

Global Water Pathogen Project

- PART ONE. THE HEALTH HAZARDS OF EXCRETA: THEORY AND CONTROL
 - Introduction to the Importance of Sanitation
 - A QMRA Framework for Sanitation Treatment Decisions
 - Environmental Aspects and Features of Critical Pathogen Groups
 - Gender, Women and Sanitation
- PART TWO. INDICATORS AND MICROBIAL SOURCE TRACKING MARKERS
 - Microbial Indicators - “Workhorses” in the Field of Health-related Water Quality Testing
 - General and host-associated bacterial indicators of faecal pollution
 - General and host-associated bacteriophage indicators of faecal pollution
 - Human and animal enteric viral markers for tracking the sources of faecal pollution
 - Using indicators to assess microbial treatment and disinfection efficacy
 - Evaluation of subsurface microbial transport using microbial indicators, surrogates and tracers
- PART THREE. SPECIFIC EXCRETED PATHOGENS: ENVIRONMENTAL AND EPIDEMIOLOGY ASPECTS
 - SECTION I. VIRUSES
 - Adenoviruses
 - Hepatitis A
 - Hepatitis E
 - Norovirus and other Caliciviruses
 - Papillomavirus
 - Polioviruses and other Enteroviruses
 - Polyomavirus
 - Rotavirus and Astrovirus
 - Summary of Excreted and Waterborne Viruses
 - SECTION II. BACTERIA
 - Overview of issues for water bacterial pathogens
 - Aeromonas
 - Arcobacter
 - Members of the family Campylobacteraceae: Campylobacter jejuni, Campylobacter coli
 - Pathogenic members of Escherichia coli & Shigella spp. Shigellosis
 - Helicobacter pylori
 - Leptospira and Leptospirosis
 - Salmonella, Enteric Fevers, and Salmonellosis
 - Vibrio cholerae and Cholera biotypes
 - Antimicrobial Resistance: Fecal Sanitation Strategies for Combatting a Global Public Health Threat
 - SECTION III. PROTISTS
 - Balantidium coli
 - Blastocystis
 - Cyclospora cayetanensis
 - Cryptosporidium spp.
 - Entamoeba histolytica
 - Giardia duodenalis

- Microsporidia
- Toxoplasma gondii
- SECTION IV. HELMINTHS
 - Cestodes
 - Diphylobothriidae
 - Echinococcus spp.
 - Taenia spp.
 - Nematodes
 - Ascaris spp.
 - Hookworms
 - Toxocara spp.
 - Trichuris trichiura
 - Trematodes
 - The Liver Flukes: Clonorchis sinensis, Opisthorchis spp, and Metorchis spp.
 - Intestinal Flukes: Heterophyidae and Echinostomatidae
 - Paragonimus spp.
 - Schistosoma spp.
- PART FOUR. MANAGEMENT OF RISK FROM EXCRETA AND WASTEWATER
 - Persistence
 - Persistence of Pathogenic Microorganisms in Fecal Wastes and Wastewater Matrices: An Introduction and Overview of Data Considerations
 - Persistence of Pathogens in Sewage and Other Water Types
 - Pathogen Specific Persistence Modeling Data
 - The Persistence of Indicators and Pathogens in Wastewater Biosolids-amended Soil
 - Sanitation System Technologies
 - Overview and Introduction
 - Understanding Pathogen Reduction in Sanitation Systems: Units of Measurement, Expressing Changes in Concentrations, and Kinetics
 - Collection and Conveyance of Excreta and Wastewater in On-Site and Off-Site Systems
 - Pathogen Reduction in Non-Sewered (On-site) System Technologies
 - Pit Toilets (Latrines)
 - Composting and Dry Desiccating Toilets (Latrines)
 - Cesspits and Soakpits
 - Septic Systems
 - Pathogen Reduction in Sewered System Technologies
 - Sludge Management: Biosolids and Fecal Sludge
 - Preliminary Treatment and Primary Sedimentation
 - Anaerobic Sludge Blanket Reactors
 - Activated Sludge
 - Membrane Bioreactors
 - Media Filters: Trickling Filters and Anaerobic Filters
 - Waste Stabilization Ponds
 - Constructed Wetlands
 - Pathogen Reduction and Survival in Complete Treatment Works
 - Disinfection
 - Physical Agents
 - Chemical disinfectants
 - Emergency Response
- PART FIVE. CASE STUDIES
 - A framework for safe sanitation systems
 - How to use the GWPP knowledge? A risk management approach for safe sanitation

- Application of the risk-based framework - is it safe?
 - Disease burden due to gastroenteritis infections among people living along wastewater reuse system in Hanoi, Vietnam
 - Health risk of biogas effluent exposure and handling in Vietnam
 - Wastewater reuse in agriculture and health risk in Vietnam
 - Can farmers in Bolivia safely irrigate non-edible crops with treated wastewater?
 - Is it safe to use untreated greywater to irrigate vegetables in my backyard?
 - Salmonella/Shigella/Vibrio in treated effluents and impact on downstream water users (South Africa)
- Regulation for safe system design
 - Australian guidelines for water recycling - setting health based performance targets and safe use of wastewater
 - Building a safe recycled water scheme
 - How do I ensure my existing recycled water scheme is safe?
- System planning: evaluation of alternative scenarios
 - Tiered approach for integral assessment of sanitation, water supply and hygiene health risks in rural Brazil
 - Mapping pathogen emissions to surface water using a global model with scenario analysis
 - The QMRACatch approach for guiding sustainable water safety management options at a large river
 - Validation of high rate algal ponds as an efficient wastewater treatment option to improve public health in rural communities
 - Pathogen flows in urban environments and their public health risks: A new conceptual approach to inform sanitation planning
- Managing risks by targeting pathogen sources
 - E. coli and enterococci subtyping to discriminate contamination sources in wastewater treatment ponds
 - Using genetic microbial source tracking (MST) markers to identify fecal pollution sources in spring water of a large alpine karst catchment
 - Pollution Source-Targeted Water Safety Management: Characterization of Diffuse Human Fecal Pollution Sources with Land Use Information, Strategic...

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