

# AZ Water Association

## Water Treatment Committee **WEBINAR**

### Nitrate Removal/Denitrification for Groundwater

**Time:** Thursday, November 2<sup>nd</sup>, 2017, 1:00 PM - 3:00 PM

**Moderator:** Damien Tonnelle, P.E.

**Cost is \$15.00 Member / \$35.00 Non-Member**

**To join, please register online by clicking [here](#) or at [www.azwater.org/events](http://www.azwater.org/events)**



Nitrate is known as an “Acute Contaminant” which can cause serious health issues and is commonly found in groundwater throughout the southwestern U.S. The most common technology used today is ion exchange which results in a high TDS brine with elevated nitrate levels. Finding discharge locations for the high salinity brine is becoming more difficult due to the volume of wastewater that is being recycled for use as irrigation water or for groundwater recharge. Due to this factor, biological treatment of groundwater is becoming a focal point for nitrate treatment research with several technologies now being proven and having permitted systems operating in the U.S. The biological treatment processes utilize microorganisms to naturally break down nitrate to harmless nitrogen gas and oxygen. The treatment processes do not create a high salinity brine solution making these technologies more sustainable.

The most prominent biological treatment processes available on the market today are the Biotta and the Denitrovi processes, which will be presented in this webinar. Both processes have ongoing pilot testing at the Santiago Trail Site in Casa Grande and have been featured in a couple of tours organized by the AZ Association’s Water Treatment Committee and Arizona Water Company last month (other tours are scheduled for October 26<sup>th</sup> and November 1<sup>st</sup>, see AZ Water Association Events Calendar).

## WEBINAR PROGRAM



### Presentation 1 (1:00 PM – 2:00 PM)

**Title:** *A new and innovative approach to drinking water nitrate removal*

**Speaker:** Ali Dorri, Microvi Biotechnologies

Microvi’s water technologies are based on engineered polymer-microorganism composites – called biocatalysts – which contain a high density of a single species of microorganisms (natural, non-pathogenic, non-genetically modified). These biocatalysts actively convert targeted pollutants into non-harmful by-products without producing a biological

waste stream. The biocatalysts and the process applications have been developed for over ten years enlisting millions of research dollars. The Denitrovi technology converts nitrate in water into nitrogen gas through a proprietary natural process that results in no sludge, brine or reject water production – only the safe release of nitrogen gas into the atmosphere.



### Presentation 2 (2:00 PM – 3:00 PM)

**Title:** *High Recovery Denitrification for Groundwater*

**Speaker:** Doug Craver, AdEdge Water Technologies

AdEdge Water Technologies, LLC is commercializing 2 biological treatment technologies for treatment of groundwater for Nitrates, Perchlorate, VOC’s, Ammonia, Iron and Manganese. The Biotta technology is the first permitted system in the U.S.

for biological treatment of groundwater for Nitrate removal and is currently being pilot tested at the Arizona Water Santiago Trail Well site in Casa Grande Arizona. The Biotta technology has proven to be a robust treatment system capable of removing multiple contaminants like Nitrate, Perchlorate and a variety of VOC’s by breaking down the contaminants to basic elements like Nitrogen Gas and Oxygen. Some additional information will be provided on the NoMonia technology for Ammonia, Iron and Manganese removal.



For information, please contact Damien Tonnelle at [Damien.tonnelle@wilson-engineers.com](mailto:Damien.tonnelle@wilson-engineers.com)

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