

Lucy Tingwei Ko

Bureau of Economic Geology, Jackson School of Geosciences
The University of Texas at Austin
10100 Burnet Road, Bldg 130
Austin, Texas 78758-4445, USA

SUMMARY OF QUALIFICATIONS

- Creative, well-rounded geologist, geochemist, and basin modeler with a solid record of achievements in academia and industry demonstrating scientific and technical excellence
- Project management experiences in emerging energy opportunities (hydrogen, CO₂-EOR, and CCS etc.)
- Machine learning experiences in quantitative petrography (image segmentation and CNN)
- One year and six months of internship experiences on unconventional and conventional resources which provided quantitative diagenetic evolution, the origin of HC inclusion, fluid property prediction, fluid distribution, and basin modeling
- 2 years of wellsite experiences in Colorado and Wyoming coordinating with wellsite geologists and company men, interpreting mudlogging data, and quality control of data
- 15 years of academic experiences leading and coordinating several research projects including investigating the effect of clay minerals on biomarkers, characterizing facies and reservoir quality of shales, understanding gas migration and filling processes of tight-gas reservoirs using gas isotope and composition, understanding pore network evolution in several key shale formations using chemostratigraphy, sedimentology, organic petrography, petrography, and petroleum geochemistry
- Strong interpersonal and communication skills proven through industry and academic experiences

PROFESSIONAL EXPERIENCES

March 2020–present: *Research Associate*, **Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin**, Austin, TX

August 2018–March 2020: *Postdoctoral Fellow*, **Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin**, Austin, TX

September–November 2014: *Professional Intern*, **ConocoPhillips**, Deep Water Gulf of Mexico Exploration & Appraisal, Houston, TX

June–August 2013: *Professional Intern*, **ConocoPhillips**, Subsurface Technology and Reservoir Engineering, Reservoir Quality Prediction Team, Houston, TX

November 2010–June 2011: *Professional Intern*, **Platte River Associates, Inc.**, Petroleum System, Basin, and Reservoir Modeling, Boulder, CO

EDUCATION

- 2017 **Ph.D., Geological Sciences**, Jackson School of Geosciences, University of Texas at Austin
“Depositional, mineralogical, and maturity controls on OM pores and mineral pores in mudrocks”
Co-advisors: Dr. Robert Loucks and Dr. Stephen Ruppel
- 2010 **M.S., Geology**, Colorado School of Mines, Golden, CO
“Characterization of gas generated by sequential hydrous pyrolysis of potential gas-prone source rocks for tight-gas reservoirs in the Rocky Mountain area”
Co-advisors: Dr. Nicholas Harris and Dr. John Curtis
- 2007 **M.S., Geosciences**, National Taiwan University, Taipei, Taiwan
“The effect of clay minerals on biomarker fractionation during secondary migration”
Advisor: Dr. Wu-Liang Huang
- 2005 **B.S., Geosciences**, National Taiwan University, Taipei, Taiwan

RELEVANT COURSEWORK

- Petrology of Carbonate/Evaporite
- Clastic Depositional System

- Siliciclastic Petrology
- Sequence Stratigraphy
- Fundamentals of Well Logging
- Dynamics of Sedimentary Systems
- Geology of Mudrocks
- Analytical Method: Electron-Microbeam Tech

RESEARCH INTERESTS

Unconventional reservoir characterization, sedimentology, stratigraphy, petrography, organic petrography, diagenesis, organic geochemistry, and gas geochemistry, biomarker, basin modeling, PVTX, wireline log interpretation/correlation, sequence stratigraphy, emerging energy opportunities in the Permian Basin (hydrogen, CO2-EOR, and CCS)

SKILLS

Geo-Computer Skills: Adobe Photoshop/Illustrator, ArcGIS, ASiQWin, BasinMod 1D and 2D, Genesis, HAWK-EYE, JMicroVision, MPath, MATLAB, Microsoft series, Petra, Petrel, PVTsim, PetroFlash, PetroMod, SEDPAK, 2-D Move

Laboratory Skills: Ar-ion milling, cathodoluminescence (CL), gas chromatography (GC), GC-MS, HAWK, gold-tube pyrolysis, hydrous pyrolysis, ICP-MS (mass spectrometry), Ir-coating, light microscopy, liquid chromatography (SARA), nitrogen adsorption, scanning electron microscope (SEM), SEM-CL, SRA (Rock-Eval), X-ray diffraction (XRD) analyses, XRD sample preparation, X-ray fluorescence (XRF) analyses

HONORS AND AWARDS

- Presentation Award at 2016 CAPA Petroleum and Petrochemical Technical Symposium 2016
- Best Poster Award at HGS Mudrocks Conference AGS February 2015 2015
- Presentation Award at 2014 CAPA Petroleum and Petrochemical Technical Symposium 2014
- Jackson School of Geosciences Merit Scholarship, ConocoPhillips Fellowship 2011-2012
- Dean's Award, College of Science, National Taiwan University 2005

PROFESSIONAL MEMBERSHIPS

- The Geological Society of London (GSL)
- American Association of Petroleum Geologist (AAPG)
- The Society of Organic Petrology (TSOP)
- Chinese American Petroleum Association (CAPA)
- Geological Society of America (GSA)
- Society of Sedimentary Geology (SEPM)
- Houston Geological Society (HGS)
- The Clay Minerals Society (CMS)

WORKING EXPERIENCES

Geologist Intern, ConocoPhillips, Houston, TX Sept–Nov 2014

- Quality controlled all PVT reports and geochemical data
- Integrated fluid PVT data with stratigraphy to correctly select fluid analogue for exploration and fluid PVT data with geochemistry to improve fluid properties prediction and uncertainty ranges in EGOM
- Started to build a PVT fluid database in COP and assisted with MS Access database design
- Calibrated component description for compositional kinetics used in basin models

Geologist Intern, ConocoPhillips, Houston, TX June–Aug 2013

- Accomplished quantitative diagenetic evolution of the Eagle Ford reservoir and developed a ranking scheme
- Applied fluid inclusion techniques to understand the origin of HC inclusions in calcite vein in EF outcrops
- Used 2D static point count results to assist 3D FIB flow model for upscale needs in the EF reservoir

Geologist Intern, Platte River Associates, Inc., Boulder, CO Nov 2010–June 2011

- Determined shale gas properties on gas adsorption and thermodynamics
- Tested compositional kinetics in order to understand wet gas and condensate distribution in the basin
- Collaborated with reservoir engineers on developing shale gas reservoir simulator (Monte Carlo methods)
- Developed generation pressure and gas expansion calculation in the Bakken and Marcellus Shales

CONSULTING EXPERIENCES

Contracted petrographer, Premier Oilfield Group, Houston, Texas (Feb 2018) Detailed thin section description of the Meramec and Osage Formation (shale and carbonate in the STACK/SCOOP) for reservoir quality prediction

Consulting geologist, Formosa Petrochemical Corporation, Houston, Texas (Mar-Dec 2016) Evaluation of stratigraphic traps of Eocene Claiborne Fm, Central Louisiana. Interpreted deltaic depositional environment and define sequence stratigraphy boundaries using biostratigraphy, wireline-log responses, XRF, XRD, and TOC data

RESEARCH & TEACHING EXPERIENCES

Postdoctoral Fellow, Bureau of Economic Geology, University of Texas at Austin Aug 2017– Mar 2020

- Described and characterized depositional facies and investigated facies and paleoceanographic (redox) control on reservoir quality of the Middle Devonian Marcellus Fm, Appalachian Basin, Pennsylvania
- Investigating facies and facies stacking pattern control on petroleum expulsion, migration, and distribution in unconventional reservoirs integrating facies with geochemistry
- Collaborated with engineers and geophysicists to apply machine learning on SEM image analyses and automation
- Investigating diagenesis of the Eagle Ford Group, how diagenesis may vary in the basin, and its effects on reservoir quality, mechanical stratigraphy, and wettability of the Eagle Ford
- Evaluated Alaska source rock and seal properties and provided constraints in basin model by investigating their geological and geochemical properties
- Improved bulk and clay mineralogical measurements in mudrocks by surveying methods and labs worldwide
- Tested different programmed pyrolysis methods to improve oil mobility and oil-in-place estimation

Graduate Research Assistant, Bureau of Economic Geology, University of Texas at Austin Sept 2012–May 2017

- Systematized pore evolution model of marine and lacustrine mudrocks
- Integrated petroleum geochemistry with SEM petrography, nitrogen adsorption, and other P&P techniques in the Eagle Ford, Barnett, and Woodford Formation
- Accomplished pore quantification and evaluated geological factors that impact EF reservoir quality
- Integrated pore systems with thermal maturation history, organic petrography, depositional facies, XRF-based chemostratigraphy, and mineralogy in the Eagle Ford, Barnett, Woodford, and Pearsall Shale
- Investigated controls on pore types and association of lacustrine mudrocks (Ordos Basin, China)

Teaching Assistant, Department of Geological Sciences, University of Texas at Austin Sept–Dec 2015

- Helped students solve assignment questions for shale porosity and permeability calculations
- Taught one class on petrographic techniques for mudrock characterization
- Constantly communicated with students and coordinated lab tours to facilitate students learning

Graduate Research Assistant, Colorado School of Mines/U.S. Geological Survey Sept 2008–Dec 2010

- Completed a preliminary MPath gas migration model in Jonah Field, WY
- Evaluated source rock characteristics and interpreted stable isotope of gas generated from source rocks
- Unraveled the charging history of tight gas reservoirs by utilizing the distribution of compositions and stable isotopes of the gases

AAPG Imperial Barrel Award Team Project, Colorado School of Mines Sept 2008–May 2009

- Participated in AAPG Imperial Barrel Award – Rocky Mountain section (Barents Sea project)
- Accomplished an integrated basin modeling project in NPRA, northern slope of Alaska

Teaching Assistant, Colorado School of Mines Sept 2007–May 2008

- Explained basic principles of general geology and introduced a broad aspect of geology including climate, engineering (hazard), mineralogy/petrology, GPS, geological mapping, etc.
- Lead several field trips to facilitate students' learning and understanding of the geological history of the Rocky Mountain

ACTIVITIES

UT JSG GeoFORCE mentor	Fall 2015
Volunteer at multiple Jackson School of Geosciences activities	2013-present
UT Badminton Club, Member	2012-Present

UT Taiwanese Student Association, Student Affairs Officer

2012-2013

INVITED TALKS

- 2021: AAPG Student Chapter 2021 Seminar Series, the University of Manchester, UK (online format)
Depositional, Mineralogical, and Maturity Controls on OM-rich Shale/Mudrock/Mudstone Systems
- 2021: Chesapeake Rock Talk Spotlight Series, MS Teams (online format)
Characterization of lithofacies and reservoir quality of the Upper Cretaceous lower Eagle Ford in Dimmit and Webb County, TX (April 29th)
- 2019: Houston Geological Society Northsiders' Luncheon, Houston, TX
Facies, Depositional Environments, Chemostratigraphy, and Reservoir Quality of the Middle Devonian Marcellus Formation, Appalachian Basin, Northeastern Pennsylvania
- 2019: AAPG Hedberg Conference, Houston, TX
How Depositional Environment, Diagenesis, and Thermal Maturity Affect the Evolution and Significance of Organic and Mineral Pore Systems in Unconventional Oil and Gas Reservoirs: Current Understanding and Future Research
- 2016: National Taiwan University, Taipei, Taiwan
Shale and Mudstone – from science to application
- 2016: National Taiwan Ocean University, Taipei, Taiwan
Shale and Mudstone – from science to application
- 2016: Exploration and Development Research Institute, CPC Corporation, Taipei, Taiwan
Geological and geochemical properties of shale oil reservoirs in the United States
- 2016: Exploration & Production Business Division, CPC Corporation, Miaoli, Taiwan
Shale oil reservoirs in the United States
- 2015: ConocoPhillips, Houston, Texas
Pore evolution of the Barnett, Eagle Ford, and Woodford Shales/ Quantification of Eagle Ford reservoirs
- 2014: EOG internal conference, Houston, Texas
Oil and gas generation and pore evolution of artificially-matured Eagle Ford shale by anhydrous pyrolysis

COLLABORATIONS

- Michael Abrams – Visiting Professor, Faculty of Engineering, Imperial College London
- Rieko Adriaens – Qmineral bvba
- Gilles Mertens – Qmineral bvba
- Chris Ballentine – Professor, University of Manchester, now Chair of Geochemistry, University of Oxford
- Cory Beck – Chesapeake Energy Corporation
- Adry Bissada – University of Houston
- Kyle Cox – Chesapeake Energy Corporation
- Paul Hackley – Research Geologist, U. S. Geological Survey
- Michelle Johnston – Organic Petrographer, ConocoPhillips
- Aaron Jubb – Research Chemist, U. S. Geological Survey
- Michael Lewan – Organic Geochemist and Petroleum Geologist, U. S. Geological Survey, now consultant
- Kathleen Marsaglia – Professor and Department Chair, California State University, Northridge (CSUN)
- Daniel Martinez – Diamondback Energy
- Gilles Mertens – Qmineral bvba
- Rieko Adriaens – Qmineral bvba
- R. Paul Philp – Professor Emeritus, University of Oklahoma, retired
- Sebastian Ramiro-Ramirez – Diamondback Energy
- Roger Scott – Diamondback Energy
- Pejman Tahmasebi – Assistant Professor, University of Wyoming
- Jon Schueth – Assistant Professor, University of Nebraska Omaha

REVIEWER/EDITORIAL ASSIGNMENTS OF JOURNAL PAPERS

AAPG Bulletin
American Chemical Society – Omega (ACS – Omega)
Canadian Journal of Earth Sciences
Earth Science Reviews
Energy & Fuels
Energy Reports
Frontiers in Earth Science
Geofluids
Geological Society of London (Special Publication)
Geology
Geophysics
GSA Bulletin
International Journal of Coal Geology
Interpretation
Marine and Petroleum Geology
Organic Geochemistry
Scientific Reports
SPE Reservoir Evaluation & Engineering – Formation Evaluation
SPE Reservoir Evaluation & Engineering – Reservoir Engineering

REVIEWER OF CONFERENCE ABSTRACTS

The International Meeting for Applied Geoscience & Energy (IMAGE) 2023 - Siliciclastics Theme
The International Meeting for Applied Geoscience & Energy (IMAGE) 2023 – UNCON Theme
The International Meeting for Applied Geoscience & Energy (IMAGE) 2022 - Geophysics, Geomechanics and Petrophysics for Shale and Tight Reservoirs
The International Meeting for Applied Geoscience & Energy (IMAGE) 2022 - Reservoir Characterization and Development Strategies for Unconventional Fields
The International Meeting for Applied Geoscience & Energy (IMAGE) 2022 - Unconventional Laboratories Testing and Analysis, Reservoirs Fluid Characterization for Unconventionals
AAPG Annual Convention and Exhibition 2021 – Global Unconventional Plays
AAPG Annual Convention and Exhibition 2021 – Controls on Reservoir Quality and Rock Property Trends
AAPG Annual Convention and Exhibition 2021 – Characterization of Unconventional Carbonate Reservoirs
AAPG Annual Convention and Exhibition 2020 – Student Poster Sessions
AAPG Annual Convention and Exhibition 2018 – Siliciclastic Diagenesis

COMMITTEE RESPONSIBILITIES AND PROFESSIONAL ACTIVITIES

Committee member, Bureau's Grants, Appointments, and Awards Committee (GAAC), 2023 to 2026
Session Chair: UNCON P5, Pore-scale Techniques and Laboratory Studies for Characterizing Mudrocks 2, IMAGE, 2023
Review Editor, Frontiers in Earth Science Journal, 2022 to now
Spackman award committee, The Society of Organic Petrography (TSOP), 2021 to 2023
Hiring and interviewing committee member, BEG STARR Geospatial and Geoprocessing Analyst, 2023

Hiring and interviewing committee member, BEG Organic Geochemist Research Associate, 2022

Hiring and interviewing committee member, BEG Cisco and Strawn postdoc in STARR, 2022

Judge, Jackson School of Geosciences, Annual Student Graduate Research Symposium, March 26th, Spring 2022

Session Chair: Session 3: Unconventional Plays in An Evolving Energy Landscape, GeoGulf, 2021

Session Chair, Annual Convention & Exhibition of American Association of Petroleum Geologists, Unconventional Resources: Characterization of Unconventional Carbonate Reservoirs, 2021

Session Chair, Annual Convention & Exhibition of American Association of Petroleum Geologists, Unconventional Resources: Global Unconventional Plays, 2021

Session Chair, Annual Convention & Exhibition of American Association of Petroleum Geologists, Siliciclastic Systems: Controls on Reservoir Quality and Rock Property Trends, 2021

Hiring and interviewing committee member, BEG 3rd Floor Administrative Associate, 2021

Bureau Seminar Series Host, Bureau of Economic Geology, Sept 2020–May 2021

Judge, Jackson School of Geosciences, Annual Research Symposium, March 6th, Spring 2021

STARR (State of Texas Advanced Resource Recovery) PI Hiring & Search Committee Member, Bureau of Economic Geology, 2020

Committee Chair, AAPG Energy Mineral Division (EMD) Tight Oil and Gas Committee, 2020

Committee Co-Chair, AAPG Energy Mineral Division (EMD) Tight Oil and Gas Committee, 2019–2020

Judge, Jackson School of Geosciences, Annual Research Symposium, Feb 15th, Spring 2020

Judge, Jackson School of Geosciences, Annual Research Symposium, Spring 2019

Leading Geologist for MSRL-Chesapeake Eagle Ford Shale Project, 2018-2020

Leading Geologist for the Barnett Shale Project, 2018-2020

SEM Technician Hiring & Search Committee Member, Bureau of Economic Geology, 2019

Session Chair, Session 195, Theme 5: Unconventional Plays: Appalachians, Rockies, and Midcontinent, Annual Convention & Exhibition of American Association of Petroleum Geologists, May 20th 2019

Leading Geologist/Geochemist for the Marcellus Shale Project, 2017-2019

BEG industry affiliates consortium (MSRL) core workshop organizer, Spring 2018

Judge, Jackson School of Geosciences, Annual Research Symposium, Spring 2018

Proposal reviewer, for PhD students at UT proposal writing class, Spring 2018

Core workshop presenter, Annual MSRL Consortium Meeting, March 5th, 2013

Core workshop presenter, GCAGS MEETING, Oct. 21st 2012

INTERNATIONAL PROFESSIONAL ACTIVITIES

PhD Thesis Evaluator, Indian Institutes of Technology, India (Dr. Ravi Sharma)

PEER-REVIEW JOURNAL ARTICLES

Google Scholar Citation: <https://scholar.google.com/citations?user=XI3Qs9IAAAAJ&hl=en&oi=ao>

- Suriamin, F., and **L. T. Ko**, 2022, Geological Characterization of Unconventional Shale-Gas Reservoirs, Chapter 2 in Unconventional Shale Gas Development, Elsevier (DOI: <https://doi.org/10.1016/B978-0-323-90185-7.00006-6>)
- Peng, S., P. Shevchenko, **L. T. Ko**, 2022, Shale Wettability: Untangling the Elusive Property with an Integrated Imbibition and Imaging Technique and a New Hypothetical Theory, SPE Reservoir Evaluation & Engineering, p. 1–11
- Bhattacharya, S., W. Ambrose, **L. T. Ko**, B. Casey, 2022, Integrated detection and investigation of bad borehole section in the Wolfcamp Formation in the Midland Basin using time machine learning, petrophysics, and core characterization, *Interpretation*, v. 10, p. C19–C27
- Ko, L. T.**, I. Yurchenko, P. Periwal, G. Mertens, C. Lampe, 2022, Petrography of Source and Seal Mudrocks in the Alaska North Slope and Their Implications on OM Types, Quality, Depositional Environment, and Diagenesis (in preparation)
- Ikeda, K., **L. T. Ko**, and C.C. Wang, 2022, Machine learning, convolutional neural network application in pore identification in shale SEM images (in preparation)
- Ko, L. T.**, R. G. Loucks, H. Rowe, R. Adrianes, and G. Mertens, 2022, Mudrock Diagenesis with Depth and Thermal Maturity and How it Impacts Petrophysical and Mechanical Properties in the Upper Cretaceous Eagle Ford Group (in preparation)
- Ko, L. T.**, P.C. Hackley, T. W. Zhang, and C. Wu, 2022, Pore system characteristics in the overmature Marcellus Formation, Appalachian Basin, northeastern Pennsylvania: Solid bitumen vs. residual kerogen conundrum? (in preparation)
- Ko, L. T.**, S. C. Ruppel, and E. Sivil, 2022, Decouple Changes in the Redox Condition and Sediment Supply in the Middle Devonian Foreland Basin and How They Affect Facies, Chemostratigraphy, and Reservoir Quality of the Marcellus Formation, Appalachian Basin, northeastern Pennsylvania (in preparation)
- Davletshin, A., **L. T. Ko**, K. L. Milliken, P. Periwal, C.-C. Wang, and W. Song, 2021, Automatic size-distribution detection of pyrite framboids in SEM images using convolutional neural networks, *Marine and Petroleum Geology*, v. 132, 105159
- Loucks, R. G., R. M. Reed, **L. T. Ko**, C. K. Zahm, T. E. Larson, 2021, Micropetrographic characterization of a siliciclastic-rich chalk; Upper Cretaceous Austin Chalk Group along the onshore northern Gulf of Mexico, USA, *Sedimentary Geology*, v. 412, 105821
- Zhang, T., Q. Fu, X. Sun, P. C. Hackley, **L. T. Ko**, and D. Shao, 2021, Meter-scale Lithofacies Cycle and Controls on Variations in Oil Saturation, Wolfcamp A, Delaware and Midland Basins, *AAPG Bulletin*, v. 105, p. 1821–1846
- Loucks, R. G., T. Larson, C. Zheng, C. K. Zahm, **L. T. Ko**, J. E. Sivil, S. Peng, S. C. Ruppel, and B. Ambrose, 2020, Geological characterization of the Upper Cretaceous Austin Chalk Group type cored section in south Texas: A combination fractured and unconventional reservoir, *AAPG Bulletin*, v. 104, p. 2209–2245.
- Shao, D., T. Zhang, **L. T. Ko**, Y. Li, J. Yan, L. Zhang, H. Luo, and B. Qiao, 2020, Experimental investigation of oil generation, retention, and expulsion within Type II kerogen-dominated marine shales: Insights from gold-tube nonhydrous pyrolysis of Barnett and Woodford Shales using miniature core plugs, *International Journal of Coal Geology*, v. 217, 103337.
- Loucks, R. G., Reed, R. M., **Ko, L. T.**, Birdwell, J., Paxton, S. T., Whidden, K. J., and Hackley, P., 2019, Insights into early reservoir development of the Upper Cretaceous Eagle Ford Group and Pepper Shale from observations of the USGS Gulf Coast #1 West Woodway Low-Ro research core in McLennan County, Central Texas: *GeoGulf Transactions*, v. 69, p. 551–552.

- Shao, D., T. Zhang, **L. T. Ko**, and H. Luo, 2019, Empirical plot of gas generation from oil-prone marine shales and its application for estimating tectonic shale gas loss in the Silurian Longmaxi Shale, Sichuan Basin, China, *Marine and Petroleum Geology*, v. 102, p. 258–270.
- Ko, L. T.**, S. C. Ruppel, R. G. Loucks, T. Zhang, P. C. Hackley, and D. Shao, 2018, Pore-type and pore network evolution in the Mississippian Barnett and Upper Devonian-Lower Mississippian Woodford mudrocks: Insights from laboratory thermal maturation and organic petrology, *International Journal of Coal Geology*, v. 190, p. 3–28 (<https://doi.org/10.1016/j.coal.2017.10.001>)
- Naraghi, M. E., F. Javadpour, **L. T. Ko**, 2018, An object-based shale permeability model: Non-darcy gas flow, sorption, and surface diffusion effects, *Transport in Porous Media*, p. 1–17 (doi: 10.1007/s11242-017-0992-z)
- Ko, L. T.**, R. G. Loucks, S. C. Ruppel, T. Zhang, S. Peng, 2017, Origin and characterization of Eagle Ford Pore Networks in the South Texas Upper Cretaceous Shelf, *AAPG Bulletin*, v. 101, p. 387–418 (doi: 10.1306/08051616035)
- Ko, L. T.**, R. G. Loucks, K. L. Milliken, Q. Liang, T. Zhang, X. Sun, P. C. Hackley, S. C. Ruppel, and S. Peng, 2017, Controls on pore types and pore-size distribution in the Upper Triassic Yanchang Formation, Ordos Basin, China: Implication on pore evolution models of lacustrine mudrocks, *Interpretation*, v. 5, p. SF127–SF148 (doi:10.1190/INT-2016-0115.1)
- Loucks, R. G., S. C. Ruppel, X. Wang, **L. T. Ko**, S. Peng, T. Zhang, H. D. Rowe, and P. Smith, 2017, Pore types, pore-network analysis, and pore quantification of the lacustrine shale-hydrocarbon system in the Late Triassic Yanchang Formation in the southwestern Ordos Basin, China, *Interpretation*, v. 5, p. SF63–SF79 (doi:10.1190/INT-2016-0094.1)
- Milliken, K. T., Y. Shen, **L. T. Ko**, and Q. Liang, 2017, Grain composition and diagenesis of organic-rich lacustrine tarls, Triassic Yanchang Formation, Ordos Basin, China, *Interpretation*, v. 5, p. SF189–SF210 (doi:10.1190/INT-2016-0094.1)
- Afsharpoor, A., F. Javadpour, J. Wu, **L. T. Ko**, and Q. Liang, 2017, Network modeling of liquid flow in Yanchang shale, *Interpretation*, v. 5, p. SF99–SF107 (doi:10.1190/INT-2016-0100.1)
- Ko, L. T.**, T. Zhang, R. G. Loucks, S. C. Ruppel, D. Shao, 2016, Pore evolution in the Boquillas (Eagle Ford-equivalent) shale, Texas – Results from anhydrous gold-tube pyrolysis, *AAPG Bulletin*, v. 100, p. 1693–1722 (doi: 10.1306/04151615092)
- Milliken, K. T., **L. T. Ko**, M. Pommer, K. M. Marsaglia, 2014, SEM petrography of Mediterranean sapropels: Analogues data for assessing marine kerogen in oil and gas shales, *Journal of Sedimentary Research*, v. 84, p. 961–974 (doi:10.2110/jsr.2014.75)
- Ko, L. T.**, Zhang, T.W., Loucks, R.G., Ruppel, S.C., and Shao, D., 2014, Boquillas (Eagle Ford) Formation pore evolution results from laboratory heating experiments, URTEC 1935124
- Harris, N. B., **T. Ko**, R. P. Philp, M. D. Lewan, C. J. Ballentine, Z. Zhou, and D. L. Hall, 2013, Geochemistry of natural gases from tight-gas-sand fields in the Rocky Mountains, REPSEA final report: subcontract# 07122–09
- Harris, N. B., **T. Ko**, R. P. Philp, T. Stroker, and A. Govert, 2009, Natural gas compositions from large tight-gas-sand fields in the Rocky Mountains: A clue to how these reservoirs fill, *GCAGS Transactions*, v. 59, p. 347–350.

SELECTED ORAL AND POSTER PRESENTATIONS

- Ko, L. T.**, T. Larson, P. Periwal, and E. Sivil, 2023, Facies and Associated Reservoir Characteristics of Second Bone Spring Carbonate, Third Bone Spring Siliciclastics (Sand), and Wolfcamp A and B in southern Delaware Basin, presented at International Meeting for Applied Geoscience & Energy (IMAGE), August 29th, Houston, TX

- Ko, L. T.,** R. Adriaens, G. Mertens, and R. G. Loucks, 2023, Clay mineral assemblages and diagenesis in Upper Cretaceous Eagle Ford Group (mudrocks) in south Texas, May 22nd, Clay Mineral Society Annual Meeting, Austin, TX
- Ko, L. T.,** S. Peng, Q. Fu, P. Periwal, E. Sivil, 2023, Revisiting Mississippian Barnett Shale: Lithological and Geochemical Control on Varied Reservoir Heterogeneity and Fluid Saturation from Late Oil to Dry Gas Window, Fort Worth Basin, Texas, May 9th, AAPG Southwest Section (SWS), Wichita Falls, TX
- Ko, L. T.,** S. Peng, Q. Fu, P. Periwal, E. Sivil, 2023, Revisiting Barnett Shale: Barnett in Condensate Window & Verification of Measured Porosity and Permeability in the Mississippian Barnett Shale, Wise and Denton Co., Texas, presented at 2023 MSRL annual meeting, Austin, Texas, April 13th, 2023.
- Ko, L. T.,** and T. Larson, 2023, Regional Variation of OM Types and Thermal Maturity of Missourian-Virgillian Wolfcamp D (Cline Shale), Midland Basin, TX, presented at 2023 MSRL annual meeting, Austin, Texas, April 13th, 2023.
- Ko, L. T.,** T. Larson, and E. Sivil, 2023, Comparing Lithofacies & Chemofacies of 3rd Bone Spring Siliciclastics, Wolfcamp A & B, northern vs. southern Delaware Basin, TX presented at 2023 MSRL annual meeting, Austin, Texas, April 13th, 2023.
- Ko, L. T.,** T. Larson, D. Martinez, R. Scott, P. Periwal, and E. Sivil, 2022, Targeting the Leonardian Basinal Bone Spring Carbonates in the Southern Delaware Basin: Example from Upper 2nd Lime, Pecos Co., TX, Unconventional Resources Technology Conference (URTeC), June 20–22, Houston, TX
- Ko, L. T.,** X. Sun, and T. Zhang, 2022, Possible sources and migration pathway (petroleum system) of the Pennsylvanian (Desmoinesian) Strawn Group, Austin, TX, March 24th, 2022.
- Ko, L. T.,** T. Larson, E. Sivil, P. Periwal, 2022, Facies and Associated Reservoir Quality of the 3rd Bone Spring Siliciclastics & Wolfcamp A and B, Pecos Co., west Texas, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Ko, L. T.,** R. Baumgardner, T. Larson, R. Reed, P. Periwal, E. Sivil, 2022, Facies and Associated Reservoir Quality of the Basinal Leonardian 2nd and 3rd Bone Spring Carbonates, Delaware Basin, west Texas, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Ko, L. T.,** R. Reed, P. Periwal, 2022, Pore Systems and Diagenesis of the Basinal Leonardian 2nd and 3rd Bone Spring Carbonates, Delaware Basin, west Texas, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Ko, L. T.,** and P. Periwal, 2022, Eagle Ford pore systems in black oil window (revisiting pore system evolution, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Ko, L. T.,** 2022, Lower Eagle Ford cores in Dimmit and Webb County, south Texas, presented at MSRL core workshop, Houston CRC, TX, April 11th, 2022
- Ko, L. T.,** and E. Radjef, 2022, Petroleum System, Recent Production and operator activity of the Pennsylvanian (Desmoinesian) Strawn Group, north-central Texas
- Ko, L. T.,** Water Saturation, Porosity & Permeability, Wettability in the Mississippian Barnett Shale, Wise and Denton Co., TX, presented at STARR Barnett Project Update, Aug 22nd, 2022, Austin, Texas
- Ko, L. T.,** S. Peng, P. Periwal, Q. Fu, R. Reed, 2022, Verification of Measured Porosity and Permeability using SEM Micropetrography in the Mississippian Barnett Shale, Wise and Denton Co., Texas: presented to Tight Oil Resource Assessment (TORA), presented at TORA Annual Meeting and Technical Conference, Austin, Texas, November 6-7, 2022.

- Ko, L. T.**, 2022, Application on quantitative texture from thin-section and SEM petrography in mudrocks, presented at MSRL short course and core workshop: Advanced Characterization of Murdock Reservoirs, Dec. 1st-2nd, Austin, TX
- Ko, L. T.**, 2022, Application on quantitative texture from thin-section and SEM petrography in mudrocks, Dec 16th 2022 (MSRL short course online to PetroChina and Sinopec)
- Ko, L. T.**, H. Rowe, E. Sivil, T. Larson, B Loucks, S. C. Ruppel, 2022, Variations in Mineralogy, Wettability, and Trace Elements with Thermal Maturity in the EF: from San Marcos Arch to Karnes Trough, presented during INPEX company visit, July 12th, 2022, Austin, Texas
- Ko, L. T.**, T. Larson, and R. Reed, 2021, Characteristics of the Leonardian 2nd Bone Spring Sand and 3rd Bone Spring Lime, Reeves County, southern Delaware Basin, Texas (MSRL core workshop), poster presentation
- Ko, L. T.**, E. Sivil, T. Larson, R. Reed and P. Periwal, 2021, Characteristics of the Leonardian Third Bone Spring Lime, Reeves County, southern Delaware Basin, Texas (MSRL core workshop), poster presentation
- Ko, L. T.**, 2021, Case Study: Reservoir Characterization of Mississippian Barnett Shale, Fort Worth Basin, Texas (MSRL Advanced Short Course with PetroChina RIPED and Sinopec), online oral presentation
- Ko, L. T.**, 2021, Chemostratigraphy and Reservoir Quality of the Lower Barnett in FS Range Cored Well (Oil/Condensate Window), Wise Co., TX (STARR Barnett Core Workshop, Nov. 9th, 2021, Austin, TX), in-person oral presentation
- Ko, L. T.**, 2021, Petroleum System of the Pennsylvanian (Desmoinesian) Strawn Group (STARR Strawn Core Workshop, Oct. 26th, 2021, Austin, TX), in-person oral presentation
- Ko, L. T.**, T. E. Larson, E. Sivil, R. M. Reed, D. Garcia Acebal, and S. Olmos, 2021, Integrating lithofacies with geochemical and petrophysical properties of the Tithonian-Valanginian Vaca Muerta Fm, central Neuquén Basin, Argentina (Theme 5: Global Unconventional Plays), online oral presentation, International Meeting for Applied Geoscience & Energy (IMAGE)
- Zhang, T., **L. T. Ko**, X. Sun, T. Larson, and M. Wang, 2022, Comparative studies of gas geochemistry and oil migration in 3rdBone Spring and WolfcampA, Delaware Basin, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Peng, S., **L. T. Ko**, and P. Shevchenko, 2022, Shale Wettability: Untangling the Elusive Property with an Integrated Imbibition and Imaging Technique, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Larson, T. **L. T. Ko**, E. J. Sivil, and W. Ali, 2022, Informing drill cuttings analysis with core-based measurements – a cost effective approach to expand reservoir characterizations where core is limited, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Larson, T. **L. T. Ko**, E. J. Sivil, and P. Periwal, 2022, CorePy: machine learning integration of core and wireline data from the Eagle Ford Group and Austin Chalk along a transect across the Maverick Basin and Stuart City reef margin, presented at 2022 MSRL annual meeting, Houston CRC, Texas, April 11th, 2022.
- Larson, T. **L. T. Ko**, K. Fry, H. Rowe, E. J. Sivil, B. Loucks, and M. Nieto, 2022, Chemostratigraphic responses to OAE2 across the drowned Comanche Platform, south Texas, presented at 38th Annual GCSSEPM Foundation Perkins-Rosen Research Conference, Dec. 5-7th, Houston, TX
- Zhang, T., X. Sun, **L. T. Ko**, T. Larson, and M. Wang, 2022, Mobile oil estimate with integrated method of geochemistry and N₂ adsorption in mudrocks of 3rd Bone Spring sand and Wolfcamp X, Delaware Basin
- Sun, X., T. Zhang, **L. T. Ko**, M. Wang, 2021, Organic geochemical characterization of Upper Wolfcamp and 3rd Bone Spring Formation, Delaware Basin (Theme 5: Stratigraphy and Unconventional Reservoir Facies of the

Permian Delaware Basin 2), oral presentation, International Meeting for Applied Geoscience & Energy (IMAGE)

- Larson, T. W., J. E. Sivil, **L. T. Ko**, R. M. Reed, W. A. Ambrose, and S. Hamlin, 2021, Integrating lithofacies and chemofacies characterization for Wolfcamp XY and Third Bone Spring Formation, Delaware Basin, Texas (Theme 5: Stratigraphy and Unconventional Reservoir Facies of the Permian Delaware Basin 2), oral presentation, International Meeting for Applied Geoscience & Energy (IMAGE)
- Zheng, C.Y.C., R. G. Loucks, C. Kerans, and **L. T. Ko**, 2021, Benthic Oxygenation History of South Texas during the Austin Chalk Group Deposition: An Integrated Ichnologic, Sedimentological, and Geochemical Study (Theme 13: AAPG Student Research Posters 1), poster presentation, International Meeting for Applied Geoscience & Energy (IMAGE)
- Ko, L. T.**, R. G. Loucks, H. Rowe, R. Adriaens, and G. Merten, 2021, Diagenesis of the Upper Cretaceous Eagle Ford Group in South Texas and Its Relationships to Rock Properties and its Pore Networks, GeoConvention, online oral presentation (Session: Diagenesis of shale and tight reservoirs, Sept 13 to 15th)
- Ko, L. T.**, 2021, Depositional, Mineralogical, and Maturity Controls on OM-rich Shale/Mudrock/Mudstone Systems, AAPG Student Chapter, the University of Manchester, England, April 29th, 2021, online oral presentation
- Zheng, Y.-C., R. G. Loucks, C. Kerans, and **L. Ko**, 2020, Benthic oxygenation history of south Texas during the Austin Chalk Group deposition: An integrated ichnologic, sedimentological, and geochemical study, Annual RCRL Consortium Meeting
- Ko, L. T.**, R. G. Loucks, R. Adriaens, and G. Merten, 2020, Diagenesis of the Upper Cretaceous Eagle Ford Group in South Texas and Its Relationships to Rock Properties and its Pore Networks, AAPG Annual Convention and Exhibition, oral presentation
- Zhang, T., **L. Ko**, X. Sun, D. Meng, S. Hamlin, 2020, Chemical and Carbon Isotopic Gas Compositions from the Wolfcamp in Midland Basin and Their Significance as Geochemical Tracers for Well Completion, AAPG Annual Convention and Exhibition, oral presentation
- Loucks, R. G., R. Reed, **L. T. Ko**, C. Zahm, and T. Larson, 2020, Introduction to the Micropetrography of the Upper Cretaceous Austin Chalk from the Texas-Mexico Border to Central Louisiana, AAPG Annual Convention and Exhibition, oral presentation
- Shao, D., T. Zhang, **L. T-W. Ko**, Y. Zhang, 2020, Experimental Investigation of Oil Generation, Retention, and Expulsion Within Type II Kerogen-Dominated Marine Shales: Insights from Anhydrous Gold-Tube Pyrolysis of Barnett and Woodford Shales Using Miniature Core Plugs, AAPG Annual Convention and Exhibition, poster presentation
- Hammes, U., **L. T. Ko**, and J. Birdwell, 2020, Update on Energy and Minerals Division Tight Oil and Gas Committee Activities, AAPG Annual Convention and Exhibition, oral presentation
- Zhang, T., **L. T. Ko**, X. Sun, D. Meng, and S. Hamlin, 2020, Chemical and Carbon Isotopic Gas Compositions from the Wolfcamp in the Permian Basin and Their Geological Significance, (Virtual) Goldschmidt, Hawaii
- Ko, L. T.**, T. Larson, and E. Sivil, 2020, Integrated Lithofacies with Geochemistry and Petrophysical Properties of Late Jurassic-Early Cretaceous Vaca Muerta Fm, Neuquén Basin, April 8th- 10th, Annual MSRL Consortium Meeting
- Ko, L. T.**, R. G. Loucks, R. Adriaens, and G. Mertens, 2020, Eagle Ford diagenesis as a function of burial depth and maturity and how it impacts petrophysical and mechanical properties, April 8th- 10th, Annual MSRL Consortium Meeting
- Ikeda, K. and **L. T. Ko**, 2020, Convolutional neural network application in pore identification in shale/mudrock SEM images, April 8th- 10th, Annual MSRL Consortium Meeting

- Larson, T., **L. Ko**, S. Hamlin, R. Reed, E. Sivil, and S. Ruppel, 2020, Wolfcamp A and B lithologic and thermal maturity trends across Reagan County, Midland Basin, TX, April 8th- 10th, Annual MSRL Consortium Meeting
- Peng, S., Y. Liu, **L. T. Ko**, W. Ambrose, 2020, Oil recovery by water imbibition and wettability in shale, April 8th- 10th, Annual MSRL Consortium Meeting
- Sun, X., T. Zhang, **L. Ko**, 2020, Organicfacies characterization of Upper Cretaceous (Cenomanian-Turonian) organic-rich mudrocks from south Texas (Eagle Ford Group), April 8th- 10th, Annual MSRL Consortium Meeting
- Sun, X., T. Zhang, **L. Ko**, and M. Wang, 2020, Organic geochemical characterization of source Wolfcamp A and B units, Delaware Basin, April 8th- 10th, Annual MSRL Consortium Meeting
- Zhang, T., X. Sun, **L. T. Ko**, T. Larson, and M. Wang, 2020, Key controls to oil saturation in Wolfcamp A and Timing of oil vertical migration in Delaware Basin, TX, April 8th- 10th, Annual MSRL Consortium Meeting
- Zhang, T., **L. T. Ko**, and T. Larson, 2020, Hydrocarbon geochemistry, oil saturation and gas storage in Vaca Muerta, Neuquén Basin, April 8th- 10th, Annual MSRL Consortium Meeting
- Ikeda, K., **L. Ko**, E. Goldfarb, and N. Tisato, 2020, Convolutional neural networks for semantic segmentation for micropores in SEM-based images of shales, Jackson School Research Symposium
- Zheng, Y.-C., R. G. Loucks, **L. Ko**, and C. Kerans, 2020, Oxygen-controlled ichnofabrics: Implications of the oxygen-level recovery and anoxic events in the Austin Chalk Group, south Texas, Jackson School Research Symposium
- Peng, S., Y. Liu, **L. T. Ko**, W. Ambrose, 2019, Water/oil displacement by spontaneous imbibition through microscale imaging and implication on wettability in the Wolfcamp Shale, URTEC
- Ko, L. T.** and T. Larson, 2019, Facies, Depositional Environments, Chemostratigraphy, and Reservoir Quality of the Middle Devonian Marcellus Formation, Appalachian Basin, Northeastern Pennsylvania, AAPG Annual Convention and Exhibition, oral presentation
- Ko, L. T.**, P. C. Hackley, R. G. Loucks, T. Zhang, and C. Wu, 2019, Pore Characteristics in Refractory Kerogen vs. Solid Bitumen and Pore Systems in the Dry-Gas Window Marcellus Formation, Appalachian Basin, Northeastern Pennsylvania, AAPG Annual Convention and Exhibition, oral presentation
- Zhang, T., **L. T. Ko**, X. Sun, D. Meng, and S. Hamlin, 2019, Chemical and carbon isotopic gas compositions from the Wolfcamp in Midland and their significance as geochemical tracers for well completion, Annual MSRL Consortium Meeting
- Sun, X., T. Zhang, **L. T. Ko**, C. Wu, and D. Meng, 2019, Organic geochemical characterization of source difference between Wolfcamp A and B Units, Midland Basin, Annual MSRL Consortium Meeting
- Loucks, R.G., C. Zahm, T. Larson, S. Ruppel, **L. Ko**, and S. Peng, 2018, Upper Cretaceous Austin Chalk Group type section in South Texas, Oct. 22nd, Annual RCRL Consortium Meeting
- Ko, L. T.**, S. C. Ruppel, R. G. Loucks, and E. Sivil, 2018, Facies and reservoir quality of the Middle Devonian Marcellus Formation, Appalachian Basin, northeastern Pennsylvania, March 19th- 21th, Annual MSRL Consortium Meeting
- Ko, L. T.**, X. Sun, T. Zhang, and S. C. Ruppel, 2018, Re-evaluation of Rock-Eval and TOC data using the HAWK instrument and modified temperature programmed pyrolysis, March 19th- 21th, Annual MSRL Consortium Meeting
- Ko, L. T.**, S. C. Ruppel, and P. Smith, 2018, Pore systems in the high-maturity (dry-gas window) Marcellus Formation and their relationship to the rock attributes, Appalachian Basin, Pennsylvania, March 19th- 21th, Annual MSRL Consortium Meeting

- Loucks, R. G., **L. T. Ko**, R. Reed, 2018, Insights into early reservoir development of the Eagle Ford Group from observation of the USGS Gulf Coast #1 West Woodway Low-R_o research core, March 19th- 21th, Annual MSRL Consortium Meeting
- Zhang, T., X. Sun, **L. T. Ko**, 2018, Controls on variations in oil saturation: Wolfcamp A, Delaware and Midland Basins, March 19th- 21th, Annual MSRL Consortium Meeting
- Sun, X., T Zhang, **L. T. Ko**, 2018, Geochemical characterization of organic matter: Wolfcamp A, Delaware and Midland Basins, March 19th- 21th, Annual MSRL Consortium Meeting
- Tsai, W., S. Sung, **L. T. Ko**, and H. Rowe, 2017, Integrated chemostratigraphy and sedimentology of Eocene Claiborne Group, central Louisiana, USA: A regional study incorporating core and cuttings, 2017 Inter-disciplinary Earth Science in Next Generation Conference, Tainan, Taiwan
- Ko, L. T.**, 2017, Depositional, mineralogical, and maturity controls on pore types, size, and distribution in mudrocks, UT-Bureau of Economic Geology Seminar Series
- Ko, L. T.**, S. C. Ruppel, R. G. Loucks, T. Zhang, P. Hackley, and D. Shao, 2017, Depositional, mineralogical, and maturity controls on pore types, size, and distribution in mudstones, AAPG Annual Convention and Exhibition, poster presentation
- Peng, S., T. Zhang, **L. T. Ko**, R. G. Loucks, and S. C. Ruppel, 2017, Laboratory measurement of mudrock on porosity, pore and pore throat size, and permeability: Learnings from comparison of techniques, AAPG Annual Convention and Exhibition, oral presentation
- Reed, R. M., R. G. Loucks, and **L. T. Ko**, 2017, Pores observed in organic matter in mudrocks: A ten-year retrospective, AAPG Annual Convention and Exhibition, oral presentation
- Ko, L. T.**, S. C. Ruppel, R. G. Loucks, and H. Rowe, 2017, Integrated sedimentology, chemostratigraphy, and pore system in the Lower Bexar Shale of the Lower Cretaceous Pearsall Formation, south Texas, Annual MSRL Consortium Meeting
- Ko, L. T.**, H. Rowe, R. G. Loucks, R. Phelps, E. Sivil, and S. C. Ruppel, 2017, Chemofacies characterization of the updip Lower Cretaceous Pearsall Formation in south Texas, Annual MSRL Consortium core workshop
- Ko, L. T.**, S. C. Ruppel, R. G. Loucks, P. C. Hackley, T. Zhang, and D. Shao, 2017, Pore evolution in the Woodford and Barnett Mudstones: Insights from integrated SEM and organic petrography, and laboratory thermal maturation, March 20th- 24th, Annual MSRL Consortium Meeting
- Bhandhari, A., P. Flemmings, P. Polito, and **L. T. Ko**, 2017, Measurement of intact and fractured Eagle Ford shale gas permeability under in-situ stress, Annual MSRL Consortium Meeting
- Ko, L. T.**, H. Rowe, R. G. Loucks, S. C. Ruppel, 2016, Lower Bexar Member of the Pearsall Formation in south Texas – Skelly Oil #1A La Salle, core workshop presenter, 2016 SEPM OAE conference, Oct 31–Nov 3, Austin, Texas, USA
- Ko, L. T.**, H. Rowe, R. G. Loucks, S. C. Ruppel, 2016, Chemostratigraphy of the Lower Bexar Member of the Pearsall Formation in south Texas – the regional Aptian OAE during Early Cretaceous, 2016 SEPM OAE conference, Oct 31–Nov 3, Austin, Texas, USA
- Smith, P., **L. T. Ko**, and T. Zhang, 2016, High-resolution microscopic analysis of mineral and organic-matter components in the Upper Triassic Yanchang lacustrine shale deposits in southeastern Ordos Basin, China, 2016 SEPM-AAPG Hedberg Research Conference “Mudstone Diagenesis”, October 16-19, Santa Fe New Mexico, USA
- Ko, L. T.**, R. G. Loucks, S. C. Ruppel, T. Zhang, P. C. Hackley, and D. Shao, 2016, Controls on pore types and pore-size distribution in marine and lacustrine mudstones: examples from Mississippian Barnett, Upper

Devonian-Lower Mississippian Woodford, Upper Triassic Yanchang, and Upper Cretaceous Boquillas and Eagle Ford Formations, 2016 Joint Meeting TSOP-AASP-ICCP, September 18-23, Houston, Texas, USA

- Smith, P., **L. T. Ko**, and T. Zhang, 2016, Transmission electron microscopy (TEM) analysis of mineral and organic matter components in Upper Triassic Yanchang lacustrine mudstone, Ordos Basin, China, 2016 Joint Meeting TSOP-AASP-ICCP, September 18-23, Houston, Texas, USA
- Ko, L. T.**, R. G. Loucks, S. C. Ruppel, T. Zhang, and S. Peng, 2016, Origin and characterization of Eagle Ford pore networks in the south Texas Upper Cretaceous shelf, AAPG Annual Convention & Exhibition, June 19th-23rd, Calgary, Canada
- Ko, L. T.**, R. G. Loucks, K. L. Milliken, T. Zhang, X. Sun, S. C. Ruppel, P. C. Hackley, 2016, Pore types and pore-size distribution in the Upper Triassic Yanchang lacustrine mudrocks (Ordos Basin, China): Revisiting Pore Evolution Models, Annual MSRL Consortium Meeting
- Ko, L. T.**, H. Rowe, R. G. Loucks, and S. C. Ruppel, 2016, Chemostratigraphy of the Lower Bexar Member of the Pearsall Formation in south Texas and the necessity for preparing clean core surfaces, Annual MSRL Consortium Meeting
- Bhandhari, A., P. Flemmings, P. Polito, and **L. T. Ko**, 2016, In-situ stress measurement of Eagle Ford matrix permeability, Annual MSRL Consortium Meeting
- Loucks, R. G., S. C. Ruppel, **L. T. Ko**, T. Zhang, 2016, Quantifying pore types and reservoir quality in the Late Triassic Yanchang lacustrine system, Ordos Basin, Annual MSRL Consortium Meeting
- Smith, P., **L. T. Ko**, and T. Zhang, 2016, High resolution microscopic analysis of mineral and organic matter components in the Upper Triassic Yanchang lacustrine shale, southeastern Ordos Basin, China
- Ko, L. T.**, T. Zhang, R. G. Loucks, S. C. Ruppel, D. Shao, 2015, Pore Evolution in the Barnett, Boquillas, and Woodford mudrocks based on gold-tube pyrolysis thermal maturation, Annual MSRL Consortium Meeting
- Ko, L. T.**, and R. G. Loucks, 2015, Quantification of Eagle Ford pore networks, Annual MSRL Consortium Meeting
- Ko, L. T.**, T. Zhang, R. G. Loucks, S. C. Ruppel, D. Shao, 2015, Comparison of pore evolution in the Barnett, Eagle Ford (Boquillas), and Woodford Shales with regard to thermal maturation by gold-tube pyrolysis, Houston Geological Society Annual Mudrock Conference, Houston, Texas (invited student poster presentation)
- Ko, L. T.**, T. Zhang, X. Sun, R. G. Loucks, S. C. Ruppel, D. Shao, 2014, Oil and gas generation and pore evolution of artificially-matured Eagle Ford shale by anhydrous pyrolysis, EOG internal conference (invited talk)
- Liu, F., A. E. Csoma, A. Scheffer, Z. Poros, **L. T. Ko**, 2014, Recent advances in reservoir characterization of mudrock formations, 7th International Symposium of State Key Lab of Oil and Gas Reservoir Geology and Exploration
- Ko, L. T.**, T. Zhang, R. G. Loucks, S. C. Ruppel, 2014, Pore evolution in the Eagle Ford shale, Texas – Results from anhydrous gold-tube pyrolysis, Annual MSRL Consortium Meeting
- Milliken, K. L., **L. T. Ko**, M. Pommer, K. M. Marsaglia, 2014, Mediterranean sapropels: Analogues for petrographic assessment of organic matter in oil and gas shales (AAPG 2014 ACE, Houston, TX)
- Csoma, A., H., El-Sobky, F. Liu, R. Phelps, A. Scheffer, K. S. McLin, and **T. L. Ko**, 2013, From qualitative observations to quantitative data sets: New quantitative pore-to-log upscaling techniques for reservoir quality prediction (GSA annual meeting 2013)
- Ko, T. L.**, R. G. Loucks, S. C. Ruppel, K. L., Milliken, H. Rowe, 2013, Depositional and mineralogical controls on pore distribution in the Lower Cretaceous Pearsall mudrock system, south Texas (AAPG 2013 ACE, Student Poster Contest, Pittsburgh, PA)

- Ko, T.**, R. G. Loucks, S. C. Ruppel, K. L. Milliken, and H. Rowe, 2013, Controls on pore distribution in the Lower Bexar member of the Pearsall Formation, south Texas, Annual MSRL Consortium Meeting
- T. Ko**, M. D. Lewan, N. B. Harris, Characterization of gas composition generated by sequential hydrous pyrolysis of potential source rocks in tight-gas reservoirs in the Rocky Mountain area (AAPG 2011 ACE, Houston, TX)
- Leonard, J. E., **L. T. Ko**, S. C. Smith, D. Biswas, New York State Utica Shale gas production models for vertical and “Hypothetical” horizontal hydraulically fracture-stimulated wells (AAPG Geosciences Technology Workshop, Baltimore, MD, May 23-25, 2011)
- Harris, N. B., **T. Ko**, Q. Xiao, R. P. Philp, A. Zhou, C. Ballentine, 2011, Application of natural gas compositions to migration and filling models in large tight gas sand reservoirs of the Rocky Mountain, USA (AAPG Hedberg Research Conference, Beijing, China)
- Ko, T.**, M. D. Lewan, N. B. Harris, 2010, Characterization of gas composition generated by sequential hydrous pyrolysis of potential source rocks in tight-gas reservoirs in the Rocky Mountain area (2010 TSOP, Denver, CO)
- Harris, N. B., **T. Ko**, R. P. Philp, 2010, Applying natural gas compositions from large tight-gas-sand fields to reservoir filling models (AAPG 2010 ICE, Calgary, Alberta, Canada)
- Harris, N. B., **T. Ko**, R. P. Philp, T. Stroker, and A. Govert, 2009, Natural gas compositions from large tight-gas-sand fields in the Rocky Mountains: A clue to how these reservoirs fill (GCAGS 59th Annual Meeting, Shreveport, Louisiana)

ATTENDED WORKSHOP, SHORT COURSES, AND FIELD TRIPS

Workshop: Applied Understanding for Geoscientists of How Engineers Calculate Reservoir Oil and Gas Volumes using PVT (Houston Geological Society, Houston, TX)	Jan. 2021
Workshop: A Training Workshop and Molecular Organic Geochemistry – A Revolution in Petroleum Geochemistry with Michael Moldowan and Jeremy Dahl (ConocoPhillips, Houston, TX)	Sept. 2018
Short course: Advanced Geochemical Technologies: Methods That Reveal the Rest of Your Petroleum System with Michael Moldowan and Jeremy Dahl (AAPG, ACE, Houston, TX)	Apr. 2017
<i>Field trip: Petroleum Structures of the Alberta Thrust Belt (AAPG, ACE, Calgary, Canada)</i>	Jun. 2016
<i>Field trip: The Mid-Paleozoic Exshaw/Banff Unconventional Petroleum System, Alberta: Correlative of Bakken Tight-Oil Play in Williston Basin (AAPG, ACE, Calgary, Canada)</i>	Jun. 2016
Short course: Sequence-stratigraphic analysis of mudstones: Key to paleoclimate archives, subsurface fluid flow and hydrocarbon source with Kevin M. Bohacs, Ovidiu Remus Lazar, Joe Macquaker, & Juergen Schieber (AAPG, ACE, Denver, CO)	Jun. 2015
Short course: IBA basin analysis short course by ExxonMobil (AAPG ACE, Denver, CO)	May 2015
Short course: Concepts and models and case studies of dolomitization with Hans Machel and Jay Gregg (AAPG ACE, Houston, TX)	Apr. 2014
Short course: Pore-scale Imaging: Applications to Evaluation and Development of Mudrock Reservoirs (54 th annual SPWLA symposium, New Orleans, LA)	Jun. 2013
SEPM Short course: Seismic Geomorphology and Seismic Stratigraphy: Extracting Geologic Insights from 3-D Seismic Data with Henry W. Posamentier	May 2013
Short course: Fundamentals of mudrock chemostratigraphy: Handheld XRF analysis, calibration, and interpretation with Harry Rowe and Bruce Kaiser (GCAGS, Austin, TX)	Oct. 2012
Short course: Analyzing Facies Patterns of Modern Carbonate Sands and Their Potential as Analogs for HC Reservoirs (AAPG ACE, Long Beach, CA)	Apr. 2012