



*MEC516/BME516:
Fluid Mechanics I*

*The Pitch Drop
Experiment*

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Pitch Drop Experiment

- Started 1927 by Prof T. Parnell, University of Queensland
- Objective: To demonstrate that some substances that appear to be solid are actually **highly** viscous liquids
- Parnell poured heated pitch (tar-like substance) into a funnel
- Pitch was allowed to “settle” until 1930, when the stem was cut, allowing flow



Pitch Drop Experiment

- First drop in 1938
- Next drop in 1947, in 1954, in 1962....
- 9th drop in 2014

- Pitch IS A FLUID. It cannot resist shear stress
- Dynamic viscosity (μ) of the pitch has been calculated to be 200 billion times greater than water

- World's longest running laboratory experiment

- Link to [YouTube Video](#) from 2013 (3 minutes)

