

# NEWSLETTER

International Group for the Psychology of Mathematics Education



	June 2018					
	Upcoming PME 43 04					
	In this					
	Upcoming PME 43	04				
	PME Plenary and Panelists	05				
	PME AGM	07				
	IC Reports	08				
	Introduction PME AM	10				
	Special Projects Reports	11				
	Free Contribution	12				
	PME Forum	13				

## Message from PME President

Dear Colleagues From PME,

as always, the time since the fall newsletter has been a busy one as we work to prepare for the annual conference, administer the surplus policy, and preparing for the upcoming AGM. This year we have also been busy building a new IGPME website.

In January, the 1<sup>st</sup> International Program Committee (IPC) meeting was held in Pretoria, South Africa. It was hosted by the local organizing committee (LOC) chair Johann Engelbrecht and vice-chair Sonja van Putten. Together with LOC members Mellony Graven, Hamsa Venkat, Ugorji Ogbonnaya and IPC member Anthony Essien we initiated the review process, toured the conference facilities, and discussed the finer details of the forthcoming PME 43 conference. This was my first time being in South Africa and in Pretoria. A few days prior to leaving Canada I had been in Saskatoon where the weather was -31° Celsius. So the  $+35^\circ$  in Pretoria was a welcomed change.

In April I returned to Pretoria, along with the rest of the IPC members – Anthony Essien (South Africa), Miguel Ribeiro (Brazil), Maitree Imprasitha (Thailand), and Markku Hannula (Finland) – for the 2nd IPC meeting. At this meeting we went through over 1200 reviews that had been completed on the 216 research reports (RR), 115 oral communications (OC), 72 poster presentations (PP), as well as the working group (WG), colloquium (CQ), and seminar (SE) submissions. Helping us with this was Pamela Vale (South Africa) whose organization and expertise with ConfTool streamlined and focused our work.

(continued on page 2)



## Message from the Editors

Dear PME colleagues,

Welcome to the June 2019 Newsletter! In this issue, we look forward to the upcoming PME 43 conference in Pretoria, South Africa. You will find information about the conference in the welcome from the local conference organisers and in the message from Peter Liljedahl, for whom this is the last message as the PME President.





As with all 2<sup>nd</sup> IPC meetings we also toured the conference venue, reviewed the excursions, the conference budget, and reviewed the 2<sup>nd</sup> announcement.

Message from PME President (continued)

In response to feedback from the PME community and motivated by the PME 42 plenary presentation of Mogens Niss, this year we allowed reviewers the option to use a more open reviewing format if they

wished. A number of reviewers opted for this format and by all accounts it was a great success. Reviewers were able to express their thoughts about RR submissions unencumbered by the structures of the current review form. The IPC saw no abuse of this process and we were easily able to identify and work with these reviews in combination with reviews that followed the more structured format. Going forward, the IC will be contemplating the results of this pilot and thinking deeply about how it might affect structural elements of both the review process within ConfTool and the language around what constitutes a RR.

This was my sixth experience as an IPC member, and I can say that there was a marked improvement in the quality of the submissions across the board. As good as the submissions were, I was even more impressed with the high quality of the reviews. Never have I seen such a high number of reviewers taken such care to articulate the strengths and weaknesses of submissions. There were reviews of OC and PP submissions that were longer than the submissions themselves, as PME reviewers took the time to express how the work of new and emerging scholars could be improved

The scientific program for PME 43 is looking impressive with an anticipated 124 RR's, 124 OC's, and 82 PP's in addition to 3 Research Fora (RF), 10 WG's, 1 SE, and 1 CQ. Along with this we are very excited to see plenaries presentations on the conference theme of **Improving Access to the Power of Mathematics** by Sizwe Mabizela (South Africa), Nuria Planas (Spain), Ravi Subramaniam (India), and Peter Liljedahl (Canada) as well as an Oxford Debate involving Mercy Kazima (Malawi), Robin Jorgenson (Australia), Yeping Li (USA), Kim Heejeong (Korea) and moderated by Judit Moshkovich (USA). As with PME annual conferences since 2014, there will also be an Early Researchers' Day, organized by Michal Tabach (Israel), and Anthony Essien (South Africa).

The PME 43 conference venue is ideal. The campus is picturesque with beautiful greenspaces between the university buildings. All of the presentation rooms, plenary rooms, conference secretariat, coffee break, and lunch spaces are within easy and short walking



distances. The campus will be empty aside from PME delegates, and although it will be winter, I expect to see our conference participants taking advantage of the many outdoor spaces to meet and to collaborate.

In addition to preparing for PME 43 the IC has also been busy enacting the surplus policy voted in at PME 40. Every time we approve another project under this policy, I am reminded what an amazing organization PME is. Over the three years I have been president this policy has allowed us to bring mathematics education to regions underrepresented in PME conferences, to delve deeper into research topics important to PME, and to bring people together to collaborate on these topics. See the Treasurer Portfolio Group report in this, and past, issues for more details about the good work that the surplus policy has allowed us to support.

We have also been very busy building a new IGPME website. The high costs of maintaining our old website, coupled with the withdrawal of services from our current website development company, prompted us to seek new and more affordable alternatives to our website needs. This is an ongoing process and we hope to announce the launch of the new IGPME website at PME 43. See the Secretary Portfolio Group report for more details.

Finally, we have been preparing the agenda for the upcoming AGM (see a draft copy of the AGM in this issue). Like every year, one of the most important items on the agenda is elections. This year David M. Gomez (Chile), Mellony Graven (South Africa), Berinderjeet Kaur (Singapore), and Kai-Lin Yang (Taiwan) will be stepping down after their four years of service to the IC and we will be looking to elect four members of the PME community to replace them. If you are interested, or know someone who is willing to work on behalf of PME, and you would like more information please email the Administrative Manager (info@igpme.org) or any member of the IC for more information. Nominees will have to fill in the IC application form.



There will be a number of items coming forth to the AGM for information and, more importantly, items coming forward to be voted on. For sure, there will be a vote on revisions to the constitution and bye-laws. As we continue working towards applying for charitable status within the UK we found that some revisions were needed. Rather than applying first and asking for

approval second we have opted to, instead, apply immediately after the PME 43 conference. Also for vote may be new policy regarding submission, authorship, and presentation of scientific work at PME conferences. This is a policy that is in the works to replace the Rule of 4 policy that was suspended at the PME 42 AGM. Please keep your eye on the <u>Path to the AGM</u> forum (login required) for details and to offer your comments on these projects.

After three years of service, this is my last year as President of PME. I would like to thank all of the members of the IC, past and present, for making my time as president both pleasant and productive. I would like to especially thank the executive – David M. Gomez (vice-president), Einat Heyd-Metzuyanim (secretary), Lovisa Sumpter (policy), Laurinda Brown (treasurer), and Birgit Griese (administrative manager) along with past executive members – Anke Lindmeier (vice-president), Michal Tabach (secretary), and Cris Edmonds-Wathen (treasurer), Bettina Rösken-Winter (administrative manager) – for making my job as president so enjoyable. Markku Hannula, who was elected as president-elect at PME 42 will be taking over as president after the PME 43 AGM. As intended by the creation of the president-elect position at PME 40, Markku and I have been working closely together over the course of the last year and I look forward to being part of the PME community under his leadership.

I look forward to seeing you at PME 43. Sincerely, Peter Liljedahl June 2019

### Message from the Editors (continued)

You will get some taste of the forthcoming conference from the introductions to the plenary speakers and the plenary panel.

The agenda for the Annual General Meeting (AGM) that takes place at the conference is also included.

In preparation for the AGM, this Newsletter offers updates from the Portfolio Groups of the PME International Committee who organise the activities of PME on behalf of all of us members. These include reports from Policy, Vice President, Secretary, and Treasurer Portfolio Groups. You will also find an introduction of Birgit Griese as the new PME administrative manager and a report from PME & Yandex Russian Conference in Moscow. We are also celebrating the Award for Interdisciplinary Excellence in Mathematics Education that was given this year to Abraham Arcavi. Congratulations Abraham! The Newsletter is completed by a reminder about the Announcements Forum on the PME website.

One of our aims as the Editors of the Newsletter is to keep you informed about all the developments that go on in our vibrant PME community. Please let us know how we are doing.

Maike Vollstedt, Igor' Kontorovich & Daniel Sommerhoff newsletter@igpme.org

3



## PME 43 Update on the upcoming PME conference



#### Submitted by Johann Engelbrecht, PME 43 conference chair

The Local Organising Committee of the 43rd Annual Meeting of the International Group for the Psychology of Mathematics Education is pleased to invite you to attend the conference to be held in Pretoria, South Africa, from 7 – 12 July 2019.

The theme of the conference is

#### Improving access to the power of mathematics.

Since this is only the second time the conference will be hosted on the African continent, we would like to give the conference a strong African focus – focusing on access, which is very relevant in South Africa as well as in the rest of Africa. However, we would also like to focus on the power of mathematics, thereby giving the conference a strong mathematics flavour.

Our goal is to make the 2019 meeting scientifically and socially successful. We hope that your visit and stay in Pretoria and South Africa will be exciting, informative, and inspiring.

Mellony Graven and Hamsa Venkat co-chair the International Programme Committee that had its second meeting early in april. The scientific programme of the conference comprises plenary lectures by four eminent scholars, a plenary panel that will debate whether what is proven to work in successful countries should be implemented in other countries, Research Forums, Working Groups, Seminars, and many Research Reports, Oral Communications, and Poster Presentations.

The conference provides for challenging and intellectually-stimulating conversations amongst participants for the entire span of the conference.

The social programme of the conference has been designed in such a way that conference participants can experience the flavour of Africa.

Welcome to Pretoria and PME 43!



CONFERENCE OF THE INTERNATIONAL GROUP FOR THE PSYCHOLOGY OF MATHEMATICS EDUCATION 07-12 July 2019 Pretoria South Africa







## **Introducing the Plenary Speakers**

#### Sizwe Mabizela (South Africa) - non PME speaker



Sizwe Mabizela is a mathematician and Vice-Chancellor of Rhodes University. He previously served as Deputy Vice-Chancellor: Academic and Student Affairs and senior lecturer at the University of Cape Town in mathematics and applied mathematics.

He obtained his MSc and BSc Hons cum laude in mathematics at the University of Fort Hare, where he was the recipient of the

Abe Bailey Travel scholarship and the CSIR postgraduate scholarship.

In 1991 he received his PhD in mathematics at the Pennsylvania State University US where he was the recipient of the EOCIIE Overseas Scholarship and the Penn State-UCT Share Fellowship. He is a professional member of many international mathematical societies including the SA, American and Japanese Mathematical Societies, and is a member of the Association of Black Scientists, Engineers & Technologists.

Mabizela is the author of many publications, including Upper Semicontinuity of Parametric Projections, Setvalued Analysis. He is often invited to conduct national and international mathematical conferences and seminars.

Sizwe's talk title: Mathematics and Mathematical Literacy: Gains and losses

#### Peter Liljedahl (Canada)

First PME: PME 25

PMEs attended: 14

Dr. Peter Liljedahl is a Professor of Mathematics Education in the Faculty of Education and an associate member in the Department of Mathematics at Simon Fraser University in Vancouver, Canada.



Dr. Liljedahl is the current president of the Canadian Mathematics Education Study Group (CMESG) and International Group for the Psychology of Mathematics Education (PME). He serves on the editorial boards of ESM, JMTE, MTL, FMEJ, MERJ, and CJSMTE and is a senior editor of IJSME. He has authored or co-authored 9 books, 26 book chapters, 27 journal articles, and over 50 conference papers. Dr. Liljedahl is also a member of the executive of the British Columbia Mathematics Teachers Association (BCAMT) and former co-editor of their flagship journal, Vector. Dr. Liljedahl is the recent recipinet of the Cmolik Prize for enhancement of public education in BC as well as the Margaret Sinclair memorial award for innovation and excellence in mathematics education.

Dr. Liljedahl is a former high school mathematics teacher who has kept his research interest and activities close to the classroom. His research interests are creativity, insight, and discovery in mathematics teaching and learning; the role of the affective domain on the teaching and learning of mathematics; the professional growth of mathematics teachers; mathematical problem solving; numeracy; and engaging student thinking. He consults regularly with schools, school districts, and ministries of education on issues of teaching and learning, assessment, and numeracy.

**Peter's talk title:** Institutional norms: The assumed, the actual, and the possible

#### Nuria Planas (Spain)

First PME: PME 26 PMEs attended: 11

When I began teaching mathematics in secondary schools of Barcelona, I found many learners who did not speak mathematics in the language of instruction and were unfamiliar with the



local routines. That early experience continues to influence my choices as a mathematics education researcher. I am most concerned with understanding various aspects of multilingual mathematics teaching and learning, and their relationship with issues of equity. To this end, I work with social and political theories of mathematics thinking and learning, but also sociolinguistics and functional linguistics in the attempt to represent the role of language and language diversity in the production of school mathematics.

**Nuria's talk title:** Transition zones in mathematics education research for the development of language as resource



#### Ravi Subramaniam (India)

First PME: PME 28

PMEs attended: 6

K. Subramaniam (Ravi) is Professor and Centre Director of the Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research in Mumbai, India. His main research interests

are the design and organization of core areas of the middle grade

mathematics curriculum such as fractions, proportional thinking, geometric measurement and algebra, and the specialized knowledge that teachers need to teach effectively at this level. His other interests are the integration of out-of-school knowledge and school learning of mathematics, frameworks for analysis of mathematics teaching and the role of visualization in the learning of science. He has contributed to the work of curriculum and textbook committees and to in-service teacher professional development in India.

**Ravi's talk title:** Representational coherence in instruction as a means of enhancing students' access to mathematics

### Introducing the Plenary Panelists

The panel discussion topic this year will be:

What is proven to work (according to international comparative studies) in successful countries should be implemented in other countries

#### Chair: Judit Moschkovich (USA)

First PME: PME 13

PMEs attended: 10

Judit Moschkovich is Professor of mathematics education at the University of California Santa Cruz. Her research uses sociocultural approaches to study mathematical thinking and learning, mathematical discourse, and mathematics



learners who are bilingual and/or learning English. Her work has been published in the Journal for Research in Mathematics Education, Educational Studies in Mathematics, the Journal of Mathematical Behavior, the Journal of the Learning Sciences, and Cognition & Instruction. She served as member on the Consensus Committee "Supporting English Learners in STEM Subjects," National Academies of Sciences, Division of Behavioral and Social Sciences and Education (2016-2019). She was named a 2018 Fellow of the American Educational Research Association (AERA) and received the 2019 Distinguished Scholar Award, Special Interest Group for Research in Mathematics Education (SIG-RME), American Educational Research Association.

#### Mercy Kazima (Malawi)

First PME: PME 29 PMEs attended: 3

Mercy Kazima is Professor of Mathematics Education at the University of Malawi. Her work includes teaching mathematics and mathematics education to both undergraduate and postgraduate students, and supervising PhD and master students'



research projects. Mercy has vast experience in mathematics education research in the areas of mathematical knowledge for teaching, teaching mathematics in multilingual contexts, and mathematics teacher education. She was president of the Southern Africa Association for Research in Mathematics Science and Technology Education (SAARMSTE) and has contributed to research in mathematics education in the region. Mercy is currently leader of two five-year projects namely: Improving quality and capacity of mathematics teacher education in Malawi (2014-2018) and Strengthening numeracy in early years of primary education through professional development of teachers (2017-2021). Both projects are in collaboration with University of Stavanger in Norway, and are supported by the Norwegian agency for capacity building in higher education (NORHED).



#### Hee-jeong Kim (Korea)

First PME: PME 41

PMEs attended: 2

Hee-jeong Kim is an assistant professor of Mathematics Education at Hongik University, Korea. Her current research interests include mathematics teacher change in practice towards developing their



professional visions and improving their teaching practice, and how to support teachers to make such changes. She collaborates with

several international scholars to study on several core principles and features on mathematics classrooms internationally. She received her PhD at UC Berkeley.

#### Yeping Li (USA)

First PME: PME 25

PMEs attended: 7

Dr. Yeping Li is a full professor at the Department of Teaching, Learning, and Culture at Texas A&M University, USA. His research interests include mathematics education,

STEM education, and teacher education. He is the founding editorin-chief of the International Journal of STEM Education and Journal for STEM Education Research, both published by Springer, and is also the editor of several monograph series including, Advances in STEM Education also published by Springer. In addition to publishing over 10 books, he has published more than 100 articles in topic areas that he is interested in. He has also organized and chaired many group sessions at various national and international professional conferences, such as ICME-10 (2004), ICME-11 (2008), ICME-12 (2012), and AERA. He received his PhD in Cognitive Studies in Education from the University of Pittsburgh, USA.

#### Robyn Jorgensen (Australia)

First PME: long ago

PMEs attended: approx 10

Robyn Jorgensen is Emeritus Professor at the University of Canberra. She has worked in the area of equity and mathematics since commencing her doctoral studies - a career that has spanned nearly 3 decades. Her



work attempts to understand the subtle (and not so subtle) practices through which inequities are constructed particularly for low SES, rural and/or Indigenous learners. More recently her work has centred on the practices in remote Indigenous contexts that have brought about success for remote Indigenous learners. She is the recipient of 15 Australian Research Councils grants, is widely published, and has been editor of the Mathematics Education Research Journal. She has also worked with the swim industry and completed a research projects that have had significant international impact on early years swimming; have been translated into a number of languages and was inducted into the Swim Schools Hall of Fame for her scientific contribution to the swim industry. She has served on numerous panels and boards advising government and industry. She recently retired from the University of Canberra but continues to work in the capacity as a consultant with UC and private practice.

### Annual General Meeting (AGM)

#### About the AGM

As noted in the Constitution, the Annual General Meeting is held each year during the Annual Conference. All PME members may attend and vote, both for candidates for the International Committee IC and for issues that are on the agenda. Detailed Information on how to bring a proposal to the AGM is given under <u>"Path to AGM" on the PME website</u>. The initial steps are also outlined below.

#### Agenda of the AGM 2019

- 1. Opening of the meeting
- 2. Adoption of the agenda

- 3. Adoption of the minutes of the 2018 AGM held in Umeå
- 4. President's report
- 5. Elections: New members of the International Committee
- 6. Portfolio Group reports
- 7. Treasurer's report
- 8. Proposal: edits to the constitution and bye-laws
- 9. Proposals: rule of 4
- 10. Other items
- 11. Brief report on future conferences





## PME International Committee Reports Policy Portfolio Group (PPG)

#### Submitted by Lovisa Sumpter (Sweden)

The Policy Portfolio Group (PPG) is currently composed by Richard Barwell (Canada), Anika Dreher (Germany), Mellony Graven (South Africa), and led by Lovisa Sumpter (Sweden).

The main work for PPG is about internal and external affairs of PME such as policy and membership. During the past months, the PPG has focused on both shortterm and long-term goals. A primary task for the PPG is to document the different policies that have been decided upon at the AGM or in IC meetings. This is an ongoing task.

One of our tasks this year is constructing a system of "housekeeping" PME policies so that they are not depended on the memory of one person only. This system is intended to make communication smoother between the administrative manager and the PPG.

Another task has been working on a policy that would improve communication with the reviewers. This year, we have put, together

with Mellony and the IPC of PME43, a temporary system in place that is intended to test out alternative reviewing policies. In this system, reviewers were given an option to mark a paper as "other" (thus not empirical or theoretical paper) and thereafter provide feedback using an open text-box rather than closed rubrics. During the next months, we intend to test how this system played out in the reviews of PME43 so as to come up with recommendations for permanent changes in reviewing policies.

Finally, an important task for our group this year is developing policies regarding research ethics. This task has become necessary due to the emphasis on research ethics that has become a high priority in several counties. In addition, the main indexing databases (such as Scopus) require an ethics statement. Therefore, if PME will want to index the proceedings in these databases, an ethics statement will need to be developed. We will report on this issue, as well as other ongoing tasks, during the PME43 AGM meeting.

### Vice President Portfolio Group (VPPG)

#### Submitted by David Gómez (Chile)

The Vice President Portfolio Group (VPPG) oversees the scientific matters of PME, and it is currently composed by Maria Mellone (Italy), Miguel Ribeiro (Brazil), and Maitree Inprasitha (Thailand), and led by David M. Gómez (Chile).

Since the last Annual General Meeting at Umeå, we have worked in renovating two aspects of the PME scientific landscape.

First, PME has traditionally applied in its conferences the so-called "rule of four". This rule states that no person's name can appear in the PME proceedings as presenting more than four contributions. This rule was motivated by a desire to provide equitable exposure to all PME members in the program. However, it has led more than once to situations in which a researcher is asked to remove their name from accepted contributions they have co-authored, a practice that recently has been called into question by several ethical guidelines on authorship. In the AGM at PME 42, the IC communicated that the rule of four would be temporarily suspended while the VPPG analyzes it and proposes a modification that aligns it with international best practices. A draft is currently under discussion in the IC, and we

can expect a proposal to be shared with the PME community via the Path to AGM forum for discussion and possibly a vote in Pretoria.

Second, in the context of the call for papers for PME 43 we have piloted a new, format-free reviewing procedure for research reports. This change is part of the continuous process of improvement of the PME processes that the IC explores, aiming to give an opportunity to papers that do

not necessarily fit into the standard PME formats (empirical studies and theoretical/philosophical essays) or to papers whose contribution might not be judged fairly by the traditional PME reviewing criteria. It is important to note that the scientific quality of accepted PME papers is guaranteed by the fact that each conference's International Program Committee (IPC) always checks all reviews and asks for additional ones if the original reviews are not sufficiently informative.

These issues are highly important for the future of PME, and we invite you to keep tuned and participate in the incoming developments and discussions.





## Secretary Portfolio Group (SPG)

#### Submitted by Einat Heyd-Metzuyanim (Israel)

The Secretary Portfolio Group (SPG) is currently composed by Judy Anderson (Australia), Man Ching Esther Chan (Australia), Berinderjeet Kaur (Singapore), and led by Einat Heyd-Metzuyanim (Israel).

**Responsibilities**: The Secretary Portfolio Group (SPG) is responsible for facilitating communication with PME members, including future conference organizers, for communicating with external organizations such as the ICMI, and for keeping records of all PME activities. Specifically, since November 2018, we have been busy with the following issues.

Igpme.org website. In December 2018, we received notice from our current website development company (Smeedjizer), that they would no longer be able to provide maintenance services to our website. Following this announcement, we looked for alternative solutions. Our main concern was to find a website solution that would enable IGPME as much flexibility as possible concerning adding information and maintenance. This, since the current website was quite expensive and not easily portable. We have opted for a WordPress solution, which is currently developed by an IT person working for Peter Liljedahl at Simon Fraser University. This is a relatively low-cost solution since the IT person is currently not charging us, although in the near future the workload may necessitate additional fees. However, it also means that the work on the development of the new website is taking perhaps longer than would take with a full fee solution.

> The implications of moving to WordPress are that the current Fora cannot be transferred to the new website. The new website is planned to have the same structure of fora, only the old messages will be gone. We are currently working on backing up the important information existing in the path to AGM forum.

We hope that the transfer to a new website will provide us a good opportunity to freshen up the website, its design and accessibility. In particular, most of the content on the new website will not be password protected. Also, the proceedings of PME will be freely available for all and downloadable through the website. This, in line with the new ICMI guidelines that encourage the free dissemination of products of scholarly work.

**Communicating with other organizations**. The SPG is responsible for communication with other organizations. During this period, we have been asked by MERGA to announce their conference, which will take place this year "back to back" with PME43. An announcement on this conference has been placed in the Announcement Forum. Also, we have provided our yearly report to ICMI, in which we give an overview of the activities of IGPME during the last year.

### Treasurer Portfolio Group (TPG)

#### Submitted by Laurinda Brown (United Kingdom)

The Treasurer Portfolio Group (TPG) is currently composed by Yiming Cao (China), Kai Lin Yang (Taiwan), Anthony Essien (South Africa), and led by Laurinda Brown (UK).

The Treasurer Portfolio Group responsibilities include: managing the financial transactions of IGPME (e.g., making payments and deposits, responding to financial gueries, issuing confirmations), maintaining records, advising on fiscal questions from present and future conference organisers and preparing annual financial reports.

Our account is with Barclays Bank in the UK and we have moved to electronic banking with payments being able to be made by myself online. We now have an internal process where payments are authorised through an invoice raised before payment, signed by Peter Liljedahl,

President and Birgit Griese, Administrative Manager. We now also have a Mailbox address for IGPME that eases the setting up of contracts.

In addition to managing the regular financial transactions of IGPME, the TPG has been managing the proposals for regional conferences and special projects initiated under the surplus policy. Decisions about grants are made by the whole IC, in the case of grants up to 5000 EUR, or by the whole membership at the AGM, for grants above 5000 EUR.

The latest call for proposals was opened on 1st November, 2018, with bids being due December 15th, 2018. This year there were no larger grants so decisions were made by the IC. However, the TPG conducts the initial evaluation of proposals to determine whether the fit of the proposals with the guidelines for possible approval. The following 5 bids (out of 10) were successful:







Early Researchers Day and African involvement at PME 43, main proposer, Johann Engelbrecht, South Africa

The interdisciplinary future of a mathematics curriculum: Psychology of Mathematics Education in Uganda, main proposer, Betty K Nannyonga, Uganda

Connecting mathematics and STEM education: Opportunities and challenges in curriculum, instruction and teacher education, main proposers, Yeping Li, USA and Judy Anderson, Australia

University teachers grow new teaching insights from common responses

of their students, main proposers, Igor' Kontorovich, New Zealand and Ian Jones, UK

Complex mathematics education: Teacher workshop on the 100th anniversary of Tamás Varga's birth, main proposer, Csaba Csíkos, Hungary.

In all cases the budget for each Special Project was reworked to give more detail. We look forward to reports in future newsletters of these activities. Although this is the final year of the initial three-year cycle of Special Projects and Regional Conferences, we will report at the AGM on possibilities for continuing to spend any surplus in future years.

## Introduction New PME Administrative Manager

#### Preface

After a commitment of seven years, Bettina Roesken-Winter stepped down as PME Administrative Manager (AM) in Umeå at PME42. We thank her very much for her tireless work for the community!

A selection process involving past and current IC members resulted in the appointment of Birgit Griese from Germany as PME's new AM, who is giving some details about herself in this article.

#### Submitted by Birgit Griese (Germany)

I am delighted to be the new PME AM – although "new" does not really apply anymore, as I have filled this position for many months now. I like the PME community for its internationality, its diversity, and its culture of debate and discussion with a view for the greater aims of exploring the mechanisms of the psychological aspects of mathematics education. The position of AM means I can delve even deeper into it. I remember my first PME conference in Ankara, Turkey, in 2011 very well, and I still see many of the people from that time at the annual conferences.

What are an AM's duties? I am the face behind the info@igpme.org

mail address, and take care to answer all requests carefully and in the spirit of the community. I also write the minutes for most of the official meetings (of the International Committee before, during and after conferences, and of the executive meetings that take place every month via Skype), take track of Skemp Fund issues, and in general look after those PME issues that are not covered by the portfolio groups. The relevant difference between myself and the IC members is that they were elected by the PME members

and therefore make decisions concerning PME issues, whereas I support them in carrying out these decisions but do not influence the decision process as such. I find this a very rewarding occupation.

My professional background is rooted in having taught at secondary schools in Germany for 20 years, before attempting and completing my PhD in mathematics education. Now I am working in teacher education and teacher professional development at Paderborn University in Germany. The involvement in research and the contact with researchers and teacher educators from around the globe has considerably broadened my view on the teaching and learning of mathematics, and I am looking forward to what else will cross my path in the years to come.





## **PME Regional Conferences**

### PME & Yandex Russian conference, Moscow, Russia

#### Submitted by Anna Shvarts (Russia)

The second conference in the row of PME regional conferences was organized in Moscow, Russia on 18-21st of March 2019. PME & Yandex Russian conference theme was Technology and Psychology for Mathematics education, and the participants primary focused on the psychological aspects of mathematical abilities and mathematical processing, as well as on the efficiency and particularities of the technologically supported learning. However, there was a range of presentations about teacher education, teaching methods for

diverse students, educational issues from a neuroscience perspective, and other aspects of mathematics education.

There were 55 Russian participants from 16 Russian regions and 32 international and former-Russian participants from 15 countries, including India, China, and Nepal, taking part in the conference. The conference spanned over four days and for most of the time it was run in 2 parallel sessions. Altogether, there were 17 Research Reports and 23 Oral Communication presentations. The poster session had 21 presentations. The detailed program can be found on the conference website, while the proceedings will be published by the end of the year. All presentations were video recorded and they will be available soon.

Norma Presmeg, Steve Lerman, Sergey Pozdnyakov, Marie Arsalidou, and Dor Abrahamson joined the conference as the invited speakers. Norma Presmeg introduced the main historical stage and the key methodological aspects of mathematics education research. Steve Lerman gave a lecture on Vygotsky's ideas and, together with Norma Presmeg's consideration of Kruteskii heritage, contributed to the bridging between an international field and Russian tradition in psychology. Sergey Pozdnyakov and Dor Abrahamson focused on the contribution that technology might have in teaching productive thinking and embodied ground of mathematics understanding.

The conference started with a plenary discussion between the Russian officials, namely Isak Froumin, Yury Zinchenko, Igor Remorenko, and Ivan Yaschenko, Yandex representative Natalia Chebotar, and Markku Hannula on the place of mathematics education research in the current societal and economic situation. The second plenary was organized

as a debate between two extreme positions concerning the future transformation of mathematics education under the pressure of technology: a radical change versus absence of specific transformation. The first position was defended by Aleksey Semenov and Roza Leikin and the second position was defended by Vladimir Dubrovsky and Angelika Bikner-Ahsbahs. At the last conference session, we discussed the development of Russian mathematics education research community under the lens of multidisciplinarity and orientation towards educational practice of our research field. As future development, we are hoping to publish a special issue in the Russian journal Voprosy Obrazovania (Educational Studies), and there is an initiative to conduct a follow-up conference in 2 years in Saint Petersburg.

Yandex, the biggest Russian IT company, co-funded and hosted the conference, thus creating a paradigmatic case of collaboration between academic and commercial organizations. Apart from the participants, about 200 listeners including the researchers, teachers, students, and e-learning designers attended the conference. I am particularly grateful to the Program committee, namely Angelika Bikner-Ahsbahs, Roza Leikin, Keith Jones, Elena Kardanova, and Sergey Polikarpov and to 56 PME reviewers, who made the high-level of conference presentations possible.









## **Free Contribution**

Citation for the 2019 Award for Interdisciplinary Excellence in Mathematics Education to Dr. Abraham Arcavi

#### Submitted by Yeping Li (USA)

It is with great pleasure that the Award Committee announces that the 2019 Award for Interdisciplinary Excellence in Mathematics Education is given to Dr. Abraham Arcavi, Weizmann Institute of Science, Israel, in recognition of his distinguished and sustained contributions to mathematics education. Employing multiple perspectives and voices in addressing issues in mathematics education both scholarly and

administratively, Arcavi has promoted the development of mathematics education as an interdisciplinary field.

Arcavi's scholarly work has been predominantly interdisciplinary, linking mathematics, learning sciences, and practice on the topics of algebra instruction, visualization in the learning of mathematics, and teachers' professional development. For example, he put forth the innovative construct of symbol-sense in 1994, as the intuitive feel of when and how to call on algebraic symbols in the process of solving a problem, how to "read through" symbols and how to assign meanings to algebraic manipulations. The notion of symbol sense is now used broadly in many publications devoted to teaching and learning school algebra and entered many courses for mathematics teacher preparation. His recent project with others, VIDEO-LM (Viewing, Investigating, and Discussing Environments Of Learning Mathematics), has developed a six-lensed theoretical framework, which draws upon mathematical, cognitive, and social aspects of mathematics instruction. Teachers view the videos through these six lenses as a means of entering the shoes of the filmed teachers, in so doing deeply reflecting of their own practice. Evaluation studies suggest that VIDEO-LM workshops change participants' subsequent teaching practices. Arcavi's work reflects a remarkable ability to identify and illuminate phenomena of central importance to the needs and agendas of both the research and practice communities.

Arcavi's immense international scholarly activities and professional service have been a significant aspect of his contributions to the mathematics education community. From 1983 to 2019, he has given a total of 73 plenary addresses, workshops and invited lectures in 30 countries and served as a consultant for mathematics education programs in six countries. Among his numerous professional services, Arcavi was elected to serve as Secretary General of the International Commission on Mathematical Instruction (ICMI), 2013-16, and reelected for this position 2017-20. He also served on a large number of commissions, committees, and study groups in Israel and internationally, including the IPC of the 10th, 13th, and 14th ICME, of ICMI Studies 22, 23, 24 and 25, and of the 4th and 5th CERME; Topic Study Group and Working Group at ICME and CERME; Israeli Academy of Sciences; The Israeli National Authority for Research and Evaluation; Israeli Ministry of Education. Arcavi has worked productively with mathematics educators and mathematicians to demonstrate that collaboration between these two communities is essential both for improving the educational program and for research itself.

Arcavi received his doctorate in 1985 from Weizmann Institute of Science (WIS), Israel. After postdoctoral fellowships at Ball State University in 1985-86 and at the University of California at Berkeley in 1986-88, he joined WIS, where he has been a scientist, senior scientist, associate professor, and then full professor since 2010. At WIS, he served as Head of the

Mathematics Group at Department of Science Teaching (DSC), Chair of the Board of Studies of DSC, and then Head of DSC in 2001-05, and is currently the Incumbent Lester B. Pearson Professorial Chair. During 2009-10, he also belonged to Hebrew University of Jerusalem, Israel, as a full professor. His past recognitions include Friedenberg Foundation Prize awarded by the Israel Science Foundation, and Visiting Researcher Fellowship from the University of Tsukuba, Japan.

The award was established in 2015 at Texas A&M University, U.S.A. For further information about this award, its unique features, and its past recipients from 2015 to 2018, please check

https://stemeducationjournal.springeropen.com/articles/10.1186/ s40594-019-0162-7



## PME Announcements Forum on the PME Website

The PME website (www.igpme.org) is the main portal for all communication and information regarding PME. A useful feature for PME members is the Announcements Forum as this is the place to post items of information for PME members such as job announcements, conference announcements, and so on. To access the Announcements Forum, please log in to the PME website using your 'conftool' login. You can then find the forum in the 'Communication' section. By clicking on 'subscribe' in the forum, you then receive an email each time an announcement is posted in the forum.

Since the previous PME Newsletter, the following items have been posted on the PME Announcements Forum:

- 1. 21 years of the journal RME
- 2. IJRUME Special Issue Call for Proposals
- 3. Open Call for Special Issue

- 4. MERGA Conference June 30-July 4, 2019
- 5. PhD positions REASON program, LMU Munich Germany
- 6. Journal SI: Early Childhood Mathematics Education
- 7. Job announcement: Postdoctoral Fellowship
- 8. Broadening research on problem solving
- 9. PME Call for Regional Conferences
- 10. PME Call for Special Projects
- 11. MEI 7 Conf on Research in Maths Ed, Dublin 2019
- 12. The 1st International Commognitive Workshop
- 13. Vacancy at University of Agder, South Norway

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Annound	cemen	t Forum		
0 Replies	٦	21 years of the journal RME Topic started, 29 Apr 2019 18:29, by Keith Jones	9 Views	Last Post by Keith Jones 29 Apr 2019 18:29
0 Replies	1	IJRUME Special Issue Call for Proposals Topic started, 17 Apr 2019 22:27, by Super User	10 Views	Last Post by Super User 17 Apr 2019 22:27
0 Replies	,	Open Call for Special Issue Topic started, 16 Apr 2019 20:42, by Birgit Griese	13 Views	Last Post by Birgit Griese 16 Apr 2019 20:42
0 Replies	٦	MERGA Conference - June 30-July 4, 2019 Topic started, 08 Apr 2019 05:26, by Einat Heyd-Metzuyanim	2 Views	Last Post by Einat Heyd- Metzuyanim 08 Apr 2019 05:26
0 Replies	٢	PhD positions REASON program, LMU Munich Germany Topic started, 06 Mar 2019 12:48, by Stefan Ufer	3 Views	Last Post by Stefan Ufer 06 Mar 2019 12:48
		Journal St: Early Childhood Mathematics		