia.org/wiki/จังหวัดขอนแก่น

Khon Kaen is the commercial and political center of Northeastern Thailand and is well known for the high-quality silk that is produced in the province. Located in the heart of Isan, Thailand's northeast region, Khon Kaen has been one of the fastest growing areas in Thailand. The Thai government nominated Khon Kaen as the export center for trade throughout the Indo-China Region and both Laos and Vietnam have consulates in Khon Kaen to process visa applications. Khon Kaen also contains the largest university in the northeast, Khon Kaen University, a major center of education and technology.

Historically, Khon Kaen is quite a new town, established a little over two centuries ago during the reign of King Rama I. But prehistorically, this town on the plateau has been home to various cultures as well as other fascinating creatures, heretofore unknown to the modern world. Artifacts have proven that millions of years ago the area was occupied by gigantic dinosaurs, several of which were endemic to the region. People in various cultures later occupied the plateau for thousands of years until the Ancient Khmer Empire expanded its presence into the area in the 12th century and ruled it for some time. The ancient cultures, traditions, and historical sites in this area have all contributed to shaping the people and culture of Khon Kaen.

A major source of local wisdom regarding the production of silk is in Amphoe Chonnabot, where excellent Mudmee Silk is delicately woven by hand using a special tie-dye technique, and Khon Kaen features both creature comforts, in the form of fine eateries and swanky hotels, and beautiful nature, including a variety of animal parks and a number of spectacular national parks.

Khon Kaen is the commercial and political center of Northeastern Thailand, featuring a number of upscale restaurants and hotels, the largest university in the North East, and a busy airport.

In addition to containing some fascinating historical and archaeological sites, Khon Kaen is also an excellent place to watch the production of Mudmee Silk or participate in outdoor activities within one of its several animal reserves or national parks.

Photo : https://www.flickr.com/photos/gohbo/3124260440

2. Committees of PME44

2.1 The International Programme Committee (IPC)

The International Programme Committee of PME 44 in Khon Kaen consists of:

The International Programme Committee (IPC)

Conference Chair	Maitree Inprasitha	LOC	Khon Kaen University, Thailand
Co-Chair	Narumon Changsri	LOC	Khon Kaen University, Thailand
	Wee Tiong Seah	LOC	University of Melbourne, Australia
	Tatsuya Mizoguchi	LOC	Tottori University, Japan
PME President	Markku Hannula	PME	University of Helsinki, Finland
	Ceneida Fernandez	PME	University of Alicante, Spain
	Anthony Essien	PME	WITS University, South Africa
	Judy Anderson	PME	University of Sydney, Australia

2.2 The Local Organising Committee (LOC)

The host institution is Khon Kaen University. The conference is presented jointly by Center for Research in Mathematics Education (CRME), Thailand Society of Mathematics Education (TSMEd), Institute for Research and Development in Teaching Profession for ASEAN Khon Kaen University (IRDTP), Centre of Excellence in Mathematics (CEM) and The Educational Foundation for Development of Thinking Skills.

The Local Organising Committee (LOC)

Conference Chair	Maitree Inprasitha	Khon Kaen University, Thailand
Co-Chair	Narumon Changsri	Khon Kaen University, Thailand
	Wee Tiong Seah	University of Melbourne, Australia
	Tatsuya Mizoguchi	Tottori University, Japan
	Gabriel Matney	Bowling Green State University, USA
	Yongwimon Lenbury	Centre of Excellence in Mathematics (CEM), Thailand
	Suthep Suantai	The Center for Promotion of Mathematical Research of Thailand(CEPMART), Thailand

The Local Organising Committee (LOC)

	Anchalee Tananone	Chiang Mai University, Thailand
	Jensamut Saengpun	Chiang Mai University, Thailand
	Ratchanee Karawad	Lampang Rajabhat University, Thailand
	Pimpaka Intaros	Lampang Rajabhat University, Thailand
	Chanika Senawongsa	Lampang Rajabhat University, Thailand
	Auijit Pattanajak	Khon Kaen University, Thailand
	Piyasak Pakkhothanang	Khon Kaen University, Thailand
	Khem Khenkhok	Khon Kaen University, Thailand
	Nisakorn Boonsena	Khon Kaen University, Thailand
	Ariya Suriyon	Nakhon Phanom University,Thailand
	Phattaraphong Kunseeda	Nakhon Phanom University,Thailand
	Ganchana Sucheenapong	Ubon Ratchathani Rajabhat University, Thailand
	Weerasuk Kanauan	Ubon Ratchathani Rajabhat University, Thailand
	Thong-oon Manmai	Sisaket Rajabhat University, Thailand
	Pimlak Moonpo	Valaya Alongkorn Rajabhat University under the Royal Patronage, Thailand
	Kasem Preamprayoon	Thaksin University, Thailand
	Rachada chaovasetthakul	Prince of Songkla University, Pattani Campus, Thailand
	Sudatip Hancherngchai	Phuket Rajabhat University, Thailand

2.3 The Virtual Organising Committee (VOC)

Some information about the members of the VOC and their responsiblities

The host institution for the VOC is the Technion, Israel Institute of Technology.

The Virtual Organising Committee (VOC)

Committee Chair	Zehavit Kohen	Technion, Israel
Exec representative	Einat Heyd-Metzuyanim	Technion, Israel
IC & IPC representative	Ceneida Fernández	University of Alicante, Spain

The Virtual Organising Committee (VOC)		
LOC representative	Narumon Changsri	Khon Kaen University,Thailand
LOC representative	Nisakorn Boonsena	Khon Kaen University,Thailand

Further members will be announced later.

2.4 Conference Secretariat

The Conference Secretary, for any questions regarding PME 44, please contact at pme44@kku.ac.th.

3. Conference Website

The Conference Website is https://pme44.kku.ac.th/ where you can find up-to-date information on matters contained within this First Announcement. The virtual conference website is under construction by the VOC (a link to the virtual conference website will be available on the PME Conference Website). See also the conference page on Facebook https://www.facebook.com/PME44/ where news and reminders are posted. General information about PME is also available on the website of the International Group for the Psychology of Mathematics Education (IGPME) at www.igpme.org

4. About IGPME

The International Group for the Psychology of Mathematics Education (IGPME) is an autonomous body, governed as provided for in its constitution. It is an official subgroup of the International Commission for Mathematical Instruction (ICMI) and came into existence at the Third International Congress on Mathematics Education (ICME-3) held in Karlsruhe, Germany in 1976. The conference in 2020 is the 44th annual meeting of the International Group for the Psychology of Mathematics Education (PME 44).

4.1 The Constitution of IGPME

The original constitution of PME was adopted at the Annual General Meeting (AGM) on 17 August 1980 and changed at the AGM on 24 July 1987, on 10 August 1992, on 2 August 1994, on 18 July 1997, on 14 July 2005, and on 21 July 2012. PME has decided to seek charitable organization status under UK law and the new constitution related to this change has been accepted by the Annual General Meetings in 2018 and 2019. The application has been submitted to the Charity Commission and we hope to have their positive decision before the PME 44 in Thailand.

The objects of PME are to advance the field of mathematics education for the public benefit by:

- promoting and stimulating research.
- organising regular educational conferences around the world.
- supporting regional workshops around the world in general, and in under-represented regions of the world in particular.
- collaborating with organisations with similar aims.
- facilitating cross-disciplinary discussion and the sharing of information and research with an international emphasis.
- helping scholars from different parts of the world establish collaborative networks to further our collective understanding of how to improve mathematics education in their respective countries.
- providing grants to help bring scholars from under-represented regions of the world to our annual meeting.
- disseminating our research for the benefit of improving mathematics education at the classroom, school, district, and national levels.
- disseminating our research for the benefit of improving students' experiences with mathematics education at the classroom, school, district, and national levels.
- disseminating our research for the benefit of improving the preparation of mathematics teachers at the university level around the world.
- providing access to our research publications to the public.

All information concerning PME and its constitution can be found at the PME website: www.igpme.org

4.2 Honorary Members of IGPME

Efraim Fischbein (deceased), Hans Freudenthal (deceased), and Joop Van Dormolen (retired).

4.3 Board of Trustees (International Committee)

Office	Person	Country / Region
President	Markku Hannula	Finland
Vice-President	Einat Heyd-Metzuyanim	Israel
Secretary	Judy Anderson	Australia
Treasurer	Yasmine Abtahi	Canada
	Tracy Helliwell	United Kingdom
Policy	Richard Barwell	Canada
	Man Ching Esther Chan	Australia
	Miguel Ribeiro	Brazil
	Anika Dreher	Germany
	Arindam Bose	India
	Maria Mellone	Italy
	Jodie Hunter	New Zealand
	Yiming Cao	People's Republic of China
	Anthony Essien	South Africa
	Ceneida Fernández	Spain

Lovisa Sumpter	Sweden
Maitree Inprasitha	Thailand

4.4 IGPME Administrative Manager

Birgit Griese
Universität Paderborn
Postal address: Warburger Str. 100
33098 Paderborn, Germany
Tel: +49 5251 60-1839
Email; info@igpme.org.

5. The Scientific Programme

The theme of the 44th PME conference is:

Mathematics Education in the 4th Industrial Revolution: *Thinking Skills for the Future*

The conference language is English. Papers for the proceedings must be written and presented in English. However, colleagues, including the presenters, are welcome to contribute to discussions and questions in their first languages, following a research report or an Oral Communication, if translation is provided by someone in the session. The Scientific Programme includes the following activities that are explained in more detail below.

Plenary Sessions (see Section 5.1)

- Plenary Lectures
- Plenary Panel

Personal Presentations (see Section 5.2)

- Research Reports (RR)
- Colloquium (CQ)
- Oral Communications (OC)
- Poster Presentations (PP)

Group Activities (see Section 5.3)

- Research Forums (RF)
- Working Groups (WG)
- Seminars (SE)
- Ad Hoc Meetings (AH)
- National Presentation (NP)

In addition to these activities, a virtual Early Researchers' Day (ERD), will be held online before the main conference (see Section 5.4).

5.1 Plenary Sessions

5.1.1 Plenary Lectures

There will be four plenary addresses from invited speakers, each lasting 90 minutes. A reactor will be present at some of the Plenary Sessions to comment on the presentations. Plenary lectures will be held online or on site, in accordance with the travel restrictions of the plenary speakers. If online, the lecture will also be broadcast in the Thai conference venue. If on site, they will also be broadcast online.

The Plenary speakers for PME44 are:

Roberto Araya (The University of Chile, Chile)

David Wagner (University of New Brunswick, Canada)

Michal Tabach (Tel Aviv University, Israel)

Berinderjeet Kaur (The National Institute of Education, Singapore)

5.1.2 Plenary Panel

The Plenary Panel will be held according to the Oxford-Style debate protocol on a topic related to the theme of the conference. The topic this year will be

The 4th Industrial Revolution will transform/disrupt the Teaching and Learning of Mathematics

The panel for PME44 consists of the following researchers:

Panel Chair: Hamsa Venkatakrishnan (The University of the Witwatersrand in Johannesburg, South Africa)

Hee-Chan Lew (Korea National University of Education, South Korea)

David Keith Jones (The University of Southampton, UK)

Anna Baccaglini Frank (The University of Pisa, Italy)

Oi-Lam Ng (The Chinese University of Hong Kong, Hong Kong SAR)

The plenary panel will be held fully online in a Webinar format. Attendees will be able to listen to the debate and pose questions via the Q&A function.

5.2 Personal Presentations

5.2.1 Restrictions

All presentations have to promote the major goals of the IGPME (refer to Section 4.1). In addition, please note that there are restrictions on the number of possible contributions:

Restrictions on submissions and Presenting

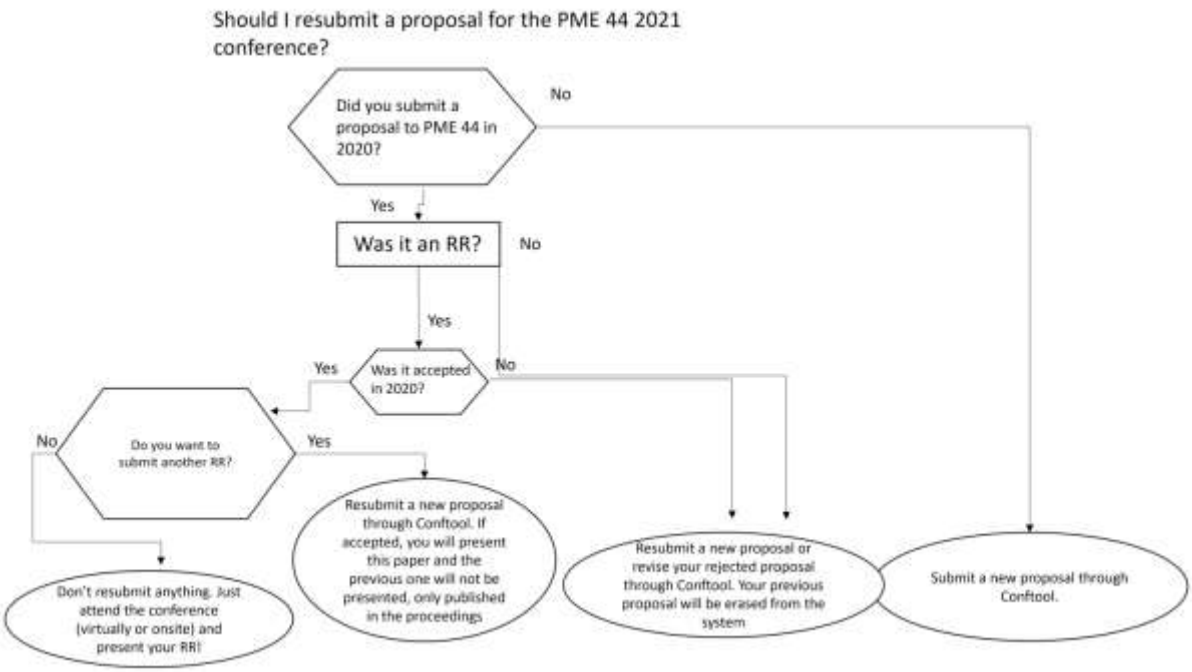
Each submission should be made by the presenting author. You are allowed to be presenting author of either a Research Report (including those bundled within a Colloquium) or an Oral Communication presentation. In addition, you can be presenting author of a Poster Presentation, Research Forum, and Working Group. There are no restrictions for being a co-author. Note, that it is not allowed to change the presenting author after the review process!

Important: due to the postponement of PME44 from July 2020 to July 2021, there could be a situation where participants have more than one Research Report accepted. These participants will need to choose which paper to present at the conference. The other contribution will still appear in the conference proceedings, but will not be presented in the conference.

Each conference participant may act as organiser of at most one Colloquium and as Coordinator of at most one Seminar. Note, however, that because of scheduling issues it may not be compatible to be a presenter in a Seminar. This may also apply to Working Groups.

Special Accommodations for the Hybrid Nature of the Conference

Due to the hybrid nature of the conference, each participant will be able to choose between presenting online or presenting on site (face to face). Presentations (virtual and onsite presentations) will need to be pre-recorded and sent ahead of time to the VOC. Notices about timeline for sending recordings will be given upon acceptance of the papers, around April 2021. **Important**: online presenters are still expected to participate synchronously during the allocated presentation timeslot, as well as in other parts of the conference. In particular, a fully "live" discussion session will be held after each presentation. In addition, presenters will be expected to be online and respond via chat during the broadcasting of the pre-recorded lecture, to allow maximum opportunities for interaction around the lectures. Pre-recorded lectures will not be available for viewing before the conference. They will be open for viewing according to the conference timeline, and for registered participants only. Participants will be able to decide whether they wish their recorded lecture to stay online after the end of the conference. A decision tree for whether you should resubmit a proposal appears below.



5.2.2 Research Reports (RR)

Research Reports should state what is new in the research, how the study builds on past research, and/or how it has developed new directions and pathways. Some level of critique must exist in all papers. Contributions need not be limited to completed research. Ongoing studies may be submitted, provided that theoretical framework, preliminary results, and a discussion of these results appear in the text submitted. Proposals that are too similar to papers previously presented cannot be accepted.

Two types of papers are suitable for Research Reports:

Reports of empirical studies

Reports of empirical studies should cover, as a minimum, the following:

- a statement regarding the focus of the submitted paper;
- the study's theoretical framework;
- references to the related literature;
- a description of the research methods used; and
- a sample of the data and the results (additional data can be presented at the conference but some data ought to accompany the proposal).

Theoretical and philosophical essays

These should cover, as a minimum, the following:

- a statement regarding the focus of the submitted paper;
- a statement about the paper's theoretical or philosophical framework;

- references to related literature;
- a clearly articulated statement regarding the author's position on the paper's focus or theme; and
- Implications for existing research in the respective area.

Submission procedure and restrictions

Research Report proposals papers are to be written in English, with an abstract in English may be up to 8 pages long and **MUST** be in line with the formatting guidelines provided by the conference organisers. Any submission exceeding the 8 pages in length will be automatically rejected. Any submission in which the formatting guidelines have been ignored for the purposes of shortening the length of the submission to 8 pages will be automatically rejected.

The PME 44 templates for research report proposals and guidelines for proposals are available at https://pme44.kku.ac.th/home/submissions/. For the peer review process, authors must submit a second, blinded version of their proposal.

For details, please refer also to the submission checklist provided by IGPME at http://www.igpme.net/annual-conference/session-types/research-report/submission-checklist-rr/

Because of length restrictions, papers should be concise, but should nevertheless contain all information necessary to inform both reviewers and other researchers. Proposals merely stating that results will be presented at the conference cannot be accepted. Authors are requested to refer to related papers that have been presented at previous PME conferences. Please consider the following issues before you submit your proposal:

Proposals for Research Reports must be submitted via *ConfTool* (https://www.conftool.com/pme44/) by the presenting author no later than 15 January 2021. Submissions to *ConfTool* are only possible if the presenting author is registered in the *ConfTool* system and has paid the nonrefundable conference deposit.

Two files must be submitted for each proposal:

- for publication, a word file that strictly follows the formatting guidelines
- for review, a "blinded version" as a PDF file in which it is not possible for a reviewer to infer the authors' identities from the text, including the references.

Please note that no revisions are possible after submission. Each contribution is accepted or rejected in the form in which it was submitted. Every pre-registered person may submit up to one research report. The proposal should be submitted by the author who will deliver the presentation during the conference. Each conference participant may present at most one Oral Communication or one research report, including the Research Reports that are part of colloquia (please refer also to section 5.2.1 for Restrictions on number of contributions).

Reviewing procedure and criteria

The submitted proposals for the Research Reports are double-blind peer-reviewed by three

PME members whose areas of expertise match the research categories chosen for the contribution. The International Programme Committee (IPC) decides on the acceptance of proposals. Details of the review process are available at the IGPME webpage http://www.igpme.org/annual-conference/further-information/reviewer-information-new/

Notification of the decision of the International Programme Committee will be available after the second meeting of the International Programme Committee in April. The proposal can be accepted or rejected, or the author is invited to resubmit the contribution in the form of an Oral Communication or Poster Presentation.

Publication and presentation

Accepted papers will be included in the proceedings only if the presenting author's full conference registration fee has been paid in time. Details are published in the second announcement.

Each research report presentation will be allotted a total time of 40 minutes: 20 minutes for the oral presentation and 20 minutes for questions and comments.

Every participant should send a pre-recorded lecture prior to the conference (at a time that will be announced at the time of acceptance). This guideline also applies to onsite presenters in order to make sure that the presentation will be live-broadcast to all participants in high quality. The recorded lecture should not exceed 20 minutes. The broadcasting of the pre-recorded lecture will be accompanied by a chat discussion (Q & A as the lecture unfolds), followed by a live oral discussion of 20 minutes.

A chairperson will be assigned to each onsite research report session. They will introduce the presenters, make a comment regarding photographing, audio- and videotaping the session, monitor timing of the session, and moderate the discussion. In the onsite compoenent, if you are presenting a Research Report, you will chair someone else's Research Report session.

Allocations of chairs for virtual sessions will follow slightly different protocols and may depend on participants' familiarity with chairing online sessions and technological availability. The chairs will be invited for an online preparatory meeting to be organized by the VOC.

5.2.3 Colloquium (CQ)

The goal of a Colloquium is to provide the opportunity to present a set of three Research Reports that are interrelated in a particular way (e.g. they are connected through related or contrasting theoretical stances, use identical instruments or methods, or focus on closely related research questions), and to initiate a discussion with the audience on the interrelated set.

A Colloquium proposal:

- consists of a set of exactly three Research Reports, to be presented by members from at least two different countries;
- includes, in addition, a one page summary by an organiser (one person), indicating a specific predetermined focus that is common to each research report; and

- involves a presentation of the three Research Reports, and a discussion with the audience that is initiated by the contribution of a discussant (one person, indicated in the author's line of the one-page summary) who is appointed at submission.

The three Research Reports should be formatted and submitted via *ConfTool* using the three Research Reports.

The additional one-page summary is created using the same template or formatting guidelines as for Poster Presentations and Oral Communications, and is submitted by the Colloquium organiser via *ConfTool*. It provides the Colloquium title and the name of the organiser (preceded by "Organiser:") and discussant (preceded by: "Discussant:") in the author fields. Then, the text containing the focus and/or rationale for the Colloquium is provided. Note that no abstract is necessary for the Colloquium summary. Proposals that do not follow the formatting guidelines will not be included in the peer review process. In the comments field in *ConfTool*, the authors and titles of the three Research Reports that comprise the Colloquium must be indicated.

Submissions to ConfTool are only allowed if the presenting author is registered in the ConfTool system and has paid the non-refundable conference deposit. Every pre-registered person may submit up to one Colloquium as organizer Also, the organiser cannot be involved as (co)-author in more than one of the Research Reports in the Colloquium.

Submission and review process

Proposals for Colloquium presentations must be submitted no later than 15 January 2021 (also the deadline for research report proposals). The Research Reports that comprise a Colloquium proposal are reviewed in the usual way, using the same criteria. The IPC will assign the set of three Research Reports plus the one-page summary to the same reviewers, who are then informed that the Research Reports are part of a Colloquium proposal. If all three Research Reports are considered acceptable during the review process, the International Programme Committee reviews the Colloquium proposal during the second meeting of the International Programme Committee, and decides upon its acceptance.

If not all the three Research Reports are accepted or if the framing proposal to group them in a Colloquium is rejected by the IPC, those Research Reports that were accepted in the usual review process will enter the conference programme as usual Research Reports. In case of rejection, encouragement for resubmission in a different format is possible for the single Research Reports.

Details of the review process are available at the IGPME webpage:
http://igpme.org/index.php/annual-conference/session-types/colloquium/

Presentation

A 90-minute time slot will be devoted to each Colloquium. The organiser takes care of chairing.

The organiser first briefly introduces the Colloquium topic and then each research report is presented in turn. The presentation time for each report can be agreed with the organizer beforehand, but will be between 15 and 20 minutes (depending on how much the papers have in common; some presentations can be shorter). Afterwards, the discussant initiates the discussion for approximately 10 minutes, which is followed by discussion with the audience.

Virtual component

Colloquia will take the form of fully online sessions.

5.2.4 Oral Communication (OC)

An Oral Communication proposal should describe which past research the study is built on; give a concise overview of the new results attained, and what the main implications of these results are. Contributions need not be limited to completed research. On-going studies may be submitted, provided that theoretical framework, preliminary results, and a discussion of these results appear in the text submitted. Proposals that are too similar to papers previously presented cannot be accepted. Proposals that represent new and significant contributions to research in the Psychology of Mathematics Education are especially encouraged.

Submission procedure and restrictions

Proposals for Oral Communications are to be written in English without an abstract. The document may be up to one page long and must be in line with the formatting guidelines provided by the conference organisers. Any submission exceeding the one page length limit or where formatting guidelines have been ignored for the purposes of shortening the length of the submission to one page will be automatically rejected.

The PME 44 template for Oral Communications Proposals and guidelines for proposals are available at https://pme44.kku.ac.th/home/submissions/. For the peer review process, authors must submit a second, blinded version of their proposal. Papers that do not conform to the formatting guidelines, exceed the maximum number of pages or which are not accompanied by a properly blinded version may be rejected without further consideration or peer review. For details, please refer to the submission checklist provided by IGPME at http://www.igpme.org/annual-conference/session-types/oral-communication/.

The preparation of a proposal for an Oral Communication is a challenging enterprise since the length is limited to one page only. Any submission exceeding the one page length limit or where formatting guidelines have been ignored for the purposes of shortening the length of the submission to one page will be automatically rejected. Note that no abstract is necessary for an Oral Communication paper.

Please consider the following issues before you submit your proposal:

Proposals for Oral Communication must be submitted via *ConfTool* www.conftool.com/pme44 no later than 1 March 2021. Submissions to *ConfTool* are only possible if the presenting author is registered in the *ConfTool* system and has paid the non-refundable conference deposit. Two files must be submitted for each proposal:

- for publication, the word file that strictly follows the formatting guidelines
- for review, a "blinded version" as a PDF file in which it is not possible for a reviewer to infer the authors' identities from the text, including the references.

Please note that no revisions are possible after submission. Each contribution is accepted or rejected in the form in which it was submitted. Every pre-registered person may submit up to one Oral Communication (please refer also to section 5.2.1 for Restrictions on number of contributions).

The proposal should be submitted by the author who will deliver the presentation during the conference.

Reviewing procedure and criteria

Proposals for Oral Communications will be double-blind peer-reviewed by at least one member of the IPC (International Programme committee). Notification of the decision of the International Programme committee to accept or reject the Oral Communication proposal will be available after the second meeting of the International Programme Committee in April 2020. Details of the review process are available at the IGPME webpage: http://igpme.org/index.php/annual-conference/session-types/oral-communication

Advice for authors on how to prepare an Oral Communication paper can be found on the PME website
www.igpme.org/index.php/annual-conference/further-information/preparing-oc-and-pp

Publication and presentation

Accepted papers will be included in the proceedings only if the full conference registration fee has been paid in time. Details are published in the second announcement.

Each Oral Communication presentation will be allotted a time of 10 minutes for presentation. The IPC will group three Oral Communications according to the distinctive themes in order to provide the opportunity for a common discussion period at the end of each OC session. For OC sessions, the IC recommends one of two timing options. Some sessions may contain presentations that are closely related, while for other sessions, this may be less the case.

Based on the chair's reading of the OC summaries, and after consultation of the three presenters before the start of the session, they can select the appropriate option.

Option 1: Joint discussion at the end for presentations with related themes. After each presentation, there is the opportunity to clarify immediate questions for at most 5 minutes.

15 additional minutes of discussion are at the end of the session.

Option 2: Separate discussions for presentations with separate themes. The chairperson starts 10 minutes of questions and discussion directly after each 10-minute presentation.

A chairperson will be assigned to each Oral Communication session. They will introduce the presenters, make a comment regarding photographing, audio and videotaping the session, monitor timing of the session, and moderate the discussion according to one of the previously mentioned options.

Virtual or onsite component

Oral communications can be presented onsite or online. All presenters will need to submit a pre-recorded lecture of no more than 10 minutes. Recordings longer than 10 minutes will not be accepted. The presenters will be expected to participate in the full Oral Communication session and to respond to Q & A and discussion. In the virtual component, Q& A will be conducted via chate during the presentation, followed by live oral discussion.

5.2.5 Poster Presentation (PP)

Poster Presentations are intended for research that is best communicated in a visual form rather than an oral presentation. There is no formal oral presentation associated with Poster Presentations, although there is time allotted during which presenters will be available by their posters for discussion with conference participants.

Reports should describe the research context of the study presented, the study itself, and its implications, with a particular focus on the visual aspects of the presentation. Contributions need not be limited to completed research. On-going studies may be submitted, provided that theoretical framework, preliminary results, and a discussion of these results appear in the text submitted. Proposals which are too similar to papers previously presented cannot be accepted. Proposals that represent new and significant contributions to research in the Psychology of Mathematics Education are especially encouraged.

Submission procedure and restrictions

Proposals for Poster Presentations are to be written in English. The document may be up to one page long and must be in line with the formatting guidelines provided by the conference organisers. The PME 44 template for Poster Presentation Proposals and guidelines for proposals are available at https://pme44.kku.ac.th/. For the peer review process, authors must submit a second, blinded version of their proposal. For details, please refer also to the Submission Checklist provided by IGPME at http://www.igpme.net/annual-conference/session-types/poster-presentation/.

Papers that do not conform to the formatting guidelines, exceed the maximum number of pages or which are not accompanied by a properly blinded version may be rejected without further consideration or peer review.

The preparation of a proposal for a Poster Presentation is a challenging enterprise since the space is limited to one page only. Note that no abstract is necessary for a Poster Presentation.

Advice on how to prepare a Poster paper can be found on the PME website at http://igpme.org/index.php/annual-conference/further-information/preparing-oc-and-pp

Please consider the following issues before you submit your proposal:

Proposals for Poster Presentations must be submitted via *ConfTool* (www.conftool.com/pme44) no later than 1 March 2021. Submissions to *ConfTool* are only possible if the presenting author is registered in the *ConfTool* system and has paid the nonrefundable conference deposit. Two files must be submitted for each proposal:

- for publication, the word file that strictly follows the formatting guidelines
- for review, a "blinded version" as a PDF file in which it is not possible for a reviewer to infer the authors' identities from the text, including the references.

Please note that no revisions are possible after submission. Each contribution is accepted or rejected in the form in which it was submitted.

Every pre-registered person may submit up to one Poster Presentation (please refer also to section 5.2.1 for restrictions on number of contributions). The proposal should be submitted by the author who will deliver the presentation during the conference.

Reviewing procedure and criteria

Proposals for Poster Presentations will be reviewed by at least one member of the International Programme Committee (IPC). Notification of the decision of the IPC to accept or reject the Poster Presentation proposal will be available after the second meeting of the International Programme Committee in April 2020.

Details of the review process are available at the IGPME webpage http://igpme.org/index.php/annual-conference/session-types/poster-presentation/

Publication and presentation

Accepted proposals will be included in the proceedings only if the full conference registration fee has been paid in time. Details are published in the second announcement. 60 minutes will be allocated to Poster Presentation sessions during the conference. Authors should be available at their poster in this session for discussion with conference participants. The authors should bring their posters printed in a format prescribed by the conference organisers in the second announcement.

Virtual component

Posters will be presented fully online (asynchronous format). Online poster presentations should include a recording of 5 minutes or less, which accompanies a one page pdf of a poster (not a presentation file!). The recording should walk the audience through the poster in a similar manner to that which a presenter would introduce their poster to a visitor standing next to them at a Poster session. Recordings of more than 5 minutes will not be accepted. Questions from audience will be posed through asynchronous Q&A function.

5.3 Group Activities

Group Activities are intended to provide attendees with the opportunity to exchange information and ideas related to the PME. Conference participants will need to select which sessions they would prefer to attend and indicate this in their registration. Group Activities will take place during parallel time allotments and will have limited space.

All Group Activities (except RF proposals) are submitted for review through *ConfTool*, the online conference registration system (www.conftool.com/pme44). *ConfTool* is configured to only accept submissions from presenters who are registered in the *ConfTool* system and have paid the non-refundable conference deposit. Please refer also to section 5.2.1 for restrictions on the number of contributions.

5.3.2 Working Group (WG)

A Working Group is a format of group presentation undertaken by a group of at least two researchers. The aim of the Working Group is that PME participants are offered the opportunity to engage in exchange or to collaborate in respect to a common research topic (e.g., start a joint research activity, share research experiences, continue or engage in academic discourse). See also http://www.igpme.org/index.php/annual-conference/session-types/working-group.

A Working Group may deal with emerging topics (in the sense of newly developing) as well as topics that are not new but possibly subject to changes. A Working Group needs a clear goal (outcome) and a strategy to reach this goal in collaboration with the participants. It must provide opportunities for contributions of the participants that are aligned with the goal (e.g. share materials, work collaboratively on texts, discuss well-specified questions).

A Working Group is not supposed to be a collection of individual research presentations (see Colloquium format), but instead is meant to build a coherent opportunity to work on a common research topic. In contrast to the Research Forum format that is meant to present the state of the art of established research topics, Working Groups are considered to involve fields where research topics are evolving.

A Working Group:

- focusses on a research topic of substantial interest within the PME community,
- has a clear goal and a strategy to reach this goal in collaboration with the participants,
- includes structural opportunities for contributions by the participants to reach the goal,
- involves only a minimum of planned presentations to stimulate the specific collaboration or exchange,
- is provided by at least two researchers who are actively working within the research topic,
- covers 2 slots of 90 minutes each,
- is represented via the 2-page proposal in the conference proceedings, and
- will be portrayed in respect to its outcomes, after the conference, in a report to be included in the following PME newsletter.

Submission and reviewing process

Working Groups are subject to review in order to ensure the fit to the goals of PME as an organisation. The deadline for proposals (2 pages) is 1 March 2021. The International Programme Committee (IPC) reviews the proposals for Working Groups and decides on their acceptance during the Second IPC meeting (April 2021).

Proposals must include:

- the topic, title, goal, and strategy to reach the goal of the Working Group;
- the names of all researchers contributing (minimum of 2);
- the name of the Coordinator (corresponding researcher);
- an outline of the theoretical background of the research topic;
- an explicit statement on the way the participants are expected to engage in collaboration and/or exchange in the Working Group;
- an explicit statement if the Working Group is a new initiative or a follow up on previous PME activities, as well as an indication of tentative follow up activities at future PME conferences (further WGs, RRs, colloquia, etc.);
- a detailed description of the proposed layout of the Working Group, including thematic structuring, time structuring for 2 slots of 90 minutes each, as well as descriptions of planned presentations and participants' exchange/collaboration activities;
- opportunities to contribute by participants and details on the organisational process (if needed, organisers may use the PME communication infrastructure at http://www.igpme.org/index.php/communication

Presentation and proceedings

Two 90-minute slots will be devoted to each Working Group. The conference chairs are asked to schedule the slots subsequent whenever possible, although this cannot be guaranteed. The proposals should follow the PME formatting guidelines. The total length for the proposal is 2 pages, including references. If accepted, this proposal will be included in the conference proceedings. For accepted papers to be included in the proceedings, all researchers contributing to the Working Group has to make a full registration 20 May 2021, at the latest. After presentation, each Working Group is required

to send a report of its activities and the goals reached to the PME Administrative Manager (info@igpme.org) by September 2021. This report may be included in the following PME Newsletter.

Virtual component

Working groups will take place fully online this year.

The number of participants in each WG will not exceed 100.

5.3.3 Seminars (SE)

The goal of the Seminar is the professional development of PME participants, especially early researchers and/or first comers, in different topics related to scientific PME activities. This encompasses, for example, aspects like research methods, academic writing or reviewing. A Seminar is not intended to be only a presentation but should involve the participants actively. PME can give a certificate of attendance to participants of the Seminar, if requested by the proposers. Facilitating a Seminar will not count as a contribution for the existing restrictions on conference contributions but since Seminars take place in the same time slots as research forums, it will not be possible for one presenter to participate in both these categories.

Submission and review process

A SE application must include

- name of at least one Coordinator
- information about the topic and the goals of the SE as well as descriptions of specific tasks or activities to be carried out in the sessions
- a short outline about the goals and/or activities planned for each of the two 90 minutes sessions - proposers can choose between a two-session Seminar or a single-session Seminar presented twice.

Two page proposals for a SE must be submitted not later than 1 March 2021. The International Programme Committee reviews and selects SEs during the second IPC meeting. Notification of the decision of the IPC to accept or reject a proposal for SE will be communicated in April 2021.

Presentation and proceedings

The two page proposals of accepted Seminars will be included in the conference proceedings. Two 90-minute sessions will be allocated to Seminars. After presentation, the Coordinators of each SE are required to send a report of its activities to the PME Administrative Manager (e-mail address: info@igpme.org). This report may be included in the PME newsletter. This report is due by the end of September 2021.

Virtual component

Seminars will take place fully online this year.

5.3.4 National Presentation (NP)

The National Presentation at PME 44 will present to PME members of other countries the specific history, traditions and perspectives of the mathematics education community in Thailand and the region (Cambodia, Laos, Myanmar, Vietnam). The National Presentation is organized as a combination of giving information about the national situation and relating/contrasting this information with international mathematics educational research. One 90-minute session will be allocated to the National Presentation.

5.4 Early Researchers' Day (ERD)

In the past several years, PME has offered a special day (Early Researchers' Day, ERD) for early career researchers who are also attending the PME conference.

We are currently working on preparing for a virtual ERD to be held fully online. Information about ERD will be announced as soon as possible.

Note: There will also probably be a local ERD in Thailand, depending on the COVID-19 situation. Information about the venue for the local ERD will be issued later this year.

6. Registration and Payment

6.1 Conference Pre-Registration

Pre-registration for PME 44 begins in December 15, 2020. It will be carried out online using the ConfTool conference registration system, at www.conftool.com/pme44. Before registering for the conference or paying the membership fee, you need to register in the PME ConfTool system.

1. If you already have been a user of the PME ConfTool system, for example if you attended one of the last conferences:

- Enter your username and password to log in and select the option "Pre-register for this Event or Join PME as a member." If you have forgotten your password, ConfTool will help you to retrieve it.

If you are a new user for the PME ConfTool system:

- Create a new account and register in the system.

- You will need to provide your personal information and account information in order to build your own data-base in the system.
- After filling in these details and submitting all the information needed, you will be able to continue with your Conference Pre-registration.

2. Select your status as PME participant by clicking on the appropriate option. Step by step, the system will take you to the payment form where you can find additional information on Payment Options for the conference deposit. You will need to state here your expectation for participating online or on-site. This is not yet a final commitment. It is just to assess how many participants will be on-site and how many online. A final commitment, together with a differentiated payment, will be needed at the time of paying the full conference fee (around April 2021).

Note: If you have already paid the pre-registration fee for 2020, there will be no additional charge at the time of pre-registration for 2021.

3. If you choose online payment, the system will connect you with a secure page for you to complete your payment. If you have any problems with your Conference Pre- Registration, please contact the Conference Secretariat: pme44@kku.ac.th.

6.2 IGPME Membership Only

If you have been an IGPME member in the past, but will not be attending PME 44, or you want to become a new IGPME member who will not attend PME 44, pay the annual membership fee for PME through ConfTool. This is necessary for maintaining or getting membership. Notice that the membership for the year of 2019-2020 has been extended due to the Covid-19. Therefore, if you have already paid membership fees for last year, there is no need to pay for 2020-2021.

1a. As a member of IGPME who wants to renew membership

- Log in by entering your username and password and select the option "Pre- Register for this Event or Join PME as a member."

1b. As a new member of IGPME:

- Create a new account and register in the system.
- You will need to provide your personal information and account information in order to build your own database in the system.
- After filling in these details and submitting all the information needed, you are able to select the option "Pre-register for this event or join PME as a member."

2. After checking your personal details and choosing "Pay PME membership fee ONLY" in the following step, the system will automatically take you to the payment form where you can get information on Payment Options for the membership fee.

3. If you choose online payment, the system will connect you with a secure page for you to complete your payment. If you have any problems with payment of the membership fee, please contact the Conference Secretariat: pme44@kku.ac.th.

6.3 Registration Fees

The upper limit for the total registration fee for onsite participation will be in the order of 12,500 THB (€372). The exact amount depends on the number of participants and external financial support. A different fee will be established for online participants. The exact amounts of online and onsite fees will be decided by the Local Organising Committee in April 2021, just prior to the publication of the second announcement.

6.3.1 Conference Deposit

The non-refundable conference deposit will be about 4,340THB (€130). For those who attend the conference, the conference deposit will be deducted from the total conference registration fee. If you already paid the conference pre-registration fee for PME 44 you will not be charged again for a conference deposit.

The Conference Deposit Covers:

- PME memberships for the year 2021 of 1,670THB (€50);
- a compulsory Skemp Fund donation of 350THB (€10);
- access to electronic conference proceedings; and
- administrative costs related to the handling of the proposals.

6.3.2 Onsite Conference Registration Fee

The total registration fee for in-site conference participants covers:

- PME membership for the year 2021 of 1,670THB (€50);
- a compulsory Skemp Fund donation of 350THB (€10);
- a set of printed proceedings (see below) and access to an electronic version of the proceedings;
- 3 lunches and 9 coffee breaks;
- opening reception;
- conference dinner;
- the costs of venues, administrative work, and facilities needed for the organization of the conference.

The total registration fee for online conference participants covers:

- PME membership for the year 2021 of 1,670THB (€50);
- a compulsory Skemp Fund donation of 350THB (€10);
- an access to an electronic version of the proceedings;

- the costs of technological platforms, administrative work, and facilities needed for the organization of the virtual component of the conference.

You have the option to choose if you want to receive printed proceedings or not. As with previous conferences, the default option includes both printed and electronic proceedings. During the final registration process via the ConfTool system, participants can choose the alternative option that includes only electronic proceedings. If you choose only electronic proceedings, the registration fee will be reduced. The reduction depends on the price of printed proceedings (i.e., on the number of pages and volumes) and will be announced on the Conference Website and in the second announcement in April 2021.

6.3.3 Accompanying Person Fee

We welcome accompanying persons in the onsite conference. Accompanying persons participate in the social programme but not in the Scientific Programme of the conference. The fee for accompanying persons is expected to be around 4,340 THB (€130) per person depending on the anticipated number of participants and external financial support. The exact amount will be decided by the Local Organising Committee in April 2021, prior to the publication of the second announcement.

The fee covers:

- opening reception;
- conference dinner; and
- some of the administrative work involved outside of the Scientific Programme.

There is no fee for accompanying children under 14 years of age. If you have any questions, please contact the Conference Secretariat: pme44@kku.ac.th.

6.3.4 Late Registration Fee

An additional charge of 1,670THB (€50) will be applied for registrations made after 20 May 2021.

6.4 Payment Options

All participants can make their payment by credit card or bank wire transfer. If you use a credit card, the process will be carried out online. The ConfTool system will connect you to an external platform for payment. There you will enter your personal information and choose payment type. If you choose to pay by bank wire transfer you will get an invoice. You need to transfer the funds to the account designated on the invoice sent to you by E-mail or post after registration.

Your registration will only be finalised when the payment process is complete. If you have any questions regarding your payment, please contact the Conference Secretariat at pme44@kku.ac.th.

6.5 Richard Skemp Memorial Support Fund

The Richard Skemp Memorial Support Fund is a fund that was established to support academics from under-represented or economically weak countries in attending the annual conference. The spirit of the fund is to help academics who normally would not have access to the PME conference. A limited amount of financial support is available to researchers who experience difficulty in obtaining financial support to attend a PME conference. Applicants for a grant from the Fund must submit an individual contribution (RR, OC, PP) and pay the non-refundable conference deposit, prior to the applicant's proposal being reviewed. A grantee must have at least one proposal (RR, OC, PP) accepted.

In general:

- only one of the authors of a particular proposal will be eligible to apply for a grant;
- those who have already received a grant on two prior occasions will not receive an additional grant; and
- for applicants who have already received a grant in a previous year, priority will go to those who have an accepted research report rather than an Oral Communication or Poster Presentation.

The number and size of grants each year depends on the amount available as well as the number of applicants and the relative merits of each application. The Richard Skemp Memorial Support Fund Committee will meet during the second International Programme Committee meeting, in April 2020, and will make its recommendations once decisions on the acceptance or rejection of proposals have been completed. The PME Administration Manager will contact applicants to inform them of the decision on their application for a Richard Skemp Memorial Support Fund grant. This will usually take place before the end of April each year. Please note that grants cannot be carried over to the next year's conference. Grants will be paid at the conference and are not available in advance. Applicants for a Skemp Fund grant should fill in the application form available from the Conference Website or from the PME website (http://www.igpme.org/index.php/annual- conference/skemp-fund-support). The application should be sent by 1 March 2021 to:

Birgit Griese
Paderborn University, Germany
Tel: +49 (0) 5251 60-1839, Email: info@igpme.org

6.6 Donations to Skemp Fund

The Skemp Fund plays an increasingly important role in making the PME annual conference more accessible to mathematics educators who would not otherwise be able to attend the conference. The extent to which we can give this financial assistance depends to a large degree on the generosity of the PME community. For this reason, a compulsory donation of 350THB (€10) is included in the registration fee for the conference. In addition, the International Committee calls on members to make an additional donation, however small, to the Skemp Fund when paying membership fees or registering for annual conferences.

6.7 Cancellation Policy

6.7.1 For Registered Participants

Participation in the conference is conditional upon Registration and Payment of all fees. All cancellations and changes regarding the conference registration must be made in written form to the Conference Secretariat by sending an email to pme44@kku.ac.th. In all cases, the conference deposit will not be refunded; however, the deposit will cover one year of membership as well as access to the electronic conference proceedings (see section 7.3.1 Conference Deposit). If a cancellation for conference participation is made after the full registration fee has been paid:

- Before 20 May 2021, the refund will be the amount of the full registration fee minus the conference deposit and the fees that the bank charges for transferring the refund. Refund = (registration fee – conference deposit) – bank fees.
- After 20 May 2021, the refund will be 50% of the full registration fee minus the conference deposit, and then subtracting the fees that the bank charges for transferring the refund. Refund = 50% of (registration fee – conference deposit) – bank fees.
- After 20 July 2021, when the conference has started, cancellation is not possible.

6.7.2 For Accompanying Persons

- If a cancellation for accompanying person is made after the full registration fee has been paid:
- Before 31 May 2021, the refund will be the amount paid minus the fees that the bank charges for transferring the refund will be refunded. Refund = accompanying person fee – bank fees.
- After 20 May 2021, the refund will be 50% of the amount, subtracting the fees that the bank charges for transferring the refund. Refund = 50% of accompanying person fee – bank fees.
- After 20 July 2021, when the conference has started, cancellation is not possible.

6.7.3 General Information

Participation is not guaranteed until full payment of the registration fee is received. The conference programme may be subject to changes (based on decisions by the International Programme Committee). In the case of unforeseeable events, it is up to the International Programme Committee and the International Committee of PME to decide on changes or even the cancellation of the conference and the amount of refund of payments. If the conference is cancelled, the remaining funds will be paid back to the participants and no further liability of the local organisers or PME will be accepted towards the client.

7. Deadlines for PME 44 (2021)

7.1 Scientific Programme

For all accepted proposals, the deadline for final registration is 20 May 2021. Contributions will not be included in the proceedings, if final registration, including the payment of the total registration fee is not completed by that date.

7.1.1 Personal Presentations

Research Report	Pre-Registration, Proposals and Payment of Conference Deposit	15 January 2021
Colloquium	Pre-Registration, Proposals and Payment of Conference Deposit	15 January 2021
Oral Communication	Pre-Registration, Proposals and Payment of Conference Deposit	1 March 2021
Poster Presentation	Pre-Registration, Proposals and Payment of Conference Deposit	1 March 2021

7.1.2 Group Activities

Working Group	Pre-Registration, Proposals and Payment of Conference Deposit	1 March 2021
Seminar	Pre-Registration, Proposals and Payment of Conference Deposit	1 March 2021

7.2 Registration

Working Group	Pre-Registration, Proposals and Payment of Conference Deposit	1 March 2021
Seminar	Pre-Registration, Proposals and Payment of Conference Deposit	1 March 2021

7.3 Deadlines for PME 45 (2022)

Research Forums for PME 45 (2022) should be submitted before 1 November 2021, to the Administrative Manager (info@igpme.org). The deadline for PME Pre-Submission Support for contributions to PME 45 (2022) is 15 November 2021. Please refer to http://www.igpme.org/annual-conference/pre-submission-support/

8. Travel Information

8.1 Getting to Khon Kaen

By plane

Thai AirAsia flies from Bangkok (DMK) to Khon Kaen (KKC) several times a day; there are also flights from/to Chiang Mai, Pattaya (UTP) and Phuket. Nok Air and Thai Lion Air each has a couple of flights a day to Bangkok (DMK) as well. Thai Smile Airways flies from Bangkok (BKK) five times a day, and can be booked in one ticket with an international Thai Airways flight.

More information: https://www.facebook.com/kkc.airport/

Thai AirAsia: https://www.airasia.com

Nok Air: https://www.nokair.com

Thai Lion Air: https://lionairthai.com

Thai Smile Airways: https://www.thaiairways.com

Winter Edition
ตารางการบิน ท่าอากาศยานขอนแก่น
KHON KAEN AIRPORT FLIGHT SCHEDULE
10 - 30 พฤศจิกายน 2563 (10 - 30 NOV 2020)
สายการบิน Airlines
เที่ยวบิน Flight
ออก Departures
ถึง Arrival
เที่ยวบิน Flight
ออก Departures
ถึง Arrival
ความถี่ Frequency
สุวรรณภูมิ ขอนแก่น
WE 040 07:00 08:00 WE 041 08:30 09:30 ทุกวัน/Daily
WE 042 11:40 12:40 WE 043 13:15 14:15 ทุกวัน/Daily
WE 046 15:30 16:30 WE 047 17:00 18:00 ทุกวัน/Daily
WE 048 17:55 19:00 WE 049 19:30 20:30 ทุกวัน/Daily
thaismileair.com Call: 1181, 02-118-8888
VZ 210 07:30 08:35 VZ 211 09:05 10:15 ทุกวัน/Daily
VZ 212 15:45 16:50 VZ 213 17:20 18:30 ทุกวัน/Daily
VZ 214 19:00 20:05 VZ 215 20:35 21:45 ทุกวัน/Daily
vietjetair.com Call: 02-089-1909
ดอนเมือง ขอนแก่น
FD 3252 05:50 06:50 FD 3253 07:15 08:15 13-14,16,19,21,23,28,30 Nov
FD 3250 07:20 08:30 FD 3251 08:55 10:10 10-20, 22-29 Nov
FD 3254 10:55 12:00 FD 3255 12:25 13:25 ทุกวัน/Daily
FD 3256 17:00 18:05 FD 3257 18:30 19:30 10-16, 18-24, 26-30 Nov
FD 8040 17:10 18:15 FD 8041 18:40 19:45 15, 22, 29 Nov
FD 3258 18:40 19:50 FD 3259 20:15 21:10 ทุกวัน/Daily
FD 8258 18:55 20:00 FD 8259 20:30 21:35 15, 22 Nov
airasia.com
SL 644 10:50 11:50 SL 645 12:35 13:35 ทุกวัน/Daily
SL 646 14:05 15:10 SL 647 15:50 16:55 ทุกวัน/Daily
lionairthai.com Call: 02-529-9999
DD 9806 06:05 07:00 DD 9807 07:40 08:40 ทุกวัน/Daily
DD 9820 19:05 20:00 DD 9821 20:55 21:50 ทุกวัน/Daily
nokair.com Call: 1318
เชียงใหม่ ขอนแก่น
FD 5500 07:15 08:20 FD 5501 13:25 14:30 ทุกวัน/Daily
FD 5502 20:15 21:15 FD 5503 21:40 22:50 19 - 22 Nov
ขอนแก่น หาดใหญ่
FD 3501 08:45 10:35 FD 3502 11:05 12:50 อ. พฤ. ส. Tue. Thu. Sat
ขอนแก่น ภูเก็ต
FD 3601 08:45 10:40 FD 3602 11:10 12:55 จ. พ. ศ. อา. Mon. Wed. Fri. Sun.
airasia.com
facebook.com/kkc.airport
ท่าอากาศยานขอนแก่น
68/24 หมู่ 5 ถนนมะลิวัลย์ ตำบลบ้านเป็ด อำเภอเมือง จังหวัดขอนแก่น 40000
โทรศัพท์ 043-468170-5, โทรสาร 043-46818-6
E-mail: khonkaen@airports.go.th

By train

Khon Kaen is on the branch of the Northeastern Line that runs to Nong Khai and Laos. The State Railway of Thailand (SRT) runs one reasonably timed overnight train, Train 133, which leaves Bangkok at 20:45 and is scheduled to arrive at 06:11 in Khon Kaen.

As of 2018 the main railway station is being rebuilt and trains stop instead at a temporary station along the same line 3 km to the south. A 30-minute walk to the center and taxis are available.

By bus

Khon Kaen Provincial Transport Station (Baw Kaw Saw 3), Muang KK By-pass Rd (On the ring road 8 km S of city centre. Any tuk-tuk can take you there). 24/7. Since 1 December 2017, the long-distance KK bus terminal. Also has minivans to nearer destinations. Opened in 2014.

- **Air-conditioned bus terminal**, Ammat Rd (Central KK. Nearest cross-street is Klang Mueang Rd.). Minivan station to places such as Udon.
- **Central Khon Kaen Bus Station** (Baw Kaw Saw 1), 46/16 Prachasamoson Rd (Central KK). Closed on 1 December 2017.

Buses to/from Bangkok's Northern (Mo Chit) Bus Terminal depart every 15 minutes from early until late.

By car

It's easy to get to Khon Kaen by car from Bangkok. Just follow the four lane Hwy 2. Hwy 2 also heads north to Udon Thani, Nong Khai, and Laos.

8.2 Getting to the Conference Venue

The onsite conference activities will be held in the following locations.

The Institute for Research and Development in Teaching Profession for ASEAN (IRDTP):

1. Taking KKU Smart Transit: Blue, Green or Red line and get off at the stop in front of Coffee shop named "Coffee Der La". Follow the direction to IRDTP by walking around 500m.
2. Using Application Grab (Bike, Car) for route to IRDTP.
3. TAXI tel. 043-465777

The College of Local Administration (COLA):

1. Taking KKU Smart Transit: Red line and get off at COLA.
2. Using Application Grab (Bike, Car) for route to COLA.
3. TAXI tel. 043-465777

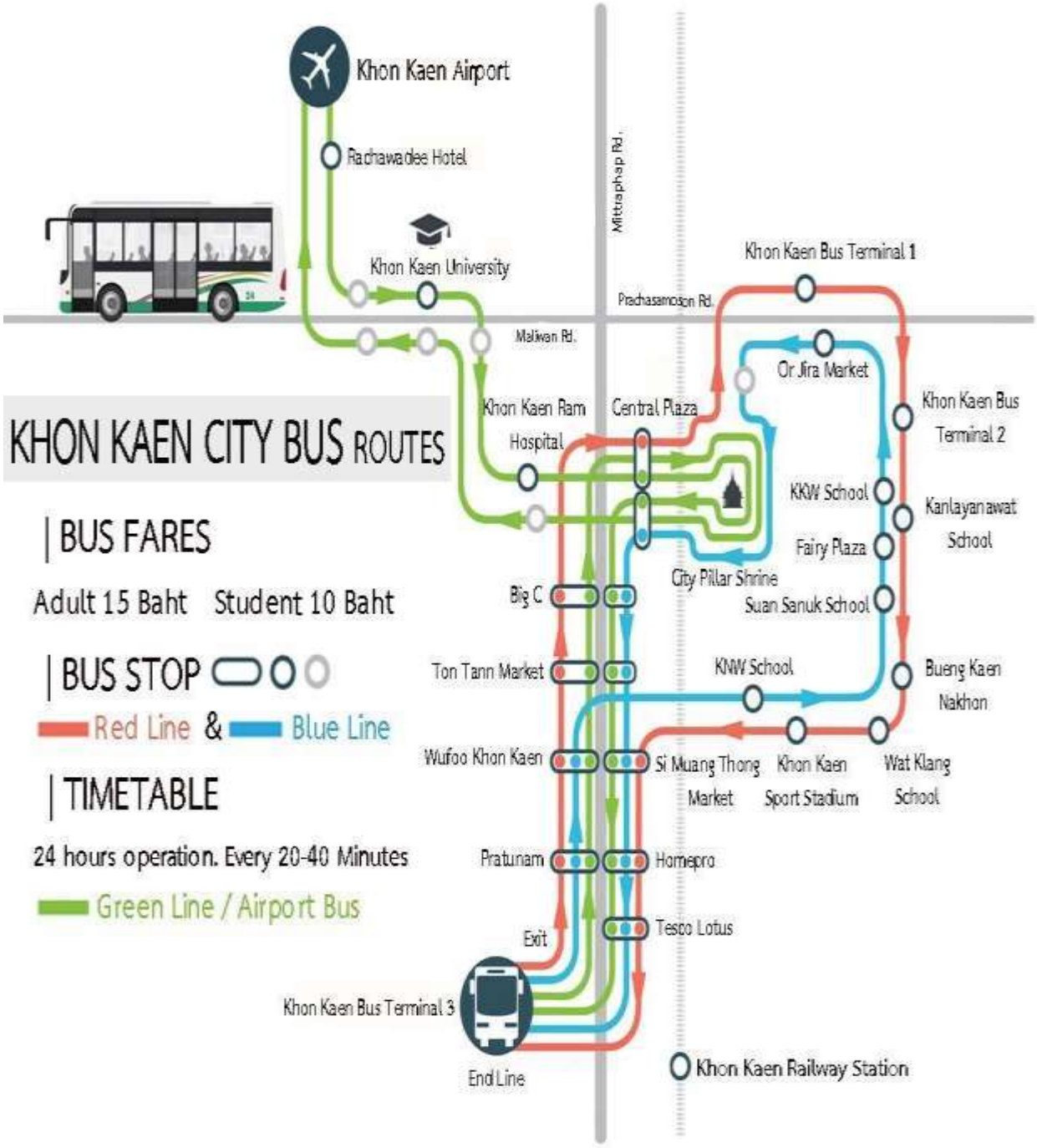
The Pullman Khon Kaen Raja Orchid:

1. Taking Khon Kaen city bus: Blue or Green line and get off at City Pillar Shrine Bus stop. Follow the direction to Pullman Khon Kaen Raja Orchid hotel by walking around 300m.
2. Using Application Grab (Bike, Car) for route to Pullman Khon Kaen Raja Orchid hotel.
3. TAXI tel. 043-465777

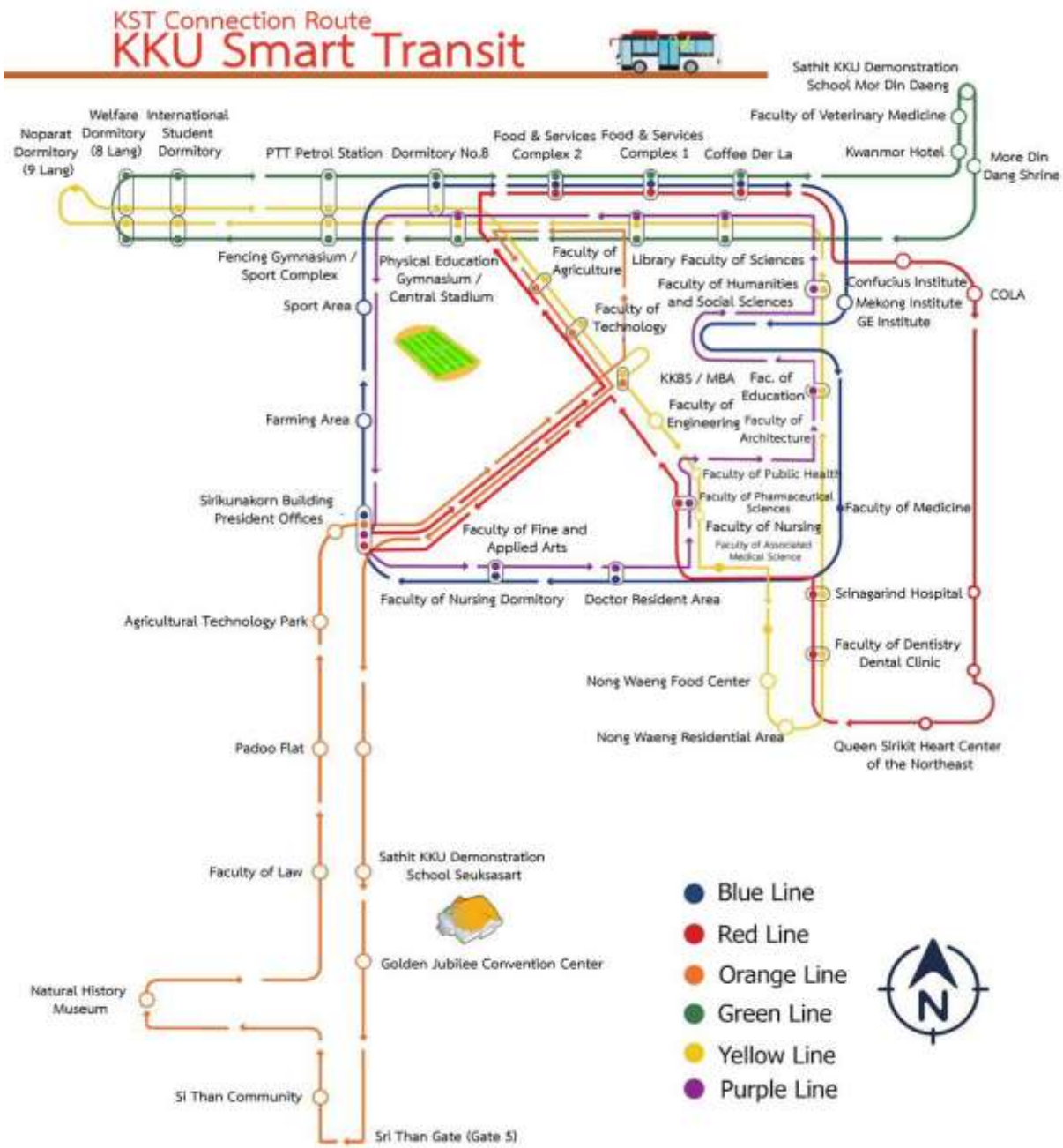
KHON KAEN UNIVERSITY

Address: 123 Moo 16 Mittapap Rd., Nai-Muang, Muang District, Khon Kaen 40002, Thailand. It's easy to get to Khon Kaen University.

1. Khon Kaen City Bus (https://khonkaencitybus.com/)


KHON KAEN CITY BUS ROUTES
BUS FARES
Adult 15 Baht Student 10 Baht
BUS STOP
Red Line & Blue Line
TIMETABLE
24 hours operation. Every 20-40 Minutes
Green Line / Airport Bus
Khon Kaen Airport
Rachawadee Hotel
Khon Kaen University
Mittraphap Rd.
Khon Kaen Bus Terminal 1
Prachasamosorn Rd.
Maliwan Rd.
Or Jira Market
Khon Kaen Bus Terminal 2
Khon Kaen Ram Hospital
Central Plaza
KKW School
Kanlayanawat School
Fairy Plaza
City Pillar Shrine
Big C
Suan Sanuk School
Ton Tann Market
KNW School
Bueng Kaen Nakhon
Wufoo Khon Kaen
Si Muang Thong Market
Khon Kaen Sport Stadium
Wat Klang School
Pratunam
Homepro
Exit
Tesco Lotus
Khon Kaen Bus Terminal 3
End Line
Khon Kaen Railway Station

2. KKU Smart Transit (http://kst.kku.ac.th/) For Free in Khon Kaen University Area.



8.3 Visa Regulations

Citizens of some countries need a visa to enter Thailand and there are quite strict regulations about travelling with children, e.g. that a parent cannot bring a child into the country without the other parent's written consent and an unabridged birth certificate.

Summary of Countries and Territories entitled for Visa Exemption and Visa on Arrival to Thailand.

Ordinary Passport							Diplomatic/Official Passport		
Nationals of the following countries may apply for Visa on Arrival	Nationals of the following countries may enter Thailand without a visa						Nationals of the following countries may enter Thailand without a visa		
	Tourist Visa Exemption Scheme			Bilateral Agreement			Bilateral Agreement		
Period of stay	Period of stay			Period of stay			Period of stay		
15 days	30 days			14 days	30 days	90 days	30 days	90 days	
Andora Bulgaria Bhutan China Cyprus Ethiopia Fiji India Kazakhstan Latvia Lithuania Maldives Malta Mauritius Papua New Guinea Romania San Marino Saudi Arabia Taiwan Ukraine Uzbekistan	Australia Austria Belgium Bahrain Brunei Canada Czech Republic Denmark Estonia Finland France Germany Greece Hungary Iceland Indonesia Ireland Israel Italy Japan Kuwait Liechtenstein Luxembourg Malaysia Monaco The Netherlands New Zealand Norway	Oman The Philippines Poland Portugal Qatar Singapore Slovak Slovenia Spain South Africa Sweden Switzerland Turkey UAE UK USA	Brazil* Korea (ROK)* Peru* Hong Kong** Vietnam**	Cambodia Myanmar (International Airports only)	Hong Kong** Laos Macau Mongolia Russia Vietnam**	Argentina Brazil* Chile Korea (ROK)* Peru*	Cambodia Brunei China Ecuador Hong Kong Indonesia Kazakhstan Laos Macau Mongolia Myanmar Oman Pakistan (Diplomatic only) Singapore Vietnam	Albania Argentina Austria Belarus Belgium Bhutan Brazil Chile Colombia Costa Rica Croatia Czech Republic Estonia (Diplomatic only) France (Diplomatic only) Germany Hungary India Israel Italy Japan Korea (ROK) Liechtenstein Luxembourg Malaysia Mexico Montenegro Morocco The Netherlands	Nepal Panama Peru The Philippines Poland Romania Russia Serbia Slovakia South Africa Spain (Diplomatic only) Sri Lanka Switzerland Tajikistan Tunisia Turkey Ukraine Uruguay

Department of Consular Affairs, 22 January 2018

Remarks

* Nationals of Brazil, Republic of Korea and Peru are entitled for tourist visa exemption scheme. Meanwhile, Thailand also holds bilateral agreements on visa exemption for holders of diplomatic, official and ordinary passports for a visit of not exceeding 90 days with Brazil, Republic of Korea and Peru.

** Nationals of Vietnam and Hong Kong are entitled for tourist visa exemption scheme. Meanwhile, Thailand also holds bilateral agreements on visa exemption for holders of diplomatic, official and ordinary passports for a visit of not exceeding 30 days with Vietnam and Hong Kong.

More information at the Ministry of Foreign Affairs of the Kingdom of Thailand.

http://www.mfa.go.th/main/en/services

Apply well in advance for a visa at the Thailand Embassy in your country.

8.4 Letter of the Invitation

Letters of the Invitation for delegates attending the conference will be made available on the Conference Website as soon as Registration Fees have been paid in full. Please note that this procedure aims explicitly at assisting delegates who need to obtain a visa or permission to attend the conference. It is not an official invitation covering fees or other expenses and does not imply any financial support from the conference organisers.

8.5 Currency

The **baht** (/bɑːt/; Thai: บาท, pronounced [bàːt]; sign: ฿; code: **THB**) is the official currency of Thailand. It is subdivided into 100 *satang* (สตางค์, pronounced [sātāːŋ]). The issuance of currency is the responsibility of the Bank of Thailand. For several years 1 euro has been around 35-40 baht and 1 USD around 30-35 baht.

8.6 Power Plugs

In Thailand, the standard voltage is 220 V and the frequency is 50 Hz. You can use your electric appliances in Thailand, if the standard voltage in your country is in between 220 - 240 V (as is in the UK, Europe, Australia and most of Asia and Africa). Manufacturers take these small deviations into account. If the standard voltage in your country is in the range of 100 V - 127 V (as is in the US, Canada and most South American countries), you need a voltage converter in Thailand. You can also consider a combined power plug adapter/voltage converter.

The following plugs are used:

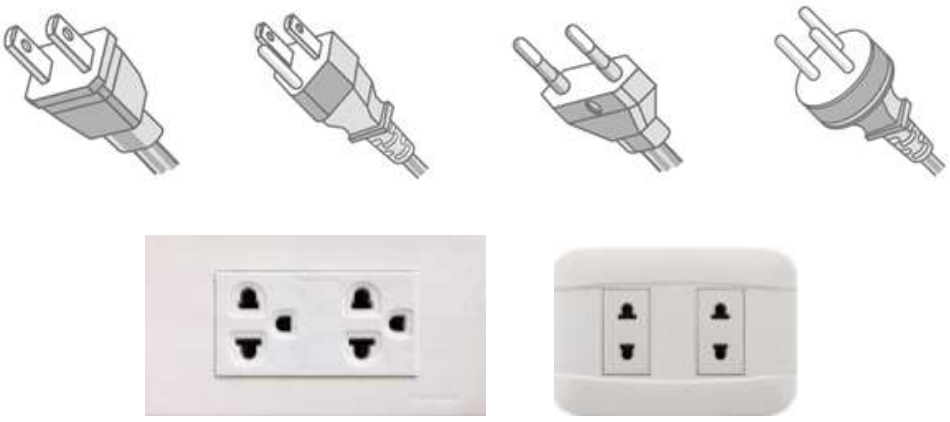


Photo :http://iaveap2019.org/wp-content/uploads/2019/05/Thailand-power-outlet.png

You can link to http://electricaloutlet.org/ for getting more information

8.7 Time Zone

Thailand follows UTC+07:00, which is 7 hours ahead of UTC.

8.8 Telephone Code

The Thailand country code 66 will allow you to call Thailand from another country. Thailand Telephone Code 66 is dialed after the IDD. Thailand international dialing 66 is followed by an area code. The area code for Khon Kaen is 043.

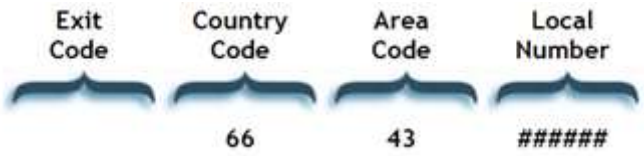


Photo : http://www.dialingcode.com/country/thailand-khon_kaen

8.9 Weather

Weather in July, Khon Kean has daily high temperatures around 38 °C (100 °F), with an average temperature of around 33 °C (91 °F). There is some rain on some days, with a total monthly rainfall of around 51 mm. The sun rises around 6 AM and sets around 6.50 PM.

Please click the link: http://www.climate.tmd.go.th/site/index?lang=en to get more information about the climate before reaching Khon Kaen.

8.10 Liability and Insurance

Please check the validity of your insurance before you travel. The Local Organising Committee does not accept any liability for personal injuries, or for the loss or damage to property belonging to conference participants (or their accompanying persons) either during or as a result of the conference.

9. Accommodation

Most of Khon Kaen's hotels are located very close (within a 500 meter radius.) to each other in the city center, which makes it easy to meet up with colleagues in the long summer evenings.

Information about accommodation can be found on the conference webpage: https://pme44.kku.ac.th/home/accommodation/

10. Dining and Food

There are many restaurants close to the hotels as well as to the university. During the conference lunches and coffee and tea breaks will be provided on the campus. Provision can be made for halal, vegetarian food and special diets (gluten-free, milk-free).

Thai Food is internationally famous. Whether hot chili or comparatively bland, harmony is the guiding principle behind each dish. Thai cuisine is essentially a marriage of centuries-old Eastern and Western influences harmoniously combined into something uniquely Thai.

Tom Yum Goong Hot and Sour Shrimp Soup depend on who cooks it, for whom it is cooked, for what occasion, and where it is cooked to suit all palates. Originally, Thai cooking reflected the characteristics of a waterborne lifestyle. Aquatic animals, plants and herbs were major ingredients. Large chunks of meat were eschewed. Subsequent influences introduced the use of sizeable chunks to Thai cooking.

The ideal Thai meal is a harmonious blend of the spicy, the subtle, sweet and sour, and is meant to be equally satisfying to eye, nose and palate. A typical meal might include a clear soup (perhaps bitter melons stuffed with minced pork), a steamed dish (mussels in curry sauce), a fried dish (fish with ginger), a hot salad (beef slices on a bed of lettuce, onions, chilies, mint and lemon juice) and a variety of sauces into which food is dipped. This would be followed by sweet desserts or fresh fruits such as mangoes, durian, jackfruit, papaya, grapes or melon.

Thai Food, Dessert and Beverage Recommendation

- Tom Yum Goong (Hot and Sour Shrimp Soup)

Photo: http://www.bangkok.com/food-top10.htm

Som Tum (Spicy Green Papaya Salad)

Photo: http://www.bangkok.com/food-top10.htm

- Pad Thai (Thai-Style Fried Noodles)

Photo: http://www.bangkok.com/food-top10.htm

- Massaman Curry - Rich Thai Sauce

Photo: https://www.seriouseats.com/recipes/2017/04/chicken-massaman-curry-wheat-beer-potatoes-recipe.html

- Khao Neow Ma Muang (Sticky Rice with Mango)

Photo: https://www.shanazrafiq.com/2018/07/thai-style-mango-sticky-rice-khao-niao-mamuang.html

Khanom Krok (Thai Coconut Pudding)

Photo: https://www.shanazrafiq.com/2018/07/thai-style-mango-sticky-rice-khao-niao-mamuang.html

- Bua Loy Kai Wan (Sweet Eggs Dessert)

Photo: https://www.pinterest.com/pin/712413234781847149/

- Local Wine (Local fruits)

THE 44th CONFERENCE OF THE INTERNATIONAL GROUP FOR THE PSYCHOLOGY OF MATHEMATICS EDUCATION

HOSTED BY KHON KAEN UNIVERSITY

Thailand Society of Mathematics Education 2013

Technion
Israel Institute of Technology