Publications

Scholarly Publications

Introducing AguaClara: The Process of Establishing a Pilot Plant in the State of Chiapas

An Affordable Open-Source Turbidimeter

Floc Roll-up and its Implications for the Spacing of Inclined Settling Devices
Michael J. Adelman, Matthew W. Hurst, Monroe L. Weber-Shirk, Tanya S. Cabrito, Cosme Somogyi, and Leonard W. Lion

A novel fluidic control system for stacked rapid sand filters

From stock to floc: an investigation into the physical/chemical processes controlling aluminum sulfate and polyaluminum chloride behavior in a gravity powered drinking water treatment plant
Karen A. Swetland.

Predictive performance model for hydraulic flocculator design with polyaluminum chloride and aluminum sulfate coagulants

Gravity-Powered Chemical Dose Controller for Sustainable, Municipal-Scale Drinking Water Treatment

Influence of polyaluminum chloride self-aggregation on flocculation performance

Governance Models for Community Water Systems: The Case of AguaClara

Stacked Filters: a Novel Approach to Rapid Sand Filtration
Journal of Environmental Engineering, Published: 27 February (2012).

Enhanced Filter Performance by Fluidized-Bed Pretreatment with Al(OH)3(am): Observations and Model Simulation

Enhanced Particle Capture through Aluminum Hydroxide Addition to Pores in Sand Media

Comparison of the Ability of Three Coagulants to Enhance Filter Performance

Method for quantitative analysis of flocculation performance
Keywords: Tube flocculator; Sedimentation velocity; Residual turbidity

Fluid shear influences on the performance of hydraulic flocculation systems
Keywords: Hydraulic flocculation; Fluid shear; Sedimentation velocity; Velocity gradient

Flocculation model and collision potential for reactors with flows characterized by high Peclet numbers
Keywords: Hydraulic flocculator; Mechanistic model; Fractal dimension; Floc density; Sedimentation; Floc volume fraction; Collision potential

Parameters affecting steady-state floc blanket performance
Conference Papers and Presentations

AMEC Webinar June 5, 2014
Conference Poster
AguaClara Concept Paper
Concepto de AguaClara

XXXIII Congreso Interamericano de Ingeniería Sanitaria y Ambiental - Salvador, Brazil, June 2012
"Field evaluation of the performance of a stacked rapid sand filter in Támara, Francisco Morazán, Honduras."
Paper (English) - SRSF Evaluation Paper AIDIS
Presentation (English) - SRSF Evaluation Presentation AIDIS
Ponencia (Español) - El Rendimiento de FRAMCa Presentación AIDIS
Presentación (Español) - El Rendimiento de FRAMCa Presentación AIDIS

XXXII Congreso Interamericano de Ingeniería Sanitaria y Ambiental - Salvador, Brazil, June 2012
"An Automated Design Tool for Sustainable, Gravity-Powered Water Treatment Plants."
Monroe L. Weber-Shirk, Leonard W. Lion, Maysoon A. Sharif, Jeffrey C. Will
Paper (English) - ADT Paper AIDIS
Presentation (English) - ADT Presentation AIDIS
Presentación (Español) - La HDA Presentación AIDIS

XXVII Congreso Centroamericano de Ingeniería Sanitaria y Ambiental - San Salvador, El Salvador, March 2012
"Implementation of the AguaClara stacked rapid-sand filtration process at the municipal water treatment plant in Támara, Francisco Morazán, Honduras."
Jeffrey C. Will, Michael J. Adelman, Monroe L. Weber-Shirk, Leonard W. Lion
Paper (English) - SRSF Implementation Paper AIDIS
Ponencia (Español) - Estudio de Implementación del Filtación Rápida de Arena en Múltiples Capas (FRAMCa)
Presentación (Español) - Estudio de Implementación del Filtación Rápida de Arena en Múltiples Capas (FRAMCa)

XXVII Congreso Centroamericano de Ingeniería Sanitaria y Ambiental - San Salvador, El Salvador, March 2012
"Comparison of Two Coagulants to Improve Performance of Community Water Treatment Plants in Honduras."
Daniel W. Smith, Mirna Noemy Argueta, Santos Antonio Elvir
Ponencia (Español) - Comparación de Dos Coagulantes
Presentación (Español) - Comparación de Dos Coagulantes

21st World Water Week - Stockholm, Sweden, August 2011
"Quality drinking water from economically-sustainable municipal infrastructure: examples from AguaClara in Honduras."
Michael J. Adelman, Monroe L. Weber-Shirk, Rosa Mato Amboage, Daniel W. Smith
Abstract - World Water Week Abstract
Poster - World Water Week Poster

NSF CMMI Technology and Innovation Conference - Atlanta, GA, January 2011
"Stacked Rapid Sand Filters: an Economical Technology for Sustainable Development."
Michael J. Adelman, Dylan Guelig, Anderson Cordero, Sara Coffey, Jeffrey Will, Sarah Stodter, Monroe L. Weber-Shirk
Abstract - CMMI Abstract
Poster - CMMI Poster

XXVI Congreso Centroamericano y V Congreso Nacional de Ingeniería Sanitaria y Ambiental - Guatemala City, Guatemala, November 8-11, 2009
Paper - Presentacion de AguaClara a AIDIS Guatemala, noviembre 2009
Presentation Presentacion de AguaClara a AIDIS Guatemala, 11 de noviembre 2009

Central America Fulbright Enhancement Seminar; Antigua, Guatemala, April 2, 2009
Presentation - Central America Fulbright Enhancement Seminar, Antigua Guatemala, April 2, 2009

XXXI Congreso Interamericano de Ingeniería Sanitaria y Ambiental - Santiago, Chile, October 19-23, 2008
Paper - AguaClara: Plantas Municipales de Tratamiento de Aguas Superficiales Que Son Sostenibles Y Sin Necesidad de Electricidad
Presentation - presentation
Paper - Controladores de Caudal Energizados por Gravedad para Dosificación de Cloro y Sulfato de Aluminio
Presentation - presentation

Sustainable and Safe Drinking Water in Developing and Developed Countries: Where Science Meets Policy, November 5-6, 2008
Paper - Sustainable, Gravity Powered, Municipal Scale Drinking Water Treatment for Surface Waters
Presentations

Presentation to RASHon Honduras January 12, 2013 Tegucigalpa
AguaClara Advisory Council - Perspective from Honduras March 5, 2010
Cornell Center for a Sustainable Future Faculty Luncheon February 17, 2010 Cornell University
Presentation to RASGUA Guatemala January 11, 2010 Guatemala city
Presentation to ERIS Guatemala January 11, 2010 Guatemala city
Presentation to Gabinete de Agua Guatemala January 11, 2010 Guatemala city
Presentation to the Red Regional de Agua y Saneamiento de Centroamerica (RRAS-CA), San Salvador, El Salvador, December 4, 2009
AguaClara - CCSF Synergy, Cornell University, November 20, 2009
Take Back the Tap, Cornell University, November 18, 2009
Presentation to the Swanson Lab Advisory Council, Cornell University, October 26, 2009
Presentation to The Resource Foundation, New York City, August 24, 2009
Presentation at Institute on Global Service-Learning, Cornell University, February 13, 2009
Cuatro Comunidades Health Fair
Presentation to Malcolm Pirnie, December 12, 2008

Proposals and Other Documents

Proposal to NSF on NanoScale Aggregation Mechanisms Word or PDF
Phase I Proposal to EPA P3 in 2009 Word
Phase II Proposal to EPA P3 in 2007 Word
Proposal to NSF on Sustainable Surface Water Treatment Word or pdf