

Atmospheric air plasma processes for PFAS remediation



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Cleantech



> TRL 3
> Proof of concept

Problem

Per- and polyfluoroalkyl substances (PFAS) are among the most challenging contaminants facing the water sector due to their persistence, mobility and resistance to conventional treatment processes.

Many existing technologies focus on removing or concentrating PFAS from water rather than destroying them, often creating secondary waste streams that require further treatment or disposal.

As regulatory scrutiny increases worldwide, there is growing demand for practical, cost-effective technologies capable of treating PFAS-contaminated water across municipal, industrial, agricultural and environmental remediation settings.

Solution

This technology provides an advanced water treatment platform designed to achieve direct destruction of PFAS contaminants in water.

The approach delivers rapid degradation of key PFAS compounds while utilising readily available operating inputs that support cost-effective implementation and scalability. Experimental studies have demonstrated high levels of contaminant destruction under optimised conditions, indicating strong potential for practical deployment.

The technology has been developed with field implementation in mind and may be suitable for both centralised and decentralised treatment applications, including locations where conventional treatment options are difficult or costly to deploy.

Intellectual Property Status

Provisional patent filed.

Potential Commercial Applications

Potential applications include treatment of contaminated groundwater, industrial wastewater, agricultural water sources, landfill-impacted water, drinking water treatment systems and environmental remediation projects.

The technology may be relevant to water utilities, remediation contractors, industrial operators, environmental service providers and government agencies seeking PFAS management solutions.

Opportunities may also exist in remote, regional and resource-constrained environments where compact, energy-efficient treatment systems are desirable. Integration into existing water treatment infrastructure may further support adoption across a broad range of end-user markets.

Inventors

John Matthew Kavanagh, Susanna Kurian, David Alam, Patrick Cullen

Contact Commercialisation Office

Name: Lulu Xue

Position: Commercialisation Manager

Email: lulu.xue@sydney.edu.au

sydney.edu.au/innovation-and-enterprise