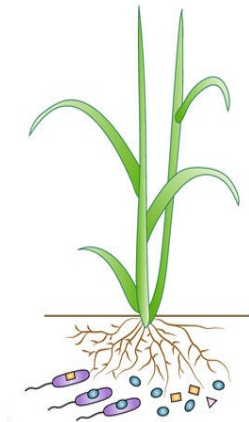
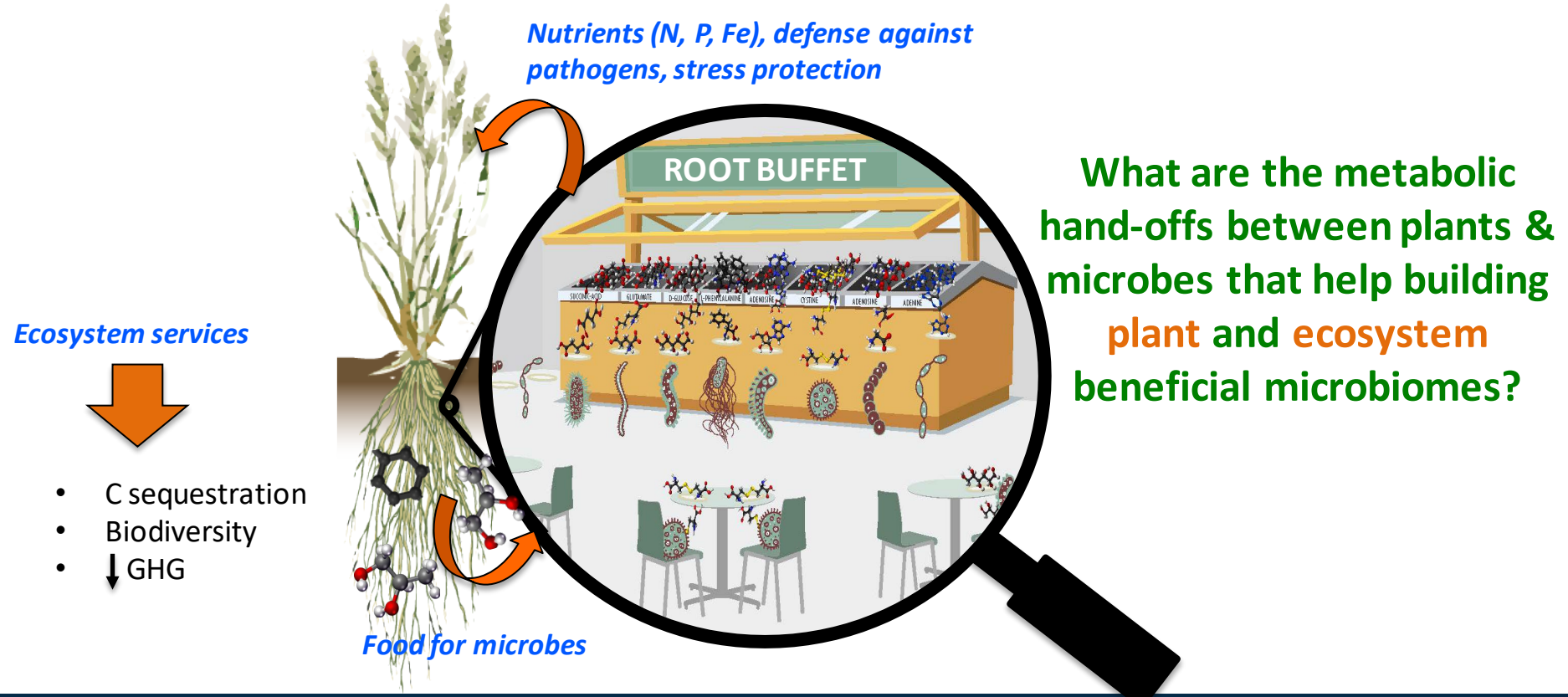


Metabolic matching as a tool to manage rhizosphere microbiomes for sustainable biofuel production

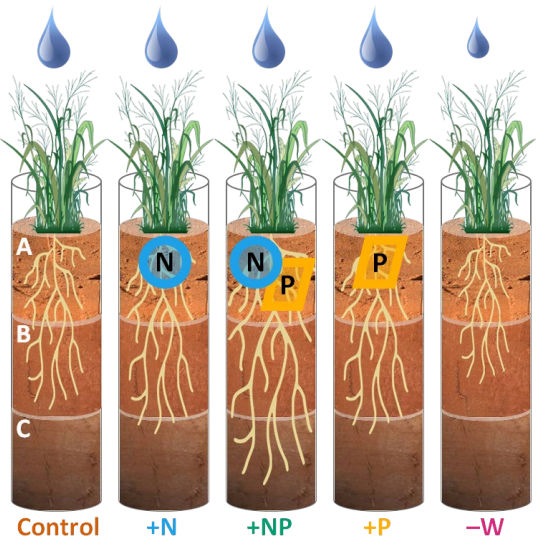


Kate Zhalnina
Research Scientist
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03/28/2022

Plant exudates are the main drivers of microbial community assembly in rhizosphere



Switchgrass microbiome and metabolome response to nutrient and water limitation in marginal soil



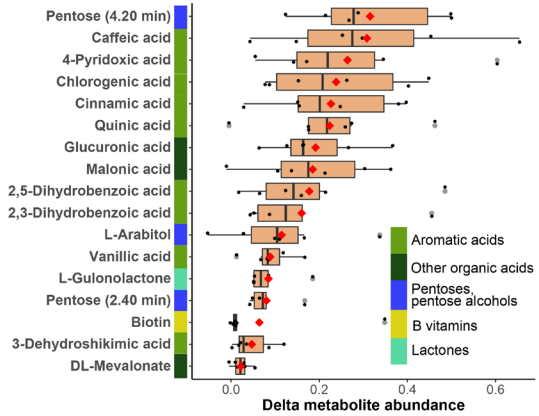
Oklahoma



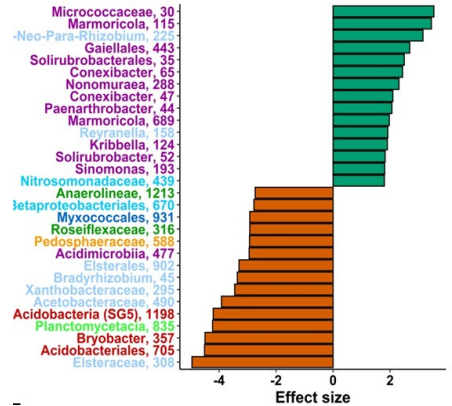
Berkeley, CA

Nameer Baker
Mary Firestone
Trent Northen
Jennifer Pett-Ridge

Microbial community
Rhizosphere metabolites
Soil properties
Data integration



Aromatic acids increased in response to N stress
N containing compounds decreased

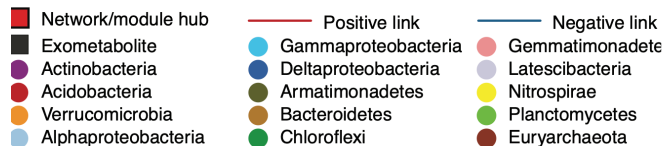
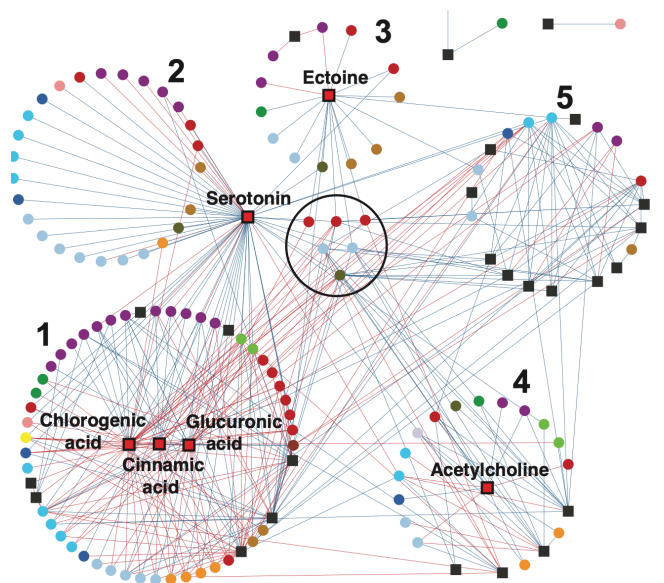


Microbial ASVs responded to N stress

Baker/Zhalnina in prep.

Connecting the dots: microbiome, metabolome, plant phenotype

Keystone metabolites



Switchgrass response to keystone metabolite



-serotonin +serotonin

Switchgrass isolates response to keystone metabolite

