

Yinchu Li

PhD Candidate · Marine Geophysics

School of Earth and Atmospheric Sciences, Georgia Institute of Technology Atlanta, GA, 30318, USA

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RESEARCH INTERESTS

Marine Geophysics, Geophysical inverse problem, Controlled-source electromagnetic imaging, Magnetotellurics, Fluid-tectonic interactions at plate margins

EDUCATION

Georgia Institute of Technology

PhD in Geophysics, GPA: 4.0/4.0

Atlanta, GA, USA

Aug. 2021 - May. 2026 (Expected)

- Advisor: Dr. Samer Naif

Southern University of Science and Technology

MSc in Mechanics (Geophysics), GPA: 3.76/4.0

Shenzhen, China

Sept. 2018 - June 2020

- Thesis: Long-electrode electrical monitoring of shale gas fracturing
- Advisor: Dr. Dikun Yang

China University of Petroleum (East China)

BSc in Applied Geophysics, GPA: 3.72/4.0

Qingdao, China

Sept. 2014 - June 2018

- **University of Naples Federico II**, Napoli, Italy — *Study Abroad Program*
- Thesis: Estimation of 2-D site amplification effects: the case of the historical centre of Napoli
- Advisor: Dr. Concettina Nunziata

FIELD EXPERIENCE

Kivu Project

Graduate Student

Western Rwanda

May/June 2023

- NSF funded collaborative research: Constraining transient magma intrusion processes in the Nyiragongo-Kivu continental rift zone.
- Participation in land Magnetotellurics field work and Study transient tectonics of the Kivu Rift System at Western Rwanda.

Marine electromagnetic survey HT-RESIST

Graduate Student

New Zealand

Feb. 2019

- Participation in 2nd cruise of the Hikurangi Trench Regional Electromagnetic Survey to Image the Subduction Thrust (HT-RESIST) aboard R/V Roger Revelle, offshore the North Island of New Zealand.
- Ocean bottom electromagnetic stations recovery.

RESEARCH EXPERIENCE

Georgia Institute of Technology

Graduate Research Assistant

Atlanta, GA, USA

Spring 2022 - Spring 2024

- **Data:** Collected by ElectroMagnetic Alaskan GeoPRISMS Experiment (EMAGE)
- Controlled-source electromagnetic (CSEM) data processing and navigation.
- Inversion of the CSEM data collected from the Alaska Subduction Zone.

Southern University of Science and Technology

Graduate Research Assistant

Shenzhen, China

Aug. 2020 - June 2021

- Long-electrode electrical monitoring of shale gas fracturing and well casing integrity using surface electrical data and deep learning approaches.

University of Naples Federico II

Visiting Undergraduate Student

Napoli, Italy

Jan. 2018 - July 2018

- Finished Bachelor thesis focusing on 2D site amplification effects modeling of the historical centre of Napoli under the supervision of Dr. Concettina Nunziata.

TEACHING EXPERIENCE

Georgia Institute of Technology

Teaching Assistant

Atlanta, GA, USA

Fall 2021

- EAS 2600: Earth processes, Lab session

Southern University of Science and Technology

Teaching Assistant

Shenzhen, China

Feb. - June 2019

- ESS 302: Applied Geophysics II (Gravity, Magnetic, Electrical, Electromagnetic and Well Logging).

PUBLICATIONS

- Hu, Y., D. Yang, Y. Li, Z. Wang, and Y. Lu (2022). "3-D Numerical Study on Controlled Source Electromagnetic Monitoring of Hydraulic Fracturing Fluid With the Effect of Steel-Cased Wells". *IEEE Transactions on Geoscience and Remote Sensing*, 60, pp. 1–10. DOI: 10.1109/TGRS.2021.3100774.
- Li, Y. and D. Yang (2021). "Electrical imaging of hydraulic fracturing fluid using steel-cased wells and a deep-learning method". *Geophysics*, 86, 4, E315–E332. DOI: 10.1190/geo2020-0178.1.

HONORS & AWARDS

2020 **Best Student Presentation**, 2nd SEG Borehole Geophysics Workshop

2020 **SEG Travel Grant (virtual registration fee)**, SEG International Exposition and 90th Annual Meeting

2019 **Outstanding Student Paper**, Annual Meeting of Chinese Geoscience Union

2019 **SEG Travel Grant**, SEG International Exposition and 89th Annual Meeting

2018 **Outstanding graduate**, China University of Petroleum (East China)

2017 **First Prize**, China Undergraduate Mathematical Modeling Contest (Shandong Province)

2017 **Third Class Scholarship**, China University of Petroleum (East China) in 2016-2017 Academic Year

2016 **Second Class Scholarship**, China University of Petroleum (East China) in 2015-2016 Academic Year

2015 **Second Class Scholarship**, China University of Petroleum (East China) in 2014-2015 Academic Year

CONFERENCE ABSTRACTS

- Li, Y., S. Naif, D. Cordell, K. Key, R. L. Evans, S. Constable, D. J. Shillington, and A. Becel (2023). "Electromagnetic Study of Fluid Distribution at the Aleutian-Alaska Subduction Zone". AGU23.

- Wang, Z., Y. Lu, Y. Hu, Y. Li, K. Wang, and D. Yang (2022). “3D real-time imaging for electromagnetic fracturing monitoring based on deep learning”. *Second International Meeting for Applied Geoscience & Energy*, pp. 702–706. doi: 10.1190/image2022-3737841.1.
- Naif, S., Y. Li, K. Key, R. Evans, S. Constable, and D. Cordell (2021). “Preliminary results from the Electromagnetic Alaskan GeoPRISMS Experiment (E-MAGE)”. *AGU Fall Meeting Abstracts*. Vol. 2021, GP25A–0402.
- Li, Y. and D. Yang (2020a). “Imaging of steel casing’s conductivity using surface electrical data and a deep learning approach”. *SEG Technical Program Expanded Abstracts 2020*. Virtual, pp. 636–640. doi: 10.1190/segam2020-3426575.1.
- Li, Y. and D. Yang (2020b). “Imaging of steel casing’s conductivity using surface electrical data and a deep learning approach”. *SEG Technical Program Expanded Abstracts 2020*, pp. 636–640. doi: 10.1190/segam2020-3426575.1.
- Li, Y. and D. Yang (2020c). “Monitoring the integrity of steel well casings using electrical data on the surface”. *SEG 2020 Workshop: 2nd SEG Borehole Geophysics Workshop, Virtual, 26–27 November 2020*, pp. 152–156. doi: 10.1190/bhgp2020-41.1.
- Li, Y. and D. Yang (2019). “Fast electrical imaging of injected fluid in hydraulic fracturing using a practical interactive parameter estimation method”. *SEG Technical Program Expanded Abstracts 2019*, pp. 1024–1028. doi: 10.1190/segam2019-3215758.1.
- Yang, D. and Y. Li (2019). “Monitoring directional fluid flow in shale gas hydraulic fracturing through electrically energized steel well casings”. *International Workshop on Gravity, Electrical & Magnetic Methods and Their Applications, Xi'an, China, 19–22 May 2019*, pp. 45–48. doi: 10.1190/GEM2019-012.1.
- Yang, D., Y. Li, X. Liu, F. Zhu, and J. Zhang (2019). “Feasibility Study of Electrical Monitoring of In-situ Thermal Desorption in Remediation of Contaminated Soil”. *AGU Fall Meeting Abstracts*. Vol. 2019, NS21C–0831.

PRESENTATIONS

- Li, Y., S. Naif, D. Cordell, K. Key, R. L. Evans, S. Constable, D. J. Shillington, and A. Becel (2023). “Electromagnetic Study of Fluid Distribution at the Aleutian-Alaska Subduction Zone”. *AGU Annual Meeting 2023*, San Francisco, CA (Oral)
- Naif, S., Y. Li, K. Key, R. Evans, S. Constable, and D. Cordell (2021). “Preliminary results from the Electromagnetic Alaskan GeoPRISMS Experiment (E-MAGE)”. *AGU Fall Meeting 2021*, New Orleans, LA (Poster)
- Li, Y. and D. Yang (2020), Monitoring the integrity of steel well casings using electrical data on the surface”. *SEG 2020 Work- shop: 2nd SEG Borehole Geophysics Workshop, Virtual* (Oral)
- Li, Y. and D. Yang (2020). “Imaging of steel casing’s conductivity using surface electrical data and a deep learning approach”. *SEG International Exposition and 90th Annual Meeting*, Virtual (Poster)
- Li, Y. and D. Yang (2019). “Fast electrical imaging of injected fluid in hydraulic fracturing using a practical inter- active parameter estimation method”. *SEG International Exposition and 89th Annual Meeting*, San Antonio, TX (Oral)

SKILLS

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| Programming languages | MATLAB, Python, C, Fortran |
| Software | Adobe Illustrator, GMT, Geomap App |
| Machine learning frameworks | TensorFlow, Keras, Scikit-learn |
| Languages | Chinese (Native), English (Professional proficiency) |

PROFESSIONAL SOCIETIES

- American Geophysical Union
- Society of Exploration Geophysicists

REFEREES

Dr. Samer Naif (Ph.D Supervisor)

Assistant Professor

School of Earth and Atmospheric Sciences, Georgia Institute of Technology

Atlanta, GA, 30318, USA

✉ snaif@eas.gatech.edu

Dr. Dikun Yang (M.S. Advisor)

Assistant Professor

Department of Earth and Space Sciences, Southern University of Science and Technology

No. 1088 Xueyuan Road, Shenzhen, Guangdong, China, 518055

✉ yangdk@sustech.edu.cn

Dr. Concettina Nunziata (B.S. Thesis Supervisor)

Professor

Department of Earth, Environmental and Resource Sciences, University of Naples Federico II

Monte Sant' Angelo complex (Building L), Via Cinthia 21, Napoli, Italy, 80138

✉ concettina.nunziata@unina.it