The Asian Branch of International Conference on Membrane Computing (ACMC2020)

06-09 July, 2020, Ulaanbaatar, Mongolia, With focus on AI (Applications and Implementations)

Website: 2020.asiancmc.org

Call for papers

ACMC 2020, the Asian Branch of International Conference on Membrane Computing, is one of the flagship conferences on Membrane Computing, aiming to provide a high-level international forum for researchers working in membrane computing and related areas, especially for the ones from the Asian region. This conference is the ninth edition of ACMC with the eight editions having successfully taken place in Wuhan (China, 2012), Chengdu (China, 2013), Coimbatore (India, 2014), Anhui (China, 2015), Bangi (Malaysia, 2016), Chengdu (China, 2017), Auckland (New Zealand, 2018), Xiamen (China, 2019) and also a geographical expansion of ICMC (International Conference on Membrane Computing). The other branch, European Branch of ICMC (ECMC), is organized every year since 2000 in different European countries.

Like artificial neural networks, evolutionary algorithms, swarm intelligence, cellular automata and DNA computing, membrane computing is also a branch of natural computing or nature-inspired computing and was initiated by Gheorghe Păun in 1998. It aims to abstract computing models, called membrane systems or P systems, from the structure and the functioning of the living cell as well as from the cooperation of cells in tissues, organs, and populations of cells. This research area has grown into a vigorous scientific discipline and has attracted a large number of researchers all over the world.

ACMC 2020 is planned as a friendly interactive conference with several introductory tutorials, several plenary speeches and some specialized sessions, which will cover a wide range of topics on membrane computing, including theory, applications, implementation and various aspects related to membrane computing. The registration fee will be of about 400 USD per person. This fee covers the participation, the special dinner, the tourist programme, as well as the lunches. The accommodation, to be paid by each participant, will be available at various prices. Various accommodation possibilities will be posted soon on the conference page.

After the conference on the participants request, during 10th – 15th July, 2020, special, unofficial and optional cultural events could be organized including to see the Mongolian National Festival "Naadam" related performances and additional three nights Gobi tour, etc. More detail could be found on the conference page.

Topics

The Ninth Asian Branch of International Conference on Membrane Computing (ACMC2020) provides an open platform to bring together scholars worldwide to present their recent work on membrane computing. This edition of the conference particularly focus on topics related to applications and implementations of membrane computing but not limited to as follows:

(1) Applications of membrane computing

- Robots controller design.
- Modeling using P systems for biological systems, medical-biology, bio-medicine, ecological systems, etc.
- Membrane-inspired optimization algorithms for various problems.
- Fault diagnosis of various systems, such as robots, power systems, etc.
- Modelling and simulation using P systems for bio-ICT, etc.
- Other applications.

(2) Implementation of membrane computing models

- Software implementation.
- Hardware implementation.
- Biological implementation.
- Biochip implementation.
- Other implementation.

(3) Theoretical aspects of membrane computing

- Various variants of computing models: cell-, tissue- and neural-like P systems.
- Computing power of membrane computing models.
- Computing efficiency of membrane computing models.

(4) Related topics

- Bio-Inspired Optimization Techniques, such as optimization algorithms inspired by cells or DNA computing
- Other topics related to membrane computing or dealing with cellular computing, DNA computing, etc.

Monday Tutorials

A couple of 3-hour tutorials will be offered on Monday, 6th July 2020 and will be held at the MUST-8 building, 12th floor, Conference hall. Morning sessions will begin at 09:00 and the afternoon sessions will begin at 13:30.

Each half-day tutorial will consist of 3 hours of lectures. Each tutorial fee is 120USD. Fee includes entrance to one tutorial, one copy of the tutorial materials, coffee breaks. The attendees must choose the tutorial(s) they would like to attend at the time of registration. On-site registration will be very limited.

Awards

ACMC 2020 sets up two kinds of best papers awards, BEST PAPER AWARD and BEST STUDENT PAPER AWARD, which aims to promote the academics, encourage young scientists to participate in academic activities, further to improve the paper quality and expand conference influence.

1. Best Paper Award Regulations:
(1) Eligibility
The considered papers must satisfy:
    (i) The paper is accepted by the ACMC 2020;
    (ii) One of the authors must register;
    (iii) One of the authors must present the paper at the conference.
(2) Requirement
The paper should present a significant contribution with regard to theoretical results, applications or implementation of P systems, or comprehensive and high-level surveys on a specific topic, and should be written in a professional way.

2. Best Student Paper Award Regulations
(1) Eligibility
The considered papers must satisfy:
    (i) The paper is accepted by the ACMC 2020;
    (ii) The first author must be an undergraduate, master or PhD student.
    (iii) The student must finish the registration process and present the paper at the conference.
(2) Requirement
The paper should present a significant contribution with regard to theoretical results, applications or implementation of P systems, or comprehensive and high-level surveys on a specific topic, and should be written in a professional way.

3. Procedure
The best paper and best student paper are selected by a Technical Committee through evaluating the reviewing reports, quality and presentation.

4. Award
The best papers elected by these regulations are awarded:
 (1) A certificate of "ACMC 2020 Best Paper Award" or "ACMC 2020 Best Student Paper Award". The certificate is signed by the conference chair;
(2) Prize or gifts.

Plenary Speakers

Dr. Gheorghe Păun, Academician, The Romanian Academy, Bucharest, Romania
  Member of Academia Europaea (The Academy of Europe)
  http://www.gcn.us.es/gpaun/
  http://www.imar.ro/ gpaun/

Dr. Fan-Gang Tseng, VP for R&D, National Tsing-Hua University, Taiwan
  Distinguished Professor, Engineering and System Science Department
  http://fangang.web.nthu.edu.tw/

More speakers are under consideration.

Publications

Papers accepted for both oral and poster presentations will appear in conference
pre-proceedings of ACMC 2020. After the conference, all the accepted papers will
be selected to be considered for publication in the following reputed publications:
    (1) A selection of the ACMC2020 accepted papers will be re-reviewed and
published in the Springer journal "Journal of Membrane Computing (JMC)";
    (2) A selection of the ACMC2020 accepted papers will be re-reviewed and
published in the Special Issue of SCI-indexed journal "Information Sciences";
    (3) More SCI-indexed journals are under discussion.

Important Dates

Submission deadline: **Tuesday April 14, 2020**
Acceptance notification: Tuesday June 09, 2020
Camera-ready version and early registration: Tuesday June 23, 2020
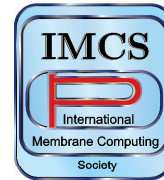
Submission

Authors are invited to submit their original research contributions (includ-
ing significant work in progress) on membrane computing, its applications
and related subjects. Papers (of reasonable length) should be formatted ac-
cording to Lecture Notes in Computer Science (LNCS) format (please re-
fer to `ftp://ftp.springer.de/pub/tex/latex/llncs/latex2e/llncs2e.zip`).
All papers should be submitted as PDF files through EasyChair con-
ference system website. The submission Web page for ACMC 2020 is
`https://easychair.org/conferences/?conf=acmc20200`.
    If there is any difficulty or problem, please do not hesitate to contact the
organizer by email: gexiangzhang@gmail.com and tishdorj@must.edu.mn.

Host institutions

Mongolian University of Science and Technology (MUST), Ulaanbaatar, Mongolia

Sponsors

- International Membrane Computing Society (IMCS)

- Mongolian University of Science and Technology (MUST)

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