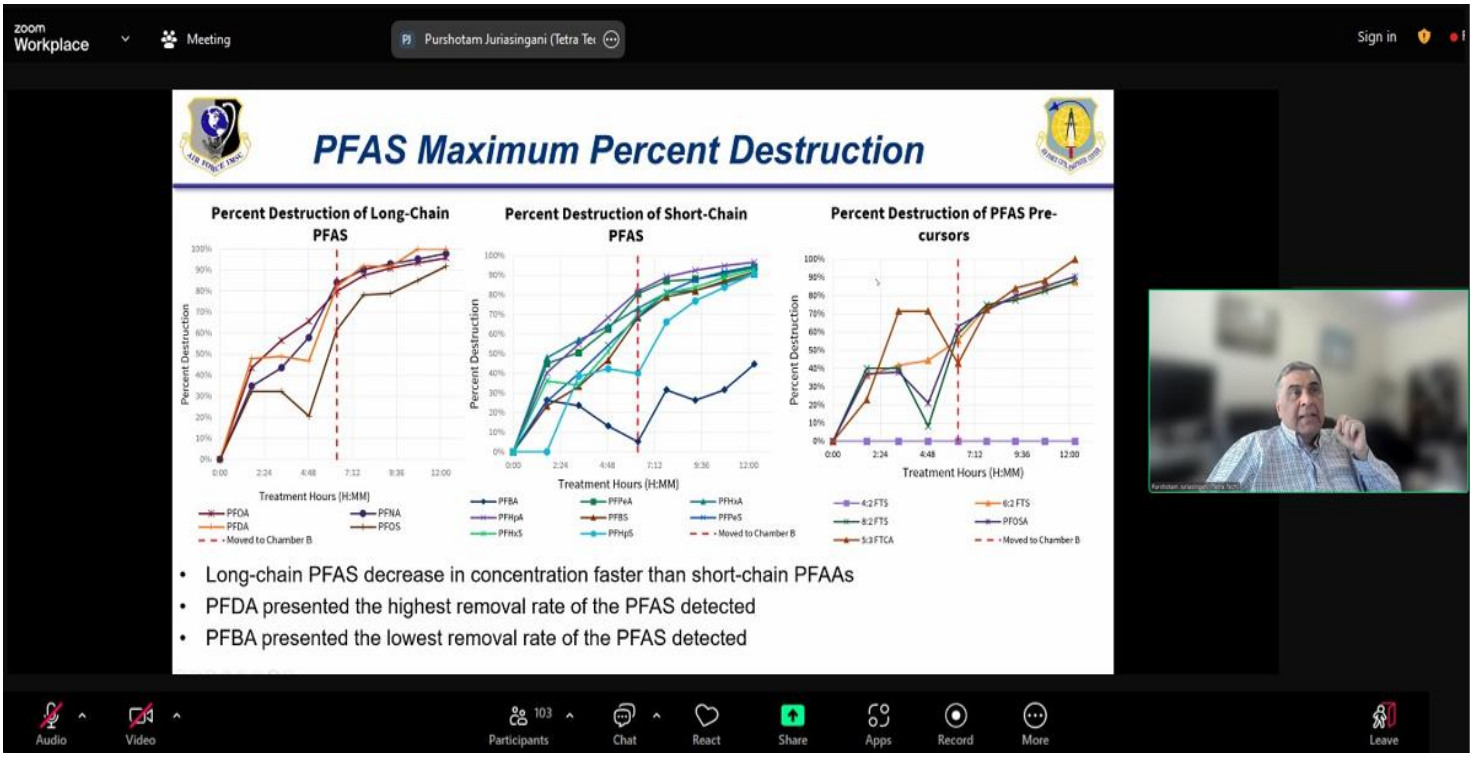
Restoration Technology Transfer Speakers Series
March 2025

Ultrasound Technology for the Mineralization of PFAS

The implosion of ultrasound-generated bubbles creates a localized plasma state (with temperatures exceeding several thousand °C and high pressures of ~1,000 bar). This results in mineralization of PFAS, while the bulk solution remains at ambient temperature and pressure. High-frequency ultrasound has been proven to mineralize PFAS in laboratory-scale reactors, creating fluoride and carbon dioxide without producing problematic by-products. This project focused on scaling up laboratory-scale mineralization of PFAS using high-frequency ultrasound and developing a commercial-scale reactor to treat high concentration PFAS wastes.

A field demonstration was conducted at Offutt Air Force Base where PFAS-impacted groundwater was pumped into a mobile ultrasound treatment trailer. Extracted groundwater was treated in the high frequency sonolysis reactors.



Purshotam Juriasingani presents the results of the ultrasound technology.

If you are unable to attend the broadcast, a recording as well as the presentation slides, will be posted on eDASH: https://usaf.dps.mil/teams/eDASH/WPP/Speaker%20Series/Speaker%20Series.aspx

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