

Publications

Scholarly Publications

[Introducing AguaClara: The Process of Establishing a Pilot Plant in the State of Chiapas](#)

Kenichi Victor Nishikawa Chavez, Cornell Institute of Public Affairs, 2013.

[An Affordable Open-Source Turbidimeter](#)

Christopher D. Kelley, Alexander Krolick, Logan Brunner, Alison Burklund, Daniel Kahn, William P. Ball and Monroe Weber-Shirk. Sensors 2014, 14(4), 7142-7155

[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
Environmental Engineering Science, Volume: 30 Issue 6: June 24, 2013.

[A novel fluidic control system for stacked rapid sand filters](#)

Michael J. Adelman, Monroe L. Weber-Shirk, Jeffrey C. Will, Anderson N. Cordero, William J. Maher, and Leonard W. Lion
Journal of Environmental Engineering, Published: 31 January (2013).

[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.

Dissertation. Cornell University. August 2012

[Predictive performance model for hydraulic flocculator design with polyaluminum chloride and aluminum sulfate coagulants](#)

Karen A. Swetland, Monroe I. Weber-Shirk, and Leonard W. Lion.

Journal of Environmental Engineering, submitted (2012).

[Gravity-Powered Chemical Dose Controller for Sustainable, Municipal-Scale Drinking Water Treatment](#)

Karen A. Swetland, Monroe I. Weber-Shirk, and Leonard W. Lion.

Journal of Environmental Engineering, submitted (2012).

[Influence of polyaluminum chloride self-aggregation on flocculation performance](#)

Karen A. Swetland, Monroe I. Weber-Shirk, and Leonard W. Lion.

Journal of Environmental Engineering Science, submitted (2012).

[Governance Models for Community Water Systems: The Case of AguaClara](#)

Karim Beers, A Professional Report, May 2012.

[Stacked Filters: a Novel Approach to Rapid Sand Filtration](#)

Michael J. Adelman, Monroe L. Weber-Shirk, Anderson N. Cordero, Sara L. Coffey, William J. Maher, Dylan Guelig, Jeffrey C. Will, Sarah C. Stodter, Matthew W. Hurst, and Leonard W. Lion.

Journal of Environmental Engineering, Published: 27 February (2012).

[Enhanced Filter Performance by Fluidized-Bed Pretreatment with \$Al\(OH\)_3\(am\)\$: Observations and Model Simulation](#)

Po-Hsun Lin, Leonard W. Lion, and Monroe L. Weber-Shirk.

Journal of Environmental Engineering 1, 389 (2011).

[Enhanced Particle Capture through Aluminum Hydroxide Addition to Pores in Sand Media](#)

Po-Hsun Lin, Leonard W. Lion, and Monroe L. Weber-Shirk.

Journal of Environmental Engineering 1, 284 (2011).

[Comparison of the Ability of Three Coagulants to Enhance Filter Performance](#)

Po-Hsun Lin, Leonard W. Lion, and Monroe L. Weber-Shirk.

Journal of Environmental Engineering 137, 371 (2011).

[Method for quantitative analysis of flocculation performance](#)

Ian C. Tse, Karen Swetland, Monroe L. Weber-Shirk, Leonard W. Lion.

Water Research, Volume 45, Issue 10, Pages 3075-3084. (2011).

Keywords: Tube flocculator; Sedimentation velocity; Residual turbidity

[Fluid shear influences on the performance of hydraulic flocculation systems](#)

Ian C. Tse, Karen Swetland, Monroe L. Weber-Shirk, Leonard W. Lion.

Water Research, Volume 45, Issue 17, 1, Pages 5412-5418 (2011).

Keywords: Hydraulic flocculation; Fluid shear; Sedimentation velocity; Velocity gradient

[Flocculation model and collision potential for reactors with flows characterized by high Peclet numbers](#)

Monroe L. Weber-Shirk, Leonard W. Lion.

Water Research, Volume 44, Issue 18, Pages 5180-5187. (2010)

Keywords: Hydraulic flocculator; Mechanistic model; Fractal dimension; Floc density; Sedimentation; Floc volume fraction; Collision potential

[Parameters affecting steady-state floc blanket performance](#)

Matt Hurst, Monroe Weber-Shirk and Leonard W. Lion.

Journal of Water Supply: Research and Technology AQUA Vol 59 No 5 pp 312-323. (2010)

[Gravity Powered Flow Controllers for Chlorine and Alum Dosing](#)

Monroe Weber-Shirk.

Journal of Water Supply: Research and Technology AQUA Vol 58 No 2 pp 147-152. (2009)

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."

Jeffrey C. Will, Michael J. Adelman, Monroe L. Weber-Shirk, José Jacobo Núñez Vásquez, Leonard W. Lion, Gilberto Arturo Díaz Ordóñez, Santiago Alberto García Ochoa, Daniel W. Smith

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](#)

XXXIII 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 Filtración Rápida de Arena en Múltiples Capas \(FRAMCa\)](#)

Presentación (Español) - [Estudio de Implementación del Filtración 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 - [Presentación de AguaClara a AIDIS Guatemala, noviembre 2009](#)

Presentation [Presentación 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](#)

Presentation - [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](#)