“What Have Your Bugs Done for You Lately?”
Optimizing Process Control Parameters to Achieve Process Goals
September 01, 2020 | 1:00 PM to 1:45 PM Eastern

How to Participate Today

- **Audio Modes**
  - Listen using Mic & Speakers
  - Or, select "Use Telephone" and dial the conference (please remember long distance phone charges apply).

- Submit your questions using the Questions pane.
- A recording will be available for replay shortly after this webcast.
Panelists

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Moderator

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Why Biomass Management?
Where to Focus?

MLSS & MLVSS  F/M  SVI  WAS  RAS  SRT/MCRT
Modern Tools

Benchtop
Portable

TSS – Gravimetric
VSS
Solids “Health” – ATP
Portable

Solids Measurements & Health
**Online Suspended Solids/Density Meters**

**Immersion**

**In-line**

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**Solids Measurements & Health**

- **Light Scatter Detection for Solids & Turbidity**
  - **Infrared/Scattered Light Photometer**
    - **1.** LED light source transmits a beam of infrared light into the sample stream at an angle of 45° (860 nm)
    - **2.** A pair of photoreceptors detects scattered light at 90°
    - **3.** A backscatter photoreceptor is used to accurately measure suspended solids. It is positioned at 140° to the transmitted beam and detects light scattered in high-solids sample streams.
Sludge Blanket Monitoring

Online Monitoring

TSS Monitoring – Best Locations & Pitfalls

Primary Clarifier

Internal Recycle

Liquid-Solid Separation

RAS

WAS

TSS

TSS

TSS

NTU
What's the problem?

Pick the best time

Notice how MLSS and WAS concentrations change over 24 hours!

Real world data

--- WAS --- MLSS

When is the best time to pull a sample?

Is that the best time every day or does it change?
Did you know? Accurate & Precise SRT control can:

Increase secondary system capacity up to 30%
Reduce Aeration Energy Consumption
Decrease SVI up to 39% while preventing Pin Floc
Reduce Nocardia and M. parvicella foam
Avoid of Bio-P Failure
Stabilize BNR Operations
Create consistent Solids Yield and Growth Rate
Increased MLSS stability

What is sludge retention time?

Defines what organisms can grow in the aeration basin
The Connected System

Real Time Management & Guidance

*Compliments Aerobic Optimization Systems
i.e. DO control, ABAC, SND, NdN, etc...
SRT impact on TP (bio-p process)

Credit: Pretorius et. al., 2016

The Connected System

Impacts on Upstream

Impacts on Downstream

Sludge Volume
Flocculation / Settling
Chemical Use