## Discussion Group: Downhole Pumping

## Leaders:

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Suggested Topics:

- Average life of ESPs, and what is being done to address reliability concerns (erosion, corrosion, bearing wear, etc.)
- Highest failure modes for downhole pumps and their support systems (operator viewpoint)
- Alternate ESP configurations
- Intervention strategies for subsea retrieval/maintenance
- Future of ESPs for artificial lift in current economic climate, both onshore and offshore
- Challenges of high viscosity applications (reliable pump performance curves, motor cooling, startup power requirements, etc.)
- Performance/efficiency lessons from recent shale applications
- Recommended design practices/trade-offs for ESPs (higher RPM vs. reliability, longer pumps vs. maneuverability for placement, etc.)
- Downhole pump performance under transient well conditions (GVF, watercut, flow rate, abrasive wear, wax, scale, asphaltenes, etc.)
- Control methods for mitigating vibration issues
- Current capabilities in landing equipment with precision (horizontal/vertical travel, radius of travel, small degree curvature for placement)
- Novel applications of materials for high-risk ESP components (seals, bushings, etc.)