

Heather Landis P.E.

Ms. Landis is a water market expert, focusing on development and commercialization of treatment technologies for water and wastewater applications.

Ms. Landis has over 10 years of experience in the water industry and recently founded H.L. Consulting, an independent consulting firm providing strategic advice and market research concerning technologies and issues in the water industry.

Before, H.L. Consulting, Heather was a process engineer at Black & Veatch in the Water Technology Group where she specialized in the development and application of advanced water treatment process technologies. Areas of focus included evaluation, pilot testing, design, and operation of UV technologies, as well as ozone and membrane technologies in the Americas, Europe and Australia.

Most recently, Heather spent two years as an analyst at Lux Research, where she evaluated start-up companies entering the water market and authored reports on market issues and trends in the water industry including topics such as emerging contaminants and water IT.

She is a former Board Member of the International Ultraviolet Association and is the author and presenter of more than 30 technical papers on advanced water treatment technologies.

EDUCATION

M.S. (Civil Engineering) Purdue University, Indiana 1999

B.S. (Environmental Science and Public Health), Indiana University, Indiana 1997

Georgia Institute of Technology

PROFESSIONAL AFFILIATIONS

American Water Works Association

Board member for the International Ultraviolet Association, 2008-2010

New England Water Works Association Disinfection Committee Member, 2007-2009

Licensed Professional Engineer (Indiana)

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Highlights of Recent Projects:

- Evaluated a start-up company's technology portfolio for a new filtration apparatus, including site visits to the pilot facilities, for a venture capital firm.
- Market study on emerging contaminants and the technologies poised to capture a share of the market.
- Market study on extracting value from sewage sludge.
- Market study on water information technologies determining which companies have the most potential.
- Reported on the financial state of the water industry including stages of investments, acquisitions and IPOs.
- Comprehensive market study on the overall water/wastewater industry including forecasted value and current technology players.
- Market study on the state of industrial water treatment.
- Evaluation of start-up companies' business model and technology portfolio for clients.

- Mentor for the Imagine H2O competition.

Employment History

H.L. Consulting, Principal, 2010 – present

Lux Research, Analyst, 2008 – 2010

Black & Veatch, Water Process Engineer: 2002 – 2008

Malcolm Pirnie: Environmental Engineer: 1999 - 2001

Purdue University, Graduate Research Intern: 1997 – 1999

Indiana School of Medicine, Department of Toxicology: Research Assistant, 1995 – 1997

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Publications

Reports

Landis, H.: *Technologies Turn Waste into Profit*, Lux Research, April 2010.

Landis, H.: *Hydrocosm Financing: Is Water Losing its Fizz?* Lux Research, December 2009.

Landis, H.: *Ranking Water Information Technology Companies on the Lux Innovation Grid*, Lux Research, October 2009.

Landis, H.: *Demystifying the Industrial Water Market*, Lux Research, July 2009.

Landis, H.: *Emerging Pollutants: Myth and Reality*, Lux Research, March 2009.

LoCascio, M., Landis, H., and Nordan, M. *Water Cultivation: The Path to Profit in Meeting Water Needs*, Lux Research, October 2008.

Journal Articles

Frias, R.E., Landis, H., and Verrastro, R. "Testing of Disinfection Alternatives for South Florida ASR Facility", *New England Water Works Association Journal*, December 2008.

Landis, H.E., Neemann, J.J.; Hulsey, R.A, Fiorante, R., Neden, D., and Singh, I. "Disinfecting the Coquitlam Water Supply – Ozone and UV Disinfection", *Ozone: Science & Engineering*, Volume 29, No. 4, 2007.

Hulsey, R.A., Mackey, H.E., and Neemann, J.J. "UV Application in North America and USEPA Guidance Manual for UV Disinfection", *IUVA News*, September 2004.

Swaim, P., Oppenheimer, J., Chiu, K.P., and Mackey, H. "Outside Perspectives: Consultants' Review of the Draft UVDGM", *IUVA News*, November 2003.

Conference Papers

Landis, H., Frias, R., and Verrastro, B. "Testing of Disinfection Alternatives for South Florida ASR Facility", *Proceedings, Water Quality Technology Conference for the American Water Works Association*, Charlotte, NC, November 4-8, 2007.

Landis, H., Sikorski, K., Shirolkar, A., and Foellmi, S. "Design, Testing and Operation of The West Valley Water's Districts UV Facility", *Proceedings, IOA-IUVA Joint World Congress*, Los Angeles, CA, August 27-29, 2007.

Landis, H., Neemann, J.J., and Husley, R.A. "Ozone and UV – A Successful Partnership", Presented at the *New England Water Works Association Conference*, Worcester, MA, April 5-6, 2007.

Landis, H. "Consideration for Combining Ozone and UV Disinfection", *Proceedings, Disinfection 2007*, Pittsburgh, PA, February 4-7, 2007.

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- Landis, H., Sikorski, K., Shirolkar, A., and Foellmi, S. "On-Site UV Reactor Testing Balancing Act: Engineering Requirements and Utility Constraints", Proceedings, Water Quality Technology Conference for the American Water Works Association, Denver, CO, November 9-11, 2006.
- Landis, H., Neemann, J., Hulsey, R., Fiorante, R., Neden, D., and Singh, I. "Disinfecting the Coquitlam Water Supply – Ozone and UV Disinfection", Proceedings, International Ozone Association, Arlington, TX, September 18 – 19, 2006.
- Mackey, H., Neemann, J., and Hulsey, R. "A New Tool for the Selection, Design and Application of UV Systems", Proceedings, Annual Conference and Exposition of the American Water Works Association, San Francisco, CA, June 12 – 16, 2005.
- Mackey, H., Neemann, J., and Hulsey, R. "A New Tool for the Selection, Design and Application of UV Systems", Proceedings, Third International Congress on Ultraviolet Technologies, Whistler, BC Canada, May 24 – 27, 2005.
- Mackey, H. and Hulsey, R. "Disinfection Down Under", Proceedings, Third International Congress on Ultraviolet Technologies, Whistler, BC Canada, May 24 – 27, 2005.
- Mackey, H., Neemann, J., and Hulsey, R. "A New Tool to Evaluate and Design UV Systems for Drinking Water", Proceedings, Water Quality Technology Conference of the AWWA, San Antonio, TX, November 14 – 17, 2004.
- Mackey, H., Neemann, J., and Hulsey, R. "Evaluation of Chlorine System Alternatives", Proceedings, Water Quality Technology Conference of the American Water Works Association, Philadelphia, PA, November 3-7, 2003.
- Mackey, H., Miller, G., and Hulsey, R. "Integrating UV into *Existing Water Treatment Plants*", presented at the 9th Drinking Water Conference, Puerto Rico, May 21 – 22, 2003.
- Mackey, H., Miller, G., and Freeman, S. "Membrane Applications for the 21st Century", presented at the 9th Drinking Water Conference, Puerto Rico, May 21 – 22, 2003.
- Landis, H., and Cotton, C., "Microbial Inactivation of UV Exposure: A Compendium of the Latest Inactivation Data," presented at the First Annual Conference of the International Ultraviolet Association, Washington DC, June 15-17, 2001.
- Landis, H., Thompson, J., Robinson, J., Blatchley, E., "Inactivation Responses of *Cryptosporidium parvum* to UV Radiation and Gamma Radiation," Proceedings, Water Quality Technology Conference of the American Water Works Association, Salt Lake City UT, November 5-9, 2000.

Lectures

UV Disinfection Application and Process Design". University of Massachusetts at Amherst, Environmental Engineering Seminar, Fall 2007.