Perforation Flow Laboratory: An Engineering Workflow to Design and Optimize Perforated Completions - Rajani Satti, Baker Hughes

**The Challenge**
- Difficulty to assess performance of perforating systems in harsh and complex downhole environments
- Simulation tools: Perforation flow laboratories and predictive models

**Integrated Experimental and Modeling Approach**
- Understand physical mechanisms in Shaped Charge Perforating
- Develop and validate predictive dynamic Downhole models
- Critical approach for complex well completions

**Experimental Capabilities**
- API-19B RP Section-II and Section-IV testing capabilities
- Rock testing at downhole conditions (sandstones/carbonates/shales)
- Advanced interpretation techniques involving productivity, petrophysics, CT scanning, particle analysis etc.

**Modeling Applications**
- Section-IV testing based dynamic modeling platform
- Shaped charge design modeling
- CFD/Nodal analysis tools for productivity optimization.

**Looking Beyond Perforating**
- Influence of Drilling Damage
- Effect of fluid-loss control pills
- Acid Stimulation