

Jie CHEN

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Professional experience

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| From 2025.12 | Associate Professor, School of Oceanography, Shanghai Jiao Tong University |
| 2024.06-2025.11 | Postdoc Researcher, École Normale Supérieure (ENS), Université PSL
Topic: ANR project MUSH-OCEAN
Supervisor: Jean-Arthur Olive |
| 2022.08-2024.05 | Postdoc Researcher, Institut de Physique du Globe de Paris (IPGP), Université Paris Cité
Topic: Numerical thermal modelling of the global mid-ocean ridge
Supervisor: Mathilde Cannat and Jean-Arthur Olive |
| 2022.01-2022.07 | Research Assistant, Second Institute of Oceanography, MNR
Topic: Microseismicity at the Gakkel Ridge (JASMIN cruise)
Collaborator: Jiabiao Li and Tao Zhang |

Education

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| 2018.09-2021.12 | Ph.D, Marine geophysics, IPGP, Université Paris Cité
Thesis title: The impact of melt supply on fault distribution, volcanism, and the thermal regime at slow spreading ridges
(https://www.theses.fr/2021UNIP7226)
Supervisor: Mathilde Cannat. Co-supervisors: Wayne C. Crawford and Jean-Arthur Olive |
| 2015.07-2018.08 | M. E, Marine geophysics, Second Institute of Oceanography, MNR
Thesis title: Segmentation and melt supply along the ultraslow spreading Southwest Indian Ridge 46-53°E.
Supervisor: Chunhui Tao. Co-supervisors: Tao Zhang and Huaiming Li |
| 2011.08-2015.06 | B. E, College of Marine Geosciences, Ocean University of China |

Research Interests

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| Mid-Ocean Ridges | Hydrothermal system |
| Slow and ultraslow spreading ridges | Submarine volcanism |
| Magmatic and tectonic processes | Seismicity |
| Autonomous Underwater Vehicle (AUV) | Numerical modelling |
| High-resolution bathymetry | Geographic Information System (GIS) |

Publications

1. **Chen, J.**, Tominaga, M., Escartín, J., 2026. Axial-valley floor faults tell a different story than faults outside the axial valley: the role of dike-induced deformation. *Earth and Planetary Science Letters*. <https://doi.org/10.1016/j.epsl.2025.119796>.
2. **Chen, J.**, Leroy, S., J., Watremez, L., Robinson, A. H. (2025). Mantle exhumation and post-rift magmatism at an oblique magma-poor continental margin. *Geophysical Research Letters*. <https://doi.org/10.1029/2024GL112069>.
3. **Chen, J.**, Escartín, J., M., Cannat., (2025). Fault scarps and tectonic strain in young volcanic seafloor. *Earth and Planetary Science Letters*. <https://doi.org/10.1016/j.epsl.2024.119174>.
4. Marjanović, M., **Chen, J. (co-first author)**, Escartín, J., Parnell-Turner, R., Wu, J.-N., (2024). Magma-induced tectonics at the East Pacific Rise 9°50'N: Evidence from high-resolution characterization of seafloor and subseafloor. *PNAS*. <https://doi.org/10.1073/pnas.2401440121>.
5. Yan K, **Chen J**, Zhang T, (2024). Teleseismic Indication of Magmatic and Tectonic Activities at Slow- and Ultraslow-Spreading Ridges. *JMSE*. <https://doi.org/10.3390/jmse12040605>.
6. **Chen J**, Olive J.A, and Cannat M (2023). Beyond Spreading Rate: Controls on the Thermal Regime of Mid-Ocean Ridges. *PNAS*. <https://www.pnas.org/doi/10.1073/pnas.2306466120>.
7. **Chen J**, Crawford W. C, and Cannat M (2023). Microseismicity and lithosphere thickness at a nearly-amagmatic oceanic detachment fault system. *Nature Communications*. <https://doi.org/10.1038/s41467-023-36169-w>.
8. **Chen J**, Zhang T, Li H, Tao C, Cannat M, and Sauter D (2023). Evolution of enhanced magmatism at the ultraslow spreading Southwest Indian Ridge between 46°E and 53.5°E. *Tectonophysics*. <https://doi.org/10.1016/j.tecto.2023.229903>.
9. **Chen J**, Zhang T, Tominaga M, Escartin J, and Kang R (2023). Ocean Sciences with the Spilhaus Projection: A Seamless Ocean Map for Spatial Data Recognition. *Scientific Data*. <https://doi.org/10.1038/s41597-023-02309-6>.
10. Tao C, Guo Z, Liang J, Ding T, Yang W, Liao S, Chen M, Zhou F, **Chen J**, Wang N, Liu X, Zhou J (2023). Sulfide metallogenic model for the ultraslow-spreading Southwest Indian Ridge. *Science China Earth Sciences*. <https://doi.org/10.1007/s11430-023-1108-7>.
11. **Chen J**, Olive J.A, and Cannat M. (2022) Thermal Regime of Slow and Ultraslow Spreading Ridges Controlled by Melt Supply and Modes of Emplacement. *Journal of Geophysical Research: Solid Earth*. <https://doi.org/10.1029/2021JB023715>.
12. **Chen J**, Cannat M, Tao C, Sauter D, and Munschy M. (2021). 780 thousand years of upper-crustal construction at a melt-rich segment of the ultraslow spreading Southwest Indian Ridge 50°28'E. *Journal of Geophysical Research: Solid Earth*. <https://doi.org/10.1029/2021JB022152>.
13. Ding T, Wang J, Tao C, Dias Á.A, Liang J, Wang Y, **Chen J.** et al. (2021). Trace-element compositions of sulfides from inactive Tianzuo hydrothermal field, Southwest Indian Ridge: Implications for ultramafic rocks hosting mineralization. *Ore Geology Reviews*. <https://doi.org/10.1016/j.oregeorev.2021.104421>.
14. Ding T, Tao C, Dias Á.A, Liang J, **Chen J.** et al. (2021). Sulfur isotopic compositions of sulfides along the Southwest Indian Ridge: implications for mineralization in ultramafic rocks. *Mineralium Deposita*. <https://doi.org/10.1007/s00126-020-01025-0>.
15. Li, H, Tao, C, Yue, X, Baker, E.T, Deng, X, Zhou, J, Wang, Y, Zhang, G, **Chen, J.** et al. (2020). Enhanced hydrothermal activity on an ultraslow-spreading supersegment with a seismically detected melting anomaly. *Marine Geology*. <https://doi.org/10.1016/j.margeo.2020.106335>.

16. **Chen J**, Tao C, Liang J, et al, (2018). Newly discovered hydrothermal fields along the ultraslow-spreading Southwest Indian Ridge around 63°E. *Acta Oceanologica Sinica*.
<https://doi.org/10.1007/s13131-018-1333-y>.

Conferences Abstract

1. **Chen J**, Leroy S, Watremez L, and Robinson A. Three-dimensional crustal velocity structure of the north-eastern Gulf of Aden continental margin. EGU, 2024.
2. Cannat M, **Chen J**, and Escartin J. Fault scarps and tectonic strain in young seafloor. EGU, 2024.
3. Marjanović, M., **Chen, J.**, Escartín, J., Parnell-Turner, R., Wu, J.-N Magma-induced tectonics at the East Pacific Rise 9°50'N: Evidence from high-resolution characterization of seafloor and subseafloor. EGU, 2024.
4. **Chen J**, Cannat M, and Olive JA. Beyond Spreading Rate: Controls on the Thermal Regime of Mid-Ocean Ridges. Ocean Floor Symposium, 2022.
5. **Chen J**, Li J, Zhang T, Niu X, Ding W, and the Jasmine team. OBS-Recorded Microseismicity at the Slowest Spreading Gakkel Ridge 85°E, Arctic Ocean. AGU, 2022.
6. Cannat M, **Chen J**, and Olive JA. Beyond Spreading Rate: Controls on the Thermal Regime of Mid-Ocean Ridges. AGU, 2022.
7. Cannat M, **Chen J**, and JA Olive. The thermal regime of mid-ocean ridges: geological perspectives and numerical modelling. EGU, 2022.
8. **Chen J**, Crawford W C, and Cannat M. Microseismicity constraints on brittle lithosphere thickness at a nearly amagmatic spreading corridor of the ultraslow Southwest Indian Ridge. AGU, 2020.
9. **Chen J**, Cannat M, and Tao C. 780-thousand years of volcanic seafloor accretion at a melt-rich segment of the ultraslow-spreading Southwest Indian Ridge 50°28'E. AGU, 2019.
10. **Chen J**, Li H, Zhang T, et al, Characteristics and mechanisms of magma supply along Southwest Indian Ridge between 46°E and 52.3°E. CGU, 2017.

Invited Presentations

2024.06	MGF online
2023.11	Interridge-France workshop
2023.08	Academic seminar of Chinese students and scholars in Germany-France-Ireland
2022.06	Second Institute of Oceanography, MNR
2021.09	Southern University of Science and Technology
2021.06	Institut de Physique du Globe de Paris, Université Paris Cité

Sea-going Experience

NODSSUM at North Mid-Atlantic Ocean, June 16-July 10, 2025 (R/V L'Atalante)
Momarsat19 at Mid-Atlantic Ridge, June 10-July 4, 2019 (R/V Pourquoi Pas?)
Trial in the Pacific Ocean, July 7-14, 2017 (R/V XueLong icebreaker)

Funding

2018.09-2021.10 China Scholarship Council (CSC)

Supervising and mentoring

Daoxin Su Master student (2022.01-2022.12, Second Institute of Oceanography)

Kaixuan Yan

Master student (2022.01-2024.06, Second Institute of Oceanography)

Relevant Skills & Others

Computer Skills: GMT, Global Mapper, MATLAB, ArcGIS, Bash shell, Python, SEISAN, Cloud computation, Obspy, Seismic Unix

Language: English (fluent), French (beginner), and Chinese (native)

Hobby: Chinese Kungfu - Meihuazhuang