## Foundational Genomics Research, PMI SFA

## High Impact Publication: Effects of fire severity on the microbiome of regenerating Western Aspen stands

Objective	<ul> <li>Understand how fire severity influences the assembly and composition of the microbiome in regenerating Populus tremuloides (aspen) stands.</li> </ul>
New science	<ul> <li>This work demonstrates, for the first time, that fire impacts the plant microbiome, outside of the bulk soil and rhizosphere.</li> <li>Fire severity was associated with reduced diversity of bacteria and a greatly increased dominance of fungal pathogens in the leaves of regenerating aspen.</li> </ul>
Impact	<ul> <li>Wildfire severity and frequency is increasing worldwide, so a better understanding of the factors contributing to successful plant reestablishment after fire is of high importance.</li> </ul>

Dove, N., Klingeman, D., Carrell, A., Cregger, N., and C. Schadt. (2021) Fire alters plant microbiome assembly patterns: integrating the plant and soil microbial response to disturbance in Aspen (Populus tremuloides). New Phytologis: DOI: 10.1111/nph.XXXXX



Figure left: Photo of the area Figure right: Mean relative abundance of fungal pathogens in the leaf across levels of burn severity



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Leaf Stem Fine root Rhizome Rhizosphere Bulk soil Figure above: Mean and std. error of Hill numbers of Archaea, bacteria and fungi across habitats of burn severity.

