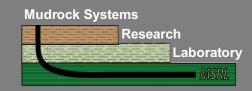
### **MSRL Spring 2021 Annual Meeting**

### **Technical Presentations of 2020 MSRL Research Results**



### **Technical Program Highlights**

- Focused geologic studies on the Delaware Basin, Midland Basin, Eagle Ford and the Austin Chalk in Texas
- Integrated core characterization methods tying rock and fluid attributes to wireline
- Hydrocarbon geochemistry, expulsion, migration and oil saturation studies
- Understanding fluid transport, permeability and porosity in mudrock systems

# Day 1: Monday, April 5<sup>th</sup>, 8:00 AM – 12:00 PM Technical session (Web-based viewing using Zoom video conferencing)

### Reservoir Architecture and Attributes I: Eagle Ford Group and Austin Chalk Formation

8:00-8:30	Eagle Ford Group: Maturity effects on geological measurements (palynofacies, nanofossil assemblages, and organic petrography – <i>Lucy Ko, Xun Sun, and Toti</i>
0.20.000	Larson)
8:30–9:00	Spatial and stratigraphic heterogeneities in lithofacies in the Lower Eagle Ford
	member - Dimmit, La Salle, and Webb county – <i>Lucy Ko</i>
9:00-9:30	Initial results of core-based wireline log training datasets for the Eagle Ford Group
	and Austin Chalk - Toti Larson, Niranjan Aryal (Schlumberger), and Lucy Ko
9:30-10:00	Produced fluids time lapse geochemistry for the Eagle Ford Group – <i>Tongwei</i>
	Zhang and Xun Sun
10:00-10:30	Permeability modeling results for Eagle Ford Group marls – Farzam Javadpour
10:30-11:00	Overview and characterization of total organic carbon in the Austin Chalk Group
	along the Onshore northern GOM- Bob Loucks and Lucy Ko
11:00-12:00	Discussion, new research directions, questions, collaboration potential

# Day 2: Tuesday, April 6<sup>th</sup>, 8:00 AM – 12:00 PM Technical session (Web-based viewing using Zoom video conferencing)

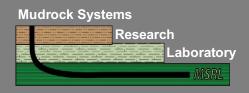
### Fluid Flow and Modeling

8:00-8:45	Water-oil displacement and wettability in shale (comparison between Wolfcamp
	and Eagle Ford Group pore type and size) – Sheng Peng
8:45-9:15	Gas relative permeability and hysteresis. Impact on production for the Wolfcamp,
	Eagle Ford Group and Austin Chalk – Sheng Peng
9:15-9:45	Pressure dependent gas- and relative-permeability (Austin Chalk and Eagle Ford
	Group) – Sheng Peng
9:45 - 10:15	Water flow in nanopores with different wettability – Farzam Javadpour
10:15 -10:45	Pore scale perspective of gas/water two-phase flow in shale – Farzam Javadpour
9:15–9:45 9:45 – 10:15	Eagle Ford Group and Austin Chalk – Sheng Peng Pressure dependent gas- and relative-permeability (Austin Chalk and Eagle Ford Group) – Sheng Peng Water flow in nanopores with different wettability – Farzam Javadpour

10:45 – 11:45 Discussion, new research directions, questions, collaboration potential

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### **Technical Presentations of 2020 MSRL Research Results**



# Day 3: Wednesday, April 7<sup>th</sup>, 8:00 AM – 12:00 PM Technical session (Web-based viewing using Zoom video conferencing)

### Reservoir Architecture and Attributes II: Bone Spring Formation, Delaware Basin

8:00-8:30	Stratigraphic framework and implications of chemofacies distribution in 3 <sup>rd</sup> Bone
	Spring and Wolfcamp XY sands – <i>Toti Larson</i>
8:30-9:00	Lithofacies, diagenesis and pore systems of 2 <sup>nd</sup> Bone Spring Lime, Reeves and
	Pecos County – <i>Lucy Ko</i>
9:00-9:30	SEM lithologies and pore systems of a basinal 3 <sup>rd</sup> Bone Spring core – <i>Rob Reed</i>
9:30-10:00	Applying biomarkers in organic source of the 3 <sup>rd</sup> Bone Spring sand and 2 <sup>nd</sup> Bone
	Spring Lime – Xun Sun
10:00-10:30	Controls to oil saturation and storage in the 3 <sup>rd</sup> Bone Spring Sand and 2 <sup>nd</sup> Bone
	Spring Lime - Tongwei Zhang
10:30-11:30	Discussion, new research directions, questions, collaboration potential

# Day 4: Thursday, April 8th, 8:00 AM – 12:00 PM Technical session (Web-based viewing using Zoom video conferencing)

## Reservoir Architecture and Attributes III: Wolfcamp Formation across the Midland and Delaware Basins

8:00-8:30	Wolfcamp A: Integrating chemofacies stacking patterns with oil saturation and
	petrophysical data - Toti Larson and Tongwei Zhang
8:30-9:00	Basinal fine grain carbonate lithologies of the Permian Wolfcamp Formation,
	Delaware Basin, West Texas – Rob Reed and Sheng Peng
9:00-9:45	Comparison of sources and depositional character of Wolfcamp A&B Midland and
	Delaware basin biomarkers, trace metals, isotopes - Xun Sun and Toti Larson
9:45-10:30	Results of oil storage and pore size distribution studies of Wolfcamp B in the
	Delaware basins – <i>Tongwei Zhang</i>
10:30-11:30	Discussion, new research directions, questions, collaboration potential