The RCRL Fall Core Workshop will cover a range of geologic ages and depositional settings. These cores will provide an exceptional opportunity to review both conventional and unconventional plays ranging from deepwater mudstones and chalks and associated carbonate gravity-flow deposits to shoaling areas with reeval buildups and sand flats. The oldest core is from the Wolfcampian slope and basin along the Glasscock nose of the Eastern Shelf of the Midland Basin. At this station, depositional processes and associated debris-flow reservoirs will be discussed. The Third Bone Spring and Avalon mudstones and relatively thin carbonate-rich gravity-flow deposits from the northeast Delaware Basin will be displayed and a discussion of depositional processes, pore networks, and reservoirs will be emphasized. Another station will show the integration of core, wireline, and seismic of the Central Basin Platform to Midland Basin transition of the San Andres/Grayburg section and will emphasize the concept of the beginning of the end of the Midland Basin. From the East Texas Basin, Lower Cretaceous (Albian) Peasall Fairway field cores, that are excellent conventional reservoirs, will be reviewed to understand the effects that the OAE 1 had on the biota of this reeval/grain-shoal setting. The last two core stations cover the Upper Cretaceous Austin Chalk. One set of cores will display strong cyclic sedimentation between oxic and anoxic environments that are commonly contributed to Milankovitch cycles. The anoxic cycles are TOC rich and appear to be source rocks. The other Austin Chalk station has cores from the East Texas field that display the well-developed unconformity (noted by rooted soil zones) between the top of the Upper Cretaceous Woodbine sandstone and the deepwater Austin chalk.

Monday, Sept. 18, 2017 – Technical Presentations - Day 1

8:15 Opening comments, meeting overview and reflection of 30 years of RCRL – Charles Kerans

Topic: Shelf-to-Basin of the Early Permian Basin

8:30 Evolution of the Permian section of the Midland Basin with a focus on the Midland Farms area: progress towards a standardization of stratigraphic framework of the Permian Basin - Charles Kerans, Robin Dommiss, and Chris Zahm

9:10 The influence of basement-involved faults on deposition in Wolfcampian-Leonardian age strata, Midland Basin – Chris Zahm and Charles Kerans
9:40  Stratigraphic architecture of the syntectonic Wolfcampian deposits of the Southern Delaware Basin – Xavier Janson and Chris Zahm

10:15  Break

10.30  Carbonate gravity-flow deposits in the Early Permian Avalon and Third Bone Spring sections in the eastern Delaware Basin; processes, characteristics, and reservoir quality – Bob Loucks

11:00  The Permian Basin Model – Robin Dommissee

11:30  Lunch – BEG Lobby and ROC

**Topical Research in Carbonate Systems**

1:00  Slope architecture and seismic geomorphology of the Miocene, Northwest Shelf of Australia– Xavier Janson. Dallas Dunlap and Jake Covault

1:45  Late Guadalupian evolution of the Delaware Basin: insights from stable isotope and trace element geochemistry – Ben Smith and Charles Kerans

2:15  Interactive carbonate reservoir-quality database; tool for quick look at reservoir quality and reality check on reservoir quality predictions – Bob Loucks

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**Monday, Sept. 18, 2017, 3:00 – 7:00 – Poster Session**  
*J.J. Pickle Campus, BEG Main Lobby*

Topical poster session featuring new research from the RCRL students and related researchers.

**Tuesday, Sept. 19, 2017 – Technical Presentations - Day 2**  
*J.J. Pickle Campus, BEG-TACC ROC Room*

**Topic: Mesozoic Systems**

8:30  Organic-poor and organic-rich cycles in the in the Upper Cretaceous Austin Chalk Group in East Texas and Louisiana; comments of cyclicity, source-rock potential, and reservoir quality – Bob Loucks

9:00  Seismic architecture of Lower Cretaceous (Aptian/Albian) carbonate platform around the Gulf of Mexico – Xavier Janson, Charles Kerans, Robert Loucks and Chris Zahm
**Topic: Pleistocene Research**

9:30 High-resolution age constraints on the West Caicos Stratigraphic Framework and Implications for Global Sea-level - Charles Kerans, Paul Hearty, Harry Rowe, Chris Zahm and Steve Bachtel

10:00 Break

**Topic: Numerical Models and Carbonates**

10:30 Numerical models and geomechanics of early deformation in carbonates: review, initial findings and future directions – Chris Zahm, Charles Kerans, Andrea Nolting, and Yaser Alzayer

11:00 Controls on syndepositional deformation: field-based numerical modeling in steep-rimmed Pleistocene carbonate margins – Andrea Nolting, Chris Zahm, Charles Kerans, and Steve Bachtel

11:30 Differential compaction, layer-parallel slip, and fracturing in carbonate mound complexes: insight from numerical geomechanical models – Yaser Alzayer, Chris Zahm and Charles Kerans

12:00 Lunch – BEG Lobby and ROC

**Topic: Permian Basin Field Trip Overview**

1:00 Evidence for critically-stressed Laramide-age faults and fractures in the southern Permian Basin – Chris Zahm

1:30 Internal architecture and stacking patterns of San Andres Formation high-frequency cycles, Lawyer Canyon; Implications for reservoir heterogeneity, updip porosity pinchouts and stratigraphic traps – Charles Kerans, Chris Zahm, and RCRL group

2:30 Icehouse stratigraphic complexities of a syntectonic Wolfcampian open carbonate platform: Hueco Group, Van Horn, TX – Taylor Canada and Charles Kerans

3:00 Feedback Session

3:45 Meeting Ends and Field Trip depart for Airport
2017 RCRL Annual Field Trip, September 19-22, 2017

Part 1: Wolfcampian to Leonardian of Wylie Mountains and Sierra Diablo Range
Part 2: 30 years later: cycles and sedimentology of Lawyer Canyon and Algerita Escarpment

Fieldtrip Agenda

Tuesday, September 19, field trip participants will fly out to El Paso, TX.

The first 1.5 days (Wednesday & Thursday AM) will be spent examining the platform-top stratigraphy of the Wolfcampian Hueco section in the Wylie’s just south of Van Horn, Tx. A distinct 3-sequence succession is present with well-developed tidal flat facies overlying the Powwow-Hueco disconformity as well as the development of open marine faunal successions. A 50-ft thick evaporite collapse complex is also present that complicates the platform-top stratigraphy and is suggestive of Wolfcampian-age deformation. The morning of the second day will be spent getting an appreciation for the scale and importance of the top-Wolfcamp unconformity.

The afternoon of day 2 (Thursday) will be spent examining overviews of Wolfcamp platform top and shelf-to-basin profiles seen from a distance along the Sierra Diablo mountain front.

Day 3 (Friday) is a full day examination of the cycle-scale facies architecture of several of the San Andres Formation high-frequency cycles to gain an appreciation for the basic facies components of these stacked barrier-inlet systems and their 3D architecture. We will fly into and out of El Paso TX and will likely not be back on Friday night in time to fly out till the next morning.

Flights:
Participants are asked to fly out to El Paso, TX on September 19, 2017. Make your return flight on Saturday, as you will not make it back to El Paso in time to fly out on Friday evening.

Suggested Airline to El Paso on Tuesday, Sept. 19: Southwest Airlines Flight 696 departs 8:20 pm arrives 8:55 (nonstop)

*Let Stephaine know if you will need a parking permit while during the fieldtrip.

Hotels during Fieldtrip

Tues., Sept. 19
Fly Austin to El Paso
Hotel: Wyndham - El Paso Airport $98.00/night
Block https://www.wyndhamhotels.com/groups/rcrl-ut
*use the link above to get group rate.
**Wed., Sept. 20**  
Depart El Paso for Van Horn – Wylie Mountains  
Hotel: **El Capitan Hotel**  
$135-139/night  
100 E. Broadway ~ Van Horn, Texas 79855  
(877) 283-1220 phone ; (432) 283-1250 fax  
Frontdesk.elcapitan@yahoo.com  
*Participants must call to make a reservation.  
**Reservation block name: RCRL**

**Thur., Sept 21**  
Wylie Mountains, Sierra Diablo Platform  
Hotel: **Stevens Hotel**  
$107/night  
1829 S Canal Street  
Carlsbad, NM, 88220  
Contact: Monica  
Phone: (575) 887-2851  
*Participants must call to make a reservation.  
**Reservation block name: RCRL**

**Fri., Sept. 22**  
Lawyer Canyon, Algerita Escarpment  
Arrive El Paso Airport 7 pm  
Hotel: **Wyndham – El Paso Airport**  
$98.00/night  
Block [https://www.wyndhamhotels.com/groups/rcrl-ut](https://www.wyndhamhotels.com/groups/rcrl-ut)  
*use the link above to get group rate.