Feiyue Xia

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Education

China University of Petroleum, Qingdao City, Shandong Province, China Sept. 2019 - Present
Master's Degree expected in June 2022

- M.S. Candidate (exempted for examination) in Geological Resources and Geological Engineering, GPA: 3.91/4.0; Rank: 4/38.
- Research focus: Borehole Geophysics, Rock Physics.
- Advisor: Xiaoming Tang (https://orcid.org/0000-0003-1656-9675).

China University of Petroleum, Qingdao City, Shandong Province, China Sept. 2015 - June 2019

- B.S. in Exploration Technology and Engineering, GPA: 3.8/4.0; Rank: 4/38.
- Relevant Courses: Petrophysics, Seismic Exploration, Sedimentary Petrology, Signal Analysis & Processing, Elastic Wave Dynamics, Seepage Flow Mechanics, Electromagnetic Field Theory, Well Logging Method, Theory and Interpretation et al.

English Proficiency & Computer Programming Skills

- TOEFL: 98/120 (Reading: 24, Listening: 28, Speaking: 19, Writing: 27).
- GRE: 319 + 4.0 (Verbal: 154, Quantitative: 165; Writing: 4.0).
- Skilled in C/C++, developed our in-house 2.5-D & 3-D finite-difference time domain acoustic wave simulation packages.
- Skilled in data analysis using Matlab, Mathematica & Origin.

Publications

1. **Feiyue Xia**, Yuanda Su, Xiaoming Tang. A study of Stoneley wave reflection and transmission across a permeable porous formation and fractures zone：Comparison of analytical and numerical modeling results. (2021). ***Chinese Journal of Geophysics*** *(SCI, In Press).*

2. Xuelian Chen, Yan Zhuang, **Feiyue Xia**, Xiaokang Yin, Xiaoming Tang. Finite element simulation and experiment study on exciting quasi-SH wave circumferentially in the casing. (2021). ***Chinese Journal of Geophysics*** *(SCI, In Press)*

3. **Feiyue Xia**, Yuanda Su, Xiaoming Tang. A study of Stoneley wave reflection and transmission across a permeable porous formation and fractures zone：Comparison of analytical and numerical modeling results. (2021). ***Annual Meeting of Chinese Geoscience Union in 2020.*** *P631. 81, 2020.*

4. **Feiyue Xia**, Yuanda Su, Xiaoming Tang. Finite-difference modeling of elastic waves in coupled Multiphysics sructures including poro-crack media. (2022). ***Journal of the Acoustical Society of America***. (**In preparation**)

Research Experiences

Reflection and Transmission of the Borehole Stoneley Wave across Permeable Structures Dec. 2019 - Nov. 2020

Aimed at understanding the reflected and transmitted mechanism of Stoneley wave propagating along the borehole wall, a borehole model consisting of the stratified porous formation is constructed based on the Biot theory. The reflection and transmission coefficients of Stoneley wave across permeable and fractured formation are studied using the finite-difference method and effective wave number analytical method, which leads to the publication on *Chinese Journal of Geophysics (In press).*

Finite Difference Modelling in the Multiphysics Structures Including Poro-Crack Media Dec. 2020 - Aug. 2021

To honor the attenuation of the elastic wave propagations due to the coexistence of pores and cracks of the subsurface, a finite-difference (FD) method is developed to simulate the elastic wave-field in the multi-physical structures including elastic, poro-elastic and poro-crack media based on a squirt-flow model, which is validated against the analytical solutions. This novel time-domain FD method solving the poro-crack elastic wave equations has been largely finished and are under preparation for publication.

Single Well Reflection Imaging in Unconsolidated Formations July 2020 - Oct.2021

Project Description: In order to prevent collision between the existing cased well and the well being drilled in the offshore drilling operation, a shear wave reflection imaging technique is applied to delineate the nearby cased well. A detection method using low-frequency reflected P wave, which is based on analytical analysis of scattered elastic wave from a dipole source in the borehole, and Gaussian beam imaging method is developed. Finally, this detection method is applied into the field data of shallow marine environment.

Main Responsibility: As a key participant, responsible for 3D FDTD numerical simulation, analysis and project report.

Honors & Awards

Year	Honors & Awards	Institution	Level
2021	CNPC Scholarship	China National Petroleum Corporation	National Level (1%)
2021	China College Students "Internet +" Innovation and Entrepreneurship Competition, Golden Award of Shandong Province	Ministry of Education, China	State level (Top 1%)
2020	Outstanding Postgraduate Student	China University of Petroleum (East China)	University level (Top 2%)
2019	**SPWLA** Scholarship	Society of Petrophysicists and Well Log Analysts (SPWLA), USA	International level (Only 4 students in China)
2019	Special Award of National Well Logging Skills Competition	China Petroleum Association	National level (Rank 1/36)
2019	First Prize Scholarship for Excellent Study	China University of Petrolum (East China)	University level (Top 5%)
2019	Outstanding Graduate of Shandong Province	Shandong Province Government, China	State level (Top 5%)
2018	Well Organizing Ability Scholarship & Innovation and Entrepreneurship Scholarship	China University of Petrolum (East China)	University level (Top 5%)
2017	First Prize for the National Undergraduate Mathematical Modelling Competition	Society of Industrial and Applied Mathematics, China	State level (Top 5%)
2017	Honorable Mentions in American Mathematical Contest in Modeling	the Consortium for Mathematics and Its Application (COAMP), USA	International level (15%)

Academic Activities

The 2nd SEG Rock Physics Workshop: Challenges in Deep & Unconventional Oil and Gas Exploration, *Volunteer* Oct. 2019

- As a receptionist, responsible for communicating with 20 foreign participants and helping them check-in.
- Arranging the conference schedules in advance and managing live defense order.

International Petroleum Technology Conference (IPTC) Educational Week in Beijing, *Student Representative* Mar. 2019

- Joined in the Educational Week Program on behalf of the University as one of only two student representatives.
- As a team leader, worked with eight foreign students on the topic of Microseismic monitoring and presented the research results publicly.

International Symposium on New Logging Technology Held by SPWLA East China Branch, *Volunteer* July 2018

- Took pictures at the symposium, used adobe AE to make a memorial video and wrote a press release to university newspaper.

Field Experiences

Summer School at University of Naples Federico II, Naples, Italy, *Academic Exchange Student* July 2017

- Attended ten different lectures on geochemistry, volcanology, environmental science. Evaluated as the excellent summer camper.

Geological Field Trip in Siberia, Russia, *Academic Exchange Student* July 2016

- Field trip at Siberia for two weeks with 20 students from the Oxford University and the Perm State University.
- Visited mines and ranges in Abakan, Hakkas and Tuva districts in the Siberian plain. Completed a geological trip report.

Personality & Interests

- **Personality**: Hard working, excellent communication ability and strong team spirit.
- **Interests**: Scientific video making to promote geophysical knowledge about seismic exploration & well logging; Collecting books.