**Laboratory Practices Committee Newsletter**
Volume 3, Issue 1

# From the LPC Chair

**Up Coming Events**

California Water Environment Association
Laboratory Skills for Water and Wastewater Operators
Mar 6, 2018
Auburn, Ca

Indiana Water Environment Association
Resource Recovery & Laboratory Joint Seminar
March 22, 2018 - March 23, 2018

Illinois Water Environment Association
Illinois Wastewater Professionals Conference
April 16 -18, 2018

OELA/ORELAP Annual Environmental Laboratory Conference
April 17, 2018
Salem, OR

WEF Method Update Rule Webcast
April 26, 2018

Atlantic Canada Water and Wastewater Association
Basic Laboratory Procedures - St. John's, NL
April 26, 2018

Central States WEA
CSWEA 91ST Annual Meeting
May 14 -16, 2018
Oakbrook Terrace, IL

APHL Annual Meeting
June 2 – 5, 2018
Pasadena, CA

WEFTEC 2018
Sep 29 – Oct 3, 2018
New Orleans, La

Welcome to a LPC e-News-letter with a new format and a new direction.

In 2016, the LPC launched an e-Newsletter. Our intention was to share articles previously published in WEF Member Association magazines with a greater audience. However contemporary publishing standards regarding reprint permissions made this a difficult task.

We still think there is much to share with the WEF environmental community, hence this re-vamped format. What will you see in our updated e-Newsletter?

- News from the LPC
- Upcoming Events
- Laboratory Spotlight
- Analyst Spotlight
- Original short articles
- and a Lab Quiz

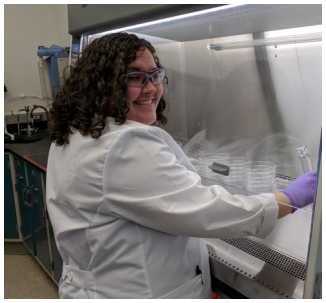
What else is new with the LPC?

We're developing a webcast focusing on the Method Update Rule, putting together a "Back to Basics" workshop for WEFTEC 2018, and working with APHL to promote National Environmental Laboratory Professionals Week.

Do you have a project with which we can help? Or are you interested in joining the LPC. Just send us an email. Contact information is available **on our Website Committee Page**

# Laboratory Spotlight: Hannah Thompson

Hannah Thompson has been employed at Hampton Roads Sanitation District's Central Environmental Laboratory for the past 7 years. She earned her Bachelor of Science degree in biology from the College of William and Mary. After stints working in the Biological Oxygen Demand and Microbiology sections, she now supervises the new Molecular Biology section. Upon creation of the section three years ago, Hannah and her team performed method development for the host-specific markers (e.g. human, dog, goose fecal markers) and human enteric pathogen (e.g. *E. coli O157H7,* enterovirus) assays for the digital Polymerase Chain Reaction (PCR) technology. Additionally, she has adapted up and coming EPA coliphage methods for wastewater and recreational waters. Host-specific fecal markers quantified in the laboratory have been used in numerous Microbial Source Tracking Projects to identify sources of fecal contamination to water bodies. Most recently Hannah has been quantifying pathogens ranging from *Legionella pneumophila* to norovirus for HRSD's water reuse program—Sustainable Water Initiative for Tomorrow- SWIFT. Above all Hannah has been instrumental in providing integral insight while project planning, making sure that the molecular analyses appropriately addresses project objectives.



# Laboratory Spotlight: LASA

1. **What is the name and location of your facility?**
   Lancaster Area Sewer Authority, Washington Boro, PA
2. **What is the average daily flow (MGD)?**
   Approximately 8 MGD, with a design capacity of 15 MGD
3. **How many analysts and/or technicians work in the laboratory?**
   Three – 1-Lab Manager, 1- Lab Technician, 1-Pretreatment Technician
4. **What analysis do you perform?**
   We are a state accredited lab (PA Chapter 252)
5. **Which are for NPDES reporting?**
   Ammonia Nitrogen, TKN, Nitrate-Nitrite, Total Phosphorus, BOD/CBOD, TSS, Total Solids, Fecal Coliform, Oil & Grease, pH, Chlorine Residual, Dissolved Oxygen
6. **Which are strictly for operational information?**
   Alkalinity, ortho-P, COD, nitrite, TDS, turbidity, SOUR, settleability, MLVSS, microscopic examination
7. **Do you accept samples for analysis from outside sources?**
   While we do not accept samples from outside sources, our in-house lab analyzes samples from our EPA approved industrial pretreatment program and our hauled waste program.
8. **Do you have one or more contract labs you send samples to for analysis?**
   We use one contract lab for metals, priority pollutants and WET testing.
9. **What instrumentation do you use?**
   Seal AQ2 discrete analyzer, Buchi digestion block/distillation unit, Hach DR3900 spectrophotometer, luminescence probes, ISE probes, IDEXX Quanti-tray system
10. **Do you utilize a LIMS system?**
    Hach WIMS – generate regulatory reports and process trending/modeling.
11. **What sort of certification or licensure is required/encouraged for your workforce?**
    Require a minimum of an associate's degree in a science related field. We offer incentive pay for lab staff to obtain a wastewater operator's license and to meet the qualifications of a lab supervisor under our state lab accreditation program. We also offer a pay incentive for our operations staff to obtain a laboratory supervisor certification.
12. **Are there any 'out of the box' or 'pilot' testing your lab has assisted with?**
    Assisted with nitrification rate testing to support an in progress plant upgrade study.
13. **Is there anything unusual or special about your facility or lab?**
    Over the years we've maintained an aquarium utilizing plant effluent. We currently enjoy caring for a pet turtle.
14. **Is there anything else you would like to share?**
    A new lab is being constructed as part of a $28.3 million plant upgrade. Staff enjoys assisting with plant tours for local school groups. In addition, staff participates in tours and talks with Thaddeus Stevens College of Technology "Skilled Women Get STEM Jobs" and "Water & Environmental Technology" programs.

**Laboratory Professionals Get Results!**

*National Environment Laboratory Professionals Week is April 23 -29, 2018*

# NELPW

WEF LPC is again joining with APHL to celebrate National Environmental Laboratory Professionals Week.

This is a great way for our members and partners to celebrate the vital contributions laboratory professionals make to protect public health and safety. WE will be particularly focused on the laboratory professionals who make up our community – the dedicated individuals working at local, state, environmental and agricultural laboratories which comprise the public health laboratory system.

How to celebrate?

Talk about being environmentally friendly

Meet with local officials to discuss water environment isssues

Thank your lab staff

And… donuts…. donuts can make a staff smile.

There's lots more ideas on the APHL's NELPW webpage. Send us your pictures and stories from NELPW 2018 (with permission to print) for inclusion in our next issue.

# Lab Quiz

Before the advent of the digital age, WEF published *Lab Solutions*, a quarterly newsletter focused on laboratory issues. The most popular column was "Skills Builder", a laboratory quiz.

With this new e-Newsletter format, we bring back a chance to test your knowledge of basic – and not so basic – water laboratory analyses.

Here is a sample question:

Chlorine residual samples should be _____.

a. tested immediately after collection
b. immediately preserved with NaOH
c. vigorously shaken before analysis
d. exposed to sunlight to "fix" the soluble chlorine

You can find the answer on the final page of this newsletter. The next issue will include a full Lab Quiz.

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# Lab Quiz Answers

Chlorine residual samples should be _____.

Answer: a. tested immediately after collection

Reference: American Public Health Association, American Water Works, and Water Environment Federation *Standard Methods for the Examination of Water & Wastewater,* 18th Ed., pg. 4-37

Immediate Feedback: Aqueous chlorine samples are very unstable and chlorines levels drop rapidly over time. You should analyze the samples immediately. Also, sunlight and agitation will accelerate the reduction so avoid both.

# About the LPC

The Water Environment Federation's Laboratory Practices Committee (WEF LPC) is made up of volunteer members from academia, consulting firms, utilities, government agencies, and manufacturers.

WEF LPC develops technical products to promote general understanding of laboratory practices for water and wastewater.

Membership is open to all WEF members.