**Objective**: Determine ‘degradative potential’ of pore waters from different sized pores using select species of fungi and bacteria.

**Approach**:

* Inoculate pore water with various strains of common soil microbes and incubate.
* Measure CO2 throughout incubation
* Measure C profile (via FTICR) pre and post incubation.

**Methods:**

1. Identify pore water samples from “organic samples” (0-30cm depth? Or just the ones with “organic in the comments?) with enough volume to be incubated with up to 4 bacteria, 3 fungi, + control (8 vials, or ‘incubations’).
2. Dilute pore water (1:5? ) and place into new, sterile 40ml vial with septa screw cap.
3. Inoculate with x # cells (using qubit to enumerate bacterial cells and haemocytometer to quantify fungal cells, in EMSL 1326).
4. Measure CO2 via syringe extraction of headspace. Flame sterilize syringe and plunge into septa. Mix headspace air and extract xx ml of headspace. Store syringe (or inject into vacu-tainers) until ready for injection into gas analyzer.
5. Extract CO2 at times 0, 2, 4, 8, 16, 24, 48, 72 and 144 hours. Inject gas into GC (or IRGA) when available.
6. At the end of the incubation, collect aliquots for FTICR
7. Re-measure “biomass” or cell count post-incubation. Possible PCR?

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| Microbe | Classification | Species | ATCC number |
| Bacteria | Firmicuties (Gram-positive) | Bacillus sp. N4 | 21833 |
| Actinobacteria (Gram-positive) | Streptomyces cellulosae | 25439 |
| Proteobacteria (Gram-negative) | Cellvibrio japonicus | 16015 (DSMz) |
| Bacteroidetes (Gram-negative) | Flavobacterium johnsoniae | 17061 |
| Fungi | Ascomycota (div) | Trichoderma reesei | QM6a |
| Ascomycota | Neurospora crassa mat A | OR74A |
| Ascomycota | Aspergillus |  |

**Questions:**

-How much C is in these samples?

-What was/is fate of 13C labeled methane that was added in January? Should we run any SI’s on these samples?

-concern: I would prefer at least one Basidiomycete vs three ascos

-Measure possible community change post incubation?