
ICCM Newsletter, 2017

by Shu-Cheng Chang*

Vision and Mission

Motivation

The establishment of the International Consortium of Chinese Mathematicians (ICCM) was announced in Beijing in July 2016 by a large number of famous Chinese mathematicians. This organization consists of mathematicians of Chinese descent who are spread all around the world. The organization's major function is to promote and advance mathematics within the extended Chinese community and to build good relationships between Chinese mathematicians and other mathematicians throughout the world.

In 1998, the first International Congress of Chinese Mathematicians (also called ICCM) was held in Beijing. We have since held this congress once every three years in locations that rotate from session to session. So far the congress has been held in Beijing, Taipei, Hong Kong, Hangzhou, Beijing, Taipei, and again in Beijing.

After the success of these meetings, we decided to expand their function in order to better serve the Chinese mathematics community. After all, the growth of the Chinese economy has facilitated the growth in investments into research and education. We have since seen a rapid increase in the number of young Chinese mathematicians spread all over the world. We needed to form the ICCM in order to organize meetings and publish magazines, books, and journals. When I first proposed the idea of forming the ICCM, we saw great enthusiasm among our fellow Chinese mathematicians. The organization has no interest in anything other than scholarly work and promoting mathematics-related activities. Our motivation is simple: we like to see and work with our

mathematics friends who are scattered throughout other countries.

The establishment of the ICCM has enabled us to create many more activities than we could have handled before. For example, we have formed a consortium of applied mathematicians, running a conference in applied mathematics each year within China. We also started an archive called MathSciDoc, which intends to put all papers related to mathematics online. We also intend to have an annual meeting to meet and give out awards of various kinds.

We believe that the formation of the ICCM will greatly strengthen the research and education of mathematics among researchers of Chinese descent. I also hope that the ICCM will promote friendship between Chinese mathematicians and mathematicians of different heritages, based elsewhere in the world.

Background

The American Mathematical Society (AMS) and the European Mathematical Society (EMS) are the two most famous mathematical societies. The AMS and EMS are associations of professional mathematicians dedicated to the interests of mathematical research and scholarship, and serve the national and international community through their publications, meetings, advocacy, and other programs located in Europe and America. This kind of the mathematical society is very much needed in Asia, especially in China. There are a large number of Chinese mathematicians in China and abroad, and there are a large number of very talented Chinese students who have a vested interest in mathematics. In order to give them the best environment for research, the ICCM was announced in 2016 in Beijing.

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Goals

- Promote mathematical research in China, both pure and applied
- Assist and advise on problems of mathematical education
- Show concern for the broader relations of mathematics to society
- Foster friendship between Chinese mathematicians and mathematicians of different heritages, based elsewhere in the world
- Establish a sense of identity amongst Chinese mathematicians
- Represent the mathematical community in supranational institutions

Function

In order to strengthen mathematics research and education among researchers of Chinese descent and to promote friendship between Chinese mathematicians and mathematicians of different heritages, based elsewhere in the world, the ICCM's mission is as follows:

- To convene the International Congress of Chinese Mathematicians
- To organize academic conferences
- To publish ICCM Notices, mathematics journals, and other publications
- To participate in and promote international academic exchanges
- To establish awards for encouraging outstanding mathematicians

Activities and Programs

Annual Meeting

The International Consortium of Chinese Mathematicians shall hold an annual meeting. Every three years, the annual meeting is expanded into a larger meeting called *The International Congress of Chinese Mathematicians* (see below). The location of the ICCM annual meetings will rotate among different cities in the Mainland, Taiwan, Hong Kong, and Macau. The activities of ICCM annual meetings include academic talks, prize presentations, reports, and discussions of ICCM matters.

The first annual meeting of the International Consortium of Chinese Mathematicians (ICCM) was held in December 2017 at Sun Yat-Sen University, Guangzhou. It was jointly hosted by the Yau Mathematical Science Center (YMSC), Tsinghua University, and the School of Mathematics at Sun Yat-Sen University.

The International Congress of Chinese Mathematicians

The International Congress of Chinese Mathematicians is a triennial event that brings together Chinese and international mathematicians to discuss the latest research developments in pure and applied mathematics. It was initiated by Professor Shing-Tung Yau and sponsored mainly by Morningside. ICCM is hosted by institutions in Mainland China, Hong Kong, and Taiwan, on a rotating basis.

Previous ICCM Meetings

ICCM 2016, Beijing; ICCM 2013, Taipei; ICCM 2010, Beijing; ICCM 2007, Hangzhou; ICCM 2004, Hong Kong; ICCM 2001, Taipei; ICCM 1998, Beijing.

CAM-ICCM Workshop

This international workshop is the annual meeting of CAM (Computational and Applied Mathematics). Its intention is to provide a forum for researchers from Hong Kong and Mainland China to exchange ideas with international experts working on multi-scale methods and large-scale computations for scientific computing. The ICCM has the mission of enhancing collaboration among Chinese mathematicians working in computational and applied mathematics and encouraging their collaboration with international experts.

Previous CAM-ICCM Workshops

- 1st CAM-ICCM Workshop in 2012: Imaging Science, a workshop in honor of Stanley Osher
- 2nd CAM-ICCM Workshop in 2013: NCTS Workshop on Numerical Linear Algebra and High Performance Computing
- 3rd CAM-ICCM Workshop in 2014: Structured Matrices and Tensors: Analysis, Algorithms and Applications
- 4th CAM-ICCM Workshop in 2015: International Conference on Optimization, Sparsity and Adaptive Data Analysis
- 5th CAM-ICCM Workshop in 2016: Multiscale and Large-scale Scientific Computing
- 6th CAM-ICCM Workshop in 2017: The 6th ICCM CAM Conference on Geometry and Imaging (in honor of Prof. David Mumford's 80th birthday)

Sze Lim Lectures

There will be ten ICCM Sze Lim Lectures to be held in the Greater China region each year, the ten annual lectures are to be held in spring and autumn with one in each of the five regions in Greater China. Each event will last for one week, conducted by a speaker (here-

after referred to as “ICCM Sze Lim Chair Professor”) who will give at least two talks with one (hereafter referred to as “popular talk”) mainly aimed at an audience of over one hundred undergraduate students and high school students.

Goal: To popularize and promote mathematics and its development

Funding: Thanks to Mr. Sze Lim Li’s generous support in establishing ICCM Sze Lim Lecture Fund (hereafter referred to as “Sze Lim Fund”), all the expenses of the Sze Lim Lectures will be covered by Sze Lim Fund.

Scale: Ten lectures per year

More information regarding the ICCM Sze Lim Lectures may be found here: <http://www.ims.cuhk.edu.hk/iccm/>

Publishing

MathSciDoc

MathSciDoc (<http://archive.ymsc.tsinghua.edu.cn>) is an automated electronic archive and distribution server for mathematical articles. The content of MathSciDoc covers all aspects of mathematics. MathSciDoc is maintained and operated by Yau Mathematical Sciences Center of Tsinghua University. All MathSciDoc submissions are freely available to others. Only registered users can upload their submissions, comment on other registered users’ submissions, and post replies.

Goal: To make all mathematicians draw closer to one another, through awareness of each other’s work, to make mathematical papers easily accessible, to introduce an environmentally conscious alternative to traditional print publishing, and to provide a convenient platform for academic exchanges.

Basic Functions: Paper upload, account management, search feature, browse option, help documentation, etc.

Advanced Functions: Paper reviews, conference information, paper download statistics, columns for introducing mathematicians, mathematical glossary, etc.

Notices of the International Congress of Chinese Mathematicians

This publication is the official semi-annual periodical of the ICCM organization, the subject of which includes news, research, and presentation of various perspectives related to Chinese mathematics development and education. This periodical is intended for anyone who is interested in following Chinese mathematics.

Mathematics, Science, History and Culture

(數理人文)

The objective of this publication is to present scientific news and advances, while introducing the history of various ideas where mathematics and science intersect, and advocating the fusion of mathematics with science, history, and culture. It publishes four issues per year.

Awards

Best Paper Award

Each year during the annual ICCM winter meeting, ten gold awards and ten silver awards will be given to papers which are authored mathematicians of Chinese descent. The awards are sponsored by TCL Corporation.

Selection Criteria

The selection process consists of two rounds. In the first round, there will be 20 subject committees, and in the second round, there will be a global committee. The committee members will be appointed by the ICCM scientific committee.

Rules

- Each proposed paper must be authored by at least one person of Chinese descent.
- Only papers that are posted on MathSciDoc will be considered.
- A proposed paper must have been published in a respectable journal in the last five years.

Award Presentation

- In December, each gold and silver award candidate will be invited to speak at the winter meeting of the ICCM.
- The prizes will only be awarded to candidates who attend the winter meeting.
- The award ceremony will take place in the morning of the first day of the winter meeting.

Morningside Awards (Morningside Medal of Mathematics and Applied Mathematics)

The Morningside Medal of Mathematics, established in 1998, recognizes the outstanding mathematicians of Chinese descent under the age of 45 for their achievements in the research of pure and applied mathematics. Up to six medals, two gold and four silver, are awarded every three years at the International Congress of Chinese Mathematicians. The candidates were nominated worldwide, then referred by experts in the relevant field, discussed, and finally voted upon by the Morningside Medals of Mathematics Selection committee chaired by S.T. Yau.

A nomination committee for the Morningside Medal of Mathematics, comprising of a maximum of fifty Chinese mathematicians worldwide, nominates individuals based on their research, qualifications, and experience. Subsequently, the nomination committee submits the names of the nominated individuals, along with supporting materials, to the selection committee. After a thorough multi-step review, the selection committee, comprising of leading mathematicians with different research interests, makes a final decision. All the members of the selection committee, with the exception of the committee chair, are non-Chinese, thereby ensuring the independence and integrity of their decision.

Chern Prizes

The Chern Prize in mathematics was established in 2001 in honor of Professor Shing-Shen Chern, one of the greatest geometers and Chinese mathematicians of the twentieth century. The Chern Prize is presented every three years to mathematicians of Chinese descent who have made exceptional contributions to mathematical research or to public service activities in support of mathematics.

New World Mathematics Awards (新世界奖)

Mathematics and mathematics education are of great significance in the human pursuit of knowledge and truth. They are the foundation of science and technology. In 2007, Dr. Henry Cheng, Managing Director of New World Development Company Limited and Professor Shing-Tung Yau, an outstanding mathematician, co-initiated the “New World Mathematics Awards” (NWMA). The goal of this program is to encourage outstanding Chinese mathematics students worldwide in their pursuit of mathematical truth.

ICCM International Cooperation Award

The ICCM International Cooperation Award is presented to an individual who has promoted the development of mathematics in China, Hong Kong, and Taiwan through collaboration, teaching, and support of Chinese mathematicians.

Yau College Math Contests

Based on Prof. Shing-Tung Yau’s suggestions, it has been proposed to organize college student mathematics contests. Competing with their peers can help to enhance undergraduates in their basic college training in mathematics. The examination shall cover a wide range of subjects. Deep and interesting questions will motivate students to learn, and they will greatly benefit from the outstanding panel there to oversee the contest.

Young talents in China are abundant. The aim of the competition is to help many students in China acquire basic training in modern mathematics. It is a fundamental step to building up a solid foundation in the developments of mathematics in China. We believe the contests will bring college mathematics education in China to a higher level. The test results shall be important references to admitting graduate students both in and outside of China.

ICCM Membership

Register at: http://iccm.tsinghua.edu.cn/_membership/registration.html

Types of Memberships

There are six types of membership in the Consortium: ordinary, contributing, honorary, corporate or institutional, and student.

Ordinary Membership

Ordinary members must possess a doctorate in the mathematical sciences. New ordinary members must be recommended by two incumbent ordinary members or one institutional member. Membership is granted upon the approval of the Council and payment of the membership fee. Individuals may become ordinary members.

There are three varieties of ordinary membership: academic, contributing, and honorary.

Faculty in universities and institutions may apply to be an academic member. An academic membership may be upgraded to be a contributing membership if the registration fee has been paid ten times.

Ordinary members shall become contributing members for a given year upon the payment of the contributing membership fee. (Please refer to the Charter: Article 2, Chapter 4).

Honorary members shall be individuals with significant or outstanding contributions to the Consortium. New honorary members shall be recommended by two or more members of the Council. Membership shall be granted upon approval of the Council and the Board of Trustees. One may not apply for honorary membership: It is granted only to ICCM for members who make significant contributions.

Student Membership

Student members shall be enrolled students working towards a doctorate degree. New student members shall be nominated by institutional members with whom they are affiliated. Their membership shall require the approval of the Council and student members shall apply on an annual basis. The duration of student membership shall be no longer than two years. An institutional member may nominate no more than 15 student members per year.

Corporate or Institutional Membership

Any university, college, company, corporation, or other association interested in supporting the goals of the Consortium and promotion of mathematics may become a corporate member or institutional member by filling out a membership application and obtaining approval from the Council. The Consortium, in keeping with its strictly academic nature, shall not grant membership to any religious, political, lobbying, or for-profit organizations.

Membership Fees

Ordinary Membership

Annual membership fees are due on the 1st day of January each year. The annual fee for an academic member is US \$100. The annual fee for an institutional member is US \$1,000.

Subscribers to either ICCM journal—the *Notices of the International Congress of Chinese Mathematicians*, or *Mathematics, Science, History and Culture*—will receive free membership for the year.

Student Membership

Annual membership fees are due on 1st day of January each year. The membership fee for student members is US \$50.

Institutional Membership

Annual membership fees are due on the 1st day January each year. The membership fee for an institutional member is US\$1,000.

A registered institutional member is entitled to select as many as 15 (fifteen) of its graduate and/or post-doctoral students to join as individual members at no cost.

A registered institutional member is also eligible to receive the Li Sze Lim Lectureship award (US\$5,000).

Organization of the ICCM

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