

DHS/NIST Workshop: Standards to Support an Enduring Capability in Wastewater Surveillance for Public Health

AGENDA

Updated 6/15/2021

Day 1: Monday, June 14, 2021 (all times EDT)

10:00 – 10:50 AM	WELCOME & INTRODUCTORY REMARKS Welcome – Mr. Philip Mattson, DHS Standards Executive and Director, Office of Standards at US Department of Homeland Security Welcome Remarks – U.S. Senator Gary Peters (MI), Chair of the Homeland Security & Governmental Affairs Committee Welcome Remarks – Robert B. Newman, Jr., Office of Strategy and Policy at the Department of Homeland Security, Science and Technology Directorate Welcome Remarks – Dr. Eric K. Lin, Acting Associate Director for Laboratory Programs, NIST Workshop Logistics; Overview and Goals of the 2021 SWWS Workshop – Dr. Nancy Lin, Leader of the Biomaterials Group, Material Measurement Laboratory at the National Institute of Standards and Technology Welcome Remarks – Mr. Joseph Hamel, Director, ASPR Program Office for Innovation and Industrial Base Expansion (IBx) for the Department of Health and Human Services (HHS) Office of the Assistant Secretary for Preparedness and Response (ASPR)
10:50 AM – 12:35 PM	STANDARDS FOR WASTEWATER SURVEILLANCE (SWWS) 101: INTRODUCTION TO WASTEWATER SURVEILLANCE (WWS) Chair: Dr. Michael Focazio, Environmental Health Research Program Coordinator at the U.S. Geological Survey
10:50 – 10:55 AM	Opening Remarks – Dr. Michael Focazio, USGS
10:55 – 11:35 AM	KEYNOTE PRESENTATION – National Wastewater Surveillance System: Implementation for COVID and Beyond , Dr. Amy E. Kirby, National Wastewater Surveillance System Program Lead at the Centers for Disease Control and Prevention
11:30 – 11:55 AM	Australia's ColoSSoS Project: Inter-laboratory Study for SARS-CoV-2 in Wastewater , Dr. Kate R. Griffiths, Senior Molecular Biologist at the National Measurement Institute of Australia
11:55 AM – 12:15 PM	Singapore's National Wastewater Based Surveillance Programme for COVID-19: Analytical Standards, Controls and Reference Materials , Dr. Judith Wong, Director of the Microbiology and Molecular Epidemiology Division, Environment Health Institute, National Environment Agency, Singapore Wastewater Based Epidemiology: Monitoring of SARS-CoV-2 and Related Markers in Singapore , Dr. Shane Snyder, Professor of Civil & Environmental Engineering and

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	Executive Director of the Nanyang Environment & Water Research Institute (NEWRI) at Nanyang Technological University (NTU), Singapore
12:15 – 12:35 PM	Wastewater Infrastructure & Operations for an Enduring Public Health Partnership , Dr. Beverley Stinson, Executive Vice President at AECOM
12:35 – 1:05 PM	BREAK
1:05 – 2:55 PM	SWWS 201: SAMPLING Chair: Ms. Renee Stevens, Program Manager, Department of Homeland Security
1:05 – 1:10 PM	Opening Remarks , Ms. Renee Stevens, DHS
1:10 – 1:25 PM	Utilities Perspectives and Needs , Mr. Claudio Ternieden, Senior Director of Government Affairs at Water Environment Federation
1:25 – 1:40 PM	USGS Experience in Wastewater Sampling: 3 Issues to Guide Wastewater Surveillance for Public Health , Mr. Patrick Phillips, Quality Assurance Specialist at US Geological Survey
1:40 – 1:55 PM	Case Study – Wastewater monitoring for COVID-19 in Louisville , Dr. Aruni Bhatnagar, Professor of Medicine at the University of Louisville
1:55 – 2:00 PM	Rapid Fire – Wastewater sampling for WBE surveillance , Mr. Kaushal Trivedi, Business Development Manager at Teledyne ISCO
2:00 – 2:05 PM	Rapid Fire – Building-level Wastewater Monitoring for COVID-19 Using Tampon swabs and RT-LAMP for Rapid SARS-CoV-2 RNA Detection – Dr. Aaron Bivins, Post Doctoral Research Fellow at University of Notre Dame
2:05 – 2:55 PM	Panel Discussion: Need for Standards to Support Wastewater Sampling Moderator: Ms. Sarah Wright, Environmental Laboratories Manager at the Association of Public Health Laboratories Panelists: <ul style="list-style-type: none"> ● Mr. John Birkner, Manager of Technical Services, Bergen County Utilities Authority ● Dr. Raul A. Gonzalez, Environmental Scientist at Hampton Roads Sanitation District ● Dr. Rochelle Holm, Associate Professor, Mzuzu University, Malawi ● Mr. Greg Kester, Director of Renewable Resource Programs at the California Association of Sanitation Agencies (CASA) ● Mr. Bruce Smith, Environmental Engineer at USEPA ● Mr. David Swain, Associate Vice President at AECOM
2:55 – 3:00 PM	WRAP-UP: Closing Remarks for Day 1 , Mr. Philip Mattson, DHS; Dr. Nancy Lin, NIST

Day 2: Tuesday, June 15, 2021 (all times EDT)

10:00 – 10:05 AM	WELCOME & LOGISTICS – Mr. Philip Mattson, DHS; Dr. Nancy Lin, NIST
10:05 AM – 12:05 PM	SWWS 202: TESTING METHODS Chair: Ms. Sally C. Gutierrez, Senior Advisor for Water, United States Environmental Protection Agency
10:05 – 10:10 AM	Opening Remarks , Ms. Sally Gutierrez, USEPA
10:10 – 10:25 AM	Global Update on Wastewater Surveillance for SARS-CoV-2 , Dr. Christobel M. Ferguson, Chief Innovation Officer at The Water Research Foundation
10:25 – 10:45 AM	Case Study – Overview of the Ohio Wastewater Monitoring Network , Dr. Nichole E. Brinkman, Biologist at USE Environmental Protection Agency and Ms. Rebecca Fugitt, Assistant Chief, Bureau of Environmental Health and Radiation Protection at Ohio Department of Health
10:45 – 10:55 AM	Scalable, sensitive, representative, and comparable approach for high throughput SARS-CoV-2 RNA analysis in settled solids , Dr. Alexandria Boehm, Professor of Civil and Environmental Engineering at Stanford University
10:55 – 11:00 AM	Rapid Fire – Reducing Erosion: Using a rapid deployable testing solution to reduce time between sampling and action , Dr. Jordan J. Schmidt, Director, Product Applications at LuminUltra Technologies
11:00 – 11:05 AM	Rapid Fire – The Importance of Validation for Wastewater Surveillance , Dr. Brian Swalla, Staff Scientist, IDEXX Laboratories, Inc.
11:05 – 11:10 AM	Rapid Fire – SARS-CoV-2 Quantification in Wastewater by Droplet Digital PCR , Ms. Carolyn Reifsnnyder, Director, Global Product Marketing, Digital Biology Group at Bio-Rad Laboratories
11:10 – 11:15 AM	Rapid Fire – Nanoplate Digital PCR for Wastewater Surveillance , Dr. Michael Bussmann, Associate Director Global Product Management - dPCR, QIAGEN
11:15 – 11:20 AM	Rapid Fire – SARS-CoV-2 Variant Profiling in Wastewater by Sequencing , Dr. Ellen M. Beasley, CSO at Pangolin Health
11:20 – 11:25 AM	Rapid Fire – BioFire Defense Overview , Mr. Ryan Gregerson, Product Marketing Manager at BioFire Defense
11:25 – 11:30 AM	Rapid Fire – Viral Concentration with Nanotrap Magnetic Virus Particles , Dr. Roberto J. Barbero, Chief Business Officer at Ceres Nanosciences
11:30 – 12:05 PM	Panel Discussion: Need for Standards to Support Testing Methods Moderator: Dr. Jay Garland, Associate Director for Research at the US EPA Office of Research and Development Panelists: <ul style="list-style-type: none"> ● Dr. Kartik Chandran, Professor of Environmental Engineering, Columbia University ● Mr. Kahlil Lawless, Microbiology Segment Manager - Americas at Illumina

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- Dr. Mia Mattioli, Environmental Engineer at the Centers for Disease Control and Prevention
- Dr. Gertjan Medema, Principal Microbiologist at KWR
- Dr. Martin Shafer, Senior Scientist, University of Wisconsin-Madison, State Laboratory of Hygiene

12:05 – 12:30 PM	BREAK
12:30 – 2:15 PM	SWWS 203: DATA REPORTING AND ANALYTICS Chair: Mr. Paul Storella, Senior Vice President Water Business Line at AECOM
12:30 – 12:35 PM	Opening Remarks , Mr. Paul Storella, AECOM
12:35 – 12:50 PM	Available Data Tools: National Wastewater Surveillance System , Dr. Wiley Jennings, Health Scientist at the Centers for Disease Control and Prevention
12:50 – 1:10 PM	Case Study – SARS-CoV-2 Wastewater Surveillance and Public Health Applications in Houston, TX , Dr. Lauren Stadler, Assistant Professor, Environmental Engineering at Rice University AND Dr. Loren Hopkins, City of Houston Chief Environmental Science Officer, Chief of the Bureau of Community and Children’s Environmental Health at the Houston Health Department, and a Professor in the Practice in the Department of Statistics at Rice University
1:10 – 1:25 PM	Translating Wastewater Data for Policymaking , Ms. Aparna Keshaviah, Senior Statistician at Mathematica
1:25 – 1:35 PM	Biobot: Building early warning health analytics from data available in our sewers , Dr. Mariana Matus, CEO and Cofounder at Biobot Analytics, Inc.
1:35 – 1:40 PM	Rapid Fire – Global COVID-19 Wastewater Monitoring Efforts: Development of the COVIDPoops19 Dashboard , Ms. Ana Grace Alvarado, Graduate Student, Department of Environmental Engineering, University of California Merced
1:40 – 2:15 PM	Panel Discussion: Need for Standards to Support Data Reporting and Analytics Moderator: Mr. Paul Storella, AECOM Panelists: <ul style="list-style-type: none"> ● Dr. Ellie Graeden, CEO at Talus Analytics ● Mr. Robert Greenberg, CEO, G&H International Services, Inc. ● Mrs. Stacie Reckling, GIS Analyst, North Carolina Department of Health and Human Services, Division of Public Health ● Dr. Rachel R. Spurbeck, Senior Genomics Research Scientist at Battelle Memorial Institute
2:15 – 2:55 PM	SWWS 204: ROLE OF STANDARDS IN SUPPORTING THE USE OF WWS DATA , Chair: Dr. Ted Smith, Associate Professor, University of Louisville School of Medicine
2:15 – 2:25 PM	Communicating Sewage Surveillance Data for a Public Health Response , Dr. Sandra McLellan, Professor at the University of Wisconsin School of Freshwater Sciences
2:25 – 2:55 PM	Panel Discussion: Standards to Support Implementation of WWS Data for Public Health

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Moderator: Dr. Ted Smith, University of Louisville School of Medicine

Panelists:

- Major Michael Dietrich, PhD, Bioenvironmental Engineering Flight Commander, USAF
 - Ms. Rosa Inchausti, Deputy City Manager, City of Tempe
 - Dr. Nathan LaCross, Wastewater Surveillance Program Manager at Utah Department of Health
 - Dr. Sandra McLellan, Professor at the University of Wisconsin School of Freshwater Sciences
 - Halley Reeves, Vice President of Community Health Impact for Oklahoma University Medicine
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2:55 – 3:00 PM **WRAP-UP: Closing Remarks for Day 2, Mr. Philip Mattson, DHS; Dr. Nancy Lin, NIST**

3:00 – 4:00 PM **VIRTUAL POSTER SESSION**

Day 3: Friday, June 18, 2021 (all times EDT)

10:00 – 10:10 AM	WELCOME & LOGISTICS , Mr. Philip Mattson, DHS; Dr. Nancy Lin, NIST
10:10 AM – 12:10 PM	SWWS 301: BUILDING AN ENDURING CAPABILITY Chair: Mr. Philip Mattson, DHS Standards Executive and Director, Office of Standards at US Department of Homeland Security
10:10 – 10:15 AM	Opening Remarks , Mr. Philip Mattson, DHS
10:15 – 10:35 AM	Example Surveillance Program: Making It Count - Keeping It Available: Wildlife Disease Situational Awareness , Dr. Kimberli Miller, Wildlife Disease Specialist, US Geological Survey National Wildlife Health Center
10:35 – 10:45 AM	Example Tool: Documentary Standards for Biological Response , Dr. Jayne B. Morrow, Assistant Vice President for Research and Economic Development at Montana State University
10:45 – 10:55 AM	Example Tool: Development and Performance of NIST SRM 2917 for Molecular Recreational Water Quality Testing , Dr. Orin C. Shanks, Senior Scientist at the U.S. Environmental Protection Agency
10:55 – 11:05 AM	Example Tool: Accreditation: Draft Accreditation Checklist for Wastewater COVID PCR Testing , Ms. Patsy Root, Regulatory Affairs Manager, IDEXX Water
11:05 – 11:10 AM	Enduring Capability: NWSS Perspective , Dr. Amy E. Kirby, National Wastewater Surveillance System Program Lead at the Centers for Disease Control and Prevention
11:10 – 11:15 AM	Enduring Capability: Biosurveillance Perspective , DHS
11:15 – 11:20 AM	Enduring Capability: One Health Perspective , Dr. Tonya Nichols, Senior Science Advisor, US Environmental Protection Agency
11:20 – 11:25 AM	Enduring Capability: Public Health Decision Maker Perspective , Mr. Jeffrey A. Wenzel, Chief of the Bureau of Environmental Epidemiology at the Missouri Department of Health and Senior Services
11:25 – 11:30 AM	Enduring Capability: A Local Health Department Perspective , Dr. George A. Conway, Director at Deschutes County Health Services Department
11:30 – 11:35 AM	Enduring Capability: State Perspective , Dr. Larry Madoff, Medical Director at the Bureau of Infectious Disease and Laboratory Sciences, Massachusetts Department of Public Health
11:35 AM – 12:10 PM	Panel Discussion: Enduring Capability and Role of Standards Moderator: Mr. Philip Mattson, DHS Panelists: <ul style="list-style-type: none"> ● Dr. George A. Conway, Director at Deschutes County Health Services Department ● Dr. Amy E. Kirby, National Wastewater Surveillance System Program Lead at the Centers for Disease Control and Prevention ● Dr. Larry Madoff, Medical Director at the Bureau of Infectious Disease and Laboratory Sciences, Massachusetts Department of Public Health

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- Dr. Tonya Nichols, Senior Science Advisor, US Environmental Protection Agency
 - Mr. Jeff Wenzel, Chief of the Bureau of Environmental Epidemiology at the Missouri Department of Health and Senior Services
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12:10 – 12:15 PM **Instructions for Breakout Sessions**, Dr. Katrice A. Lippa, Leader, Organic Chemical Metrology Group, Material Measurement Laboratory at NIST

12:15 – 12:30 PM BREAK

12:30 – 1:30 PM CONCURRENT BREAKOUT SESSIONS

SWWS 302: Methods and Data Comparability Breakout

Session Co-Leads:

- Dr. Scott A. Jackson, Leader of the Microbial Metrology Group, Material Measurement Laboratory at NIST
- Dr. Mia Mattioli, Environmental Engineer at the Centers for Disease Control and Prevention
- Ms. Sarah Wright, Environmental Laboratories Manager at the Association of Public Health Laboratories

Session Scribe:

- Dr. Paulina K. Piotrowski, Research Chemist, Material Measurement Laboratory at NIST
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SWWS 303: Reference Materials Breakout

Session Co-Leads:

- Dr. Katrice Lippa, Leader of the Organic Chemical Metrology Group, Material Measurement Laboratory at NIST
- Dr. Orin C. Shanks, Senior Scientist at the U.S. Environmental Protection Agency
- Ms. Briana Benton, Technical Manager for Microbiology Systems at ATCC

Session Scribe:

- Dr. Stephanie L. Servetas, Microbiologist, Material Measurement Laboratory at NIST
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SWWS 304: Documentary Standards – Guidance Documents Breakout

Session Co-Leads:

- Dr. Nancy Lin, Leader of the Biomaterials Group, Material Measurement Laboratory at NIST
- Ms. Patsy Root, Regulatory Affairs Manager, IDEXX Water

Session Scribe:

- Dr. Sandra Da Silva, Research Chemist, Material Measurement Laboratory, NIST
 - Dr. Joy Dunkers, Physical Scientist, Material Measurement Laboratory, NIST
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1:30 – 2:00 PM BREAK

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2:00 – 2:45 PM	SWWS 401: SUMMARY OF BREAKOUT SESSIONS Chair: Yonas Kifle-Nebiyeyoul, US Department of Homeland Security
2:00 – 2:15 PM	Report Back from SWWS 302: Methods and Data Comparability – Breakout Session Co-Leads and Scribe
2:15 – 2:30 PM	Report Back from SWWS 303: Reference Materials – Breakout Session Co-Leads and Scribe
2:30 – 2:45 PM	Report Back from SWWS 304: Documentary Standards – Guidance Documents – Breakout Session Co-Leads and Scribe
2:45 – 3:00 PM	WRAP-UP: Final Remarks & Next Steps , Mr. Philip Mattson, DHS; Dr. Nancy Lin, NIST