THE GOAL OF THE GLOBAL WATER PATHOGEN PROJECT...

is to update the original book Sanitation and Disease Health Aspects of Excreta and Wastewater Management with an online, open access integration platform for scientific knowledge on pathogens in water.

Virus Team

Authors have begun uploading their content to the website, via the book authoring tool. Summaries of their respective chapters will be available for viewing within the coming months.

Indicator and Microbial Source Tracking Team

The team is preparing for their workshop April 13 - 14, 2015 in Utrecht, Netherlands. KWR Watercycle Research Institute will host the Indicator and Microbial Source Tracking team, and provide a seminar with the Utrecht water utility on April 15, 2015.

AgroKnow

The migration to the new platform went off without a hitch. Our data management colleagues are now working on a file sharing tool for all authors to use on the website.

Global Water Pathogen Network

With the new addition of the Protists Team to the Global Water Pathogen Network, the number of authors has increased to 50+ strong. Monitoring the growth of the network on the map not only shows the global nature of the project, but also illustrates gaps in representation. While the GWPP is focused on creating an online open-access resource with a focus on pathogens, key indicators, source tracking markers, and pathogen risks from excreta, there is also significant effort to build a network of researchers, scientists, engineers, who are graduate students, professors, consultants, and postdoctoral associates from all areas of the world.

This issue of the newsletter highlights four researchers from both the Virus team (Walter Betancourt, PhD) and the Indicator and Microbial Source Tracking Team (Asja Korajkic, PhD, Guang-Guo Ying, PhD, Sihem Jebri, MS) in an attempt to present the diverse range of research, expertise, and career levels within the network.
Asja Korajkic, PhD
Post Doctoral Researcher
US Environmental Protection Agency
Cincinnati, Ohio, United States

Asja Korajkic, PhD, is a Post Doctoral Researcher at the United States Environmental Protection Agency in Cincinnati, OH, where her research focuses on the study of the fate and transport of indicator bacteria and bacteriophage in water. These non-pathogenic microbes, which indicate the potential presence of pathogens, can provide data that are “good for Quantitative Microbial Risk Assessment (QMRA), and various models and predictions to gauge what will happen to the organisms” in the environment. Her research team uses a submersible aquatic mesocosm to perform in-situ studies to determine the change in the indicator organism concentrations over a period of time. The team explores factors such as sunlight, indigenous microbota, fecal source, water type (fresh, marine), and their effect on the decay of source tracking organisms.

Regarding her participating in the GWPP, Dr. Korajkic expressed the importance of global interactions: “Global collaborations may open our eyes to practical problems, and other issues occurring around the world. The interactions may facilitate a change of perspective and an understanding of practicality of water research in different global areas.”

Walter Betancourt, PhD
Research Scientist
Venezuelan Institute for Scientific Research
Miranda, Venezuela

A Fulbright Scholar, Dr Betancourt’s research resumé includes methods of detection, of waterborne pathogens such as Cryptosporidium and Giardia, and application of library-dependent and culture-independent fecal source tracking methods. His current research focuses on microbial pathogens in the environment, specifically the detection of human viruses in marine environments and reclaimed effluents used for direct potable and non-potable reuse purposes. He serves as the PI and thesis advisor for a project involving the detection of human viruses in marine environments and non-polio enteroviruses in sewage and sewage polluted waters; this research is part of the Global Polio Eradication Initiative to eradicate polio worldwide. In Venezuela, he has been involved on an awareness campaign to help educate local communities on water, sanitation and hygiene practices at the household level. Dr Betancourt credits the mentorship of Joan Rose, PhD (Michigan State University) and Chuck Gerba (University of Arizona) in preparing him for a lifelong commitment to education and research excellence on issues addressing microbial water quality worldwide.
In the nascent stages of the Global Water Pathogen Project (GWPP), executive editors Ron Fayer, PhD and Walt Jakubowski discussed the opportunity to change the name of the Protozoa section to the Protist section because organisms now include Fungi and Chromista as well as Protozoa. In the original Feachem book, the section on Protozoa was published exclusively identifying *Giardia, Blastocystis,* and *Entamoeba histolytica.* In addition to these three previous organisms, the section now includes *Balantidium coli, Cyclospora cayetanensis, Cryptosporidium parvum* and spp., *Microsporidia,* and *Toxoplasma gondii,* a total of eight chapters for the Protist section. Since the publication of the book in 1983, there have been significant contributions to the water research field, and discoveries that led to advancements in detection, classification, treatment, and modeling of protists that will be addressed in the new chapters.

During the month of March, the Protists Team convened for the inaugural group meeting over video conference. The goal of this introductory meeting was to present the GWPP to the team, reiterate the purpose of the GWPP, discuss potential collaborations with secondary authors of the respective chapters, and agree on the Protists chapters completion schedule. With the authors having expertise in topics ranging from specific intestinal protists to parasitology, wastewater treatment, health risks, molecular epidemiology, zoonoses, and immunoparasitology, their contributions will enable the GWPP to “publish and disseminate a state of the art reference work on water-related disease risks and interventions measures.”

The Protist lead authors can now begin to invite secondary authors to their teams and focus on their respective chapter outlines. The Protists section timeline for completion will follow a similar format as the Virus Team and Indicator Microbial Source Tracking Team: determining the outline and chapter highlights, submission of content by the authors, review and editing by the executive authors, and finally producing 8 state-of-the-art chapters.
The value of microbial source tracking for water safety management

Date: April 15, 2015
Location: KWR, Groningenhaven 7, 3433 PE Nieuwegein

E. coli in drinking water? Faecally contaminated source water? A bathing beach with high E. coli counts? Cross connections between domestic and stormwater sewers? Effective management of the safety of water systems would be greatly facilitated by information about the source of the fecal contamination. It helps to understand where the contamination is coming from. It helps to direct control measures to the right contamination sources. It helps to evaluate the health risk associated with the contamination. New developments in genomics make it possible to discriminate different contamination sources. In this seminar world-leading experts will present the state-of-science and give examples on how Microbial Source Tracking can help effective water safety management of drinking water, beaches, river basins and other water systems.

The Global Waterborne Pathogens Project (www.waterpathogens.org) is a large international enterprise to collate the global knowledge about waterborne pathogens in a reference work and online, open access database and knowledge platform. The project is directed by UNESCO and Michigan State University.

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