



*virtu*AIChE®

This month's meeting:

Primary (with live presentation/live chat) Thursday, February 28 at 9 pm ET (US) / 2 am GMT
Alternate 1 (with recorded presentation/live chat) Friday, March 1 at 5 am ET (US) / 10 am GMT
Alternate 2 (with recorded presentation/live chat) Friday, March 1 at 1 pm ET (US)/ 6 pm GMT

MUNICIPAL WASTEWATER AND SLUDGE ARE A RESOURCE, NOT A WASTE: COPING WITH TIGHTENING WATER SUPPLIES AND LIMITED LANDFILL AVAILABILITY

By Brett Dingman, PE and Dr. Adam Zacheis

As in many parts of the world, water districts in Southern California are adapting to meet new challenges in supplying potable water and providing wastewater treatment.

Southern California's water supply has become less reliable and, in the case of the Tapia Water Reclamation Facility, ecosystem concerns are resulting in increasingly stringent limits on the volume of wastewater treatment effluent that can be discharged to surface waters. One solution to both of these challenges is potable reuse of wastewater treatment plant effluent. Dr. Adam Zacheis will describe the Pure Water Demonstration Project, which will test the proposed treatment train for a future full-scale facility that would produce up to 5,151 acre-feet per year for surface water augmentation to the Las Virgenes Reservoir. The existing Tapia Water Reclamation Facility will provide the influent for the Demonstration Project. The Demonstration Project is a fully automated and operational purification system with full-scale components (open platform design with ultrafiltration, reverse osmosis, and an ultraviolet advanced oxidation process), but done at a relatively small scale to minimize costs. In contrast to other pure water projects, this Demonstration Project must address the challenges of seasonal variability in effluent volumes, feed water quality issues, high reliability, and potential stabilization and quenching of chlorine/chloramine.

Another challenge related to wastewater treatment in Southern California is limited landfill space. Brett Dingman will explain that instead of being disposed of in a landfill, municipal wastewater

in this issue

Monthly Meeting
Upcoming VLS Webinars
Sign in early to virtually socialize
Three times the fun!

treatment sludge from the Tapia Water Reclamation Facility is composted in the Rancho Las Virgenes Compost Facility. This in-vessel composting process was the first municipal sludge composting facility in the western United States. The facility is unique because it was constructed with screw conveyors to move materials, centrifuges for dewatering, a plow mixer and agitators to mix feedstock, and in-process temperature monitoring to produce a consistent quality compost product. During the composting process, microbes feed on organic materials in the mix, raising the temperature to about 130 degrees F. The heat stabilizes the material and inactivates any potentially harmful bacteria that remain, while maintaining the proper temperature for beneficial “composting” microbes to do their work. The entire composting process takes approximately 45 days. All of the biosolids produced during wastewater treatment are composted into a Class A, Exceptional Quality product that is beneficially re-used without restrictions.

Dr. Adam Zacheis holds a Bachelor's degree in Civil Engineering from the University of Illinois, Champaign-Urbana and a Masters and Ph.D. in Environmental Engineering from Northwestern University. Adam has more than 20 years of engineering experience in water and wastewater treatment including projects using MF/RO membranes, ozonation, bioreactors, advanced oxidation, and chlorination treatment. A Vice President with Carollo Engineers, Inc. and located in their Los Angeles office, Adam is a senior project manager who actively works in the field of water treatment and potable reuse and possesses process engineering and design experience from several project pilot- and demonstration-scale studies, full-scale field studies, investigations, and design projects.

Brett Dingman is the Water Reclamation Manager for the Las Virgenes Municipal Water District where he is responsible for the treatment of wastewater and disposal of biosolids through composting. Brett has worked in the engineering fields of water and wastewater for over 18 years. His degrees include a Bachelor of Science in Biology from Westmont College and a Master of Science in Civil Engineering from Loyola Marymount University. He is a registered Professional Civil Engineer in the State of California.

When it is time for the meeting to start,

Primary
(Live Webinar/Live Chat)
Feb 28 at 9 PM EST / 2 AM GMT

Alternate 1
(Pre-Recorded Webinar/Live Chat)
March 1 at 5 AM EST / 10 AM GMT

Alternate 2
(Pre-Recorded Webinar/Live Chat)
March 1 at 1 PM EST / 6 PM GMT

Click [here](#) and use meeting number (access code): 797 373 009 to log in.

To use telephone audio:
1-866-469-3239 Call-in toll-free number (US/Canada) or
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AICHE’s Virtual Local Section meetings are free of charge. These meetings are open to AICHE Virtual Local Section Members, other AICHE members, and other interested persons.

Upcoming VLS Webinar Topics

- March 28: Engineering Ethics
- April 25: TBD
- May 23: Virtual Reality in Chemical Engineering
- June 27: Importance of Professional Licensure

Sign in early to virtually socialize!

Going forward, the hosts of the Virtual Local Section's meetings will start the meetings about 15 minutes before the start time, so that attendees can sign in and chat with each other before the presentation starts. Take advantage of this opportunity to connect and talk shop with other chemical engineers!

Three times the fun!

by Kirsten Rosselot, Chair

The Virtual Local Section is now offering its monthly meeting three times, eight hours apart, in order to better accommodate all of our members around the globe. The first meeting will have a live presentation and live chat, the next two will have a recorded presentation and live chat. While the first meeting is the only one that will offer real-time interaction with the speaker, the second two meetings will offer a shared experience and the opportunity to meet other attendees. Please join us at one of the meetings! Almost all of our members will have two meetings to choose from that are during waking hours.

For now, the second two meetings will be held on Friday evening in some parts of the globe. We realize this is not a generally desirable meeting time, and as soon as we can we will move the meetings up a day.

National News

The AIChE hosts technical conferences around the world. Check www.aiche.org/conferences for registration and presentation information for this year's events.

Dates	Event
Feb 5-6	Workshop: Spend Less and Produce More – Offshore and Shale flow assurance lessons, Texas
Feb 13-14	Ethylene Middle East Technology Conference & Exhibition, Bahrain
Feb 17 – 20	Accelerating Biopharmaceutical Development, Carlsbad California
Mar 11 – 13	CREATE and AIChE Waste management Conference, Singapore
Mar 16 - 17	Out to innovate. University of Southern California, Los Angeles
Mar 28 - 30	PROCESA 2019: 1 st AICHE Colombia Regional Student Conference, Colombia
Mar 28 - 30	2019 Southern Student Regional Conference. Mississippi State University, Starkville, MS
Mar 29 – 30	2019 Southern Student. Texas Tech University, Lubbock, TX
Mar 29 – 31	2019 Eckhardt Northeast Student Regional Conference, Massachusetts
Mar 31 – Apr 3	15 th Global Congress on Process Safety, New Orleans Louisiana
Mar 31 – Apr 4	2019 Spring National Meeting & CCPS Global Congress on Process Safety, New Orleans Louisiana

Did You Know?

You can visit [the VLS website](#) for more information on the Virtual Local Section's mission, activities, and membership. Also at this website, AIChE student members and VLS members can watch previous webinars for free.

Continuing Education Credits

Send your name, the certificate number on your professional engineer's license, and the state in which you are licensed to our Secretary, [Laura Gimpelson](#), to receive one hour of continuing education credit for attending our monthly meeting.

Subscription Information

Current fully paid members of the Virtual Local Section receive this newsletter. If you wish to update your email address, contact the AIChE's New York Office for Permanent Address Corrections at xpress@aiCHE.org or 1-800-242-4363

The Virtual Local Section's Executive Committee

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