



The 14th International Congress on Mathematical Education

THE SECOND ANNOUNCEMENT

(May 30th, 2019)

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Welcome to ICME-14

As the Congress chair of ICME-14, I cordially invite you to participate in the Congress to be held in Shanghai from July 12th to 19th, 2020.

As an ancient country with a 5,000-year history of civilization, China boasts a brilliant tradition of mathematics and mathematics education. In recent 100 years, the introduction of western mathematics and mathematics education and their integration with traditional Chinese culture and education have fostered new achievements in mathematics education of modern China. Shanghai, a well-known metropolis in the Far East, is a powerful engine for the economic and social development of China and a window of China's opening-up policy. In addition, it is also the cradle of modern Chinese mathematics and mathematics education and the birthplace of the Chinese Mathematical Society. East China Normal University is one of the top universities in China and takes the lead in the development of teacher education in China. The mathematics education team of ECNU has a great influence both at home and abroad. Taking consideration of all these facts, I believe that the ICME-14 hosted in Shanghai will be a grand academic Congress and a great surprise for the colleagues around the world.

I am very much looking forward to seeing you at ICME-14 in Shanghai. I am sure your participation will contribute greatly to the success of the ICME-14.

Jianpan Wang

The Congress Chair
The 14th International Congress on Mathematical Education

1. About ICME

A major responsibility of ICMI is to plan for the quadrennial International Congress on Mathematical Education (ICME), held under the auspices of ICMI. This entails, for the ICMI Executive Committee (EC), choosing from among host country bids, appointing an International Programme Committee (IPC) to form the scientific programme and select presenters, and overseeing progress of the Congress preparations. The IPC works independently from the Commission. However, in order to ensure continuity with general ICMI principles, the ICMI EC normally has representatives on the IPC — in particular the President and Secretary-General of the Commission are ex officio members of the IPC —, one of whom acts as a liaison officer with the Local Organizing Committee of the Congress.

The practical and financial organization of an ICME is the independent responsibility of a Local Organizing Committee, again under the observation of general ICMI guidelines. In other words, while it is not ICMI as such which is organizing an ICME, neither in terms of the scientific nor of the practical aspects of the Congress, all ICMEs are held under the Commission's auspices and principles.

Starting with ICME-8, a special ICME Solidarity Fund, built by setting aside some 10% of the total amount collected through the registration fees, has provided grants in order to support and increase participation from less affluent regions of the world to the ICME Congresses.

Launched in 1969 at the initiative of ICMI President Hans Freudenthal (1905-1990), the ICMEs have been held since then in leap years.

The years and sites of past ICMEs are:

| | | |
|---------|------|----------------------|
| ICME-1 | 1969 | Lyon (France) |
| ICME-2 | 1972 | Exeter (UK) |
| ICME-3 | 1976 | Karlsruhe (Germany) |
| ICME-4 | 1980 | Berkeley (USA) |
| ICME-5 | 1984 | Adelaide (Australia) |
| ICME-6 | 1988 | Budapest (Hungary) |
| ICME-7 | 1992 | Québec (Canada) |
| ICME-8 | 1996 | Sevilla (Spain) |
| ICME-9 | 2000 | Tokyo (Japan) |
| ICME-10 | 2004 | Copenhagen (Denmark) |
| ICME-11 | 2008 | Monterrey (México) |
| ICME-12 | 2012 | Seoul (Korea) |
| ICME-13 | 2016 | Hamburg(Germany) |

2. Organizing Committees of ICME-14

International Programme Committee

Chair:

- Jianpan WANG (ICME-14 Congress Chair, China)

Members:

- Jill ADLER (ex-officio member, ICMI President, South Africa)
- Abraham ARCAVI (ex-officio member, ICMI Secretary General, Israel)
- Jiansheng BAO (ICME-14 LOC Co-chair, China)
- Daniel CHAZAN (USA)
- Faïza CHELLOUGUI (Tunisia)
- Marta CIVIL (USA)
- Alicia DICKENSTEIN (Former Vice-President of IMU, Argentina)
- Yufeng GUO (China)
- Anjum HALAI (Pakistan)
- Gabriele KAISER (ICME-13 IPC Chair, Germany)
- Caroline LAJOIE (Canada)
- Celi Espasandin LOPES (Brazil)
- Thomas LOWRIE (Australia)
- Maria Alessandra MARIOTTI (Italy)
- Takeshi MIYAKAWA (Japan)
- Frode RØNNING (Norway)
- Ewa SWOBODA (Poland)
- Luc TROUCHE (France)
- Catherine VISTRO-YU (Philippines)
- Binyan XU (ICME-14 LOC Co-chair, China)
- Ivan YASHCHENKO (Russia)

Local Organizing Committee

Co-Chairs:

- Binyan XU (East China Normal University)
- Jiansheng BAO (East China Normal University)

Secretary:

- Yingkang WU (East China Normal University)

Members:

- Yiming CAO (Beijing Normal University)
- Jun CHAI (East China Normal University)
- Yifei CHEN (Chinese Mathematical Society)
- Yuelan CHEN (East China Normal University)
- Jing CHENG (East China Normal University)
- Lianghuo FAN (East China Normal University)
- Zhigang FENG (Shanghai High School)
- Yijie HE (East China Normal University)
- Hua HUANG (Teaching Research Department, Shanghai Municipal Education Commission)
- Qiping KONG (East China Normal University)
- Honghong LI (East China Normal University)
- Di LIU (East China Normal University)
- Xiaoli LU (East China Normal University)
- Ming NI (East China Normal University Press)
- Naiqing SONG (Southwest University)
- Shengli TAN (East China Normal University)
- Jialu WANG (East China Normal University)
- Xiaoqin WANG (East China Normal University)
- Bin XIONG (East China Normal University)
- Yijun YAO (Shanghai Mathematical Society)
- Jianyue ZHANG (People's Education Press)
- Jinyu ZHANG (East China Normal University)
- Yan ZHU (East China Normal University)
- Jiachen ZOU (East China Normal University)

3. Congress Venue for ICME-14

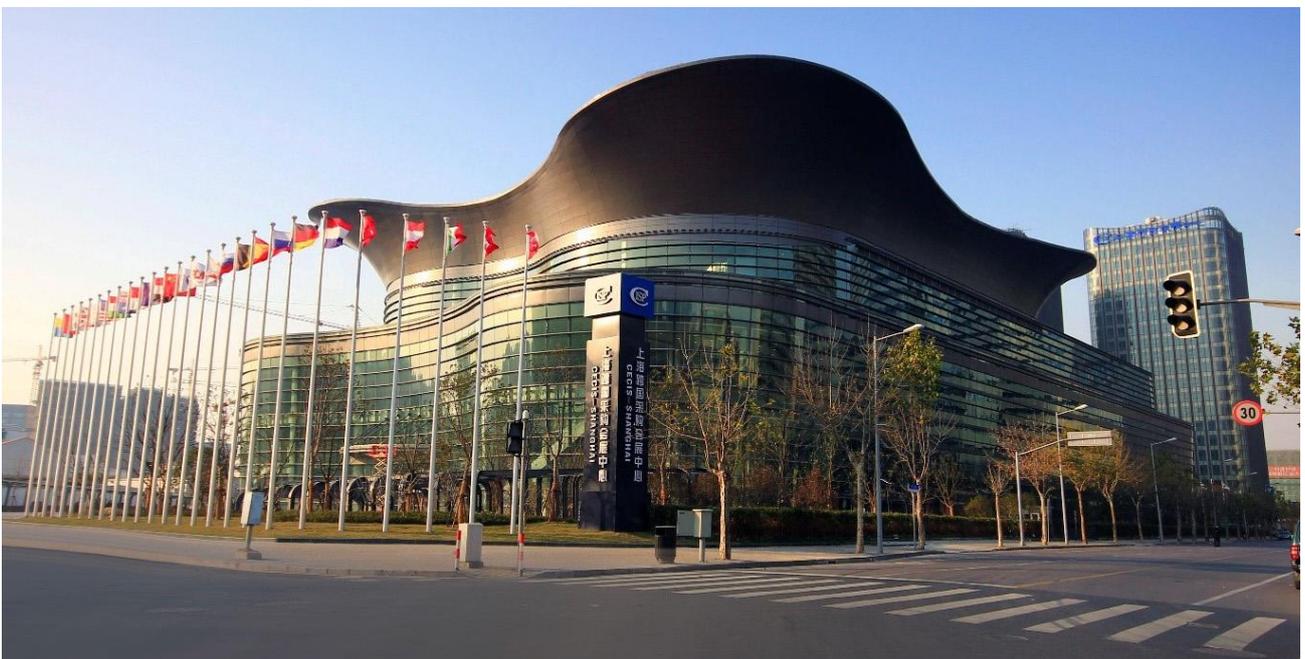
All of the Congress activities will take place at Shanghai Convention & Exhibition Center of International Sourcing (SCECIS) located in Changfeng Ecological & Business Park in Putuo District, Shanghai.

Address:

No. 35, Zhongjiang Road, Putuo District, Shanghai 200062, or
No. 2739, Guangfu Road West, Putuo District, Shanghai 200062

Tel: (+86 21) 60290070 or (+86 21) 80109081

Web: <https://en.shcec.com.cn>



4. Official Language for ICME-14

The official language of ICME-14 is English. If, in some special cases, the use of Chinese language is essential or unavoidable, (simultaneous) interpretations or/and the English version of the main materials will be provided.

5. Official Website and Registration System for ICME-14

The official website for ICME-14 is

www.icme14.org

You may visit the website for further and updated information about the upcoming Congress.

Registrations and paper/poster submissions are conducted through the registration system on the website

reg.icme14.org

The registration system is also accessible by clicking “LOGIN” button on the official website.

Please do not proceed to register until you carefully read the information in Section 9 of this file or the instruction on the online registration page.

6. Timetable for ICME-14

The Congress is to be held from July 12th to 19th 2020 in Shanghai, China.

| Time | Sunday July 12 th | Monday July 13 th | Tuesday July 14 th | Wednesday July 15 th | Thursday July 16 th | Friday July 17 th | Saturday July 18 th | Sunday July 19 th | Time | |
|-------------|---------------------------------|---------------------------------|----------------------------------|------------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------|-------------|
| 09:00-09:30 | REGISTRATION | | Plenary lecture | Plenary lecture | EXCURSION | Plenary lecture | Plenary lecture | Plenary panel | 09:00-09:30 | |
| 09:30-10:00 | | Opening ceremony | Tea break | Tea break | | Tea break | Tea break | Tea break | Plenary panel | 09:30-10:00 |
| 10:00-10:30 | | | | Invited lectures | | Invited lectures | Invited lectures | Invited lectures | Tea break | 10:00-10:30 |
| 10:30-11:00 | | | Lunch | Lunch | | Lunch | Lunch | Lunch | Closing ceremony | 10:30-11:00 |
| 11:00-11:30 | | | | | | | | | Farewell gathering | 11:00-11:30 |
| 11:30-12:00 | | | | | | | | | | 11:30-12:00 |
| 12:00-13:30 | | | | | | | | | | 12:00-12:30 |
| 12:30-13:00 | | | | | | | | | | 12:30-13:00 |
| 13:00-13:30 | | | | | | | | | | 13:00-13:30 |
| 13:30-14:00 | | | | | | | | | | 13:30-14:00 |
| 14:00-14:30 | | | | | | | | | | 14:00-14:30 |
| 14:30-14:45 | | | | | | | | | | 14:30-14:45 |
| 14:45-15:15 | | | | | | | | | | 14:45-15:15 |
| 15:15-15:45 | | | | | | | | | | 15:15-15:45 |
| 15:45-16:15 | | | | | | | | | | 15:45-16:15 |
| 16:15-16:45 | | | | | | | | | | 16:15-16:45 |
| 16:45-17:15 | | | | | | | | | | 16:45-17:15 |
| 17:15-17:45 | | | | | | | | | | 17:15-17:45 |
| 17:45-18:00 | | | | | | | | | | 17:45-18:00 |
| 18:00-18:30 | | | | | | | | | | 18:00-18:30 |
| 18:30-19:00 | | | | | | | | 18:30-19:00 | | |
| 19:00-19:30 | Welcome reception | | | | | | | | 19:00-19:30 | |
| 19:30-20:00 | | | | | | | | | 19:30-20:00 | |
| 20:00-20:30 | | | | | | | | | 20:00-20:30 | |

Remark: Class A for TSGs with odd numbers, e.g. TSG 1, TSG 3; Class B for TSGs with even numbers, e.g. TSG 2, TSG 4.

7. Scientific Programme of ICME-14

The International Programme Committee has developed a scientific programme containing various activities as in previous Congresses. The plenary lectures, plenary panel discussions, and survey teams will give an overview of the state-of-the-art within mathematics education worldwide, and provide the participants with insights into the status quo and future trends in mathematics education. Moreover, the programme allows for meetings of ICMI Study groups, Topic Study Groups and other small group activities to support discussion of major themes in mathematics education. This also provides participants opportunities to actively participate through their own contributions.

7.1. Plenary Activities

The plenary activities are those components of the scientific programme that address all Congress participants at the same time.

For ICME-14 there will be two types of plenary activities, including 4 plenary lectures and 2 plenary panel discussions. After the lectures, there will be an opportunity for participants to meet and discuss with the speakers.

The information of the speakers are as follows:

Plenary Lecture 1: Lingyuan GU (China)

Plenary Lecture 2: Robyn JORGENSEN (Australia)

Plenary Lecture 3: Mercy KAZIMA (Malawi)

Plenary Lecture 4: Cédric VILLANI (France)

Plenary Panel 1: Actors for mathematics teacher education: Joint actions versus conflicts

Chair: Angel RUIZ (Costa Rica)

Team members: Frédéric GOURDEAU (Canada), Despina POTARI (Greece),
Chunxia QI (China), Mikhail SLUCH (Russia)

Plenary Panel 2: Mathematics in global education reform: Conversations that need to happen

Chair: Mellony GRAVEN (South Africa)

Team members: Marcelo BORBA (Brazil), Eva JABLONKA (Germany),
Danny MARTIN (USA), Ravi SUBRAMANIAM (India)

7.2. Survey Teams

Continuing with practice of previous ICMEs, four Survey Teams (ST) have been set up. The organization of these teams is intended to strengthen the emphasis on new developments and progress in the area of each theme or issue since the last three or four ICMEs. Each Survey Team will work all the way till the opening of ICME-14 to survey the state-of-the-art with respect to a certain theme or issue, with particular concern in identifying and characterizing important new knowledge, recent developments, new perspectives, and emergent issues.

The survey teams will have 90 minutes to present their work at ICME-14 in a kind of sub-plenary format and will present their work in parallel.

Survey Team 1: Research on university mathematics education

Chair: Chris RASMUSSEN (USA)

Team members: Marianna BOSCH (Spain), Reinhard HOCHMUTH (Germany),
Oh Nam KWON (Korea), Birgit LOCH (Australia),
Mike THOMAS (New Zealand), María TRIGUEROS (Mexico)

IPC Liaison person: Frode RØNNING (Norway)

Survey Team 2: Early childhood mathematics education (up to age 7)

Chair: Elia ILIADA (Cyprus)

Team members: Ann ANDERSON (Canada), Anna BACCAGLINI-FRANK (Italy),
Nosisi FEZA (South Africa), Esther LEVENSON (Israel),
Nanae MATSUO (Japan)

IPC Liaison person: Anjum HALAI (Pakistan)

Survey Team 3: Teachers' collective work as a regular school practice for teacher development

Chair: Birgit PEPIN (Netherlands)

Team members: Jehad ALSHWAikh (Palestine), Bill ATWEH (Philippine/Australia),
Hiroyuki NINOMIYA (Japan), Gérard SENSEVY (France),
Yudong YANG (China)

IPC Liaison person: Jill ADLER (South Africa)

Survey Team 4: The teaching and learning of mathematical modelling and interdisciplinary mathematics educations

Chair: Gloria STILLMAN (Australia)

Team members: Jussara de Loiola ARAÚJO (Brazil), Morten BLOMHØJ (Denmark),
Angeles DOMINGUEZ (Mexico), Toshikazu IKEDA (Japan),
Stanislaw SCHUKAJLOW (Germany)

IPC Liaison person: Gabriele KAISER (Germany)

7.3. Invited Lectures

The invited lectures will be given by prominent researchers in mathematics education from different parts of the world who are invited by the International Programme Committee. The lectures will cover a wide spectrum of topics, themes and issues, and will be presented in parallel. The duration of the session is 60 minutes with 45 minutes of lecture time plus 15 minutes of discussion.

The list below contains the names and countries/regions of persons who have already accepted the invitations. The web version of the list will be updated regularly and will eventually include final titles and abstracts.

| | |
|-----------------------------------|---|
| Dor ABRAHAMSON (USA) | Di LIU (China) |
| Takuya BABA (Japan) | Po-Hung LIU (Chinese Taipei) |
| Nicolas BALACHEFF (France) | Rachel LUI (Hong Kong SAR, China) |
| Jonei Cerqueira BARBOSA (Brazil) | Fernand MALONGA MOUNGABIO (Congo-Brazzaville) |
| Richard BARWELL (Canada) | Mirko MARACCI (Italy) |
| Ewa BERGQVIST (Sweden) | Salomé MARTÍNEZ (Chile) |
| Robert Q. BERRY III (USA) | Vilma MESA (USA) |
| Kim BESWICK (Australia) | Marguerite Khakasa MIHESO-O'CONNOR (Kenya) |
| Jill BROWN (Australia) | Judit MOSCHKOVICH (USA) |
| Yiming CAO (China) | Reidar MOSVOLD (Norway) |
| Cheng Meng CHEW (Malaysia) | Chi Thanh NGUYEN (Vietnam) |
| Anna CHRONAKI (Greece) | Edyta NOWIŃSKA (Poland) |
| Alison CLARK-WILSON (UK) | Núria PLANAS (Spain) |
| Sandra CRESPO (USA) | Susanne PREDIGER (Germany) |
| Pietro DI MARTINO (Italy) | Jerome PROULX (Canada) |
| Jaguthsing DINDYAL (Singapore) | Ana Isabel SACRISTÁN (Mexico) |
| Ann Ryu EDWARDS (USA) | Veronica SARUNGI (Tanzania) |
| Lianghuo FAN (China) | Björn SCHWARZ (Germany) |
| Ahmad FAUZAN (Indonesia) | Baruch B. SCHWARZ (Israel) |
| Patricio FELMER (Chile) | Dafon Aimé SEGLA (Benin) |
| Claudia Regina FLORES (Brazil) | Ahmed SEMRI (Algeria) |
| Megan FRANKE (USA) | Hyun Yong SHIN (Korea) |
| Maisie GHOLSON (USA) | Moustapha SOKHNA (Senegal) |
| Keiko HINO (Japan) | Natalia SOPRUNOVA (Russia) |
| Rongjin HUANG (USA) | Sophie SOURY-LAVERGNE (France) |
| Roberta HUNTER (New Zealand) | Marilyn STRUTCHENS (USA) |
| Chunlian JIANG (Macau SAR, China) | Francis Edward SU (USA) |
| Houssam KASTI (Lebanon) | Konstantinos TATSIS (Greece) |
| Tinne Hoff KJELDSEN (Denmark) | Alphonse UWORWABAYEHO (Rwanda) |
| Rahim KOUKI (Tunisia) | Hamsa VENKAT (South Africa) |
| Oleksandr KRYZHANOVSKIY (Ukraine) | Debbie Marie B. VERZOSA (Philippines) |
| Ladislav KVASZ (Czech) | Mónica E. VILLARREAL (Argentina) |
| Ngan Hoe LEE (Singapore) | Bin XIONG (China) |
| Shuk-kwan LEUNG (Chinese Taipei) | Xinrong YANG (China) |
| Zhongru LI (China) | Michal YERUSHALMY (Israel) |
| Jun LI (China) | Zulkardi ZULKARDI (Indonesia) |

7.4. Topic Study Groups: the List of Themes and Teams

A Topic Study Group (TSG) is designed to gather a group of Congress participants who are interested in a particular topic in mathematics education. TSGs will promote the discussion of a variety of perspectives on the theme of the group. A TSG will serve as a mini-conference and will display the progress of the discussion in the intervening years, which will consist of high-standard discussions enabling the newcomer to get a broad overview on the state-of-the-art and allowing the experts to lead discussions at a high level. The team will provide the participants of their TSG not with a nationally framed insight into the strands of the discussion of the theme, but with an overall overview on the international discussion as broadly as possible and allowing for insight into less well-known strands of the discussion from under-represented countries.

As like previous ICMEs, in ICME-14, the TSG is the major arena for participation. There are 62 TSGs designed and divided into two classes, odd TSG numbers (TSG 1, TSG 3, ...) in Class A, and even ones (TSG 2, TSG 4, ...) in Class B, to run in different sets of timeslots. Every TSG has four sessions with 90-60-90-60 minutes' timeslots. There are also two additional 60-minutes' timeslots for posters, shared by all TSGs.

The following is the list of the themes and the organizing teams of the 62 TSGs.

TSG 1: Mathematics education at preschool level

Chair: Marja VAN DEN HEUVEL-PANHUIZEN (Norway),

m.vandenheuvel-panhuizen@uu.nl

Co-chair: Ineta HELMANE (Latvia), ih17003@lu.lv

Team members: Julie CLARK (Australia)

Regina Célia GRANDO (Brazil)

Xin ZHOU (China)

IPC Liaison person: Marta CIVIL (USA)

TSG 2: Mathematics education at tertiary level

Chair: Ghislaine GUEUDET (France), ghislaine.gueudet.1@univ-rennes1.fr

Co-chair: Irene BIZA (UK), i.biza@uea.ac.uk

Team members: Rongrong CAO (China)

Victor GIRALDO (Brazil)

Azimeh KHAKBAZ (Iran)

IPC Liaison person: Frode RØNNING (Norway)

TSG 3: Mathematics education for gifted students

Chair: Florence Mihaela SINGER (Romania), mikisinger@gmail.com

Co-chair: Alex FRIEDLANDER (Israel), alex.fried30@gmail.com

Team members: Viktor FREIMAN (Canada)

Alex GOLOVIN (Russia)

Qiusheng LI (China)

IPC Liaison person: Ivan YASHCHENKO (Russia)

TSG 4: Mathematics education for students with special needs

Chair: Laurent THEIS (Canada), Laurent.Theis@USherbrooke.ca
Co-chair: Michelle STEPHAN (USA), Michelle.Stephan@uncc.edu
Team members: Anette BAGGER (Sweden)
Edith PETITFOUR (France)
Yanping XIN (USA)
IPC Liaison person: Caroline LAJOIE (Canada)

TSG 5: Teaching and learning of number and arithmetic

Chair: Judy SAYERS (Sweden), J.M.Sayers@leeds.ac.uk
Co-chair: Elisabeth RATHGEB-SCHNIERER (Germany),
rathgeb-schnierer@mathematik.uni-kassel.de
Team members: Rui DING (China)
Beatriz Vargas DORNELES (Brazil)
Rose GRIFFITHS (UK)
IPC Liaison person: Yufeng GUO (China)

TSG 6: Teaching and learning of algebra at primary level

Chair: Jodie HUNTER (New Zealand), J.Hunter1@massey.ac.nz
Co-chair: Doris JEANNOTTE (Canada), Jeannotte.doris@uqam.ca
Team members: Ann GERVASONI (Australia)
Eric KNUTH (USA)
Xiaoyan ZHAO (Netherlands)
IPC Liaison person: Caroline LAJOIE (Canada)

TSG 7: Teaching and learning of algebra at secondary level

Chair: Boon-Liang CHUA (Singapore), boonliang.chua@nie.edu.sg
Co-chair: Heidi STRØMSKAG (Norway), heidi.stromskag@ntnu.no
Team members: Levi ELIPANE (Philippines)
Yali PANG (China)
Michael STEELE (USA)
IPC Liaison person: Daniel CHAZAN (USA)

TSG 8: Teaching and learning of geometry at primary level

Chair: Nathalie SINCLAIR (Canada), nathsinc@sfu.ca
Co-chair: Michael BATTISTA (USA), battista.23@osu.edu
Team members: Eszter HERENDINÉ-KÓNYA (Hungary)
Haiyue JIN (China)
Jesus Victoria Flores SALAZAR (Peru)
IPC Liaison person: Ewa SWOBODA (Poland)

TSG 9: Mathematics education for students with special needs

Chair: Keith JONES (UK), d.k.jones@soton.ac.uk
Co-chair: Matthias LUDWIG (Germany), ludwig@math.uni-frankfurt.de

Team members: Liping DING (Norway)
Flordeliza FRANCISCO (Philippines)
Joris MITHALAL (France)
IPC Liaison person: Maria Alessandra MARIOTTI (Italy)

TSG 10: Teaching and learning of measurement

Chair: Christine CHAMBRIS (France), christine.chambris@u-cergy.fr
Co-chair: Florent GBAGUIDI (Benin), florent.gbaguidi@imsp-uac.org
Team members: Paula BALTAR (Brazil)
Richard LEHRER (USA)
Yuqian WANG (UK)
IPC Liaison person: Ewa SWOBODA (Polan)

TSG 11: Teaching and learning of probability

Chair: Egan CHERNOFF (Canada), egan.chernoff@usask.ca
Co-chair: Ernesto SÁNCHEZ (Mexico), esanchez0155@gmail.com
Team members: Kan GUO (China)
Sibel KAZAK (Turkey)
Ali REJALI (Iran)
IPC Liaison person: Celi Espasandin LOPES (Brazil)

TSG 12: Teaching and learning of statistics

Chair: Enriqueta RESTON (Philippines), edreston@usc.edu.ph
Co-chair: Andreas EICHLER (Germany), eichler@mathematik.uni-kassel.de
Team members: Gail BURRILL (USA)
Qian CHEN (China)
Leandro de Oliveira SOUZA (Brazil)
IPC Liaison person: Celi Espasandin LOPES (Brazil)

TSG 13: Teaching and learning of calculus

Chair: David BRESSOUD (USA), bressoud@macalester.edu
Co-chair: Kristina JUTER (Sweden), kristina.juter@hkr.se
Team members: Xuefen GAO (China)
Elizabeth MONTOYA (Chile)
Carlos Armando Cuevas VALLEJO (Mexico)
IPC Liaison person: Luc TROUCHE (France)

TSG 14: Teaching and learning of programming and algorithms

Chair: Alexander SHEN (France), Alexander.Shen@lirmm.fr
Co-chair: Chantal BUTEAU (Canada), cbuteau@brocku.ca
Team members: Xuemei CHEN (China)
Bakhyt MATKARIMOV (Kazakhstan)
Marina RAFALSKAYA (Ukraine)
IPC Liaison person: Ivan YASHCHENKO (Russia)

TSG 15: Teaching and learning of discrete mathematics

Chair: Elise LOCKWOOD (USA), elise.lockwood@oregonstate.edu

Co-chair: Cecile OUVRIER-BUFFET (France), cecile.ouvrier-buffet@u-pec.fr

Team members: Mariana DURCHEVA (Bulgaria)

Han REN (China)

Ambat VIJAYAKUMAR (India)

IPC Liaison person: Catherine VISTRO-YU (Philippines)

TSG 16: Reasoning, argumentation and proof in mathematics education

Chair: Viviane DURAND-GUERRIER (France), viviane.durand-guerrier@umontpellier.fr

Co-chair: Samuele ANTONINI (Italy), samuele.antonini@unipv.it

Team members: Nadia AZROU (Algeria)

Kotaro KOMATSU (Japan)

Chao ZHOU (China)

IPC Liaison person: Takeshi MIYAKAWA (Japan)

TSG 17: Problem posing and solving in mathematics education

Chair: Edward A. SILVER (USA), easilver@umich.edu

Co-chair: Tin Lam TOH (Singapore), tinlam.toh@nie.edu.sg

Team members: Nicolina A. MALARA (Italy)

Manuel SANTOS (Mexico)

Dan ZHANG (China)

IPC Liaison person: Yufeng GUO (China)

TSG 18: Students' identity, motivation and attitudes towards mathematics and its study

Chair: Maike VOLLSTEDT (Germany), vollstedt@math.uni-bremen.de

Co-chair: Masitah SHAHRILL (Brunei), masitah.shahrill@ubd.edu.bn

Team members: Karin BRODIE (South Africa)

Donglin CHEN (Hong Kong SAR, China)

Bozena MAJ-TATSIS (Poland)

IPC Liaison person: Ewa SWOBODA (Poland)

TSG 19: Mathematical literacy, numeracy and competency in mathematics education

Chair: Sarah BANSILAL (South Africa), Bansilals@ukzn.ac.za

Co-chair: Ratu Ilma Indira PUTRI (Indonesia), ratu.irma@yahoo.com

Team members: Iddo GAL (Israel)

Vince GEIGER (Australia)

Bo ZHANG (China)

IPC Liaison person: Gabriele KAISER (Germany)

TSG 20: Learning and cognition in mathematics (including the learning sciences)

Chair: Gaye WILLIAMS (Australia), gayew@unimelb.edu.au

Co-chair: Pablo DARTNELL (Chile), dartnell@dim.uchile.cl

Team members: Zain DAVIS (South Africa)

Wenjuan LI (USA)

Chunli ZHANG (China)

IPC Liaison person: Maria Alessandra MARIOTTI (Italy)

TSG 21: Neuroscience and mathematics education / Cognitive Science

Chair: Inge SCHWANK (Germany), inge.schwank@uni-koeln.de

Co-chair: Mary-line GARDES (France), marie-line.gardes@univ-lyon1.fr

Team members: Yijie HE (China)

Yasufumi KURODA (Japan)

Trygve SOLSTAD (Norway)

IPC Liaison person: Jiansheng BAO (China)

TSG 22: Mathematical applications and modelling in mathematics education

Chair: Gilbert GREEFRATH (Germany), greefrath@uni-muenster.de

Co-chair: Cristina ESTELEY (Argentina), esteley@famaf.unc.edu.ar

Team members: Susana CARREIRA (Portugal)

George EKOL (South Africa)

Xiaoli LU (China)

IPC Liaison person: Gabriele KAISER (Germany)

TSG 23: Visualization in the teaching and learning of mathematics

Chair: Cristina SABENA (Italy), cristina.sabena@unito.it

Co-chair: Marc SCHÄFER (South Africa), m.schafer@ru.ac.za

Team members: Marei FETZER (Germany)

Hui-Yu HSU (Chinese Taipei)

Zhiqiang YUAN (China)

IPC Liaison person: Alicia DICKENSTEIN (Argentina)

TSG 24: The role and the use of technology in the teaching and learning of mathematics at primary level

Chair: Michela MASCHIETTO (Italy), michela.maschietto@unimore.it

Co-chair: Silke LADEL (Germany), silkeladel@gmail.com

Team members: George GADANIDIS (Canada)

Jiaxia LIU (China)

Sitti PATTAHUDDIN (Australia)

IPC Liaison person: Luc TROUCHE (France)

TSG 25: The role and the use of technology in the teaching and learning of mathematics at lower secondary level

Chair: Morten MISFELDT (Denmark), misfeldt@learning.aau.dk

Co-chair: Hans-Stefan SILLER (Germany),

hans-stefan.siller@mathematik.uni-wuerzburg.de

Team members: Mariam HASPEKIAN (France)

Arthur LEE (Hong Kong SAR, China)

Mailizar MAILIZAR (Indonesia)

IPC Liaison person: Alicia DICKENSTEIN (Argentina)

TSG 26: The role and the use of technology in the teaching and learning of mathematics at upper secondary level

Chair: Ornella ROBUTTI (Italy), ornella.robutti@unito.it

Co-chair: Gilles ALDON (France), gilles.aldon@ens-lyon.fr

Team members: Mario Sánchez AGUILAR (Mexico)

Veronica GITIRANA (Brazil)

Jinyu ZHANG (China)

IPC Liaison person: Alicia DICKENSTEIN (Argentina)

TSG 27: The role of the history of mathematics in mathematics education

Chair: Kathleen M. CLARK (USA), kclark@admin.fsu.edu

Co-chair: Constantinos TZANAKIS (Greece), tzanakis@edc.uoc.gr

Team members: Uffe T. JANKVIST (Denmark)

Man Keung SIU (Hong Kong SAR, China)

Jiachen ZOU (China)

IPC Liaison person: Maria Alessandra MARIOTTI (Italy)

TSG 28: Preservice mathematical teacher education at primary level

Chair: Jeppe SKOTT (Sweden), jeppe.skott@lnu.se

Co-chair: Salvador LLINARES (Spain), sllinares@ua.es

Team members: Hui JIANG (China)

Jonina Vala KRISTINSDOTTIR (Iceland)

Craig WILLEY (USA)

IPC Liaison person: Caroline LAJOIE (Canada)

TSG 29: Preservice mathematical teacher education at secondary level

Chair: Olive CHAPMAN (Canada), chapman@ucalgary.ca

Co-chair: Benita NEL (South Africa), bnel@uwc.ac.za

Team members: Jing CHENG (China)

Tracy HELLIWELL (UK)

Immaculate Kizito NAMUKASA (Uganda)

IPC Liaison person: Jiansheng BAO (China)

TSG 30: In-service mathematical teacher education and mathematical teacher professional development at primary level

Chair: Yeping LI (USA), yepingli@tamu.edu

Co-chair: Leonor SANTOS (Portugal), leonordsantos@sapo.pt

Team members: Munira AMIRALI (Pakistan)

Xingfeng HUANG (China)

Masakazu OKAZAKI (Japan)

IPC Liaison person: Anjum HALAI (Pakistan)

TSG 31: In-service mathematical teacher education and mathematical teacher professional

development at secondary level

Chair: Konrad KRAINER (Austria), Konrad.Krainer@aau.at

Co-chair: Betina DUARTE (Argentina), betina.duarte@unipe.edu.ar

Team members: Youchu HUANG (China)

Talli NACHLIELI (Israel)

Craig POURNARA (South Africa)

IPC Liaison person: Jill ADLER (South Africa)

TSG 32: Knowledge in/for teaching mathematics at primary level

Chair: Rina ZAZKIS (Canada), zazkis@sfu.ca

Co-chair: Stephane CLIVAZ (Switzerland), stephane.clivaz@hepl.ch

Team members: Janne FAUSKANGER (Norway)

Polly LAO (Hong Kong SAR, China)

Eva THANHEISER (USA)

IPC Liaison person: Catherine VISTRO-YU (Philippines)

TSG 33: Knowledge in/for teaching mathematics at secondary level

Chair: Nils BUCHHOLTZ (Norway), n.f.buchholtz@ils.uio.no

Co-chair: Miguel RIBEIRO (Brazil), cmribas78@gmail.com

Team members: Swee Fong NG (Singapore)

Mirosława SAJKA (Poland)

Qiaoping ZHANG (Hong Kong SAR, China)

IPC Liaison person: Catherine VISTRO-YU (Philippines)

TSG 34: Affect, beliefs, and identity of mathematics teachers

Chair: Francesca MORSELLI (Italy), morselli@dima.unige.it

Co-chair: Einat HEYD-METZUYANIM (Israel), einat.metz@gmail.com

Team members: Narumon CHANGSRI (Thailand)

Forster NTOW (Ghana)

Shengying XIE (China)

IPC Liaison person: Jiansheng BAO (China)

TSG 35: Knowledge and practice of mathematics teacher educator

Chair: Maria Giuseppina Bartrolini BUSSI (Italy), mariagiuseppina.bartolini@unimore.it

Co-chair: Paola SZTAJN (USA), psztajn@ncsu.edu

Team members: Chi-Tai CHU (Chinese Taipei)

Ruchi KUMAR (India)

Nada VONDROVA (Czech)

IPC Liaison person: Binyan XU (China)

TSG 36: Research on classroom practice at primary level

Chair: Shuhua AN (USA), shuhua.an@csulb.edu

Co-chair: Birgit BRANDT (Germany), birgit.brandt@zlb.tu-chemnitz.de

Team members: Benedetto DI PAOLA (Italy)

Wanzala Batalingaya RICHARD (Uganda)
Jiushi ZHOU (China)

IPC Liaison person: Anjum HALAI (Pakistan)

TSG 37: Research on classroom practice at secondary level

Chair: Patricio HERBST (USA), pgherbst@umich.edu

Co-chair: Fabrice VANDEBROUCK (France), vandebro@univ-paris-diderot.fr

Team members: Jarmila ROBOVA (Czech)

Yoshirori SHIMIZU (Japan)

Li TONG (China)

IPC Liaison person: Daniel CHAZAN (USA)

TSG 38: Task design and analysis

Chair: Minoru OHTANI (Japan), mohtani@ed.kanazawa-u.ac.jp

Co-chair: Michiel DOORMAN (Netherlands), m.doorman@uu.nl

Team members: Berta BARQUERO (Spain)

Heather JOHNSON (USA)

Xuhua SUN (Macau SAR, China)

IPC Liaison person: Binyan XU (China)

TSG 39: Language and communication in the mathematics classroom

Chair: Marcus SCHÜTTE (Germany), marcus.schuette@tu-dresden.de

Co-chair: Jenni INGRAM (UK), jenni.ingram@education.ox.ac.uk

Team members: Fengjuan HU (China)

Maíre Ní RIORDÁIN (Ireland)

Tran VUI (Vietnam)

IPC Liaison person: Frode RØNNING (Norway)

TSG 40: Research and development on mathematics curriculum

Chair: Masataka KOYAMA (Japan), mkoyama@hiroshima-u.ac.jp

Co-chair: Jeremy HODGEN (UK), jeremy.hodgen@ucl.ac.uk

Team members: Gulseren Karagoz AKAR (Turkey)

Shelly DOLE (Australia)

Ruilin WANG (China)

IPC Liaison person: Thomas LOWRIE (Australia)

TSG 41: Research and development on textbooks and resources for learning and teaching mathematics

Chair: Sebastian REZAT (Germany), srezat@math.uni-paderborn.de

Co-chair: Jana VISNOVSKA (Australia), j.visnovska@uq.edu.au

Team members: Moneoang LESHOTA (Lesotho)

Hussein SABRA (France)

Guorui YAN (Hong Kong SAR, China)

IPC Liaison person: Luc TROUCHE (France)

TSG 42: Research and development in assessment in mathematics education

Chair: Abid SOHAIL (Pakistan), abid.sohail@aku.edu
Co-chair: Caroline LONG (South Africa), clong@uj.ac.za
Team members: Shai OLSHER (Israel)
Nathalie SAYAC (France)
Xiong WANG (Canada)
IPC Liaison person: Anjum HALAI (Pakistan)

TSG 43: Research and development in testing (national and international) in mathematics education

Chair: Ivan VYSOTSKIJ (Russia), i_r_vysotsky@hotmail.com
Co-chair: Fumi GINSHIMA (Japan), ginshima@nier.go.jp
Team members: Richard T. HOUANG (USA)
Maria Isabel Ramalho ORTIGÃO (Brazil)
Lidong WANG (China)
IPC Liaison person: Ivan YASHCHENKO (Russia)

TSG 44: Mathematics and interdisciplinary education

Chair: Carl WINSLØW (Denmark), winslow@ind.ku.dk
Co-chair: Nolein FITZALLEN (Australia), Noleine.Fitzallen@utas.edu.au
Team members: Rita Borromeo FERRI (Germany)
Nicholas MOUSOULIDES (Cyprus)
Guangtian ZHU (China)
IPC Liaison person: Takeshi MIYAKAWA (Japan)

TSG 45: Mathematics for non-specialist/mathematics as a service subject at tertiary level

Chair: Burkhard ALPERS (Germany), Burkhard.Alpers@htw-aalen.de
Co-chair: Mitsuru KAWAZOE (Japan), kawazoe@las.osakafu-u.ac.jp
Team members: Marta CALIGARIS (Argentina)
Olov VIIRMAN (Sweden)
Jing ZENG (China)
IPC Liaison person: Faïza CHELLOUGUI (Tunisia)

TSG 46: Mathematical competitions and other challenging activities

Chair: Boris KOICHU (Israel), boris.koichu@weizmann.ac.il
Co-chair: Peter TAYLOR (Australia), pjt013@gmail.com
Team members: Sergey DORICHENKO (Russia)
Ingrid SEMANIŠINOVÁ (Slovakia)
Yijun YAO (China)
IPC Liaison person: Ivan YASHCHENKO (Russia)

TSG 47: Mathematics education in a multilingual environment

Chair: Eva NORÉN (Sweden), eva.noren@mnd.su.se
Co-chair: Anthony ESSIEN (South Africa), Anthony.Essien@wits.ac.za

Team members: Nancy CHITERA (Malawi)
Mun Yee LAI (Australia)
Alexander SCHÜLER-MEYER (Germany)
IPC Liaison person: Jill ADLER (South Africa)

TSG 48: Mathematics education in a multicultural environment

Chair: Florence GLANFIELD (Canada), florence.glanfield@ualberta.ca
Co-chair: Anthony FERNANDES (USA), glanfiel@ualberta.ca
Team members: Qin JING (China)
Peter KAJORO (Tanzania)
(One member TBD, because of a recent resignation)
IPC Liaison person: Anjum HAILAI (Pakistan)

TSG 49: Distance learning, e-learning, and blended learning of mathematics

Chair: Marcelo Almeida BAIRRAL (Brazil), mbairral@ufrj.br
Co-chair: Tracey MUIRCAUSTRALIA (Australia), Tracey.Muir@utas.edu.au
Team members: Veronica HOYOS (Mexico)
Xinbing LUO (China)
Philippe RICHARD (Canada)
IPC Liaison person: Thomas LOWRIE (Australia)

TSG 50: Mathematics education in and for work; continuous mathematics education including adult education

Chair: Lisa Björklund BOISTRUP (Sweden), lisa.bjorklund@mnd.su.se
Co-chair: Geoff WAKE (UK), Geoffrey.Wake@nottingham.ac.uk
Team members: Maria da Conceição Ferreira Reis FONSECA (Brazil)
Pradeep Kumar MISRA (India)
Haixia SI (China)
IPC Liaison person: Gabriele KAISER (Germany)

TSG 51: Mathematics education for ethnic minorities

Chair: Aldo PARRA (Columbia), aiparras@unal.edu.co
Co-chair: Robin AVERILL (New Zealand), Robin.Averill@vuw.ac.nz
Team members: Aditya ADIREDDA (USA)
Lianchun DONG (China)
Nancy NUI (Kenya)
IPC Liaison person: Marta CIVIL (USA)

TSG 52: Ethnomathematics and Mathematics Education

Chair: Gelsa KNIJNIK (Brazil), gelsa.knijnik@gmail.com
Co-chair: Marcos CHERINDA (Mozambique), m.cherinda@unesco.org
Team members: Arindam BOSE (India)
Cynthia NICOL (Canada)
Aihui PENG (China)
IPC Liaison person: Celi Espasandin LOPES (Brazil)

TSG 53: Equity in mathematics education

Chair: Jayasree SUBRAMANIAN (India), jayasree.subramanian@gmail.com

Co-chair: Julia AGUIRRE (USA), jaguirre@uw.edu

Team members: Changgen PEI (China)

Darinka RADOVIC (Chile)

Constantinos XENOFONTOS (UK)

IPC Liaison person: Marta CIVIL (USA)

TSG 54: Social and political dimensions of mathematics education

Chair: Paola VALERO (Sweden), paola.valero@mnd.su.se

Co-chair: Kate LE ROUX (South Africa), kate.leroux@uct.ac.za

Team members: Andrew BRANTLINGER (USA)

Murad JURDAK (Lebanon)

Xuhui LI (USA)

IPC Liaison person: Marta CIVIL (USA)

TSG 55: The history of the teaching and the learning of mathematics

Chair: Wagner Rodrigues VALENTE (Brazil), wagner.valente@unifesp.br

Co-chair: Alexander KARP (USA), apk16@columbia.edu

Team members: Toya FRANK (USA)

Chunlan LI (China)

Naomichi MAKINAE (Japan)

IPC Liaison person: Daniel CHAZAN (USA)

TSG 56: Philosophy of mathematics and mathematics education

Chair: Maria Aparecida Viggiani BICUDO (Brazil), mariabicudo@gmail.com

Co-chair: Paul ERNEST (UK), P.Ernest@exeter.ac.uk

Team members: Piotr BLASZCZYK (Poland)

Thomas HAUSBERGER (France)

Gang PENG (China)

IPC Liaison person: Abraham ARCAVI (Israel)

TSG 57: Diversity of theories in mathematics education

Chair: Angelika BIKNER (Germany), bikner@math.uni-bremen.de

Co-chair: Ivy KIDRON (Israel), ivy@jct.ac.il

Team members: Erika BULLOCK (USA)

Yusuke SHINNO (Japan)

Qinqiong ZHANG (China)

IPC Liaison person: Takeshi MIYAKAWA (Japan)

TSG 58: Empirical methods and methodologies in mathematics education

Chair: Christine KNIPPING (Germany), knipping@math.uni-bremen.de

Co-chair: Soo Jin LEE (Korea), sjlee@knue.ac.kr

Team members: Christian BOKHOVE (UK)

Bagele CHILISA (Botswana)

Na LI (China)

IPC Liaison person: Yufeng GUO (China)

TSG 59: Mathematics and creativity

Chair: Chronis KYNIGOS (Greece), kynigos@ppp.uoa.gr

Co-chair: Roza LEIKIN (Israel), rozal@edu.haifa.ac.il

Team members: Thorsten FRITZLAR (Germany)

Theodosia PRODROMOU (Australia)

Hongyu SU (China)

IPC Liaison person: Thomas LOWRIE (Australia)

TSG 60: Semiotics in mathematics education

Chair: Ricardo NEMIROVSKY (UK), bnemirovsky@mail.sdsu.edu

Co-chair: Christina KRAUSE (Germany), christina.krause@uni-due.de

Team members: Suanrong CHEN (China)

Francesca FERRARA (Italy)

Kazuya KAGEYAMA (Japan)

IPC Liaison person: Faïza CHELLOUGUI (Tunisia)

TSG 61: International cooperation in mathematics education

Chair: Uihock CHEAH (Malaysia), uhcrecsam1@gmail.com

Co-chair: Masami ISODA (Japan), isoda@criced.tsukuba.ac.jp

Team members: Bernadette DENYS (France)

Jiwei HAN (China)

Arne JAKOBSEN (Norway)

IPC Liaison person: Thomas LOWRIE (Australia)

TSG 62: Popularization of mathematics

Chair: Christian MERCAT (France), christian.mercat@gmail.com

Co-chair: Clara GRIMA (Spain), grima@us.es

Team members: Pan LIU (China)

Abolfazl RAFIEPOUR (Iran)

Patrick VENNEBUSH (USA)

IPC Liaison person: Abraham ARCAVI (Israel)

7.5. Topic Study Groups: Call for Papers and Posters

We cordially invite participants to submit presentations in the form of papers or posters to one of the 62 Topic Study Groups at ICME-14. However, due to the expected large number of contributions, each participant can only submit either a paper or a poster to one TSG, which has to be selected at the beginning of the submission process, and he/she is encouraged to participate in all sessions of the selected TSG to focus on a highly-related theme to his/her own study. Since the 62 TSGs have been partitioned as two classes fitting into two different sets of time-sessions, participants are able to visit more TSGs they are interested in. Participants

can also serve as subordinated authors of other papers or posters, but only for two others maximally.

All submissions will be peer-reviewed. Depending on their quality and their alignment with the planned structure of the selected TSG, the papers will be presented in a longer or shorter timeslot in the sessions for TSG. Due to restrictions of the rooms, posters will be jointly presented in the poster sessions.

This structure strengthens the role and importance of the TSGs. It will allow high-standard discussions to give an overview on the current state-of-the-art and will enable all interested participants to present their work at ICME-14 and receive feedback from the academic audience.

Paper/Poster Submission Process

- Paper submission to a selected Topic Study Group, 4-page maximum.
- Poster submission to a selected Topic Study Group containing a 1-page description of the planned poster, rather than the poster itself.

Templates for papers and posters must be used and are available on the official website (homepage—downloads—template for paper, or homepage—downloads—template for poster). The submission should be made via ICME-14 registration system.

The authors of the papers selected for a long presentation will be invited to extend their papers to 8 pages. All the other papers will remain unchanged.

All papers and posters will be uploaded to the administration system under the domain connected to the selected TSG and are only accessible to registered participants of this TSG. This setting allows intensive discussions about all papers and promotes advanced reading. Moreover, some but limited information of the papers/posters and the authors will be used in the Congress programme brochure and the after-Congress proceedings if necessary. However, it would not influence further publication of the papers by the authors themselves.

Timeline for the submission of papers

- June 1st – September 15th, 2019
Submission of 4-page papers
- September 16th – November 30th, 2019
Paper-review; Decisions on acceptance sent out
- December 1st, 2019 –February 29th, 2020
Submission of the extended papers if applicable

Timeline for the submission of posters

- June 1st –September 15th, 2019
Submission of one-page description
- September 16th – November 30th, 2019
Review; Decisions on acceptance sent out
- December 1st, 2019 – February 29th, 2020
Second-round submission (submissions in this round have no chance to apply

- solidarity fund)
- March 1st –March 31st, 2020
- Decision on acceptance of the second-round submission sent out

*The submission system will be closed on *April 30th, 2020*.

7.6. Discussion Groups and Workshops: Call for Proposals

A Discussion Group is designed to gather Congress participants who are interested in discussing, in a genuinely interactive way, certain challenging, controversial or emerging issues and dilemmas of interest to an international or regional audience. The focus of a Discussion Group should be distinct from the subjects covered in the Topic Study Groups (TSG).

Workshops will provide hands-on experience to participants who want to learn or try something new. Workshops are targeted at a specific type of attendee, for example, teachers (from pre-school to university), graduate students, or researchers, who are interested in learning or trying out something through active participation. Workshops focus on experiences pertaining to research or teaching concerning a well-defined theme of common interest. A Workshop will meet once or twice (up to the group leader with advanced notice to the Congress LOC) with 90 minutes duration each meeting.

Any participant of ICME-14 can initiate either a Discussion Group or a Workshop if he/she wants to. After forming an organizing team together with participants sharing same interests, he/she can submit a proposal for the activity. A proposal should include:

- The team leader(s) and team members
- Description of the background and expertise of the team leader(s)
- Detailed description of the topic theme including anticipated aims and a rationale for the topic
- Key questions and issues for the Discussion Group or the Workshop to consider
- A precise description of the anticipated structure.
 - For Discussion Groups: a description of how the time will be used to manage the discussion during the two sessions, taking into account that there will be no oral presentations in a Discussion Group except brief introductions by the organizers of the group to provide the background and framework for the discussion.
 - For Workshops: a description of how the time will be used in order to allow maximal participation of all workshop participants, and needs for equipment or special room space.

Templates for proposal must be used and are available on the official website (homepage—downloads—template for proposal of Discussion Group, or homepage—downloads—template for proposal of Workshop).

Due to the limitation of facilities, the total numbers of Discussion Groups and Workshops will be controlled by the organizer.

Timeline for submission of Discussion Groups and Workshops

Before Nov 30th, 2019 Submission of Proposals

Dec 31st, 2019
Mar 31st, 2020

Notification of acceptance
Submission of final versions of the programme

Please send the proposals and final version of the programmes for Discussion Group to

DG@icme14.org

and send those for Workshop to

WS@icme14.org

7.7. Other Scientific Activities

ICMI Affiliate Organizations

The following organizations are officially affiliated to ICMI. In the afternoon of July 14th one 90 minutes' timeslot is reserved for the meetings of these organizations during ICME-14.

CIAEM: Inter-American Committee on Mathematics Education

CIEAEM: International Commission for the Study and Improvement of Mathematics Teaching

ERME: European Society for Research in Mathematics Education

MERGA: Mathematics Education Research Group of Australasia

HPM: The International Study Group on the Relations between the History and Pedagogy of Mathematics

ICTMA: The International Study Group for Mathematical Modelling and Applications

IOWME: The International Organization of Women and Mathematics Education

MCG: The International Group for Mathematical Creativity and Giftedness

PME: The International Group for the Psychology of Mathematics Education

WFNMC: The World Federation of National Mathematics Competitions

ICMI Studies

A major ICMI programme is the series of ICMI Studies. This set of activities was launched in the mid-1980s and has acquired a growing importance and influence on the field. It contributes to a better understanding and resolution of the challenges that face multidisciplinary and culturally diverse research and development in mathematics education. Each Study focuses on a topic or issue of prominent current interest in mathematics education. Built around an international conference, it is directed towards the preparation of a published volume intended to promote and assist discussion and action at the international, regional or institutional level. Several ICMI studies, which have already held their study conference, will present their results at ICME-14.

ICMI Awards

The Executive Committee of the International Commission on Mathematical Instruction (ICMI) has created three awards in mathematics education research:

- The Felix Klein Award, for a lifelong achievement in mathematics education research
- The Hans Freudenthal Award, for a major programme of research on mathematics education during the past 10 years

— The Emma Castelnuovo Award for Excellence in the Practice of Mathematics Education

At the opening ceremony of ICME-14, the modals and certificates of these ICMI awards given during 2016-2020 will be presented. In addition, the awardees are invited to present special lectures at the Congress.

National Presentations

A National Presentation is an activity during which representatives of a given country will make a presentation on the state and trends in mathematics education in that country. ICME-14 will give several countries the opportunity to present themselves.

Thematic Afternoon

This is an afternoon (on July 15th) left for the Local Organizing Committee to design activities showing Mathematics Education in China.

8. Early Career Researcher Day

Early Career Researcher Day (ECRD), first created in ICME-13, is also organized by LOC of ICME-14. The event will be held on July 12th, the day before the opening ceremony, and is attached to ICME-14, but not an integral part of ICME-14 itself. The activity will provide early career researchers with opportunities to develop their research competencies in various fields, establish new contacts, build networks among themselves, and meet and work with international experts in the field.

The practical scheme and the invited speakers for ECRD will be posted in due course on the official website. Participants who are interested in ECRD should select the option “attendance of ECRD” when registering for the Congress and will be charged additional RMB 350.

9. Registration, Invitation Letter, and Payment

Online registration system will be available at the website

reg.icme14.org

from *June 1st 2019*. The system is also accessible by click the “LOGIN” button on the official website

www.icme14.org.

To start your registration, type in your valid e-mail account as username, set your password, fill in your personal information, make choice of the TSGs you are going to associate with, and submit your contributions. Immediate payment is not required. However, your registration will not be considered complete and you will not be accepted to join activities of the Congress until your payment is successfully received by the organizer. When your registration is complete, a *Confirmation of Registration* will be sent to your default e-mail account (that is e-mail account used as your username). If you fill in all required information and submit your contribution, but you prefer to pay later, you will receive a *Knowledge of Registration* instead.

The participants who are already involved in the preparation process of the Congress will have pre-entered usernames (together with some personal information). These participants include but not limited to: IPC and LOC members, plenary and invited lecturers, team members of the plenary panels and survey teams, members of the TSG organizing teams. What these participants have to do is to use their e-mail accounts as the usernames to log in their accounts and then finish necessary information input.

An invitation letter will be sent out on request to participants if needed for VISA and/or financial support reasons, no matter whether the participants have paid the registration fee or not. The invitation letter will indicate the role the participant will play.

Please include your complete postal address (not post-box), if you need an originally signed letter. For this purpose, please address your request to the following e-mail address:

service@icme14.org

We strongly encourage you to make use of this offer, but please approach to ICME-14 organizer early enough.

The regular registration fee is RMB 4 000. Different rates of discount are set for early payers. The details are as follows:

| | |
|--|-----------|
| Fully paid between Nov. 1 st , 2019 and March 31 st , 2020 | RMB 3 500 |
| Fully paid between April 1 st – May 31 st , 2020 | RMB 3 800 |
| Paid after June 1 st , 2020 | RMB 4 000 |
| Accompanying person's registration, any time | RMB 1 000 |

Benefits of registered participants include

- Programme Brochure
- Admission to scientific programme activities (excluding Early Career Research Day)
- Admission to social programme activities
- Shanghai public transportation card¹ with RMB 100 prefilled
- Excursion on Thursday, July 16th, 2020

Benefits of registered accompanying persons includes

- Admission to social programme activities like Happy-hours
- Shanghai public transportation card¹ with RMB 100 prefilled
- Excursion on Thursday, July 16th, 2020

Registration fee of Early Career Researcher Day is not included in the registration fee. Participants of Early Career Researcher Day will be charged an additional fee of RMB 350.

All payment can be made online via credit card or by bank transfer. Union-pay, Alipay and Wechat pay are available as well. Checks are not acceptable.

Online payment system will open on **November 1st, 2019**.

¹ Shanghai public transportation card can be used for riding subways and buses, as well as for taking taxis. Refill service is valid at some subway stations.

Cancellation of registration can be done at any time in case the participant cannot attend the Congress for some reason, but refund requirement must be made before *June 20th, 2020*. Due to administrative reasons, all refunds will be processed after the Congress, with a cancellation penalty at 20% of the paid amount.

10. Solidarity Fund and Application for a Grant

One of the aims of the ICMEs is to have a balanced representation from all over the world among the presenters as well as among the general participants. In order to achieve this goal, ICMI has instigated a general policy of established a solidarity fund by setting aside 10% of the registration fees for it. The fund assists delegates from developing countries to attend the ICMEs.

An autonomous and anonymous Solidarity Fund Committee, appointed by the IPC of ICME-14, will distribute the grants from the Solidarity Fund amongst the successful applicants. Priority will be given to applicants from developing countries who contribute to the scientific programmes.

Grants will be given mainly as partial support to registration fee, accommodation, and travel costs. All potential applicants are advised to apply for funding from other sources as well.

10.1. Application for the ICME-14 Solidarity Grants

Participants who consider themselves eligible for grants from the Solidarity Fund of ICME-14 are encouraged to send a grant application to the Solidarity Fund Committee. Application form can be downloaded from the official website (homepage—downloads—grant application form). Please note that the following information is important for the committee to decide the supports:

- Basic personal information, including full name, postal and e-mail addresses
- Current institute, academic position, the country/region
- Paper or poster submitted
- Academic CV
- List of publications
- Current financial situation

Please send the form as a PDF file by email to

grant@icme14.org

between *November 1st, 2019 – December 20th, 2019*. If necessary, a recommendation letter by PhD-supervisor can be attached.

11. Excursions

Thursday, July 16th, 2020 is reserved for excursions. The excursions aim at showing participants and accompanying persons the scenery, the culture, and the history of Shanghai. The organizer will design about 20 routes covering a variety of themes and spots to meet different interests of the participants. Further information will be provided in due course on the official website.

The basic costs of the excursions are included in the registration fee, but extra expenses caused by requirements out of the descriptions of the routes are not considered as basic costs.

12. Visa

12.1. General Information about China Visa

International participants entering China should apply for a visa from the Chinese diplomatic representative or consular offices, or other institutions authorized by the Ministry of Foreign Affairs of People's Republic of China.

The whole visa application process can take several weeks to a few months. Please apply as early as possible.

You can consult the local travel agency or visit the following websites for more information:

<http://www.meet-in-shanghai.net/travel-tips/information/visa.php>

<http://cs.mfa.gov.cn/wgrlh/lhqz/lhqzjjs/t1095035.shtml>

<http://www.shanghai.gov.cn/shanghai/node27118/node27866/node27985/index.html>

12.2. Visa Application for Participants from a Country without Diplomatic Relations with China

The participants from the countries without diplomatic relations with China can get their visas from the Chinese Embassy/Consulate/office in the neighbouring country. Please kindly find the following list for your reference.

| No. | Country without diplomatic relationship with China | The Embassy/Consulate/Office taking care of the visa application |
|-----|--|--|
| 1 | Bhutan | Chinese Embassy in India |
| 2 | Kingdom of Swaziland | Chinese Embassy in South Africa |
| 3 | Republic of Palau | Chinese Embassy in Micronesia |
| 4 | Tuvalu | Chinese Embassy in Fiji |
| 5 | Solomon Islands | Chinese Embassy in Papua New Guinea |
| 6 | Republic of the Marshall Islands | Chinese Embassy in Micronesia |

| | | |
|----|--------------------------------|--|
| 7 | Republic of Kiribati | Chinese Embassy in Fiji |
| 8 | Nauru | Chinese Embassy in Fiji |
| 9 | Republic of Haiti | Haiti-China Trade Development Office |
| 10 | Republic of Guatemala | Chinese Embassy in Costa Rica |
| 11 | Republic of El Salvador | Chinese Embassy in Costa Rica |
| 12 | Republic of Nicaragua | Chinese Embassy in Costa Rica |
| 13 | Republic of Honduras | Chinese Embassy in Costa Rica |
| 14 | Republic of Paraguay | Chinese Consulate General in St Paul |
| 15 | Belize | Chinese Embassy in Jamaica |
| 16 | St. Vincent and the Grenadines | Chinese Embassy in Barbados |
| 17 | St. Kitts and Nevis | Chinese Embassy in Antigua and Barbuda |
| 18 | Saint Lucia | Chinese Embassy in Barbados |

Please contact the corresponding Chinese Embassy/Consulate/Office/other institutions for more information.

If you have further questions, please send e-mails to

VISA@icme14.org

13. Transportation

13.1. Long Distance Transportation

Participants may easily arrive at Shanghai by flights from various parts of the world.

There are two airports in Shanghai: Pudong International Airport (PVG) and Hongqiao International Airport (SHA).

- Pudong International Airport is one of the world-class hubs of civil aviation, hosting international (regional) flights from most of the major cities in the world. It also serves domestic flights.
- Hongqiao International Airport mainly serves domestic flights, with limited international services to Japan, South Korea, and regional services to Hong Kong, Macau, and Taiwan.

There are three main railway stations in Shanghai. They are

- Shanghai Railway Station,
- Hongqiao Railway Station, and
- Shanghai South Railway Station,

offering high-speed trains and regular trains linked Shanghai with other cities of China, including Hong Kong SAR.

13.2. Local Transportation

General information of the public transportation system of Shanghai

The public transportation system of Shanghai mainly consists of the Metro Network, the bus system, and taxis.

According to the data of December 2018, Shanghai Metro Network has 16 lines with 415 stations (including 2 maglev line station) and 705 kilometers (including 29 kilometers as maglev line) of operation mileage. For the latest Shanghai Metro Network Map, please visit

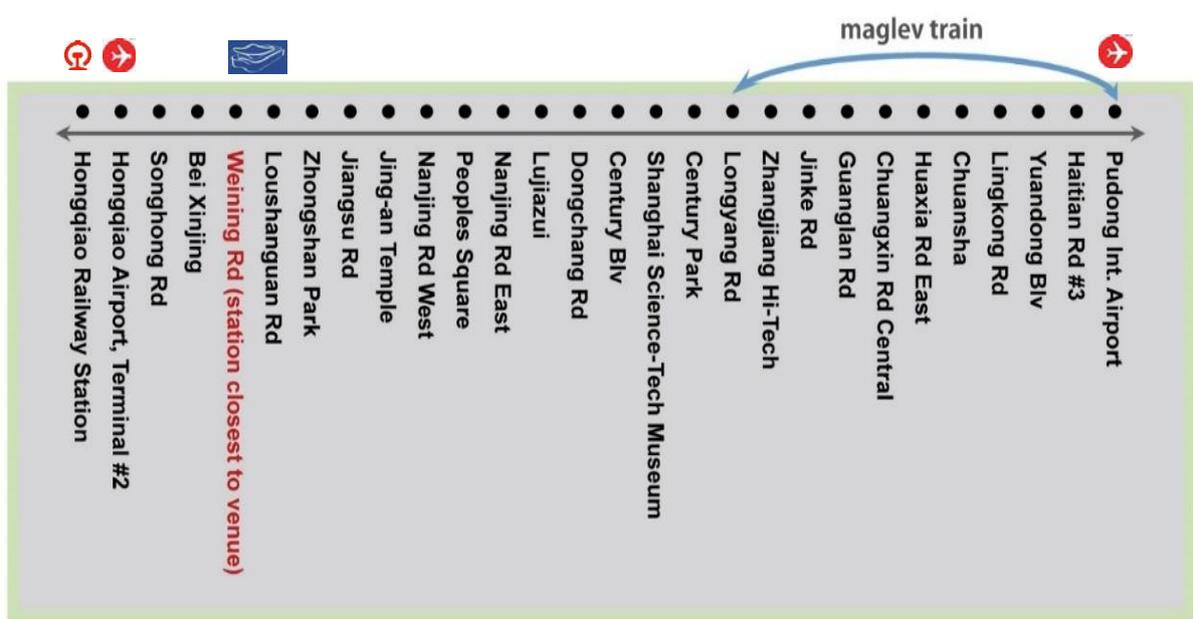
<http://service.shmetro.com/en/>

Shanghai has a complex bus system consisting of 1 500 bus routes or so. It is more convenient than metro lines in the sense that it can take you everywhere in the city. This also helps the participants to go from the hotels to the venue, to make a city tour, or go shopping. There are more than 20 bus routes having stops within 1 kilometer to the venue, to name some, Route 44, Route 54, Route 67, Route 72, Route 94, Route 141, Route 158, Route 190, Route 551, Route 757, Route 739, Route 766, Route 825, Route 846, Route 858, Route 944, and Route 1227. This information may be useful for participants to choose their hotels.

Taxis, though the cost is comparatively higher, serve also an important component of the public transportation system.

Introduction to Shanghai Metro Line 2

Shanghai Metro Line 2 links two airports and has a station not far from the venue for ICME-14, providing a convenient connection service for participants. The following is the route map of Metro Line 2 (together with the Maglev Train).



Suggestions on transportation from airports and railway stations

Transportation from Pudong International Airport, Hongqiao International Airport, and Hongqiao Railway Station to the venue:

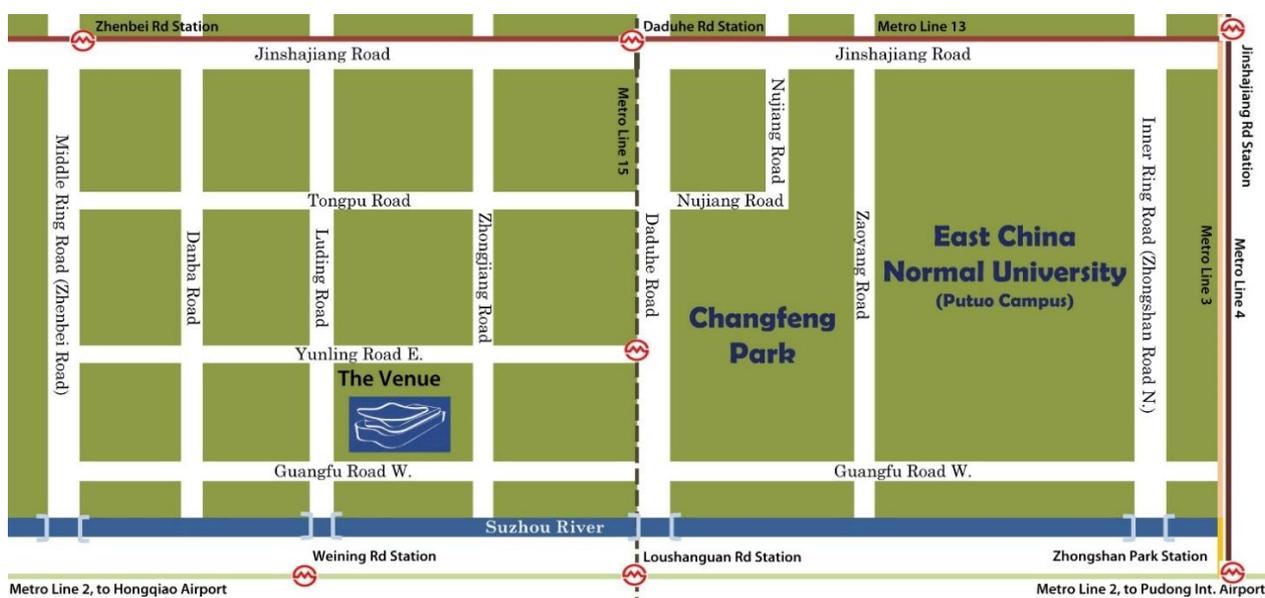
- Take Metro Line 2, and get off at Weining Road Station.
- Take a taxi. It costs about RMB 200 (from Pudong International Airport) or RMB 40 (from Hongqiao International Airport or Hongqiao Railway Station).

Metro transportation from Shanghai Railway Station to the venue:

- Take Metro Line 1, transfer to Line 2 at People's Square Station, and get off at Weining Road Station.
- Take Metro Line 3 or 4, transfer to Line 13 at Jinshajiang Road Station, and get off at Daduhe Road Station.
- Take a taxi directly from Shanghai Railway Station. It costs about RMB 40.

The shortest walk way from Weining Road Station of Metro Line 2 to the venue: use Exit 4 to go up to the ground, turn right, go cross the Suzhou River by Weining Road Bridge, turn right again, and then walk along Guangfu Road West.

A sketched local map around the venue



14. Miscellaneous Information

14.1. Accommodation

All logistic costs, including but not limited to travel, accommodation, food, and beverage are to be covered by participants.

The venue is surrounded by a number of hotels, from economical to five-star-rated, and even more hotels are within easy access through metro or bus lines. All participants can make reservation by themselves or through the service agency. A list of recommended hotels will be linked to the registration system, and the list will be updated regularly.

However, please note that, if your accommodation will be (partially) covered by a grant from the Solidarity Fund, the organizer (instead of yourself) will make the reservation for your accommodation.

14.2. Food Service

The organizer will prepare a Reception Gathering in the evening of the registration day (July 12th) and a Farewell Lunch on the closing day (July 19th). Daily coffee breaks in the mornings and afternoons, as well as snack bags before Happy Hours, will also be served. The organizer will not provide other meals. Participants can buy fast foods in the venue, or go to the nearby restaurants to have lunches or dinners.

14.3. Internet

We provide internet access in the Venue, and there is public internet available in public areas all over the city. However, Google and its based apps, such as Gmail, YouTube and so on are strictly constrained in China.

14.4. Insurance

Besides the travels to and from China, Participants' travelling/health insurances should also cover their stay in China. Please consult the insurance agents to make sure of this.

14.5. Weather

In July, you may expect hot days in Shanghai with average temperature around 30°C/86°F. More detailed data based on historical records are as follows:

- High Temperature: 32°C / 90°F
- Low Temperature: 25°C / 77°F
- Humidity: 80%
- Rainfall: 142 mm
- Rainy Days: 11 days
- Sunrise: 04:54 ~ 05:10
- Sunset: 18:50 ~ 19:02

Data source: <https://www.travelchinaguide.com/cityguides/shanghai/weather-july.htm>

14.6. Post-Congress Tourist Service

Tours to other parts of China after the Congress may be one of the plans of many participants. Post-Congress travel is self-paid. We will arrange travel agencies to provide travel consultation and services at the Congress site.

15. Reference: ICMI & IMU

15.1. About IMU

The International Commission on Mathematical Instruction was established at the Fourth International Congress of Mathematicians held in Rome in 1908. It was initiated to support a then widespread interest among mathematicians in school education.

After interruptions of activity around the two World Wars, ICMI was reconstituted in 1952. It was a time when the international mathematical community was being reorganized and ICMI then became a commission of the International Mathematical Union (IMU).

The International Mathematical Union (IMU) is an international non-governmental and non-profit scientific organization, with the purpose of promoting international cooperation in mathematics. It is a member of the International Council for Science (ICSU) and has endorsed repeatedly ICSU's Principle of Freedom, Responsibility & Universality of Science. The objectives of the International Mathematical Union (IMU) are:

- a. To promote international cooperation in mathematics
- b. To support and assist the International Congress of Mathematicians and other international scientific meetings or conferences
- c. To encourage and support other international mathematical activities considered likely to contribute to the development of mathematical science in any of its aspects, pure, applied, or educational

More precise objectives and detailed Information about the organization of IMU can be found in its statutes (and of course in the IMU server that you are currently visiting). Legally, IMU is an unincorporated association, recognized as a charitable organization by the internal revenue service of Berlin, Germany (Finanzamt Berlin-Charlottenburg). Ongoing activities concerning IMU are published in IMU Bulletins and in the bimonthly newsletter IMU-Net to which everybody can subscribe.

15.2. About ICMI

Devoted to the development of mathematical education at all levels, the International Commission on Mathematical Instruction (ICMI) is a commission of the International Mathematical Union (IMU), an international non-governmental and non-profit scientific organization whose purpose is to promote international cooperation in mathematics.

Founded at the International Congress of Mathematicians in Rome, 1908 with the initial

mandate of analysing the similarities and differences in the secondary school teaching of mathematics among various countries, ICMI has considerably expanded its objectives and activities in the years since.

ICMI offers a forum to promote reflection, collaboration and the exchange and dissemination of ideas on the teaching and learning of mathematics from primary to university level. ICMI works to stimulate the creation, improvement and dissemination of recent research findings and of the available resources for instruction (e.g. curricular materials, pedagogical methods, the appropriate use of technology, etc.).

The Commission aims to facilitate the spread and understanding of information on all aspects of the theory and practice of contemporary mathematical education from an international perspective. ICMI has the additional objective of providing a link between educational researchers, curriculum designers, educational policy makers, teachers of mathematics, mathematicians, mathematics educators and others interested in mathematical education around the world.

ICMI takes initiative in inaugurating appropriate activities, publications and other programs designed to further the development of mathematical education and to improve the public appreciation of mathematics. It is also charged with the conduct of IMU's activities on mathematical or scientific education. In the pursuit of its objectives, ICMI cooperates with various thematic and regional groups formed within or outside its own structure.

Among international organizations devoted to mathematics education, ICMI is distinctive because of its close ties with the professional communities of mathematicians and mathematical educators as well as its breadth – thematic, cultural and regional.

ICMI as an Organization

The International Commission on Mathematical Instruction was established at the Fourth International Congress of Mathematicians in Rome, 1908. Following interruptions in activity as a result of the First and Second World Wars, ICMI was reconstituted in 1952 and became an official commission of the International Mathematical Union (IMU).

As a scientific union, IMU is a member of the International Council for Science (ICSU). This implies that through IMU, ICMI is to abide by the ICSU statutes, one of which (Statute 5) establishes the Principle of the Universality of Science, the essential elements of which are non-discrimination and equity. Through this principle, ICSU affirms the right and freedom of scientists to participate without discrimination and on an equitable basis in legitimate scientific activities, whether they be conducted in a national, transnational or international context, regardless of their citizenship, religion, political stance, ethnic origin, sex, etc. Apart from observing IMU and ICSU general rules and principles, ICMI works with a large degree of autonomy.

The General Assembly of ICMI meets during the International Congresses on

Mathematical Education (ICMEs), held every four years. This Assembly is responsible in particular for the election of the Executive Committee of ICMI, which includes the presiding officers of ICMI.

The General Assembly of IMU formally adopts ICMI's Terms of Reference as well as the procedures for the election of the Executive Committee of ICMI. Moreover, the vast majority of the current funding of ICMI comes from an IMU subvention that is approved by the IMU General Assembly. ICMI files an annual report of its activities and a financial report to the IMU Executive Committee for endorsement. Furthermore, ICMI files quadrennial reports at General Assembly meetings of both IMU and ICMI.

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