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2020 CATALOG OF TRAINING

Your Educational Resource

Sponsored by the Member Education Committee

Capital Chapter | Central Chapter | Genesee Valley Chapter
Long Island Chapter | Lower Hudson Chapter | Western Chapter
### 2020 Catalog of Training Sessions

#### CAPITAL CHAPTER
- **February 19, 2020**  
  Blower Technologies, Selection and Energy Evaluation  
  
- **April 28, 2020**  
  Fundamentals of Occupational Chemical Exposure  
  
- **May 19, 2020**  
  Anaerobic Digestion Operations and Biogas Safety Training  

#### CENTRAL CHAPTER
- **March 18, 2020**  
  Green Infrastructure Maintenance  
  
- **May 7, 2020**  
  Emergency Response and Crisis Management for Water and Wastewater Facilities  
  
- **September 23, 2020**  
  Anaerobic Digestion Operations and Biogas Safety Training  

#### GENESEE VALLEY CHAPTER
- **February 27, 2020**  
  Emergency Response and Crisis Management for Water and Wastewater Facilities  
  
- **May 14, 2020**  
  Blower Technologies, Selection and Energy Evaluation  
  
#### LONG ISLAND CHAPTER
- **March 10, 2020**  
  Mathematics for Water and Wastewater Operators  
  
- **May 5, 2020**  
  Anaerobic Digestion Operations and Biogas Safety Training  

#### LOWER HUDSON CHAPTER
- **April 14, 2020**  
  Green Infrastructure Maintenance  
  
- **October 20, 2020**  
  Anaerobic Digestion Operations and Biogas Safety Training  
  
- **November 4, 2020**  
  Mathematics for Water and Wastewater Operators  

#### WESTERN CHAPTER
- **January 28, 2020**  
  Anaerobic Digestion Operations and Biogas Safety Training  
  
- **June 17, 2020**  
  Confined Space Awareness  
  
- **July 14, 2020**  
  Mathematics for Water and Wastewater Operators  
  
- **November 17, 2020**  
  Blower Technologies, Selection and Energy Evaluation  

### VIRTUAL TRAINING via ZOOM: ALL CHAPTERS
#### MEMBRANE BIOREACTORS LUNCH & LEARN WEBINAR SERIES (4-Part Series)
- **June 17, 2020**  
  MBR 101: Types, Terms, Treatment and Components  
  
- **June 24, 2020**  
  MBR System Performance  
  
- **July 1, 2020**  
  MBR Operations  
  
- **July 8, 2020**  
  Fishbone Analysis of MBRs  

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**Locations, Logistics**  

**Faculty**  

**Training Calendar**  

**Registration**
February 19 | Blower Technologies, Selection and Energy Evaluation

**Instructors**
Jennifer Kintzer, Aerzen USA
Scott Trail, Aerzen USA

**Location**
Saratoga County Fire Training Center, 6010 County Farm Road, Ballston Spa, NY 12020

**Contact Hours**
RTC 17909-20, 6.0 hours; PDH, 6.0 hours

**Course Schedule**

8:00 am  | Registration
8:30 am  | Welcome and introduction
8:45 am  | Review of blower technologies in wastewater plant air applications
  a. Positive displacement lobe
  b. Multistate centrifugal
  c. Turboblowers
  d. Low pressure compressor
  e. Geared turbo
10:00 am | Break
10:15 am | Proper Selection of blower technologies based on type of application
  Machine sizing factors
  f. Varying pressure applications
  g. Varying flow applications
  h. Low flow applications
  i. High flow applications
  j. Intermittent on-off applications
12:00 pm–1:00 pm | Lunch
1:00 pm  | Installation factors (indoor/outdoor, footprint, machine cooling, noise)
2:15 pm  | Break
2:30 pm  | Life cycle cost evaluation (Energy, O&M)
3:45 pm  | Q&A, review
4:00 pm  | Course adjourned
**Fundamentals of Occupational Chemical Exposure**

This program is part of a NYS DOL HAB grant #C19006GG to the Western New York Council on Occupational Safety and Health (WNYCOSH).

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Nellie J. Brown, MS, CIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Saratoga County Fire Training Center, 6010 County Farm Road, Ballston Spa, NY 12020</td>
</tr>
<tr>
<td>Contact Hours</td>
<td>ATC 152-3438-18196, 6.0 hours; RTC 17912-20, 6 hours</td>
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</table>

### Course Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>Registration</td>
</tr>
<tr>
<td>8:30 am</td>
<td>Physical hazards of chemicals: Fundamentals, terms, applications</td>
</tr>
<tr>
<td></td>
<td>Health hazards of chemicals: Fundamentals, terms, applications</td>
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<tr>
<td></td>
<td>• Routes of entry</td>
</tr>
<tr>
<td></td>
<td>• Factors affecting adverse health effects from exposure</td>
</tr>
<tr>
<td></td>
<td>• Fate of chemicals in the body</td>
</tr>
<tr>
<td>10:15 am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30 am</td>
<td>• Routes of entry (continued)</td>
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<td></td>
<td>• Acute and chronic exposure</td>
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<td></td>
<td>• Occupational exposure limits</td>
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<tr>
<td></td>
<td>• Vapor pressure; estimating worst case scenario</td>
</tr>
<tr>
<td></td>
<td>• Occupational exposure limits atypical work hours</td>
</tr>
<tr>
<td></td>
<td>• Health conditions and/or genetic predispositions</td>
</tr>
<tr>
<td>12:00 pm-1:00 pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>• Acute and chronic exposure (continued)</td>
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<tr>
<td></td>
<td>• Using MSDS information to compare risks and find safer alternatives</td>
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<tr>
<td></td>
<td>• Water solubility</td>
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<tr>
<td></td>
<td>• Vapor hazard ratio</td>
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<td></td>
<td>• Flash point and explosive limits</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>Break</td>
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<tr>
<td>2:30 pm</td>
<td>• Using MSDS information to compare risks and find safer alternatives (continued)</td>
</tr>
<tr>
<td></td>
<td>• Hierarchy of controls: Ventilation, PPE, work practices</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Course adjourned</td>
</tr>
</tbody>
</table>

**Capital Chapter Training Session**

POSTPONED, DATE TBA
### Capital Chapter Training Session

**May 19**  | **Anaerobic Digestion Operations and Biogas Safety Training**

**Instructors**
- Sara Martin, PE, Critical Path Engineering Solutions
- George Bevington, Barton & Loguidice
- Frank DeOrio, Ramboll
- Mark Greene, PhD, Ramboll

**Location**
Saratoga County Fire Training Center, 6010 County Farm Road, Ballston Spa, NY 12020

**Contact Hours**
RTC 17908-20, 6.0 hours; PDH, 6.0 hours

**Course Schedule**
- 8:00 am  | Registration
- 8:15 am  | Overview of anaerobic digestion
- 9:00 am  | Operational overview of digesters and the importance of nutrients and process control
- 9:45 am  | Break
- 10:00 am | Digester start-up and sour digesters
- 10:45 am | Codigestion
- 11:30 am | Design considerations
- 12:00 pm–12:30 pm | Lunch
- 12:30 pm | Case studies
- 1:30 pm  | Biogas utilization and safety
- 2:30 pm  | Ground breaking genetic research on anaerobic microbes
- 3:00 pm  | Q&A; Course adjourned

**POSTPONED, DATE TBA**
Central Chapter Training Session

**March 18** | **Green Infrastructure Maintenance**

**Instructor** | Cosimo Pagano, PE, CPESC, CPSWQ, CPMSM
**Location** | Onondaga County WEP Metro WWTP, 650 Hiawatha Boulevard West, Syracuse, NY 13204
**Contact Hours** | PDH, 6.0 hours

**Course Schedule**

8:00 am  | Registration
8:30 am  | Introduction
8:45 am  | Surface filtration/infiltration systems (Bioretention/rain gardens/swales)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures
9:45 am  | Porous Paving (Porous asphalt/porous concrete/pre-cast units)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures
10:45 am | Break
11:00 am | Standard management practices (Pond/wetlands/structures)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures
12:00 pm–1:00 pm | Lunch
1:00 pm  | Sustainable landscape management (Riparian areas/plantings/conservation buffers)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures
2:15 pm  | Break
2:30 pm  | Examples of maintenance for local/regional GI practices
3:45 pm  | Q&A, discussion
4:00 pm  | Course adjourned

**POSTPONED, DATE TBA**
May 7 | Emergency Response and Crisis Management for Water and Wastewater Facilities

This program is part of a NYS DOL HAB grant #C19006GG to the Western New York Council on Occupational Safety and Health (WNYCOSH).

Instructors
Nellie J. Brown, MS, CIH
Arthur Wheaton, MLR/HR

Location
Holiday Inn, 75 North Street, Auburn, NY 13021

Contact Hours
ATC 152-2269-17913, 6.0 hours; RTC 17906-20, 6.0 hours

Course Schedule
(A simultaneous crisis scenario/exercise is interspersed throughout the day.)

8:00 am  Registration
8:30 am  Overview of crisis management
  • The business case for crisis management
  (Exercise: Crisis audit of your facility)
  • Elements of a crisis
  • Crisis planning team
  • Developing the crisis management plan
10:15 am  Break
10:30 am  (Exercise: Crisis preparedness – vulnerability analysis)
  • Phases of a crisis
Exercise: Signal detection
12:00 pm–1:00 pm  Lunch
1:00 pm  • Planning for recovery
  (Exercise: Recovery plan)
  (Exercise: Identifying stakeholders)
  (Exercise: Prioritizing stakeholders)
2:15 pm  Break
2:30 pm  Communicating during and after a crisis
  • Developing core messages
  (Exercise: Communicating with stakeholders and the media)
  • Critical incident stress and debriefing
  (Exercise: Signs of emotional impact)
  • Learning from crisis
4:00 pm  Course adjourned
Central Chapter Training Session

September 23  | Anaerobic Digestion Operations and Biogas Safety Training

Instructors   | Sara Martin, PE, Critical Path Engineering Solutions
              | George Bevington, Barton & Loguidice
              | Frank DeOrio, Ramboll
              | Mark Greene, PhD, Ramboll

Location      | Utica College, 1600 Burrstone Road, Utica, NY 13502

Contact Hours | RTC 17908-20, 6.0 hours; PDH, 6.0 hours

Course Schedule

8:00 am    | Registration
8:15 am    | Overview of anaerobic digestion
9:00 am    | Operational overview of digesters and the importance of nutrients and process control
9:45 am    | Break
10:00 am   | Digester start-up and sour digesters
10:45 am   | Codigestion
11:30 am   | Design considerations
12:00 pm–12:30 pm | Lunch
12:30 pm   | Case studies
1:30 pm    | Biogas utilization and safety
2:30 pm    | Ground breaking genetic research on anaerobic microbes
3:00 pm    | Q&A; Course adjourned
### Genesee Valley Chapter Training Session

**February 27**

<table>
<thead>
<tr>
<th><strong>Emergency Response and Crisis Management for Water and Wastewater Facilities</strong></th>
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</table>

**Instructor**

Nellie J. Brown, MS, CIH

**Location**

Wayne County Public Safety Building, 7376 Route 31, Lyons, NY 14489

**Contact Hours**

ATC 152-2269-17914, 6.0 hours; RTC 17906-20, 6.0 hours

**Course Schedule**

*A simultaneous crisis scenario/exercise is interspersed throughout the day.*

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### Blower Technologies, Selection and Energy Evaluation

**Instructor**  
Jennifer Kintzer, Aerzen USA

**Location**  
VanLare WWTP Training Room, 1574 Lake Shore Boulevard, Rochester, NY 14617

**Contact Hours**  
RTC 17909-20, 6.0 hours; PDH, 6.0 hours

#### Course Schedule

- **8:00 am**  
  Registration
- **8:30 am**  
  Welcome and introduction
- **8:45 am**  
  Review of blower technologies in wastewater plant air applications  
  a. Positive displacement lobe  
  b. Multistate centrifugal  
  c. Turboblowers  
  d. Low pressure compressor  
  e. Geared turbo
- **10:00 am**  
  Break
- **10:15 am**  
  Proper Selection of blower technologies based on type of application  
  Machine sizing factors  
  f. Varying pressure applications  
  g. Varying flow applications  
  h. Low flow applications  
  i. High flow applications  
  j. Intermittent on-off applications
- **12:00 pm**  
  Lunch
- **1:00 pm**  
  Installation factors (indoor/outdoor, footprint, machine cooling, noise)
- **2:15 pm**  
  Break
- **2:30 pm**  
  Life cycle cost evaluation (Energy, O&M)
- **3:45 pm**  
  Q&A, review
- **4:00 pm**  
  Course adjourned

### Genesee Valley Chapter Training Session

**POSTPONED, DATE TBA**
Long Island Chapter Training Session

March 10

Mathematics for Water and Wastewater Operators

Instructor
Robert Wither, PE

Location
Bergen Point WWTP, 600 Bergen Avenue, Babylon, NY 11704

Contact Hours
ATC 152-7576-17871; RTC 17907-20, 6.0 hours

Course Schedule

8:00 am  Registration
8:30 am  Basic mathematics review as it pertains to working at a treatment facility
         (Real world/Applied math or what you should know)
         Decimals, fractions, concentrations, % solids, understanding laboratory results
         from a mathematics perspective, basic equations
10:30 am  Break
10:45 am  Using mathematics to better understand treatment plants
         Calculation of unit process and unit operation organic, hydraulic and solids loadings,
         familiarity with standard treatment facility terms and design ranges
12:00 pm–1:00 pm  Lunch
1:00 pm  The importance of mathematics in at a treatment facility for both
         process control and proper dosing and calculation of mass quantities
         Activated sludge calculations, sludge handling, flow measurement
2:30 pm  Break
2:45 pm  Attendees participation concerning their specific facility
         Discussion and calculations
3:45 pm  Q&A, evaluations and wrap up
4:00 pm  Course adjourned
Long Island Chapter Training Session

**May 5**  **Anaerobic Digestion Operations and Biogas Safety Training**

**Instructors**  Sara Martin, PE, Critical Path Engineering Solutions
George Bevington, Barton & Loguidice
Frank DeOrio, Ramboll
Mark Greene, PhD, Ramboll

**Location**  Bergen Point WWTP, 600 Bergen Avenue, Babylon, NY 11704

**Contact Hours**  RTC 17908-20, 6.0 hours; PDH, 6.0 hours

**Course Schedule**

8:00 am  Registration
8:15 am  Overview of anaerobic digestion
9:00 am  Operational overview of digesters and the importance of nutrients and process control
9:45 am  Break
10:00 am  Digester start-up and sour digesters
10:45 am  Codigestion
11:30 am  Design considerations
12:00 pm–12:30 pm  Lunch
12:30 pm  Case studies
1:30 pm  Biogas utilization and safety
2:30 pm  Ground breaking genetic research on anaerobic microbes
3:00 pm  Q&A; Course adjourned

POSTPONED, DATE TBA
Lower Hudson Chapter Training Session

**April 14**  
**Green Infrastructure Maintenance**

**Instructor**  
Cosimo Pagano, PE, CPESC, CPSWQ, CPMSM

**Location**  
Slater Chemical Co. Firehouse, 76 Old Glenham Road, Glenham, NY 12527

**Contact Hours**  
PDH, 6.0 hours

**Course Schedule**

- **8:00 am**  
  Registration

- **8:30 am**  
  Introduction

- **8:45 am**  
  Surface filtration/infiltration systems (Bioretention/rain gardens/swales)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures

- **9:45 am**  
  Porous Paving (Porous asphalt/porous concrete/pre-cast units)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures

- **10:45 am**  
  Break

- **11:00 am**  
  Standard management practices (Pond/wetlands/structures)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures

- **12:00 pm--1:00 pm**  
  Lunch

- **1:00 pm**  
  Sustainable landscape management (Riparian areas/plantings/conservation buffers)
  - Applications
  - Performance and lessons learned
  - Maintenance and inspection procedures

- **2:15 pm**  
  Break

- **2:30 pm**  
  Examples of maintenance for local/regional GI practices

- **3:45 pm**  
  Q&A, discussion

- **4:00 pm**  
  Course adjourned

POSTPONED, DATE TBA
## Lower Hudson Chapter Training Session

**October 20**  
**Anaerobic Digestion Operations and Biogas Safety Training**

**Instructors**  
Sara Martin, PE, Critical Path Engineering Solutions  
George Bevington, Barton & Loguidice  
Frank DeOrio, Ramboll  
Mark Greene, PhD, Ramboll

**Location**  
Yonkers Joint WWTP, 1 Fernbrook Street, Yonkers, NY 10705

**Contact Hours**  
RTC 17908-20, 6.0 hours; PDH, 6.0 hours

### Course Schedule

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<td>3:00 pm</td>
<td>Q&amp;A; Course adjourned</td>
</tr>
</tbody>
</table>
Lower Hudson Chapter Training Session

November 4  | Mathematics for Water and Wastewater Operators

Instructor  | Robert Wither, PE
Location    | Wallkill Golf Club, 40 Sands Road, Middletown, NY 10941
Contact Hours | ATC 152-7576-17873; RTC 17907-20, 6.0 hours

Course Schedule

8:00 am  | Registration
8:30 am  | Basic mathematics review as it pertains to working at a treatment facility
          | (Real world/Applied math or what you should know)
          | Decimals, fractions, concentrations, % solids, understanding laboratory results
          | from a mathematics perspective, basic equations
10:30 am | Break
10:45 am | Using mathematics to better understand treatment plants
          | Calculation of unit process and unit operation organic, hydraulic and solids loadings,
          | familiarity with standard treatment facility terms and design ranges
12:00 pm–1:00 pm | Lunch
1:00 pm  | The importance of mathematics in at a treatment facility for both
          | process control and proper dosing and calculation of mass quantities
          | Activated sludge calculations, sludge handling, flow measurement
2:30 pm  | Break
2:45 pm  | Attendees participation concerning their specific facility
          | Discussion and calculations
3:45 pm  | Q&A, evaluations and wrap up
4:00 pm  | Course adjourned
### Western Chapter Training Session

**January 28**  
**Anaerobic Digestion Operations and Biogas Safety Training**

**Instructors**  
Sara Martin, PE, Critical Path Engineering Solutions  
George Bevington, Barton & Loguidice  
Frank DeOrio, Ramboll  
Mark Greene, PhD, Ramboll

**Location**  
Protocol Restaurant, 6766 Transit Road, Williamsville, NY 14221

**Contact Hours**  
RTC 17908-20, 6.0 hours; PDH, 6.0 hours

**Course Schedule**

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Western Chapter Training Session

June 17

Confined Space Awareness

This program is part of a NYS DOL HAB grant #C19006GG to the Western New York Council on Occupational Safety and Health (WNVCOSH).

Instructor
Nellie J. Brown, MS, CIH

Location
TBD, Allegany or Cattaraugus County

Contact Hours
ATC, pending; RTC 17911-20, 6 hours

Course Schedule

8:00 am  Registration
8:30 am  Overview of the problem: What is a confined space? How serious is the issue?
Exercise: Case History A
Requirements of the standard; permit-required spaces
Exercise: Case History B
Types of confined space hazards-categories
Exercise: Case History C
10:15 am–10:30 am  Break
10:30 am  Types of confined space hazards-in-depth
Exercise: Case History D
Protection and prevention by permit entry procedures
Exercise: Case History E
Protection and prevention by permit entry procedures (continued)
Exercise: Case History F
12:00 pm–1:00 pm  Lunch
1:00 pm  Small groups exercise: Accident scenarios-identify hazards and appropriate permit program hazard control procedures.
2:15 pm–2:30 pm  Break
2:30 pm  Rescue procedures
Basics
Small groups exercise: “What do you do if ...?”
Air Monitoring
Basics
Small groups exercise: “What’s happening here?”
3:00 pm  Course adjourned
Western Chapter Training Session

July 14  Mathematics for Water and Wastewater Operators

Instructor  Robert Wither, PE
Location  Fredonia Technology Incubator, 214 Central Avenue, Dunkirk, NY 14048
Contact Hours  ATC 152-7576-17872, 6.0 hours; RTC 17907-20, 6.0 hours

Course Schedule

8:00 am  Registration
8:30 am  Basic mathematics review as it pertains to working at a treatment facility
(Real world/Applied math or what you should know)
Decimals, fractions, concentrations, % solids, understanding laboratory results
from a mathematics perspective, basic equations
10:30 am  Break
10:45 am  Using mathematics to better understand treatment plants
Calculation of unit process and unit operation organic, hydraulic and solids loadings,
familiarity with standard treatment facility terms and design ranges
12:00 pm–1:00 pm  Lunch
1:00 pm  The importance of mathematics in at a treatment facility for both
process control and proper dosing and calculation of mass quantities
Activated sludge calculations, sludge handling, flow measurement
2:30 pm  Break
2:45 pm  Attendees participation concerning their specific facility
Discussion and calculations
3:45 pm  Q&A, evaluations and wrap up
4:00 pm  Course adjourned
### Western Chapter Training Session

#### November 17

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am</td>
<td>Registration</td>
</tr>
<tr>
<td>8:30 am</td>
<td>Welcome and introduction</td>
</tr>
<tr>
<td>8:45 am</td>
<td>Review of blower technologies in wastewater plant air applications</td>
</tr>
<tr>
<td></td>
<td>a. Positive displacement lobe</td>
</tr>
<tr>
<td></td>
<td>b. Multistate centrifugal</td>
</tr>
<tr>
<td></td>
<td>c. Turboblowers</td>
</tr>
<tr>
<td></td>
<td>d. Low pressure compressor</td>
</tr>
<tr>
<td></td>
<td>e. Geared turbo</td>
</tr>
<tr>
<td>10:00 am</td>
<td>Break</td>
</tr>
<tr>
<td>10:15 am</td>
<td>Proper Selection of blower technologies based on type of application</td>
</tr>
<tr>
<td></td>
<td>f. Varying pressure applications</td>
</tr>
<tr>
<td></td>
<td>g. Varying flow applications</td>
</tr>
<tr>
<td></td>
<td>h. Low flow applications</td>
</tr>
<tr>
<td></td>
<td>i. High flow applications</td>
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<tr>
<td></td>
<td>j. Intermittent on-off applications</td>
</tr>
<tr>
<td>12:00 pm–1:00 pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>Installation factors (indoor/outdoor, footprint, machine cooling, noise)</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>Break</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Life cycle cost evaluation (Energy, O&amp;M)</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>Q&amp;A, review</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Course adjourned</td>
</tr>
</tbody>
</table>

**Instructor**: Jennifer Kintzer, Aerzen USA  
**Location**: TBD, Lockport, NY 14094  
**Contact Hours**: RTC 17909-20, 6.0 hours; PDH, 6.0 hours

**Blower Technologies, Selection and Energy Evaluation**
**Membrane Bioreactors Lunch & Learn Webinar Series (4-part series)**

| Instructor | Kevin Crane, Kubota Membrane USA Corporation |
| Contact Hours | PDH, up to 4.0 hours; RTC, up to 4.0 hours |
| Time | 12:00 pm-1:00 pm |

**Course Outline (Virtual Training via Zoom)**

### June 17

**PART 1**

**MBR 101: Types, Terms, Treatment and Components**

- Membrane types
- Terms and definitions
- Treatment capabilities and system components

**Biological Nutrient Removal**

- Nitrification/denitrification
- Biological phosphorus removal
- How MBR technology can improve performance

### June 24

**PART 2**

**Managing MBR System Performance**

- Biofilm, air scour and chemical cleaning and their role in optimizing system performance

### July 1

**PART 3**

**MBR Operations**

- Operating modes
- System component selection
- Control system architecture
- Troubleshooting

### July 8

**PART 4**

**Fishbone Analysis of MBRs**

- Retrofitting conventional activated sludge with MBRs
- Case study
## Locations of Training Sessions

### CAPITAL CHAPTER
- **Saratoga County Fire Training Center**  
  6010 County Farm Road, Ballston Spa, NY 12020

### CENTRAL CHAPTER
- **Holiday Inn**  
  75 North Street, Auburn, NY 13021
- **Onondaga County Water Environment Protection**  
  650 Hiawatha Boulevard West, Syracuse, NY 13204
- **Utica College, Economic Crime & Justice Building, Carbone Family Auditorium**  
  1600 Burrstone Road, Utica, NY 13502

### GENESEE VALLEY CHAPTER
- **Van Lare WWPT Training Room**  
  1574 Lake Shore Boulevard, Rochester, NY 14617
- **Wayne County Public Safety Building**  
  7376 Route 31, Lyons, NY 14489

### LONG ISLAND CHAPTER
- **Bergen Point WWPT**  
  Southwest Sewer District #3, 600 Bergen Avenue, Babylon, NY 12020

### LOWER HUDSON CHAPTER
- **Slater Chemical Fire Co.**  
  76 Old Glenham Road, Glenham, NY 12527
- **Wallkill Golf Club**  
  40 Sands Road, Middletown, NY 10941
- **Yonkers Joint WWTP**  
  1 Fernbrook Street, Yonkers, NY 10705

### WESTERN CHAPTER
- **Fredonia Technology Incubator**  
  214 Central Avenue, Dunkirk, NY 14048
- **Niagara County Fire Training Center**  
  TBD, Lockport, NY 14094
- **Protocol Restaurant**  
  6766 Transit Road, Williamsville, NY 14221

### LOGISTICS
Registration confirmation, directions and other pertinent information will be mailed or e-mailed to the address on the registration form one week prior to each workshop.

Cancellations must be received 10 days in advance of event. Refunds are subject to a $20 administrative fee.
Faculty and Course Titles

• **Anaerobic Digestion Operations and Biogas Safety Training**  
  **Sara Martin, PE, Critical Path Engineering Solutions**  
  Sara Martin is a licensed professional engineer with over 20 years of experience in project development, management and design of various municipal and industrial water, wastewater and utilities projects. Ms. Martin attended Clarkson University where she obtained a Bachelor of Science degree in Civil/Environmental Engineering. She is the owner of Critical Path Engineering Solutions, a Woman-Owned Enterprise specializing in water, wastewater and general infrastructure projects.

  **George Bevington, Barton & Loguidice**  
  George Bevington has over 39 years of experience in the environmental field and possesses a NYS Grade 4A Wastewater Operator license. He has a Bachelor of Science in Civil Engineering from Rochester Institute of Technology in Rochester, NY. Mr. Bevington is employed by Barton and Loguidice serving as a Senior Project Manager in their wastewater division, providing wastewater consulting services to various facilities, specializing in anaerobic digestion of high-strength waste and CHP.

  **Frank DeOrio, Ramboll**  
  Frank DeOrio is a Senior Technical Manager with Ramboll. He has over 40 years of experience in municipal and industrial wastewater treatment including biological and physical-chemical processes, biosolids management, effluent disinfection and anaerobic digestion. He maintains a Professional Wastewater Operator Certification by the Association of Boards of Certification as well as Wastewater Operator Certifications in the states of GA, NY, NJ, PA and MA.

  **Mark Greene, PhD, Ramboll**  
  Dr. Mark Greene is a Subject Matter Expert at Ramboll. He is experienced in the areas of municipal and industrial wastewater treatment, anaerobic digestion for biosolids and high-strength industrial wastewater, as well as environmental process research and development. He has performed original research, project management, technical guidance, feasibility evaluations, treatability studies, field demonstrations, full-scale start-ups, computer modeling and process troubleshooting.

• **Blower Technologies, Selection, and Energy Evaluation**  
  **Jennifer Kintzer, PE, Aerzen USA**  
  Jennifer Kintzer is a professional engineer and manager at Aerzen USA with demonstrated ability in planning, design, and construction of water and wastewater facilities with 27 years of experience in the field. She is a sales professional with the ability to effectively communicate with engineers and utility owners and operators concerning treatment equipment for water and wastewater facilities. Ms. Kintzer is a certified Professional Engineer and Wastewater Treatment Plant Operator in the Commonwealth of Pennsylvania. She holds a Bachelor of Science degree in Civil Engineering Technology from The University of Pittsburgh at Johnstown. Ms. Kintzer is a member of the American Society of Civil Engineers, Society of Women Engineers, Eastern Pennsylvania Water Pollution Control Operators Association, American Water Works Association, Water Environment Federation, and a member of the Editorial Board of Pennsylvania Water Environment Association.

• **Confined Space Awareness**  

• **Fundamentals of Occupational Chemical Exposure**  

• **Emergency Response and Crisis Management for Water and Wastewater Facilities**  
  **Nellie J. Brown, MS, CIH, Director of Workplace Health and Safety Programs for the Worker Institute at Cornell University’s School of Industrial and Labor Relations, Ithaca, NY**  
  Nellie Brown is a certified industrial hygienist, biologist and chemist. Ms. Brown earned her Master’s degree in a multidisciplinary program in natural sciences and applied science from the SUNY College at Buffalo. She has experience as a licensed wastewater treatment plant operator and has been trained as a lead inspector, an HIV/AIDS test counselor and in mold investigations and site assessments.

  **Arthur Wheaton**  
  Arthur Wheaton is the Director of Western NY Labor and Environmental Programs for Cornell University’s School of Industrial and Labor Relations. Mr. Wheaton has a special interest in health and safety programs and committees. His specialty is integrating lean or high performance principles with health and safety programs to provide a safe working environment and enhance quality, productivity and morale. He has a master of science degree in labor relations and human resources from Michigan State University. Mr. Wheaton also holds a bachelor of science degree in Social Science Pre-Law in Economics, History and Political Science from Michigan State University.
• Green Infrastructure Maintenance
Cosimo Pagano, Environmental Design & Research (EDR)
Cosimo Pagano is a Project Manager with Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR). Mr. Pagano has more than 12 years of experience in the study, design and construction phases of wastewater, stormwater, environmental engineering projects. He is a NYS certified Professional Engineer (PE), Certified Professional in Erosion and Sediment Control (CPESC), Certified Professional in Stormwater Quality (CPSWQ), and a Certified Professional in Municipal Stormwater Management (CPMSM). Mr. Pagano holds a Bachelor of Science degree in Environmental/Civil Engineering from the State University of New York College of Environmental Science and Forestry (SUNY-ESF).

• Mathematics for Water and Wastewater Operators
Robert Wither
Robert Wither recently retired after over 34 years of service to the NYS Department of Environmental Conservation in the Bureau of Water Permits, Division of Water. He is a licensed Professional Engineer in New York State. He has a Bachelor of Science degree in Chemical Engineering from Rensselaer Polytechnic Institute, Troy, NY, and is the recent past president of NYWEA. Mr. Wither has extensive experience in permit writing, treatment technology, technical assistance, training, operator certification and data management.

• Membrane Bioreactors Lunch & Learn Webinar Series
Kevin Crane, Kubota Membrane USA Corporation
Kevin Crane is Regional Sales Manager for Kubota Membrane USA Corporation. He is responsible for managing sales activities related to advanced wastewater treatment capital equipment sales to municipalities and end users. He interfaces with consulting engineers, regulators and contractors to ensure that projects are delivered to meet permit requirements, specs and budget constraints. He has nearly 20 years of experience in the water/wastewater industry in both the public and private sectors. Mr. Crane holds two certifications – California Grade V Wastewater Treatment Plant Operator and Texas Class A Wastewater Treatment Plant Operator.
<table>
<thead>
<tr>
<th>DATE</th>
<th>CHAPTER</th>
<th>SESSION / LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 28, 2020</td>
<td>Western</td>
<td>Anaerobic Digestion Operations and Biogas Safety Training Protocol Restaurant, 6766 Transit Road, Williamsville, NY 14221</td>
</tr>
<tr>
<td>February 3-5, 2020</td>
<td>NYWEA</td>
<td>92nd Annual Meeting &amp; Exhibition New York City Marriott Marquis</td>
</tr>
<tr>
<td>February 19, 2020</td>
<td>Capital</td>
<td>Blower Technologies, Selection and Energy Evaluation Saratoga County Fire Training Center, 6010 County Farm Road, Ballston Spa, NY 12020</td>
</tr>
<tr>
<td>February 27, 2020</td>
<td>Genesee Valley</td>
<td>Emergency Response and Crisis Management for Water and Wastewater Facilities Wayne County Public Safety Building, 7376 Route 31, Lyons, NY 14489</td>
</tr>
<tr>
<td>March 10, 2020</td>
<td>Long Island</td>
<td>Mathematics for Water and Wastewater Operators Bergen Point WWTP, 600 Bergen Avenue, Babylon, NY 11704</td>
</tr>
<tr>
<td>March 18, 2020</td>
<td>Central</td>
<td>Green Infrastructure Maintenance OCDWEP Metro WWTP, 650 Hiawatha Boulevard West, Syracuse, NY 13204</td>
</tr>
<tr>
<td>April 14, 2020</td>
<td>Lower Hudson</td>
<td>Green Infrastructure Maintenance Slater Chemical Fire Co., 76 Old Glenham Road, Glenham, NY 12527</td>
</tr>
<tr>
<td>April 28, 2020</td>
<td>Capital</td>
<td>Fundamentals of Occupational Chemical Exposure Saratoga County Fire Training Center, 6010 County Farm Road, Ballston Spa, NY 12020</td>
</tr>
<tr>
<td>May 5, 2020</td>
<td>Long Island</td>
<td>Anaerobic Digestion Operations and Biogas Safety Training Bergen Point WWTP, 600 Bergen Avenue, Babylon, NY 11704</td>
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<tr>
<td>May 7, 2020</td>
<td>Central</td>
<td>Emergency Response and Crisis Management for Water and Wastewater Facilities Auburn Holiday Inn, 75 North Street, Auburn, NY 13021</td>
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<tr>
<td>May 14, 2020</td>
<td>Genesee Valley</td>
<td>Blower Technologies, Selection and Energy Evaluation VanLare WWTP, 1574 Lake Shore Boulevard, Rochester, NY 14617</td>
</tr>
<tr>
<td>May 19, 2020</td>
<td>Capital</td>
<td>Anaerobic Digestion Operations and Biogas Safety Training Saratoga County Fire Training Center, 6010 County Farm Road, Ballston Spa, NY 12020</td>
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<tr>
<td>June 8-12, 2020</td>
<td>NYWEA</td>
<td>Spring Technical Meeting &amp; Exhibition Virtual Conference via Zoom</td>
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<tr>
<td>June 17, 2020</td>
<td>Western</td>
<td>Confined Space Awareness TBD, Allegany or Cattaraugus County</td>
</tr>
<tr>
<td>June 17, 2020</td>
<td>NYWEA</td>
<td>Membrane Bioreactors Lunch &amp; Learn Webinar Series / Part 1 Virtual via Zoom</td>
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<tr>
<td>June 24, 2020</td>
<td>NYWEA</td>
<td>Membrane Bioreactors Lunch &amp; Learn Webinar Series / Part 2 Virtual via Zoom</td>
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<tr>
<td>July 1, 2020</td>
<td>NYWEA</td>
<td>Membrane Bioreactors Lunch &amp; Learn Webinar Series / Part 3 Virtual via Zoom</td>
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<tr>
<td>July 8, 2020</td>
<td>NYWEA</td>
<td>Membrane Bioreactors Lunch &amp; Learn Webinar Series / Part 4 Virtual via Zoom</td>
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<tr>
<td>July 14, 2020</td>
<td>Western</td>
<td>Mathematics for Water and Wastewater Operators Fredonia Tech Incubator, 214 Central Avenue, Dunkirk, NY 14048</td>
</tr>
<tr>
<td>September 23, 2020</td>
<td>Central</td>
<td>Anaerobic Digestion Operations and Biogas Safety Training Utica College, 1600 Burrstone Road, Utica, NY 13502</td>
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<tr>
<td>October 20, 2020</td>
<td>Lower Hudson</td>
<td>Anaerobic Digestion Operations and Biogas Safety Training Yonkers Joint WWTP, 1 Fernbrook Street, Yonkers, NY 10705</td>
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<tr>
<td>November 4, 2020</td>
<td>Lower Hudson</td>
<td>Mathematics for Water and Wastewater Operators Wallkill Golf Club, 40 Sands Road, Middletown, NY 10941</td>
</tr>
<tr>
<td>November 17, 2020</td>
<td>Western</td>
<td>Blower Technologies, Selection and Energy Evaluation TBD, Lockport, NY 14094</td>
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</table>
TRAINING SESSIONS REGISTRATION | PLEASE PRINT. ONE FORM COMPLETED PER INDIVIDUAL.

Name ________________________________________________________________
NYWEA Member □ Yes □ No
[Non-member registration includes 1-year Affiliate Membership.]
Certificate/License # ________________________________ □ Wastewater □ Water □ Professional Engineer
Company / Affiliation _____________________________________________________
Mailing Address ___________________________________________ City ____________________________ State ______ Zip ________
   □ Home Address   □ Business Address (Email or mail confirmations with directions will be sent 1 week prior to event.)
Phone (________) - ___________  Email (required)

### DATE 2020 SEMINAR TITLE MEMBER  NON-MEMBER TOTAL

**Capital Chapter Training Sessions**
- February 19, 2020 Blower Technologies, Selection and Energy Evaluation $60.00 $145.00 $_____
- April 28, 2020 Fundamentals of Occupational Chemical Exposure*** $40.00 $40.00 $_____
- May 19, 2020 Anaerobic Digestion Operations and Biogas Safety Training $60.00 $145.00 $_____

**Central Chapter Training Sessions**
- March 18, 2020 Green Infrastructure Maintenance $60.00 $145.00 $_____
- May 7, 2020 Emergency Response and Crisis Management** $40.00 $40.00 $_____
- September 23, 2020 Anaerobic Digestion Operations and Biogas Safety Training $60.00 $145.00 $_____

**Genesee Valley Chapter Training Sessions**
- February 27, 2020 Emergency Response and Crisis Management** $40.00 $40.00 $_____
- May 14, 2020 Blower Technologies, Selection and Energy Evaluation $60.00 $145.00 $_____

**Long Island Chapter Training Sessions**
- March 10, 2020 Mathematics for Water and Wastewater Operators $60.00 $145.00 $_____
- May 5, 2020 Anaerobic Digestion Operations and Biogas Safety Training $60.00 $145.00 $_____

**Lower Hudson Chapter Training Sessions**
- April 14, 2020 Green Infrastructure Maintenance $60.00 $145.00 $_____
- June 24, 2020 Membrane Bioreactors $60.00 $145.00 $_____
- October 20, 2020 Anaerobic Digestion Operations and Biogas Safety Training $60.00 $145.00 $_____
- November 4, 2020 Mathematics for Water and Wastewater Operators $60.00 $145.00 $_____

**Western Chapter Training Sessions**
- January 28, 2020 Anaerobic Digestion Operations and Biogas Safety Training $60.00 $145.00 $_____
- June 17, 2020 Confined Space Awareness** $40.00 $40.00 $_____
- July 14, 2020 Mathematics for Water and Wastewater Operators $60.00 $145.00 $_____
- November 17, 2020 Blower Technologies, Selection and Energy Evaluation $60.00 $145.00 $_____

**Virtual Training via Zoom: Membrane Bioreactors Lunch & Learn Webinar Series (4-part series) via Zoom**
- June 17, 2020 MBR 101: Types, Terms, Treatment and Components $20.00 or All 4/$75 $_____
- June 24, 2020 MBR System Performance $20.00 or All 4/$75 $_____
- July 1, 2020 MBR Operations $20.00 or All 4/$75 $_____
- July 8, 2020 Fishbone Analysis of MBRs $20.00 or All 4/$75 $_____

**TOTAL** $_____

**Program is part of a NYS DOL HAB grant #C19006GG to WNYCOSH **

**PLEASE FILL OUT PAYMENT INFORMATION:** (mail to NYWEA, or fax to 315-422-3851)

Payment Options □ Check # ___________ Credit Card □ MC □ VISA □ AMEX □ Voucher

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Authorized Signature ____________________________

Date ____________________________

E-Mail (required) ____________________________

Contact Person ____________________________ Telephone ____________________________

Address ___________________________________________ City ____________________________ State ______ Zip ________

NYWEA MEMBER EDUCATION COMMITTEE

2020 CATALOG OF TRAINING