

# Modeling Geographical Systems Commission (MGSC)

## Annual report 2021

### A. Membership

The steering committee of Modeling Geographical Systems Commission (MGSC) consists of chair, secretary, 10 steering committee members, and 10 honorary advisory members, as shown in Figure 1. All members of MGSC steering committee are listed as follow:

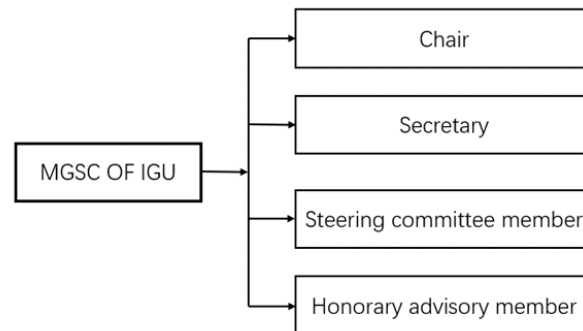


Figure 1. Structure of MGSC steering committee

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Additionally, MGSC already has 89 members since May 2021 since our commission started calling for new members formally. The counts of members by country are listed as Table 1.

Table 1. Counts of members by country

Country	Counts
China	64
India	4
USA	3
Austria	3
Australia	2
UK	2
Brazil	1
Bulgaria	1
Canada	1
France	1
Germany	1
Czech	1
Portugal	1
South Korea	1
Spain	1
Sri Lanka	1
Uganda	1

## B. Meetings

### B.1 Organized meetings

In 2021, MGSC has organized two board meetings and co-organized four conferences (and training courses):

1. The first board meeting of MGSC (Online, Jan 27 2021, 14 attendees)

In this meeting, Prof. Min Check kicked off the meeting by introducing himself, followed by the self-introductions of board members. Then, several topics are discussed, including the website of MGSC, four awards, the membership of MGSC, regular meeting organization and the future plans. As shown in Figure 2.

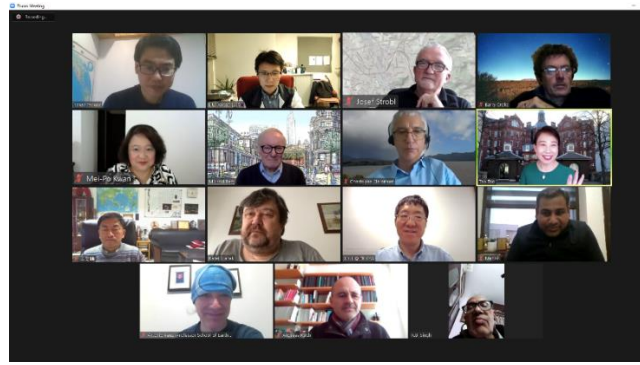


Figure 2. The first board meeting of MGSC

2. The second board meeting of MGSC (Online, Sep 20th 2021, 11 attendees)

In the meeting, Prof. Min Chen firstly reported the progress in member registration, followed by reviewing the events and news that happened this year. At last, all participants discussed the future activities of MGSC. The topics contained calling for memberships, collecting and spreading the news, organizing conferences (workshops and webinars), and related awards. As shown in Figure 3.



Figure 3. The second board meeting of MGSC

3. The 2nd national forum on geographic modeling and simulation (and the launch ceremony of the training course on Chinese geographical analysis models) (Nanjing China, January 16-17, 2021, more than 22,000 online audiences.)

Concentrating on the development of domestic geographical analysis models and modeling platforms, this forum calls on Chinese geographical modelers to work together to develop domestic geographical analysis models and to build an ecological circle of autonomous model systems for the target of constructing Chinese autonomous geographical simulators and promoting the international researches in the fields of geographic modeling and simulation. 21 professors were invited and gave presentations to share their work and achievements in the related domains of geographic modeling and simulation. In addition, the launching ceremony of the training course on Chinese geographical analysis models was performed in this forum. As shown in Figure 4.

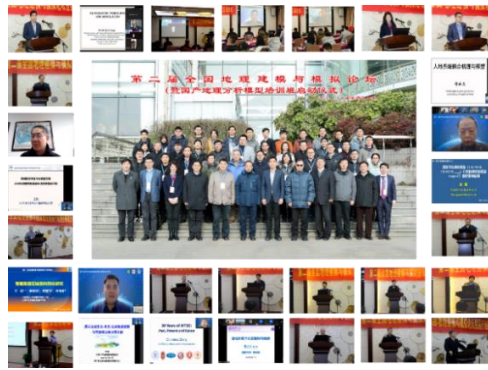


Figure 4. The 2nd national forum on geographic modeling and simulation

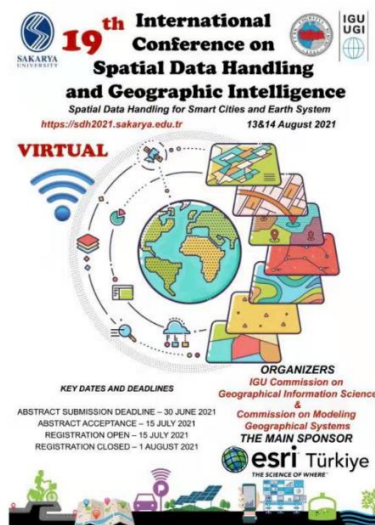
4. The first training course on Chinese geographical analysis models (Online, August 9-16, 2021, 1285 students from over 10 countries)

This training session focused on four hydrological models: Distributed Time Variant Gain Model (DTVGM), Uncertainty Quantification Python Laboratory (UQ-PyL), Geomorphology-Based Hydrological Model (GBHM), and Spatially Explicit Integrated Modeling System (SEIMS). As shown in Figure 5. The success of this training session can promote the construction of the Chinese geographic model ecosystem and the open and sustainable geographic model community. It can also facilitate the model reusing, knowledge sharing, and collaborative geographic research.



Figure 5. The first training course on Chinese geographical analysis models

5. IGU 19th International Conference on Spatial Data Handling and Geographic Intelligence (Online, August 13-14, 2021)



6. The 2nd International Geography and Sustainability Workshop (Online, November 23-24, 2021, 500 participants from 40 countries)

IGU International Workshop on Geography and Sustainability 2021 aims to promote comprehensive and integrated research on geography.

Concentrating on the theme of “Geography of the Anthropocene: Transforming our world for sustainable development”, the workshop set up three keynote speech sessions and 10 parallel sessions which received 101 abstracts for presentations. 83 experts and scholars gave presentations relevant to "land degradation", "disaster risk", "water resources", "agricultural geography" and "geographic modeling" "land use", "urbanization", "heritage Park", "geographical education", "Scientific session on geography and sustainability for young and early-career researchers" and other themes. Finally, 24 winners of the best speaker award were selected.

At the closing ceremony, Prof. Michael Meadows, the President of IGU, gave a conclusion about this workshop. He highly praised this workshop and issued an invitation to the centennial congress of the IGU. As shown in Figure 6.

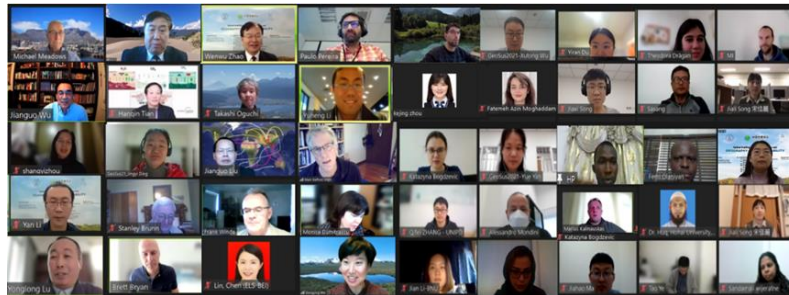


Figure 6. IGU International Workshop on Geography and Sustainability 2021

## B.2 Forthcoming meetings

In 2022, we plan to organize a virtual session—Geographic information modelling and simulation in the era of big data—in the centennial congress of the IGU that will be held in Paris from June 18 to 22, 2022. As shown in Figure 7.

Call for Abstracts | The session of Geographic information modelling and simulation in the era of big data in IGU Paris 2022  
June 18 to 22, 2022

The centennial congress of the International Geographical Union (IGU) will be held in Paris from June 18 to 22, 2022. Around the theme "Time for Geographers" of the congress, the Modeling Geographical Systems Commission (MGSC) of IGU will organize a virtual session—Geographic information modelling and simulation in the era of big data—to promote idea exchange and achievement sharing in this field.



Figure 7. Call for abstracts of this session (<http://www.igu-geomodeling.com/>)

## C. Networking

In 2021, MGSC has collaborated with several IGU Commissions and other international organizations in conference and training course organization. They are listed as follow:

### **IGU Commissions**

IGU Commission on Geographical Information Science

IGU Commission on Agricultural Geography and Land Engineering

IGU Commission on Geography for Future Earth: Coupled Human Earth Systems for Sustainability

IGU Commission on Geoheritage

IGU Commission on Hazard and Risk

IGU Commission on Land Degradation and Desertification

IGU Commission on Land Use and Land Cover Change

IGU Commission on Water Sustainability

IGU Modeling Geographical Systems Commission

IGU Young & Early Career Geographers Taskforce

IGU Young and Early Career Geographers Working Group on Geography and Sustainability

### **Other international organizations**

Asian Geographical Association (AGA) Young Geographer Working Group (YGGWG)

International Environmental Modelling and Software Society (iEMSs)

International Cartographic Association (ICA) Commission on Geospatial Analysis and Modeling

## D. Publications

There is no paper published this year.

The website of the commission is <http://www.igu-geomodeling.com/>. News about the commission is published on the website and sent to our members via Google Group.

## E. Archival Contributions

During the period in question, no archival contributions have been made. We hope we can post events on the IGU website in the future.