ABSTRACT
The concrete industry is under increasing pressure to reduce the energy used in production of portland cement and the associated greenhouse gas emissions. There are several possible ways to address this challenge, but the most straightforward is to minimize the amount of portland cement used by substituting other materials to make concrete binders. We can learn a lot from the Romans, who made strong, durable concrete without any portland cement at all (though not without greenhouse gas emissions!). We are entering a natural pozzolan renaissance, where the industry is searching far and wide for alternative cementitious materials, including those that mimic the Roman pozzolana.

This presentation will address current research on alternative concrete binders, including the characteristics and performance of North American natural pozzolans.