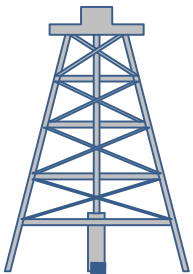


# MUDTOC Consortium

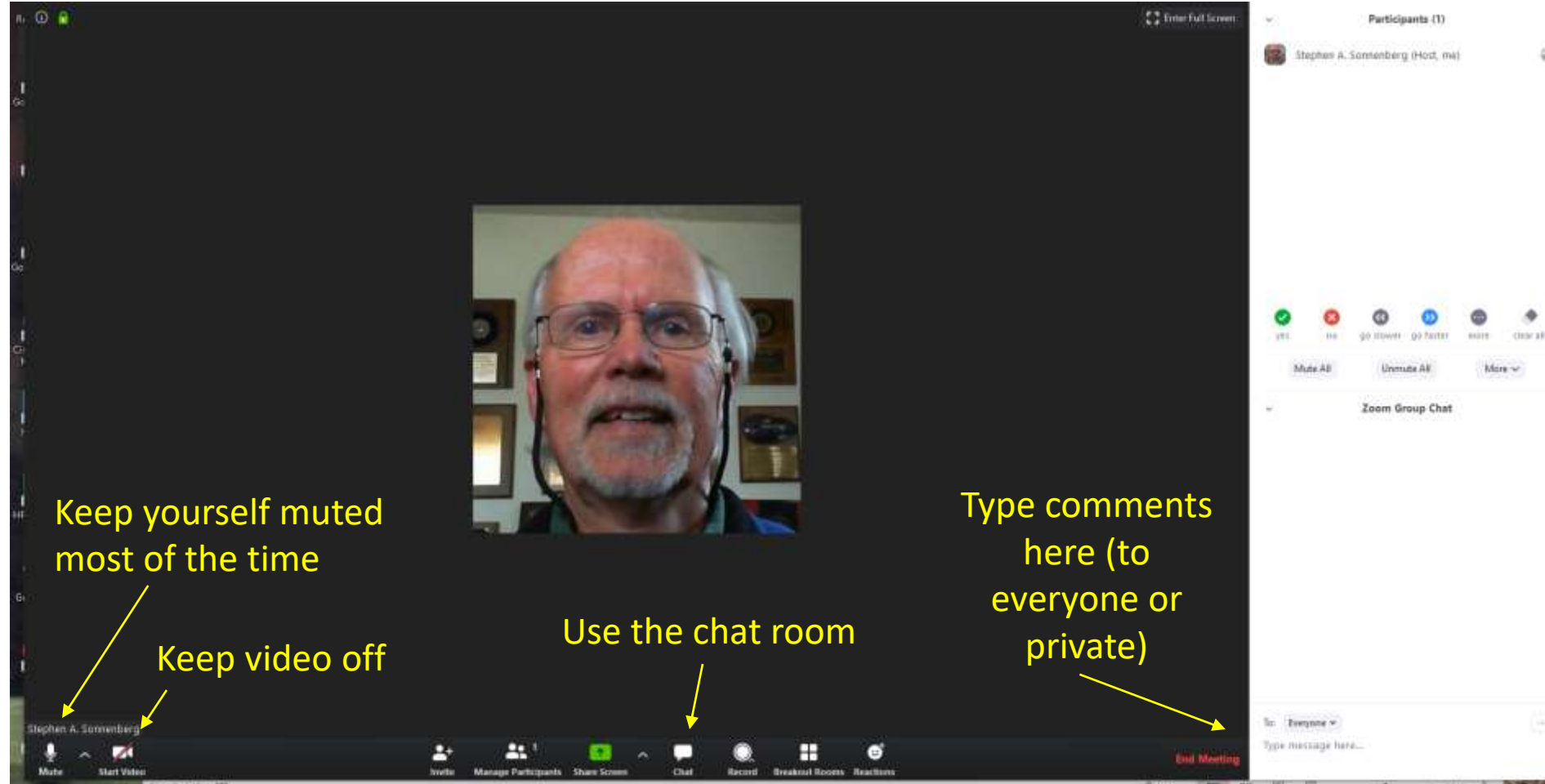
## Fall 2020



Dr. Steve Sonnenberg  
Principal Investigator



# ZOOM Suggestions



Keep yourself muted most of the time

Keep video off

Use the chat room

Type comments here (to everyone or private)

Participants list

# MUDTOC Advisors, Faculty & Committee Members



- Steve Sonnenberg, PI
- Kathy Emme, RA

## Advisors:

- John Curtis
- Jim Emme
- Mike Hendricks
- Bob Weimer
- Bill Zogg
- Basak Kurtoglu

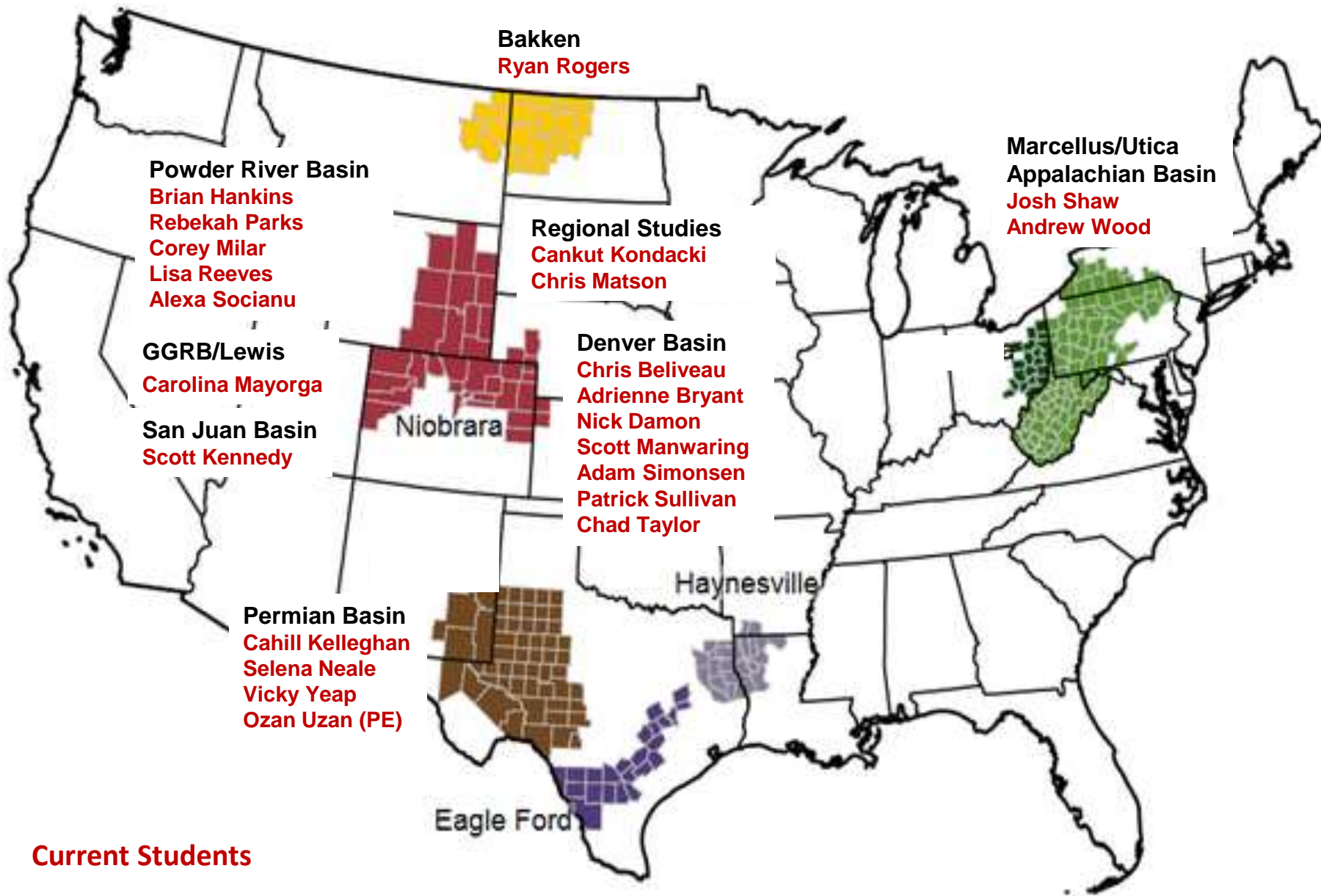
## Committee Members

- Marsha French
- Donna Anderson
- Mary Carr
- Zane Jobe
- Manika Prasad
- Hossein Kazemi
- Mark Longman
- Terri Olsen
- Doug Neese
- Ali Tura
- Lesli Wood
- Jennifer Miskimins
- John Kaszuba, UW
- Keith Shanley
- Jeff May



## Mudrock and Tight Oil Characterization Consortium (includes Carrier Bed/Halo Plays)

- Denver Basin:
  - Skull Creek, Niobrara, Codell
- Powder River Basin:
  - Mowry, Niobrara, Frontier/Turner, Shannon
- Permian Basin (Midland & Delaware)
  - Wolfcamp
  - Avalon, Bone Springs
- Appalachian Basin
  - Marcellus
  - Utica
- Bakken Petroleum System
- GGRB
  - Lewis Shale
- Other Basins – SJB, Semilla SS



**Current Students**

# MUDTOC Characterization



- Outcrop & Core descriptions
- Petrographic thin sections
- FE SEM, EDS
- QEMSCAN
- XRD
- XRF
- SRA
- Bambino
- MICP, Nitrogen adsorption, water (kerosene) immersion, etc.
- TinyPerm3 & other permeability measurements
- Petrophysics, NMR + ECS
- Core Scanning
- Carbon & oxygen isotope analysis
- CCUS
- Etc.

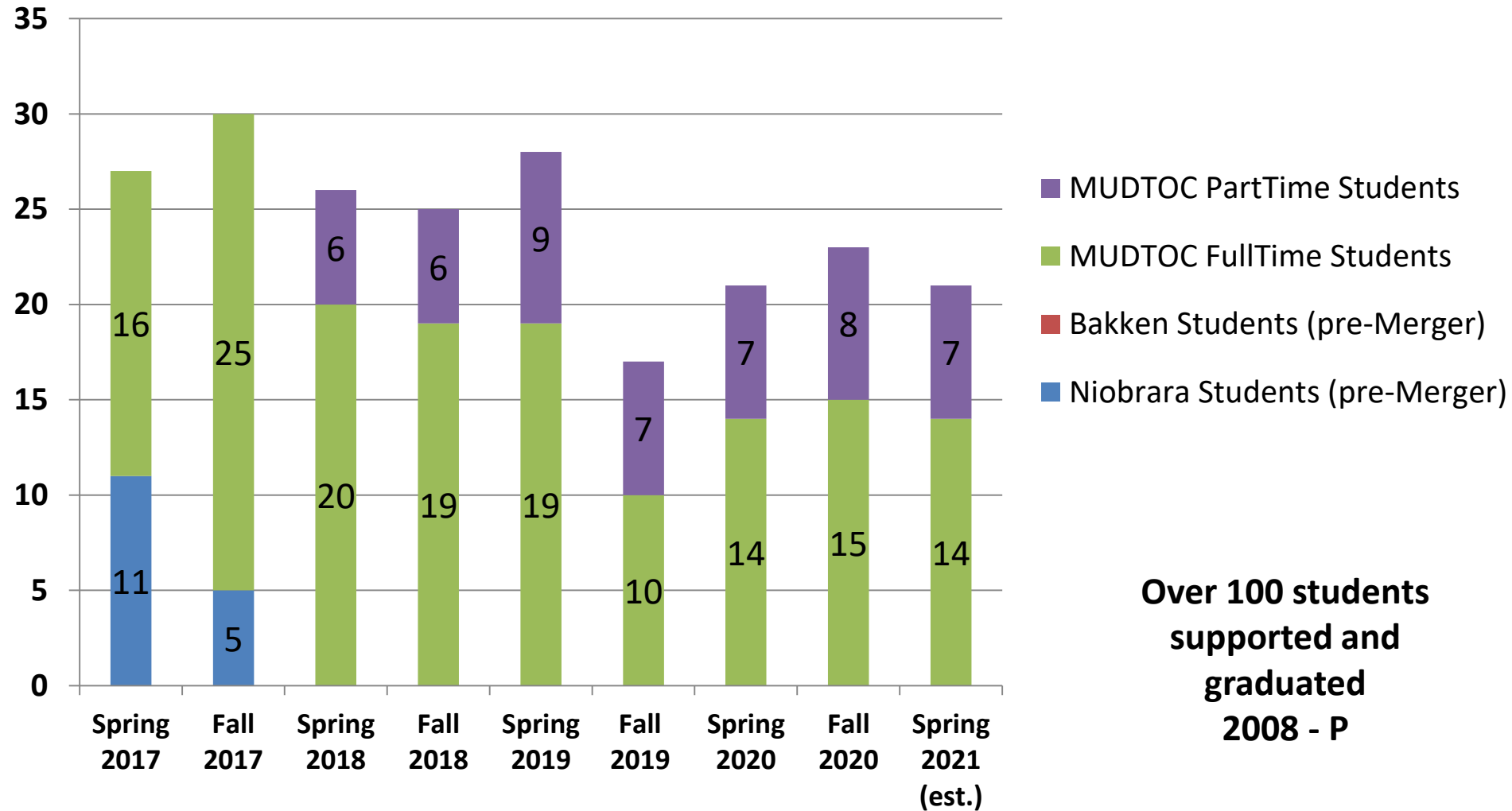
# Project Ideas



- NMR & ECS - Permian, Bakken, Niobrara, Mowry, etc.
- Niobrara & Greenhorn Regional (Cankut Kondacki, Chris Matson)
  - Ash beds, biostratigraphy, OAEs, etc.
- Niobrara Redtail area (Adam Simonsen, Scott Manwaring, Chad Taylor)
- Niobrara Newatt area
- Codell Redtail area (Nick Damon)
- Pyrobitumen in Niobrara
- Denver basin-Skull Creek (Patrick Sullivan)
- Biogenic/authigenic silica-Bakken (Ryan Rogers), Mowry (Brian Hankins)
- Three Forks Petrophysics
- Basin Modeling: Permian (Cahill Kelleghan)
  - Pressure & Temperature Anomalies
- Permian continued
  - Comparison of Wolfcamp from gas, gas-cond, oil windows
  - Water occurrences in Wolfcamp (Ozan Uzun)
- Faults & fractures
- Carrier Bed Plays
- CCUS Wolfcamp, Niobrara (Chris Beliveau, Ozan Uzun)
- Lewis Shale, GGRB (Carolina Mayorga)

# MUDTOC Supported Students

## 2016 – 2020 (2021 est.)



**Over 100 students supported and graduated 2008 - P**

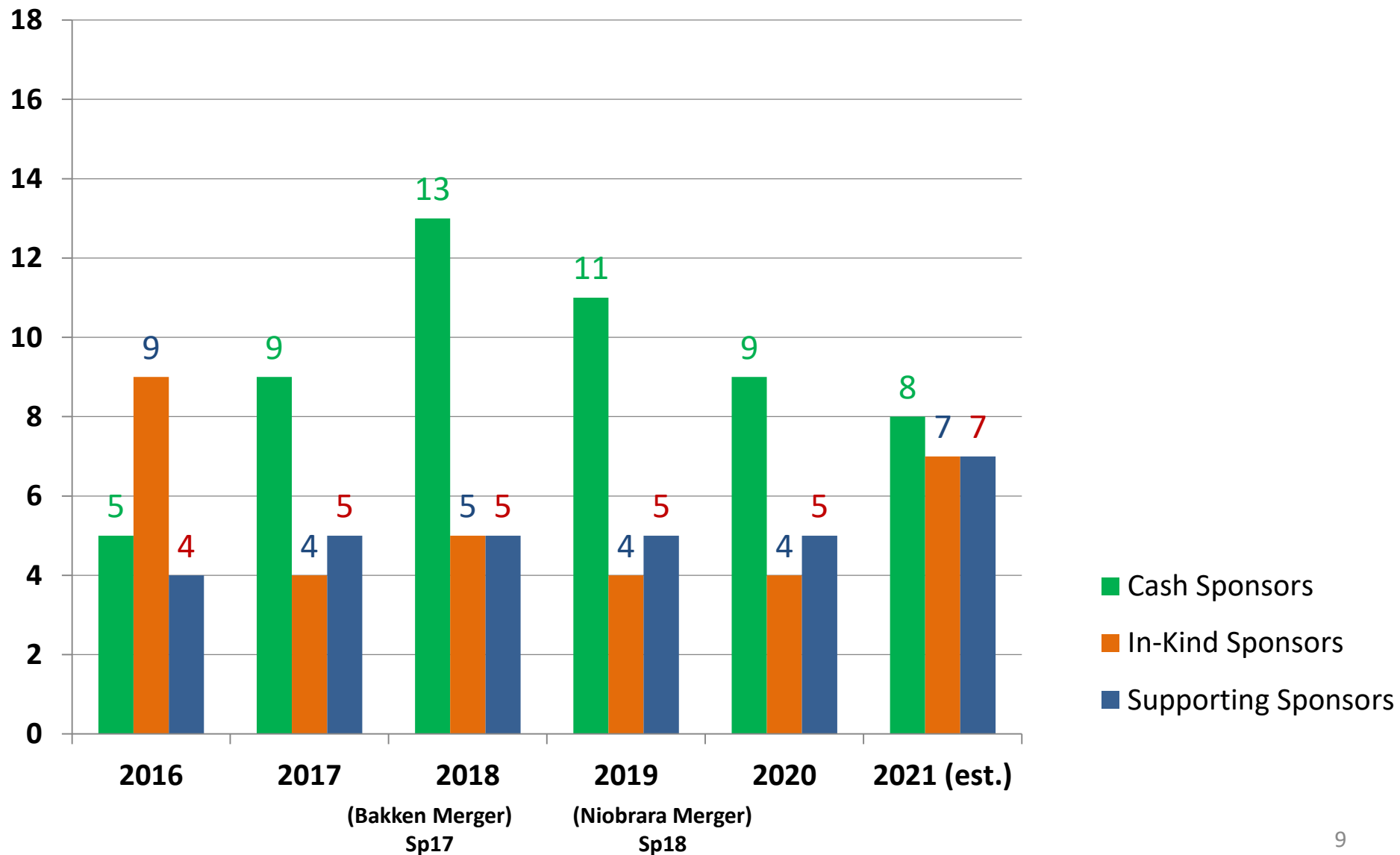
**Bakken Merger Sp17**    **Niobrara Merger Sp18**



# MUDTOC Cash vs In-Kind Sponsors

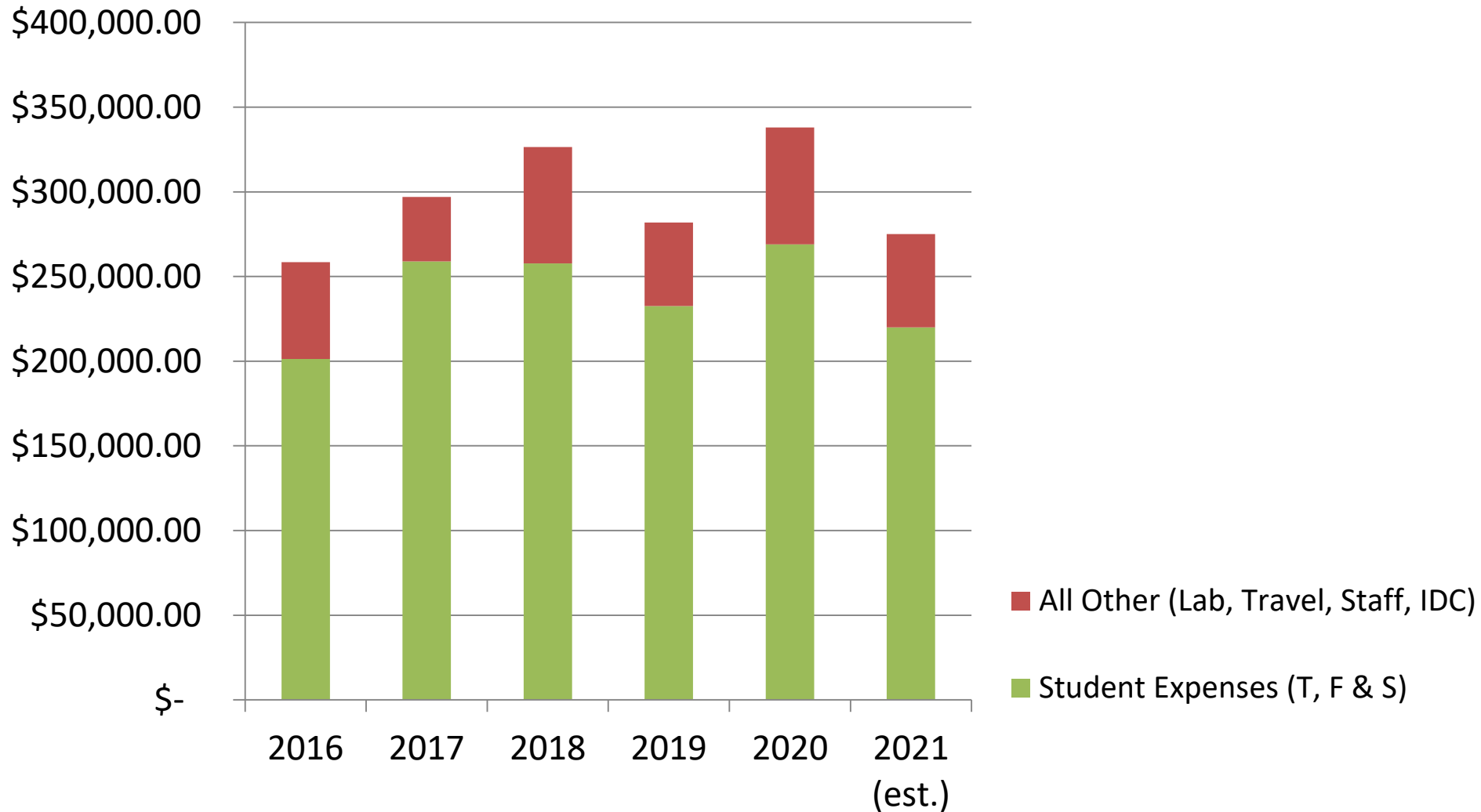


## 2016 – 2020 (2021 est.)



# MUDTOC Expenses

## 2016-2020 (2021 est.)



# MUDTOC Consortium Sponsors

## Fall 2020



### Sponsoring Member Companies



### Supporting Companies



Mike Johnson & Associates



### Potential New Companies

FractureID (Permian data), Halliburton (Permian data), Fairfield Geophysical (PRB), PDC, Oxy, Morning Star-Southland

# Advisory Board Suggestions

- Wettability studies
- Fluid & rock interactions
- Silo area Codell study
- PRB – burial history & maturity studies  
northern part of basin
- Regional stratigraphic study Frontier to Turner
- Add Austin Chalk study