Lei Sun

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Education

- PhD in Geology,   University of Houston   GPA: 3.718 In progress
- MS in Geology,   University of Houston   GPA: 3.667   2014
- BS in Geochemistry,   University of Science and Technology of China,   GPA: 3.74/4.3   2011

Research Experience

- PhD Dissertation: Ground-based Hyperspectral Imaging and Terrestrial Laser Scanning for Integrated Mineralogical and Fracture Modeling of Geological Outcrops   In progress
  Detailed mineralogical and fracture modeling of the Eagle Ford formation and the Boone Formation by imaging spectroscopy and terrestrial laser scanning, and perform reservoir analog analysis
- MS Thesis: Remote Sensing of Hydrocarbon-induced Rock Alterations at Cement Field, Oklahoma
                                                                           08/2013~07/2014
  Identification of hydrocarbon seepages by satellite- and ground-based remote sensing imagery, hyperspectral scanning and detailed petrographic analysis of rock alterations in centimeters resolution
- Research Assistant in Laboratory for Radiogenic Isotope Geochemistry, USTC   07/2011~07/2012
  Isotope Geochemistry, geochronology, Raman spectroscopy
- Undergraduate Thesis: Phengite Rb-Sr Dating and Mineral Inclusion Study of Eclogite from the Taohang Area in Sulu Orogen   07/2010~06/2011
  Micro sample phengite Rb-Sr dating constraining retrograde metamorphism in eclogite from Sulu Orogen, tracing metamorphic reaction including fluid participation in omphacite and garnet inclusions

Teaching Experience

Teaching Assistant, Geol 4355 Geophysical Field Camp   Summer 2016
Teaching Assistant, Geol 6388/4331 Introduction to GIS   Spring 2016 & Spring 2015
Teaching Assistant, Geol 6325/3383 Remote Sensing   Fall 2015 & Fall 2014
Teaching Assistant, Geol 3372 Petrography   Spring 2014 & Spring 2013
Teaching Assistant, Geol 3370 Mineralogy   Fall 2013 & Fall 2012

Class Projects

- Automated Geologic Analysis of the Terrestrial Laser Scanning Point Cloud of the Eagle Ford Formation, CIVE 6382 Lidar Systems and Applications,   Spring 2015
- Quantitative Petroleum Generation and Migration Analysis for Play Evaluation and Prospect Ranking, GEOL 6373, Petroleum Systems Analysis,   Spring 2013
- Quantitative Petroleum Generation and Volume Rank at the East Waddell Ranch Survey, GEOL 6389, GIS for geologists,   Spring 2013
- Ground Water Geochemistry of Ca-SO4 Type Water in the Dakota Aquifer, GEOL 6341, Geochemistry,   Fall 2012

Skills

Remote Sensing, ArcGIS, Hyperspectral Scanning, Terrestrial Laser Scanning, ASD Spectral Analysis, Matlab, Petroleum System Analysis, Ultra-low Procedural Blank Chemical Analysis, Thermal Ionization Mass Spectrometer Analysis

Publications

Sun, Lei and Khan, Shuhab D. 2016. Ground-based hyperspectral remote sensing of hydrocarbon-induced rock alterations at Cement, Oklahoma. Marine and Petroleum Geology, 77:1243-1253

Conference Presentations

Ground-based Hyperspectral Remote Sensing and Terrestrial Laser Scanning of the Eagle Ford Formation. AAPG Annual Convention & Exhibition, Calgary, AB, Canada   2016
Ground-based Hyperspectral Remote Sensing and Terrestrial Laser Scanning of the Eagle Ford Formation. Gulf Coast Association of Geological Societies 65th Annual Convention, Houston, TX 2015

Ground-based Hyperspectral Remote Sensing for Mapping Rock Alterations and Lithologies: Case Studies from Semail Ophiolite, Oman and Rush Springs Sandstone, Oklahoma. AGU Fall Meeting, San Francisco, CA   2014

Awards

UH Departmental Scholarship for Outstanding Academic Achievements in Geology   2015 & 2013
USTC Outstanding Student Scholarship   2010 & 2009
USTC Zhao Jiuzhang Scholarship   2008
USTC Outstanding Freshman Scholarship   2007