Modeling Geographical Systems Commission (MGSC)

Annual report 2022

A. Membership

The steering committee of Modeling Geographical Systems Commission (MGSC) consists of chair, secretary, 9 honorary advisory members, and 10 steering committee members, as shown in Figure 1. All members of MGSC steering committee are listed as follow:
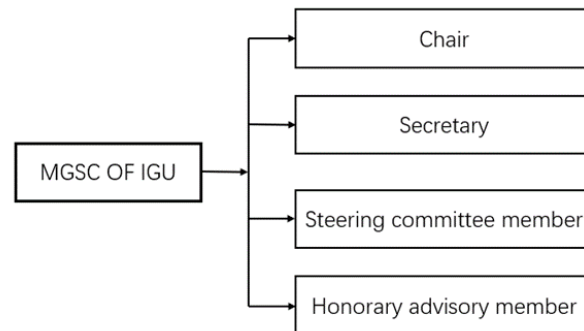

Figure 1. Structure of MGSC steering committee

Chair
Prof. Min Chen
Nanjing Normal University, China
Links: http://schools.njnu.edu.cn/geog/person/min-chen
Email: chenmin0902@163.com

Secretary
Prof. Wei Luo
National University of Singapore, Singapore
Links: https://ap5.fas.nus.edu.sg/fass/geowl/
Email: geowl@nus.edu.sg

Honorary Advisory Member (Alphabetically ordered by last name)
Prof. Luc Anselin
University of Chicago, USA
Links: https://spatial.uchicago.edu/directory/luc-anselin-PhD
Email: anselin@uchicago.edu

Prof. Michael Batty
University College London, UK
Links: https://www.urbantransformations.ox.ac.uk/blog/
Email: m.batty@ucl.ac.uk

Prof. Stewart Fotheringham
Arizona State University, USA
Links: https://isearch.asu.edu/profile/2372224
Email: sfotheri@asu.edu

Prof. Tony Jakeman
Australian National University, Austrlia
Links: https://researchers.anu.edu.au/researchers/jakeman-aj
Email: tony.jakeman@anu.edu.au

Prof. Mei-Po Kwan
The Chinese University of Hong Kong, HKSAR, China
Links: http://www.meipokwan.org/
Email: mpk654@gmail.com

Prof. Xin Li
Institute of Tibetan Plateau Research, Chinese Academy of Sciences, China
Links: http://sourcedb.itpcas.cas.cn/cn/expert/201806/t20180619_5027698.html
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Prof. Guonian Lü
Nanjing Normal University, China
Links: http://dky.njnu.edu.cn/info/1213/3877.htm
Email: gnlu@njnu.edu.cn

Prof. Josef Strobl
Universität Salzburg, Austria
Links: http://jstrobl.zgis.net/
Email: josef.strobl@sbg.ac.at

Prof. Jinfeng Wang
Institute of Geographic Sciences and Natural Resources Research, CAS, China
Links: http://sourcedb.itpcas.cas.cn/cn/expert/201806/t20180619_5027698.html
Email: wangjf@Lreis.ac.cn

Steering Committee Members (Alphabetically ordered by last name)
Prof. Tao Cheng
University College London, UK
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Email: tao.cheng@ucl.ac.uk

Prof. Christophe Claramunt
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Prof. Barry Croke
Australian National University, Australia
Links: https://researchers.anu.edu.au/researchers/croke-bfw
Email: barry.croke@anu.edu.au

Prof. Andreas Koch
Universität Salzburg, Austria
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Email: andreas.koch@sbg.ac.at

Prof. Manish Kumar
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Links: http://www.cuh.ac.in/admin/uploads/files/manishks.pdf
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Prof. Erik Nixdorf
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Prof. Antonio Páez
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Prof. Karel Stane
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Links: https://cusp.nyu.edu/profiles/paul-m-torrens/
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Prof. Rumiana Vatseva
Bulgarian Academy of Sciences, Bulgaria
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Additionally, MGSC already has 146 members since May 2021 when 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	107
USA	8
India	5
Austria	3
Singapore	3
UK	3
Australia	2
Canada	2
Japan	2
Germany	2
Brazil	1
Bulgaria	1
Czech	1
France	1
Portugal	1
South Korea	1
Spain	1
Sri Lanka	1
Uganda	1

This year, MGSC has called for Nominations for IGU Outstanding Achievement Award (OAA) and Excellent Young Scholar Award (YSA) in Modeling Geographical Systems. The awards committee selected one winner for OAA and two winners for YSA from our members.

OAA in Modeling Geographical Systems
Prof. Michael Batty

YSA in Modeling Geographical Systems

Dr. Christopher Higgins   Dr. Li He

B. Meetings

Organized and co-organized meetings

1. The session of Geographic information modelling and simulation in the era of big data in IGU Paris 2022 (Online, July 22, 2022, 7 speakers)

    In this session, 7 experts and scholars attended this session and gave presentations. Several topics, including Substantial Development, Big Data and Climate Change, Plant Nitrogen Content Estimation, Land Value Uplift, Model Sharing and Reuse, Rooftop Solar Potential Evaluation, and Geographic Simulation Reproduction, were discussed by attendees. As shown in Figure 2.
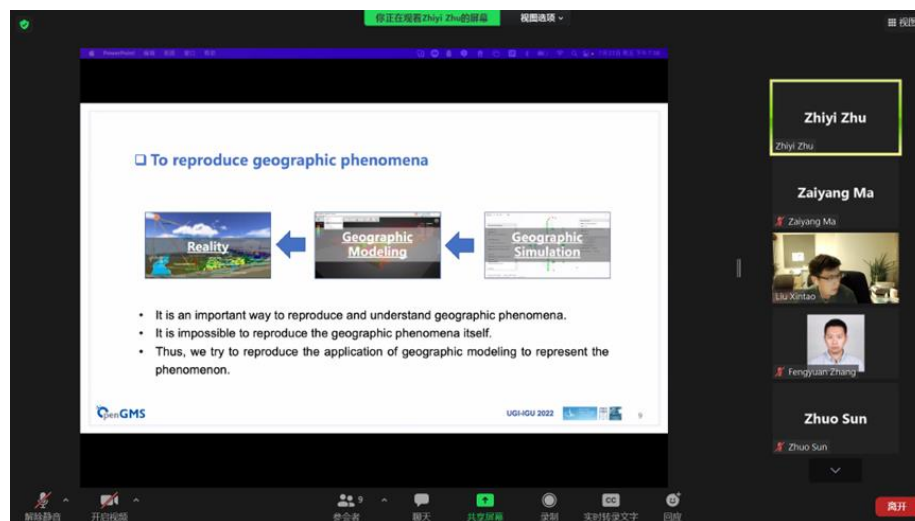

Figure 2. The session in IGU Paris 2022

2. The second training course on Chinese geographical analysis models (Online, July 30th to August 6th, 2022, 2044 students from over 10 countries)

    This training course focused on the topic "Spatiotemporal modeling and analysis". Four models are introduced in detail, including the GeoDetector model developed by the team of Prof. Jingfeng Wang (Institute of Geographic Sciences and Natural Resources Research, CAS), the GeoSOS model developed by the team of Prof. Xia Li (East China Normal University), the HASM model developed by the team of Prof. Tianxiang Yue(Institute of Geographic Sciences and Natural Resources

Research, CAS), and the GWmodelS model developed by the teams of Prof. Bingbing Lu (Wuhan University) and Prof. Guanpeng Dong(Henan University), as shown in Figure 3. The success of this training course can promote the construction of the Chinese geographic model ecosystem and the open and sustainable geographic model community. It can also facilitate model reusing, knowledge sharing, and collaborative geographic research.

Figure 3. The second training course on Chinese geographical analysis models

3. 2022 Annual Academic Conference of the Geographic Modeling and Geographic Information Analysis Committee of the Chinese Geographical Society (Nanjing China, September 17-18, 2022, more than 300 participants)

The theme of the conference is "Geographic Information Modeling and Simulation in the New Era of Geography - Exploration and Practice", and the conference aims to explore new opportunities, new positions, and new paradigms for the development of geographic information modeling and geographic information analysis in the interdisciplinary context.

The conference attracted more than 300 experts and scholars from nearly 70 universities and research institutes in China, including more than 180 offline participants and more than 120 online participants and presenters. 14 sessions were also conducted to discuss 14 hot topics respectively, for example, "Geographic Modeling Theory and System Construction Methods", "Geographic Modeling and Spatial Data Analysis Teaching Research", "Earth System Model Theory, Analysis

and Application", "Crime Geography Theory and Modeling", "Spatial and Temporal Analysis of Environment and Health", "Healthy City Modeling ".

This conference effectively promoted mutual learning and exchange among experts and scholars from all over China and enhanced the friendship among the participants through 150 geographic modeling-related presentations.

Figure 4. 2022 Annual Academic Conference of the Geographic Modeling and Geographic Information Analysis Committee of the Chinese Geographical Society

4. IGU Thematic Conference (Mahendergarh, India, November 24 and 25, 2022)

Figure 5. IGU Thematic Conference

C. Networking

In 2022, MGSC has collaborated with several IGU Commissions and other international organizations in conferences and training courses. They are listed as follow:

IGU Commissions
Commission on African Studies
Commission on Biogeography and Biodiversity
Commission on Climatology
Commission on Cold and High Altitude Regions
Commission on Gender and Geography
Commission on Geography for Future Earth: Coupled Human-Earth Systems for Sustainability
Commission on Geo-heritage
Commission on Hazard and Risk
Commission on Karst, Commission on Land Degradation and Desertification
Commission on Land Use and Land Cover Change
Commission on Mountain Studies
Commission on Political Geography
Commission on Transport and Geography and the IGU Task Force for Young & Early Career Geographers

Other international organizations
Open Modeling Foundation (OMF)
Asian Geographical Association (AGA) Young Geographer Working Group (YGWG)
International Society for Digital Earth (ISDE) Working Group of Education and Capability Building for Digital Earth

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 (igu-mgsc@googlegroups.com).

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.