**Dry Powder Rheology**

Update at IFPRI Winter Meeting (15 and 16 January 2019)

Liaisons: Marty Murtagh and Tim Bell

**North Caroline State (Karen Daniels):**

* **Positive progress:** new grad student Farnaz Fazelpour spent the fall getting trained on data collection and analysis, and did some wrap-up analysis on Zhu's results. She is now starting to collect new data that will move us into the year 4-6 aims. As part of this, we're now successfully tracking photoelastic particles that will let us see forces (but we're not yet tracking the forces for this dataset, only doing that with the Cambridge dataset, since that's not beginner-level...)
* **Negative progress:** we had a massive power outage when nobody was in the lab over break, and just discovered this week that it might have fried our DAQ card ... so we could be in for a round of repairs before anything else happens. It's so recent that I really don't yet know how bad it is.
  + Update: we are now talking to the card again, so it seems that the power outage wiped out some crucial settings, but the hardware is probably okay. Whew!

**Cambridge University (Natalie Vriend)**

* **Positive progress:** we've essentially wrapped up analysis of the dataset and have identified really clear distinctions between behaviors in the quasi-static vs. intermediate vs. collisional regimes in how the force chains fluctuate. We have observed a relationship between the local fluidity and the local force-fluctuation timescale, which is very exciting! The nonlocal regime is just-barely present in the dataset, so we'll mostly be talking about local rheologies as we write it up, rather than nonlocal.