

Up Coming Events

LPC Bacteriophage Webinar
May 9, 2019

[Chesapeake Water Environment
Association Laboratory Webinar](#)
May 29, 2019

[APHL Annual Meeting](#)
June 3—6, 2019
St. Louis, MO

[National Environmental Monitoring
Conference](#)
August 5—9, 2019
Jacksonville, FL

[WEFTEC 2019](#)
Sep 21 – 25, 2019
Chicago, IL

From the LPC Chair

2019 kicked off with a membership survey and full committee call. Thank you to those who completed the survey; the LPC periodically likes to check-in to make sure we are doing the best we can to serve the laboratory community. The most popular things the LPC offers seem to be this eNewsletter, WEFTEC sessions, and having a voice on Standard Methods procedures. One of the big things that the LPC needs to work on for the future is developing stronger relationships with the local (Member Association) Lab Committees. LPC leadership needs your help with all of these initiatives, but especially the MA engagement. If you're active in your local Lab Committee, let us know if there's anything we can help with or if you have events coming up. The first committee call guest lecturer of 2019 was from Biobot Analytics. Biobot develops technologies for understanding a community's health through analysis of wastewater. Their first product is used to measure opioids and drug metabolites present in sewage with the goal of estimating consumption in cities. As the opioid crisis continues to grow, these constituents will play a larger role in the wastewater community.

Inclusion is an important issue within WEF; the LPC looks to include everyone who wants to be a part of the committee. We all need to talk to our fellow lab employees and make sure they know WEF exists. We can also look 'outside the box' and think of positions within the industry that may be could be getting involved with the LPC but aren't. I know my utility works closely with a consulting engineering firm that every once in a while does some analytical testing at their own lab. These individuals also need to know that the LPC exists. Who could you talk to that would benefit from being part of the LPC? Tell them about who we are and make sure they know to be on the lookout for our next webcast on May 9th. The topic is Bacteriophage analyses in wastewater, ambient water and biosolids quality compliance measurements.

As of WEFTEC 2019, I will be rolling off as Chair and Mary will be moving up. This also means that there are some opportunities for anyone interested in finding out more about leadership roles within the LPC. The leadership team has monthly calls to discuss the direction of the LPC a bit more in-depth than what we cover on the quarterly full committee calls. Let Mary or myself know if you would like the opportunity to listen in on an upcoming call, or if you know you are interested in a leadership position within the LPC, and we'll get you plugged in.

We are always interested in your concerns. Do you have an issue that could use LPC's help? Or a lab related project you wish to promote? Please contact [Jen Loudon](#) (Chair) or [Mary Johnson](#) (Vice Chair).

Meet WEF's 2019 SJWP Winner

Are you interested in how students develop, identify, research, and develop experiments for WEF's Stockholm Junior Water Prize? You can read about this year's winner, Braden Milford, and his efforts to develop a system for removing heavy metals from waterways using alginate beads. Here is a link to the WEF article:

[Hard Work, Determination, and a Little Bit of Luck: Braden Milford's Journey to the Water Industry](#)



Pima County Water Reclamation District Staff pose for photo during 2018 lab week.

The Laboratory analyzes over 58,000 samples in a full service state-of-the-art laboratory.

Lab Week: April 21— April 27, 2019.

National Environmental Laboratory Professionals Week is now Lab Week. It's a time to recognize laboratory professionals' contributions to public health. How to celebrate? How about:

- Post a Laboratory Week poster on your company bulletin board.
- Issuing a press release to your local news organizations.
- Social networking — we have a hashtag, #labweek. And don't forget to add @WEForG in your tweets.
- Invite a guest lecturer to your facility
- Offer to speak about your work to students
- Host an employee appreciation luncheon

The [Lab Week Took Kit](#) has more ideas. You can check it out on the APHL Website.



Ethics Training Resources

Ethics training continues to be of interest to the environmental laboratory community. Our members want training that is informative, engaging, and affordable.

Last year the Association of Public Health Laboratories, APHL, annual webinar featured a brief primer on environmental lab ethics, followed by Rashmi Airan speaking on ethical misses and personal redemption. The webinar is still available on the [APHL Website](#).

Some other sources of on-line laboratory ethics training are listed below.

[New York Association of Approved Environmental Laboratories](#)



Analyst at work at Elements Material Technology.

Photo by Jennifer Buroff

Lab Spotlight: Element Materials Technology Fort Wayne, Indiana

1. Name and location: Element Materials Technology – Fort Wayne, located in Fort Wayne, IN is a commercial laboratory with an emphasis on wastewater and drinking water testing.
2. How many analysts and/or technicians work in the laboratory? Including satellite offices in South Bend and Columbus, IN the staff is 30 people.
3. What analysis do you perform?
 - Which are for NPDES reporting? Element performs a wide variety of testing for NPDES reporting including wet chemistry, microbiology, metals and organics.
 - Which are strictly for operational information? Element also performs testing for process control as well as special studies for things such as pollutant loading or pretreatment allocation.
4. What instrumentation do you use? Element has a variety of instruments including multiple GC/MS and GC instruments as well as multiple ICP-MS and ICP-OES. Element also uses several discrete analyzers for wet chemistry analysis.
5. Do you utilize a LIMS system? – Element uses Omega as its LIMS application.
6. What sort of certification or licensure is required/encouraged for your workforce? Certification is not required though element does have some employees with certified operator licenses from the Indiana Department of Environmental Management. The laboratory holds accreditation with the Indiana State Department of Health for a variety of drinking water parameters. |
7. Are there any 'out of the box' or 'pilot' testing your lab has assisted with? – Element has assisted many communities and industries with outside the box testing or studies too large for the municipal labs we serve.
8. Is there anything unusual or special about your facility or lab? – Element designed and built a new facility which became a new home in 2017.

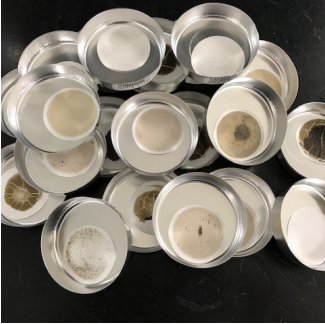
Be a Part of *Standard Methods*

In 2017, Standard Methods published the 23rd edition. However, work does not stop. Many of the methods in Part 4000 are in need of updating. *Standard Methods* is looking for volunteers to participate as task group chairs or as members in existing task groups. Some methods, such as pH, have existing task groups and are seeking volunteers. Other methods, such as sulfate, chloride, residual chlorine, etc. are still in need

If you, or someone you work with are interested, please contact [William Lipps](#).

Lab Quiz

Test your knowledge of basic – and not so basic – water laboratory analyses. Let's talk about fecal solids analysis.



1. Solids
 - a. Residue of total , suspended, or dissolved solids after heating to dryness at a specified temperature.
 2. Total Solids
 - b. Portion of total solids retained by a filter.
 3. Total Suspended Solids
 - c. Material residue left in a vessel after evaporation of a sample and its subsequent drying in an oven at a defined temperature.
 4. Total Dissolved Solids
 - d. Matter suspended or dissolved in water or wastewater.
 5. Settleable Solids
 - e. A sample's weight loss upon ignition
 6. Fixed Solids
 - f. Portion of total solids that passes through a filter.
 7. Volatile Solids
 - g. Material settling out of a suspension within a defined period.
-
8. True or False
Samples requiring solids analysis must be analyzed immediately upon collection.

 9. True or False
It is never appropriate to remove material from a sample prior to testing it for total suspended solids.

 10. The correct oven temperature for drying a total solids sample is:
 - a. 98 - 100°C
 - b. 103 to 105°C
 - c. 178 to 182°C

 11. Given the following information, calculate the total suspended solids concentration of this sample.
Weight of filter: 420 mg
Weight of filter and wet residue: 483.2 mg
Weight of filter and dry residue: 453.5 mg
Volume of sample: 50 mL
 - a. 240 mg/L
 - b. 420 mg/L
 - c. 535 mg/L
 - d. 670 mg/L

You can find the answers on page 5 of this newsletter.

Lab Quiz: Answers

1. d
2. c
3. b
4. f
5. g
6. a
7. e

8. False

While it is desirable to begin analysis as soon as possible because of the impracticality of preserving the sample, *Standard Methods* allows sample storage at $\leq 6^{\circ}\text{C}$ for seven days prior to analysis.

9. False

Large floating particles or submerged agglomerates of nonhomogeneous materials (such as a bug) should be removed from a sample prior to total suspended solids analysis.

10. b

11. Answer: d.

Total Suspended Solids, mg/L =

$$= \frac{(\text{Weight of Filter and Dry Residue, mg} - \text{Weight of Filter, mg})}{(\text{Sample Volume, mL})} * \frac{1000 \text{ mL}}{\text{L}}$$

$$= \frac{(453.5 \text{ mg} - 420 \text{ mg})}{(50 \text{ mL})} * \frac{1000 \text{ mL}}{\text{L}} = \frac{(33.5 \text{ mg})}{50 \text{ mL}} * \frac{1000 \text{ mL}}{\text{L}} = 670 \text{ mg/L}$$

Reference: *Standard Methods for the Examination of Water and Wastewater, 20th Edition*

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Awards

The WEF Laboratory Analyst award recognizes individuals for outstanding performance, professionalism and contributions to the water quality analysis profession. The award is presented by a WEF Representative at the WEF Member Association annual meeting.

Do you know of a deserving individual in your Member Association? See the [WEF Website](#) for award criteria and the nominations form.



WEF Executive Director Eileen O'Neil presents the Laboratory excellence award to Bruce Rabe at the 2018 Illinois Water Environment Association Annual Banquet.

Photo by Ted Denning, IWEA

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.
