



中 国 测 绘 学 会

Chinese Society for Geodesy Photogrammetry and Cartography

Chinese Society for Geodesy, Photogrammetry and Cartography

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Prof. Thomas Schulz

Secretary General and Treasurer

International Cartographic Association (ICA)

Beijing, 6th March

**Nomination of Dr SHEN Jie as Co-Chair of the ICA Commission on
Cartography in Early Warning and Crisis Management for the term
2023–2027**

ICA Executive Committee,

It is my great pleasure as the President of Chinese Society for Geodesy, Photogrammetry and Cartography (CSGPC) to propose during the next ICA General Assembly in Cape Town, according with articles 8, 10 and 24 of the ICA Statues, the nomination of Prof. SHEN Jie, as co-chair for the ICA Commission on Cartography in Early Warning & Crisis Management for the next quadrennial term, starting in 2023, together with co-chair Dr Christophe Lienert (Switzerland).

Professor Shen (Professor of the School of Geography in Nanjing Normal University)



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has already been actively engaged as Vice-Chair in the Commission as well as a member of Working Group on Cartographic Body of Knowledge and the commission on Location Based Services for more than 10 years. Together with the proposed co-chair Dr Christophe Lienert (Switzerland) she will guarantee not only for the continuation of the excellent work of this important ICA Commission, but also foster new activities, some of which you can find in the attached proposed Terms of Reference.

The presented nomination has the full support and endorsement of the President and Chinese Society for Geodesy, Photogrammetry and Cartography. We are proud to make this proposal, and we are also certain, that Professor Shen Jie has excellent scientific research management skills and experience in international collaboration, making her an excellent candidate for this position.

Please find attached, besides a declaration of her willingness to serve in this position, the proposed Terms of Reference for the Commission, and a short CV of Shen Jie, which provides you with more details on the candidacy.

If you or the Executive Committee have any questions on this nomination, please do not hesitate to contact either Shen Jie or myself.

Yours sincerely

Zhenzhong Peng

Vice President and Secretary General

Chinese Society for Geodesy Photogrammetry and Cartography

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Attachments:

Note of willingness to serve and motivation

Curriculum Vitae Prof. SHEN Jie

Terms of Reference for the Commission on Cartography in Early Warning & Crisis
Management

2023-2027

Curriculum Vitae

Jie SHEN, Prof. Dr.

School of Geography,
Nanjing Normal University, China
shenjie@njnu.edu.cn

1. Education

<u>Ph.D.</u> in Cartography and Geographic Information System, Department of Geography, Nanjing Normal University, China	09/2004--06/2010
<u>MSc</u> in Cartography and Geographic Information System, Department of Urban and Resource, Nanjing University, China	09/1996--06/1999
<u>BSc</u> in Surveying and Mapping College, China.	09/1987--06/1991

2. Research Fields

- Cartography for early warning and disaster management
- Indoor and outdoor navigation maps
- Cultural maps

3. Academic Experiences

<u>Prof. Dr.</u> in Cartography and Geographic Information System, Department of Surveying and Mapping Engineering Nanjing Normal University	06/2017-
<u>Visiting Scholar</u> , Department of Geography University of California, Santa Barbara (UCSB), USA	09/2014--08/2015
<u>Associate Prof.</u> in Cartography and Geographic Information System, Department of Surveying and Mapping Engineering Nanjing Normal University	09/2002--09/2017
<u>Visiting scholar</u> , Key Laboratory of High Performance Computing, Anhui Province, University of science and technology of China	09/2011--09/2012
<u>Visiting scholar</u> , Department of Cartography and Geographic Information System, University of Hannover, Germany	06/2009--09/2009
<u>Visiting scholar</u> , Department of Cartography Technique university of Munich, Germany	10/2003--10/2004

4. Publications

Journal Articles (: Corresponding author, +: MSc/PhD students supervised)*

1. Mao, W., Hong, S., Chai, T., Shen, J., & **Shen, J***. (2023). Cultural Landscape Reproduction of Typical Religious Architecture in Qingjiangpu Based on Scene Theory. *Applied Sciences*, 13(1), 82.
2. Ziren Gao; Yi Shen; Jingsong Ma *; **Jie Shen**; Jing Zheng. Automatic Clustering of Indoor Area Features in Shopping Malls. *Automatic Clustering of Indoor Area Features in Shopping Malls. ISPRS International Journal of Geo-Information*, 2023, 12(1), 19.
3. Zhu, L., **Shen, J***, Zhou, J., Stachoň, Z., Hong, S., & Wang, X. (2022). Personalized landmark adaptive visualization method for pedestrian navigation maps: Considering user familiarity. *Transactions in GIS*, 26(2), 669-690.
4. Zheng, J., Gao, Z., Ma, J., **Shen, J.**, & Zhang, K. (2021). Deep Graph Convolutional Networks for Accurate Automatic Road Network Selection. *ISPRS International Journal of Geo-Information*, 10(11), 768.
5. **Shen, J.**, Zhou, J. *, Zhou, J., Herman, L., & Reznik, T. (2020). Constructing the CityGML ADE for the Multi-Source Data Integration of Urban Flooding. *ISPRS International Journal of Geo-Information*, 9(6), 359.SCI.
6. Zhou, J., **Shen, J.***, Zang, K., Shi, X., Du, Y., & Šilhák, P. (2020). Spatio-temporal visualization method for urban waterlogging warning based on dynamic grading. *ISPRS International Journal of Geo-Information*, 9(8), 471.
7. Zhu, L., Švedová, H., **Shen, J.**, Stachoň, Z., Shi, J., Snopková, D., & Li, X. (2019). An instance-based scoring system for indoor landmark salience evaluation. *Geografie*, 124(2), 103-131.
8. Kubiček, P., Konečný, M., Stachoň, Z., Shen, J., Herman, L., Řezník, T., ... & Leitgeb, Š. (2019). Population distribution modelling at fine spatio-temporal scale based on mobile phone data. *International Journal of Digital Earth*, 12(11), 1319-1340.
9. Zhou, J., **Shen, J***, Yang, S., Yu, Z., Stanek, K., & Stampach, R. (2018). Method of constructing point generalization constraints based on the cloud platform. *ISPRS International Journal of Geo-Information*, 7(7), 235.
10. Zang, K., **Shen, J***, Huang, H., Wan, M., & Shi, J. (2018). Assessing and mapping of road surface roughness based on GPS and accelerometer sensors on bicycle-mounted smartphones. *Sensors*, 18(3), 914.
11. Huang, Z., Gu, N., Lin, C., **Shen, J.***, & Chang, J. (2018). Real time vanishing points detection on smartphones under Manhattan world assumption. *Pattern Recognition Letters*, 115, 117-127.
12. **Shen, J.**, Fan, H., Mao, B., & Wang, M. (2016). Typification for façade structures based on user perception. *ISPRS International Journal of Geo-Information*, 5(12), 239.
13. **SHEN Jie**, ZHU Yueqin, WU Peng, et al. Parallel Computing Method for POIs Selection Based on Stroke Mesh Decomposition[J]. *Acta Geodaetica et Cartographica Sinica*, 2015, 44(S0):54-61.
14. **Jie**, C. H. E. N. (2013). Parallel Computing Suitability of Contour Simplification Based in MPI. *Acta Geodaetica et Cartographica Sinica*, 42(4), 0.
15. Fan, H., Mao, B., **Shen, J.**, & Meng, L. (2011). Shell model representation as a substitute of LoD3 for 3D modeling in CityGML. *Geo-spatial Information Science*, 14(2), 79-84.

Peer-reviewed Conference Full Papers

1. **Shen, J.**, Zhou, J., & Yang, J. (2021). Preliminary study on knowledge graph construction based on the coupling mechanism of urban disaster and emergency response. Abstracts of the ICA, 3.
2. Zhou, J., **Shen, J.***, Shi, J., & Zhu, L. (2021, November). Indoor navigation path visualization method considering the spatial characteristics. In 16th International Conference on Location Based Services (p. 19).
3. Zhu, L., **Shen, J.***, Gartner, G., & Hou, Y. (2021). Personalized Landmark Sequence Recommendation Method using LSTM-based Network for Navigating in Large Hospitals. Abstracts of the ICA, 3.
4. Zhu, L., **Shen, J.***, & Gartner, G. (2021). Ontology-driven context-aware recommendation method for indoor navigation in large hospitals. In 16th International Conference on Location Based Services (p. 23).
5. Yang, S., **Shen, J.***, Konečný, M., Wang, Y., & Štampach, R. (2018, June). Study on the Spatial Heterogeneity of the POI Quality in OpenStreetMap. In Proceedings of the 7th International Conference on Cartography and GIS, Sozopol, Bulgaria (pp. 18-23).
6. Li, X., **Shen, J.**, Shi, J., & Stachoň, Z. (2018). AN INSTANCE-BASED SCORING SYSTEM FOR INDOOR LANDMARK SALIENCE EVALUATION. In International Conference on Cartography and GIS (pp. 393-400).
7. **Shen, J.**, Yang, S., Zang, K., Zhou, J., Fan, H., & Mao, B. (2018). The opinion of crowd participatory for OpenStreetMap: a survey in China. *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences*, 42(3)..
8. Huang, Z., Gu, N., Hao, J., & **Shen, J.***. (2018). 3DLoc: 3D features for accurate indoor positioning. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 1(4), 1-26.
9. Li, X., Wu, X. Q., Yin, Z. H., & **Shen, J.** (2017). THE INFLUENCE OF SPATIAL FAMILIARITY ON THE LANDMARK SALIENCE SENSIBILITY IN PEDESTRIAN NAVIGATION ENVIRONMENT. *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences*, 42.

5. Research Projects

Research Projects (PI or Co-PI)

1. Project "Research on cognition and construction of urban disaster management and emergency response scenarios based on CIM and big data integration"(promoter), the National Key Research and Development Program 2021-2024
2. Project "Research on integrated model and method of indoor navigation map considering hierarchical landmark constraints" (promoter), funded by NSFC 2019-2022
3. Project "Research on dynamic mapping methods for risk and disaster management under the background of big data" (promoter), the National Key Research and Development Program 2017-2019
4. Project "Research on the model and method of dynamic map generalization coupling user -behavior -space" (promoter), funded by NSFC 2014-2017
5. Project "Research on parallel computing method of map synthesis based on network hierarchy decomposition" (promoter), funded by NSFC 2011-2013
6. Project "Research on Comprehensive Theory and Methods of Mobile Map Mapping Based on User Cognition", funded by NSFC 2007-2009

Research Projects (Participating)

1. Project “the technology of holographic map acquisition and location information aggregation” ,the National Key Research and Development Program 2017-2020
2. Project “Dynamic Mapping and Service of Regional Ecological Civilization Based on Big Data”, Project to Attract Foreign Experts 2019-2020
3. Project “Research on the comprehensive method of non-simulated city 3D model based on visual variable mapping”, funded by NSFC 2017-2020
4. Project “Research on the Symbolization and Rendering Method of Spatio-temporal Data Driven by the Similarity of Visual Variables”, funded by NSFC 2016-2019
5. Project “Research on self-coordination comprehensive model and method of geospatial data based on multiple relational constraints”, funded by NSFC 2012-2015
6. Project “Multi-element synergy mechanism and key technology research of geographic information integration”, funded by NSFC 2007-2010
7. Project “Enrichment, quality assessment and visualization of digital landscape models”, International Cooperation Project(China and Germany) 2008-2010
8. Project “Adaptive visualization of spatial information”, funded by German Max-Planck Society 2001-2005

6. Awards

1. The instructor of Honorary awards of Cybercartography Competition 2022, Association of Geographic Information Laboratories (AGILE) & The International Cartographic Association (ICA) & International Society for Photogrammetry and Remote Sensing (ISPRS) 2022
2. Excellent instructor of the first International Student Competition on Architectural Design and Digital Modeling, the Belt and Road Architectural University International Consortium 2021
3. Instructor of first prize of the 12th National College Student Surveying and Mapping Technology Thesis Contest , National College Surveying and Mapping Professional Contest Alliance & the Vocational Skills Appraisal Guidance Center of the Ministry of Natural Resources 2021
4. Instructor of second prize of the 14th China College Student Computer Design Competition, China College Student Computer Design Competition Organizing Committee 2021
5. *Cartography* won the national first-class undergraduate course (online) 2020
6. Lead the winning of Outstanding Organization Award in the 4th, 5th and 6th Innovation and entrepreneurship competition of Surveying and mapping geographic information in Colleges and universities in Jiangsu Province 2019,2020,2021
7. First prize of Jiangsu Provincial Award for Geodesy Photogrammetry and 2019

Cartography

8. First prize of the 19th,20th Nanjing Normal University Teaching Achievement Award

2019,2021

7. Community Services

1. **Vice Chair**, Commission on Cartography Disaster and Early Warning, International Cartographic Association
2. **Chinese Representative**, ISO/TC 268/SC 1 Smart community infrastructures
3. **Member** of the Map Knowledge Working Group, International Cartographic Association
4. **Member** of the Teaching Guidance Committee for Surveying and Mapping Specialty in Higher Schools of the Ministry of Education, China
5. **Vice Chair**, Commission on Map Culture, Jiangsu Society of Surveying and Mapping Geographic Information
6. **Vice Secretary-general**, Commission on Resource Mapping, Chinese Natural Resources Society
7. **Member** of the Academic Committee of the Chinese Conference on Cartography Theory and Methods, China
8. **Member** of the Technical Commission of the Map Culture and Creative Engineering Technology Innovation Center of the Ministry of Natural Resources, China
9. **Member** of the Theory and Method Working Commission of China Geographic Information Industry Association, China

Dear Mr. Schulz and Tim,

It's my honor to be the chairman candidate of ICA Commission on Cartography in Early Warning and Crisis Management. Of course, it's my pleasure to serve the commission. My brief CV and terms of reference are attached.

My research interests lie generally in the area of cartography in emergency and disaster management, and location based services. Over the past 20 years, I have published more than 80 articles in reputation journals and presided over a number of major international cooperation projects in emergency and disaster management mapping, such as the cooperation between China and the Czech Republic, and also Japan. As a representative of China, I participated in the formulation of disaster reduction standards for smart cities organized by the International Standards Committee. I have rich experiences in international academic exchanges and management.

I have been the Vice Chair of ICA Commission on Cartography in Early Warning and Crisis Management (2019-2023), and the member of ICA Working Group on Cartographic Body of Knowledge (2019-2023) and the member of ICA commission on Location Based Services since 2015. I'm familiar with the ICA. The mission, vision and objectives of ICA inspired me a lot.

I am very happy to organize the work and use all experiences in precious ICA work, especially from our commission activities in Nanjing, Shenzhen (in both I chaired organizing committee), Florence and Vienna. I also would like to follow up on the many activities of our commission in the last period, which, despite the problems with Covid-19, were traditionally rich. After an ICC pre-conference workshops/seminars (similar to in Rio, Washington D.C., Tokyo, Sozopol) the colleagues and I prepared rich program in ICC Florence, Cartography and GIS conference(s) Nessebar, 2020-2022 (with two published proceedings) and EuroCarto2022 in Vienna. Other events took place in individual countries, the commission's activities were also promoted during lectures by its members, e.g. in China, Armenia, Georgia, Bulgaria, the Czech Republic, etc.

I would like to prepare myself for the position of head of the commission, if I am elected to it, I will comply with all the rules and regulations of ICA and work actively and fairly to promote ICA's further development, and I will carry out the forefront researches on technology related to cartography in early warning and crisis management. strengthen international cooperation and exchanges, enhance the level of scientific decision-making bodies and office efficiency, organize scientific activities for researchers to share experience, exchange ideas and meet friends.

I look forward to serving as the chairman of ICA Commission on Cartography in Early Warning and Crisis Management. Thank you very much for your kind considerations.

Best regards



Jie Shen

TERMS OF REFERENCE
of the
ICA Commission on Cartography in Early Warning and Crisis Management
for the term 2023-2027

1. Initiate development of concepts, models and standards for the cartographic visualization of early warning, disaster management, monitoring and resilience.
2. Integrate spatiotemporal information and related data in humanities and social sciences with thematic data for disaster detection, early warning, monitoring, damage assessment, response and training/education.
3. Develop big data analysis, social computing, information distribution technologies (e.g., APIs) crowd-sourcing and artificial intelligence technologies for early warning and crisis management.
4. Generate hazard zone, vulnerability and exposure maps for different type of hazards, such as forest fire, cyclone, floods, droughts, volcano eruptions, earthquakes, landslides, infectious disease etc., and for the identification and assessment of potential risk and disaster zones.
5. Foster quality mapping and cartographic modeling, including state-of-the-art visualization and dissemination technologies, geospatial process and publishing tools, for early warning and crisis management through suitable publications.
6. Provide methodological and technical inputs and advice for efficient technical systems for risk reduction and increase of resilience: monitoring, multi-hazard early warning systems, impact assessment, and risk-based decision-making
7. Promote the development of disaster management plans for pre-, during and post- disaster situations and enhance support for early warning systems, emergency events mitigation and risk-based decision making.
8. Develop technical training and know-how transfer about emergency geospatial information service for institutional partners and developing countries.
9. Conduct international workshops or symposia about selected aspects of cartography and GIScience in early warning and crisis management.
10. Compile and publish reports and proceedings about the work of the commission.

8th March 2023

Prof. Dr. Shen Jie, Nanjing P.R. China & Dr. Christophe Lienert, Berne Switzerland