**Scientific Achievement**

Biological experiments demonstrate that microbial biofilm can continue to clog porous media following acidification of groundwater even if significant cell death occurs.

**Significance and Impact**

Promotes development of biological strategies to enhance geological carbon sequestration by clogging CO$_2$ leakage pathways.

**Research Details**

- After CO$_2$ is injected into the subsurface, it will dissolve into the water present in storage reservoirs and cause the water to become more acidic.
- Our experiments demonstrate that this acidification causes cell death and stress but has little impact on the ability of biofilm to lower the permeability of porous media.
- These results imply that stimulating growth of biofilm barriers in reservoir caprocks can be an effective strategy to limit leakage of CO$_2$.