




IAMG Student Chapter Annual Report

Year:	2020-2021
Chapter:	IAMG Student Chapter at China University of Geosciences
Web-site (URL): hosted by last update	 https://sites.google.com/view/imagcug/iamg-scc
Academic Advisor(s):	Renguang Zuo Guoxiong Chen
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IAMG Student Chapter Annual Report

Members	Name	Last Degree	Research Project	Department
	Yu Wang	Ph.D	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Tong Li	Ph.D	Mathematical geology	State Key Laboratory of Geological Processes and Mineral Resources
	Chunjie Zhang	Ph.D	Mathematical geology	State Key Laboratory of Geological Processes and Mineral Resources
	Zijing Luo	Ph.D	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Dazheng Huang	Ph.D	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Bojun Yin	Ph.D	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Zixian Shi	Ph.D	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Shuang Hong	Master	Mathematical geology	State Key Laboratory of Geological Processes and Mineral Resources
	Hao Liu	Master	Mathematical geology	State Key Laboratory of Geological



IAMG Student Chapter Annual Report

				Processes and Mineral Resources
	Yan Liu	Master	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Jiaxin Nie	Master	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Zhiyi Chen	Master	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Ting Pan	Master	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
	Xueping Wang	Master	Mineral resource prospecting and exploration	State Key Laboratory of Geological Processes and Mineral Resources
Scientific Activities during reporting year:	Invited Talks			
	Date	Place	Inviter	Report Topic
	2021.10.23	Online	Prof. Zeqiang Chen Prof. Jinwei Dong	Remote Sensing Cloud Computing in the Context of Carbon Neutrality Deep



IAMG Student Chapter Annual Report

				integration with industry applications
2021.11.09	State Key Laboratory of Geological Processes and Mineral Resources	Prof. Rengang Zuo Prof. Xiang Xu Prof. Wei Chen		32 Scientific and Technical Paper Presentation
2021.11.15	Room 213, State Key Laboratory of Geological Processes and Mineral Resources	Prof. Yuanbo Wu		Isotopic Geochronology of Orogenic Belts
2021.11.20	State Key Laboratory of Geological Processes and Mineral Resources	Prof. Renguang Zuo Prof. Zhaochu Hu Prof. Lu Wang		The 32nd report meeting of students' Sci-tech papers
2021.11.24	Room 201, State Key Laboratory of Geological Processes	Prof. Pengli Liu		Overalkaline melts formed by partial melting of crustal rocks and the formation mechanism of oriented



IAMG Student Chapter Annual Report

		and Mineral Resources		mineral inclusions in clinopyroxene
	2021.12.21	Room 201, State Key Laboratory of Geological Processes and Mineral Resources	Prof. Junfeng Zhang	Experimental constraints on the rheology and partial melting of the lower crust on the Qinghai-Tibet Plateau
	2021.12.11	Online Meeting	Prof. Yuejun Wang Prof. Zhang Zhouyong	Young Scholars Symposium on Mathematical Geosciences
Taking Part in international/domestic Academic Conferences				
	Data	Conference	Place	Attendee
				Report Title



IAMG Student Chapter Annual Report

	2021.11.09	The 32nd Symposium on Scientific Papers of China University of Geosciences Mineral Resources	Room 213, State Key Laboratory of Geological Processes and	Liu Hao Zhiyi Chen Shuang Hong Yan Liu Jiaxin Nie Chunjie Zhang Zijin Luo Tong Li Yu Wang et al.,	<ol style="list-style-type: none"> 1. Geochemical anomaly recognition based on self-organizing map neural network (Zhiyi Chen) 2. Construction of magnetite geochemical dataset and its application in the classification of mineral deposit types (Shuang Hong) 3. Construction Land Information Extraction and Expansion Analysis of Xiaogan City Using One-Class Support Vector Machine (Jiaxing Nie)
IAMG-SCC (China University of Geosciences) research Achievements					



IAMG Student Chapter Annual Report

Published papers:

- Yin, B., Zuo, R., Xiong, Y., Li, Y., Yang, W., 2021. Knowledge discovery of geochemical patterns from a data-driven perspective. *Journal of Geochemical Exploration* 231, 106872.
- Liu, Y., Zuo, R., Dong, Y., 2021. Analysis of temporal and spatial characteristics of urban expansion in Xiaonan district from 1990 to 2020 using time series Landsat imagery. *Remote Sensing* 13, 4299.
- Li, T., Zuo, R., Xiong, Y., Peng, Y., 2021. Random-drop data augmentation of deep convolutional neural network for mineral prospectivity mapping. *Natural Resources Research* 30, 27–38.
- Zhang, C., Zuo, R., Xiong, Y., 2021. Detection of the multivariate geochemical anomalies associated with mineralization using a deep convolutional neural network and a pixel-pair feature method. *Applied Geochemistry* 130, 104994.
- Zhang, C., Zuo, R., 2021. Recognition of multivariate geochemical anomalies associated with mineralization using an improved generative adversarial network. *Ore Geology Reviews* 136, 104264.
- Luo, Z., Zuo, R., Xiong, Y., Wang, X., 2021. Detection of geochemical anomalies related to mineralization using the GANomaly network. *Applied Geochemistry* 131, 105043.
- Hong, S., Zuo, R., Hu, H., Xiong, Y., Wang, Z., 2021. Magnetite geochemical big data: Dataset construction and application in genetic classification of ore deposits. *Earth Science Frontiers* 28, 87–96 (In Chinese with English abstract).
- Hong, S., Zuo, R., Huang, X., Xiong, Y., 2021. Distinguishing IOCG and IOA deposits via random forest algorithm based on magnetite composition. *Journal of Geochemical Exploration* 230, 106859.



IAMG Student Chapter Annual Report

	<ul style="list-style-type: none"> ● Luo, Z., Xiong, Y., Zuo, R., 2020. Recognition of geochemical anomalies using a deep variational autoencoder network. Applied Geochemistry 122, 104710 <p>Awards:</p> <p>2021 Computers and Geosciences Research Scholarships</p> <p>Yin, Bojun (China Univ. of Geosciences): "Mineral prospectivity mapping via the recurrent neural networks"</p> <p>2021 Natural Resource Research Student Awards</p> <p>Zijing, Luo (China Univ. of Geosciences):" Detection of geochemical anomalies related to mineralization using the GANomaly network"</p> <p>2020 Natural Resource Research Student Awards</p> <p>Chunjie, Zhang (China Univ. of Geosciences): "Recognizing geochemical anomalies using deep convolutional neural network supported by the pixel pair feature method"</p>			
Budget for reporting year:	Item	Budgeted	Expenditure	Note
	Academic activities	0	600	In the past year, we've
	Propaganda lectures fee	0	400	
	Maintaining and Updating of website	0	246	



IAMG Student Chapter Annual Report

	Invited Speakers fee	0	660	had no funding from IAMG
	Office consumables	0	200	
	Activities of memberships	0	200	
Funding requested:	<p><u>2500 USD</u></p> <p>In 2022, we IAMG-SCC plan to keep relationship with the university have subjects of geosciences such as Sun Yat-Sen University, Chengdu University of Technology. We will invite the researchers to communicate with our students and the academic workshop will be held. We also will maintain and update the news on IAMG-SCC official website. To ensure that all memberships of IAMG-SCC can connect good relationships, we will be carrying out more official seminars and membership activities. That is why we increasing the budget for activities of memberships. We also will take part in the activities organized by the university which may provide opportunities to let more students be aware of IAMG-SCC.</p>			
Proposed budget:	Item	Budgeted	Expenditure	
	Academic activities	600		
	Propaganda lectures fee	400		
	Maintaining and Updating of website	300		
	Invited Speakers fee	800		
	Office consumables	200		



IAMG Student Chapter Annual Report

	Activities of memberships	200		
Planned activities:	<ol style="list-style-type: none"> 1. In 2022, we will invite scientists majoring in different fields of geosciences to give lectures and short-term courses every month as soon as possible. Academic communication will become a regular activity in IAMG-SCC in China University of Geosciences. 2. We will still strengthen the propaganda for IAMG-SCC by holding science popularization activity of mathematical geosciences which provides more opportunities for undergraduate students and master students to be aware of mathematical geosciences. 3. We keep to provide courses about computer software such as Matlab and ArcGIS for IAMG-SCC membership. 4. The website is mainly a propaganda tool for IAMG-SCC. We will maintain and update our website. We plan to develop some public home pages on WeChat so that we can share our news and information more efficiency. 5. Keep a relationship with other universities. We will invite the Ph.D. and master's students to attend the geoscience workshops we held. 			