Réseau Microbiologie des matrices résiduaires urbaines et santé

Lettre de Veille Scientifique n°5
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Dernières actualités

Critères d'évaluation de la pertinence d'inclure des micro-organismes à la vigie des eaux usées (INSPQ, 23/04/25)

Enquête de l'Astee sur la surveillance sanitaire des eaux usées (ASTEE, 05/05/25)

Microbiology Society AMR in wastewater (National Preparedness Commission, 09/05/25)

La surveillance des eaux usées détecte la rougeole à Houston avant que les cas ne soient signalés (Ma Clinique, 13/05/25)

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Dernières références bibliographiques

Epidémiologie des eaux usées :

Bhatia, S. (2025). A Metagenomic Investigation of Temporal Changes in Wastewater Microbiome across North Carolina A&T State University Campus. *North Carolina A&T State University*. Abstract >>

Knight, M.E. (2025). Toileting behaviours of the UK public: insights for reducing demographic bias in wastewater-based epidemiology sampling strategies. *Research Square,* 07 May, 2025. Abstract >>

Akinyemi, F. (2025). Developing a Web Platform on Wastewater Surveillance data for Public Health. *Illinois Math and Science Academy*. Abstract >>

Hostettler, K. (2025). Communicable Episode 15: Wastewater surveillance – can it really protect us from infections? *CMI Communications,* in press**,** 105092. Abstract >>

LÄNSIVAARA, A. (2025). Wastewater Surveillance for Viral Epidemics: A National Study in Finland. *Tampere University***,** 190 p. Abstract >>

Beck, E. (2025). Wastewater-Based Epidemiology for Infection Surveillance in a Residential High School. *Illinois Math and Science Academy*. Abstract >>

Johnson, M.M. (2025). Flow Virometry in Wastewater Monitoring: Comparison of Virus-like Particles to Coliphage, Pepper Mild Mottle Virus, CrAssphage, and Tomato Brown Rugose Fruit Virus. *Viruses,* 17:4**,** 575. Abstract >>

Li, Y. (2025). In-depth comparison of untargeted and targeted sequencing for detecting virus diversity in wastewater. *Water Research,* 283**,** 123803. Abstract >>

Auerbach, J. (2025). Wastewater Surveillance: A Rare Bipartisan Opportunity to Strengthen Public Health. *American Journal of Public Health,* 115:6**,** 845-847. Abstract >>

Zhu, W. (2025). Advances in Wastewater-Based Epidemiology for Pandemic Surveillance: Methodological Frameworks and Future Perspectives. *Microorganisms,* 13:5**,** 1169. Abstract >>

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Arts, P. (2025). Building a Foundation of Next-Generation Environmental Infectious Disease Surveillance: Cross-disciplinary and Fit-for-Purpose Tool Development for Wastewater-Based Epidemiology and Indoor Pathogen Monitoring. *University of Michigan*, 163 p. Abstract >>

Gitter, A. (2025). Turning analysis into action: opportunities and challenges in implementing wastewater science for public health decision-making. *Frontiers in Public Health*, 13. Abstract >>

Alshehri, B. (2025). Surveillance of multiple sexually transmitted pathogens in wastewater. *Indiana University*. Abstract >>

Aßmann, E. (2025). Augmentation of wastewater-based epidemiology with machine learning to support global health surveillance. *Nature Water*, in press. Abstract >>

Shaheen, M.N.F. (2025). Wastewater and Clinical Based Epidemiology for Viral Surveillance in the Nile Delta of Egypt. *Current Microbiology*, 82:7, 296. Abstract >>

Casado-Martín, L. (2025). Assess the Variability and Robustness of an Aluminum-Based Adsorption–Precipitation Method for Virus Detection in Wastewater Samples. *Microorganisms*, 13:6, 1186. Abstract >>

Iwamoto, R. (2025). Development of a Rapid, Cost-Effective, and Automatable Virus Concentration from Wastewater Using a Coagulant with Magnetic Materials. *ACS ES&T Water*, in press. Abstract >>

Karatas, M. (2025). Untapped potential of wastewater for animal and potentially zoonotic virus surveillance: Pilot study to detect non-human animal viruses in urban settings. *Environment International*, 199, 109500. Abstract >>

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SARS-CoV-2 :

Santiago, A.J. (2025). Skilled nursing facility wastewater surveillance: a SARS-CoV-2 and antimicrobial resistance detection pilot study. *Journal of Water and Health*, in press. Abstract >>

Chochlakis, D. (2025). Challenges on the implementation of wastewater-based epidemiology as a prediction tool: the paradigm of SARS-CoV-2. *Science of The Total Environment*, 981**,** 179593. Abstract >>

Kabir, M.P. (2025). Advancement of Sampling Methods and Genomic Analyses for SARS-CoV-2 Wastewater and Environmental Monitoring. *University of Ottawa***,** 240 p. Abstract >>

Bitter, L.C. (2025). Impact of wastewater characteristics and weather events on the N2 and N1 gene target ratios during wastewater surveillance of SARS-CoV-2 at five treatment plants and an upper sewershed location. *Science of The Total Environment*, 981**,** 179592. Abstract >>

Doss, C.R. (2025). Wastewater Measures of SARS-CoV-2 Accurately Predict Frequency of Symptomatic Infections in the Community. *The Journal of Infectious Diseases*, in press. Abstract >>

Chmiel, S. (2025). Risk of SARS-CoV-2 transmission in natural lake bathing areas: The role of indirect indicators in water quality monitoring. *Desalination and Water Treatment*, 322**,** 101207. Abstract >>

Bowman, K.L. (2025). Comparative Analysis of SARS-CoV-2 Levels in Wastewater: Rural vs. Urban Communities. *Youngstown State University*. Abstract >>

Galkissa-Dewage, B. (2025). Monitoring SARS-CoV-2 in wastewater in Kisumu, Kenya: Association with COVID-19 case numbers. *PLOS Water*, 4:5**,** e0000339. Abstract >>

Santiago, A.J. (2025). Skilled nursing facility wastewater surveillance: a SARS-CoV-2 and antimicrobial resistance detection pilot study. *Journal of Water and Health*, in press. Abstract >>

Mustafa, O. (2025). A review of the occurrence, fate, and transport of SARS-CoV-2 in the aqueous environment, with specific reference to groundwater. *Environmental Earth Sciences*, 84:9**,** 251. Abstract >>

Feistel, D. (2025). Detection and Tracking of SARS-CoV-2 Lineages through National Wastewater Surveillance System Pathogen Genomics. *Emerging Infectious Disease journal*, 31:13**,** 57. Abstract >>

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Eryildiz-Yesir, B. (2025). Surveillance of SARS-CoV-2 RNA in wastewater treatment plants in Türkiye, Istanbul: a long-term study and statistical analysis. *Environmental Monitoring and Assessment*, 197:6**,** 647. Abstract >>

Narum, S. (2025). SARS-CoV-2 Surveillance of Wastewater in Small Rural Communities Identifies Lack of Vaccine Coverage as Influence of Omicron Outbreak. *Water Research*, in press. Abstract >>

McCalder, J. (2025). Consistent trends from different methods for monitoring SARS-CoV-2 in urban wastewater during a 29-month longitudinal study. *Frontiers in Microbiology*, 16**,** 1547831. Abstract >>

Malemela, K. (2025). Upstream SARS-CoV-2 variant surveillance at Breede Valley municipality using wastewater-based epidemiology. *Science of The Total Environment*, 982**,** 179648. Abstract >>

Li, R. (2025). Validation of methods for enriching and detecting SARS-CoV-2 RNA in wastewater. *Environmental Chemistry Letters*, in press. Abstract >>

Nappo, A. (2025). One-Year Monitoring of the Evolution of SARS-CoV-2 Omicron Subvariants Through Wastewater Analysis (Central Italy, August 2023–July 2024). *Life*, 15:6**,** 850. Abstract >>

Zavala-Méndez, M. (2025). The potential of long-term wastewater-based surveillance to predict COVID-19 waves peak in Mexico. *Water Environment Research*, 97:5**,** e70095. Abstract >>

Chaqroun, A. (2025). Optimized protocol for direct extraction of SARS-CoV-2 RNA from raw wastewater samples (ANRS 0160). *MethodsX*, 14**,** 103323. Abstract >>

Patil, V.D. (2025). Uncovering SARS-CoV-2 Molecular Epidemiology Across the Pandemic Transition: Insights into Transmission in Clinical and Environmental Samples. *Viruses*, 17:5**,** 726. Abstract >>

Honda, R. (2025). Dissemination of local sub-variants of SARS-CoV-2 detected by detailed mutation analysis in wastewater-based epidemiology. *PLOS ONE*, 20:5**,** e0317076. Abstract >>

Kuang, D. (2025). Wastewater surveillance as a predictive tool for COVID-19: A case study in Chengdu. *PLOS ONE*, 20:5**,** e0324521. Abstract >>

Baldwin, W.M. (2025). A comparison of viral prevalence versus population coverage as drivers of public health information derived from wastewater sampling. *Heliyon*, 11:11. Abstract >>

Apsemidis, A. (2025). Integrating Region-Specific SARS-CoV-2 Data for Statistical Wastewater Monitoring. *arXiv* 2505.18682v1. Abstract >>

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Perez-Zabaleta, M. (2025). Wastewater surveillance of SARS-CoV-2 from aircraft to citywide monitoring. *Nature Communications*, 16:1**,** 5125. Abstract >>

Autres pathogènes d'intérêt :

Keer, A. (2025). Assessment of seasonal variations in antibiotic resistance genes and microbial communities in sewage treatment plants for public health monitoring. *Environmental Pollution*, 375**,** 126367. Abstract >>

Liu, Y. (2025). Aircraft lavatory wastewater surveillance for movement of antimicrobial resistance genes: a proof-of-concept study. *Microbiology Spectrum*, in press. Abstract >>

Strike, W. (2025). Implementing Wastewater-Based Epidemiology for Long-Read Metagenomic Sequencing of Antimicrobial Resistance in Kampala, Uganda. *Microorganisms*, 13:6**,** 1240. Abstract >>

Wang, C. (2025). Wastewater-based surveillance of antimicrobial resistance: Insights from hospital, municipal, and aircraft sewage. *King Abdullah University of Science and Technology (Arabie saoudite)*. Abstract >>

Baumgartner, S. (2025). Insights into respiratory illness at the population level through parallel analysis of pharmaceutical and viral markers in wastewater. *Nature Water*, in press. Abstract >>

Shaheen, M. (2025). Epidemiological surveillance of astrovirus, norovirus, rotavirus, and enterovirus in sewage (2022–2023) in Giza, Egypt. *Journal of Water and Health*, in press. Abstract >>

Maass, C. (2025). Exploring the Potential for Wastewater Surveillance for Monitoring the Spread of the Monkeypox Virus. *Youngstown State University***,** 21 p. Abstract >>

Fisher, M. (2025). Tiled amplicon sequencing of monkeypox virus from wastewater: a novel approach for clade and subclade level differentiation. *Research Square*, 05 May, 2025. Abstract >>

Javornik Cregeen, S. (2025). Sequencing-Based Detection of Measles in Wastewater: Texas, January 2025. *American Journal of Public Health*, in press. Abstract >>

Dimeglio, C. (2025). Wastewater Surveillance to Estimate and Characterize Hepatitis E Virus Circulation. *Food and Environmental Virology*, 17:2**,** 30. Abstract >>

do Nascimento, M.C.A. (2025). Epidemiological and Molecular Surveillance of Aichi Virus A at Different Stages of Sewage Treatment: A One-Year Study in the Southeast of Brazil. *Viruses*, 17:5**,** 736. Abstract >>

Lauvås, A.J. (2025). Pepper mild mottle virus as a potential indicator of occupational exposure to airborne viruses in wastewater treatment plants. *Annals of Work Exposures and Health*, in press. Abstract >>

Shirai, T. (2025). Molecular epidemiology of human sapovirus based on the surveillance of wastewater and patients with acute gastroenteritis in Osaka, Japan. *Science of The Total Environment*, 985**,** 179622. Abstract >>

Wolfe, M.K. (2025). Wastewater surveillance for avian influenza: national patterns of detection and relationship with reported outbreaks and infections. *medRxiv***,** 2025.2005.2006.25327100. Abstract >>

Majer, A. (2025). Review 2:" West Nile Virus (Orthoflavivirus nilense) RNA Concentrations in Wastewater Solids at Five Wastewater Treatment Plants in the United States". *Rapid Reviews Infectious Diseases*, May 13, 2025. Abstract >>

Puchades-Colera, P. (2025). Wastewater-based epidemiology for waterborne protozoa: a comparison of analytical methods for detecting Cryptosporidium spp. *Science of The Total Environment*, 987**,** 179789. Abstract >>

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