CECICS - Water Disinfection Device

A tubular-shape cell for efficient point-of-use water disinfection

Inventors at Georgia Tech have constructed a tubular-shaped coaxial electrode copper ionization cell (CECIC) that enables superior disinfection performance with very low effluent copper concentration. This cell can enable long-lasting and high-efficiency bacteria removal in circumstances where the centralized treatment facilities are not the best option.

Summary Bullets

- Low cost - $0.10 per cubic meter of water treated
- Low health risk
- Low energy consumption

Solution Advantages

- Low cost - $0.10 per cubic meter of water treated
- Low health risk
- Low energy consumption
- Utilizes commercially available materials

Potential Commercial Applications

- Point-of-use water disinfection for hospitals, building complexes, and less developed communities without central water disinfection facilities

Background and More Information

Point-of-use (POU) water disinfection devices offer an alternative to centralized facilities, which are not available in developing areas, may be offline after natural disasters, or suffer from secondary contamination from distribution pipes. Although several POU disinfection methods have been developed and tested, all have problems with accessibility, reliability, or cost. Copper has the ability to kill bacteria and is currently used as an algaecide in lakes and pools and for pathogen control in hospitals, but these techniques leave dangerously high copper concentration in treated water that prevents their use for disinfection of drinking water.

Inventors

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IP Status

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