Phylogenetic, microbiological, and glycoside hydrolase diversities within the extremely thermophilic, plant biomass-degrading genus *Caldicellulosiruptor*


• How diverse are the members of the genus *Caldicellulosiruptor*?
  – Initial 16S ribosomal RNA sequences did not indicate a great deal of diversity

• Microbiological investigations indicated a great deal of diversity with respect to substrate preference and cellulose utilization
  – All *Caldicellulosiruptor* species can grow on treated biomass
  – Only four of the seven tested species could effectively deconstruct crystalline cellulose

• Preliminary genome sequencing data highlighted diverse glycoside hydrolase (GH) inventories
  – Each *Caldicellulosiruptor* species is capable of deconstructing lignocellulosic biomass in unique and complementary manner