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Professional Preparation

- o B.S., June 1992, University of Wisconsin-Oshkosh, Major - Microbiology, Minor - Chemistry;
- o M.S., May 2006, University of Wisconsin-Madison, Major - Environmental Chemistry and Technology;
- o Ph.D., August 2012, University of Wisconsin-Madison, Major - Environmental Chemistry and Technology, Minor - Molecular and Environmental Toxicology.

Appointments

- o December 2013 to present: Adjunct Faculty of Occupational and Environmental Health, Joseph J. Zilber School of Public Health, UW-Milwaukee, Milwaukee, WI. Coordination of collaborative research projects and guest lecturer activities for applicable UW-Milwaukee courses.
- o October 2013 to present: Owner, CJ Hedman Scientific Consulting, LLC, Stoughton, Wisconsin. Specializing in analytical instrumentation training, laboratory operations optimization, and analytical methodology evaluation.
- o December 2005 to present: Assistant Scientist, Environmental Health Division (EHD), Organic Chemistry Department, Wisconsin State Laboratory of Hygiene, Madison, Wisconsin. Analysis of organic compounds in environmental and physiological matrices by HPLC-MS/MS and coordination of collaborative research projects. Guest lecturer on gas chromatography, liquid chromatography and mass spectrometry for UW-Madison Course CEE 501, Water Analysis – Intermediate.
- o June 2011 to June 2013: Assistant Researcher, Wisconsin National Primate Research Center/Wisconsin Institute for Clinical and Translational Research/Wisconsin Institutes for Medical Research (WI NPRC/ICTR/WIMR), Madison, Wisconsin. Analysis of vitamin D metabolites and hormones in human and non-human primate matrices by HPLC coupled to AB SCIEX 5500 QTRAP instrumentation, and coordination of collaborative research projects.
- o October 2001 to December 2005: Microbiologist-Senior, EHD Mycology/Bioaerosols Unit, Wisconsin State Laboratory of Hygiene, Madison, Wisconsin. Isolation, identification, and quantification of fungi and bacteria from environmental samples and clinical specimens. QA Officer for the Environmental Microbiology program as accredited through the American Industrial Hygiene Association. Guest Lecturer on Bioaerosols for UW-Madison Medical Technology Program.
- o June 1998 to October 2001: Chemist, Inorganic Chemistry Department, Wisconsin Occupational Health Laboratory, Madison, Wisconsin. Quantification of metals and metal compounds in industrial hygiene and environmental matrices employing ICP-AES, GFAA, Flame AA, and FIMS instrumentation.
- o September 1997 to May 1998: Research Assistant, Food and Drug Analysis Department, Covance Laboratories, Madison, Wisconsin. Quantification of various analytes in food, drug, physiological, and environmental matrices employing HPLC, GC, spectrophotometric, and microbiological technologies.
- o March 1996 to September 1997: Research Assistant, Mass Spectrometry Group, Covance Laboratories, Madison, Wisconsin. Quantification of pharmaceutical compounds in physiological matrices employing HPLC-MS/MS and Capillary Electrophoresis (CE) techniques.
- o January 1993 to March 1996: Research Assistant, Bioanalytical Chemistry Group, Covance Laboratories, Madison Wisconsin. Quantification of pharmaceutical compounds in physiological matrices by HPLC using ultraviolet, fluorescence, and electrochemical detection and antibiotic quantification and environmental analysis using microbiological methods.
- o June 1991 to December 1992: Analyst/Research Assistant, Microbiological Vitamin Group/Nutritional Chemistry Department, Covance Laboratories, Madison Wisconsin. Quantification of water soluble vitamins.
- o March 1991 to May 1991: Laboratory Assistant, Muinde Laboratories, Oshkosh, Wisconsin. Analysis of domestic and industrial waste water.
- o September 1989 to March 1991: Laboratory Assistant, Electron Microscopy Laboratory, University of Wisconsin-Oshkosh. Operation and maintenance of electron microscopes.
- o May 1990 to October 1990: Seasonal Laboratory Technician, Pillsbury-Green Giant Company, Ripon, Wisconsin. Performance of wet chemistry, NIR spectroscopy, and product quality control (QC) assays.

Synergistic Activities

- o November 2014. SCIEX Mass Spectrometry Young Investigator Award.
- o September 2012. Invited expert speaker for WI Institute for Clinical and Translational Research (ICTR) Research Learning Series Seminar.
- o May 2012. Invited expert presenter for AB/SCIEX. 60th American Society for Mass Spectrometry Conference and Allied Topics
- o April 2011. Invited expert presenter. Gilson WEB Event. Sample Preparation for Methods for the Analysis of Contaminants in Water and Soil - the Role of Solid Phase Extraction (SPE).
- o March 2009. Invited expert panel participant. PITTCON Networking Session - Sample preparation: the do's and don'ts to determine the correct approach and optimization of a method. 60th PITTCON Conference and Exposition, Chicago, IL.
- o July 2008 to present. Co-PI for a University of Wisconsin-Whitewater GEAR UP Grant. Triclocarban in surface waters and its toxicity to *Ceriodaphnia dubia*.
- o Peer Reviewer for US EPA, *Environ. Sci. Technol.*, and *J. Environ. Qual.*

Publications

1. Blair, B. A. Nikolaus, C. Hedman, R. Klaper, T. Grundl. Evaluating the Degradation, Sorption, and Negative Mass Balances of Pharmaceuticals and Personal Care Products during Wastewater Treatment. *Chemosphere*. 134C:395-401, 2015
2. Kurian, J.R., K.L. Keen, B.P. Kenealy, J.P. Garcia, C.J. Hedman, E. Terasawa. Acute Influences of Bisphenol A Exposure on Hypothalamic Release of Gonadotropin-Releasing Hormone and Kisspeptin in Female Rhesus Monkeys. *Endocrinology*. 156(7):2563-70, 2015.
3. Ziegler, T.E., A. Kapoor, C.J. Hedman, N. Binkley, J.W. Kemnitz. Measurement of 25-hydroxyvitamin D(2&3) and 1,25-dihydroxyvitamin D(2&3) by tandem mass spectrometry: A primate multispecies comparison. *Am. J. Primatol.* 77(7):801-10, 2015.
4. Havens, S.M., C.J. Hedman, J.D.C. Hemming, M.G. Mieritz, M.M. Shafer, J.J. Schauer. Comparison of Accelerated Solvent Extraction, Soxhlet and Sonication Techniques for the Extraction of Estrogens, Androgens and Progestogens from Soils. *Journal of Agricultural Chemistry and Environment*, 3:103-120, 2014.
5. Rubert-Nason, K.F., C.J. Hedman, L.M. Holeski, R.L. Lindroth. Determination of Salicinoids by Micro-high-performance Liquid Chromatography and Photodiode Array Detection. *Phytochemical Analysis*. 25(3):185-191, 2014.
6. Hedman, C., D.A. Wiebe, S. Dey, J. Plath, J.W. Kemnitz, T.E. Ziegler. Development of a Sensitive LC/MS/MS Method for Vitamin D Metabolites: 1,25 Dihydroxyvitamin D_{2&3} Measurement Using a Novel Derivatization Agent. *J Chrom B*. 953-954:62-67, 2014.
7. Harrahy, E.A., D.S. Edwards, C.J. Hedman. Persistence of 2,4-D and its Effects on Benthic Macroinvertebrates Following Spring Treatment of Eurasian Watermilfoil, *Myriophyllum spicatum* L. in Two Lakes in Southeastern Wisconsin, USA. *Bulletin of Environmental Contamination and Toxicology*. 92:404-409, 2014.
8. Kapoor, A., G. Lubach, C. Hedman, T.E. Ziegler, C. Coe. Hormones in Infant Rhesus Monkeys' (*Macaca mulatta*) Hair at Birth Provide a Window into the Fetal Environment. *Pediatric Research*. 75:476-481, 2014.
9. Lewis, S.R., C.J. Hedman, T. Ziegler, W.A. Ricke, J.S. Jorgensen. Steroidogenic factor 1 promotes aggressive growth of castration-resistant prostate cancer cells by stimulating steroid synthesis and cell proliferation. *Endocrinology*. 155(2):358-69, 2014.
10. Blair, B.D., J.P. Crago, C.J. Hedman, and R.D. Klaper. Pharmaceuticals and personal care products found in the Great Lakes above concentrations of environmental concern. *Chemosphere*. 93(9):2116-2123, 2013.
11. Cassavant, B.P., E. Berthier, E., A.B. Theberge, J. Berthier, S.I. Montanez-Sauri, L.L. Bischel, K. Brakke, C.J. Hedman, W. Bushman, N.P. Keller, and D.J. Beebe. Suspended microfluidics. *Proc Natl Acad Sci USA*. 110(25):10111-10116, 2013.
12. Sprague, B.L., A. Trentham-Dietz, C.J. Hedman, J. Wang, J.D.C. Hemming, J.M. Hampton, D.S. Buist, E.J. Bowles, G.S. Sisney, and E.S. Burnside. Circulating serum xenoestrogens and mammographic breast density. *Breast Cancer Research*. 15(3):R45[ePub ahead of print], 2013.
13. Wang, J., A. Trentham-Dietz, J.D. Hemming, C.J. Hedman, and B.L. Sprague. Serum factors and clinical characteristics associated with serum E-screen activity. *Cancer Epidemiol Biomarkers Prev*. 22(5):962-971, 2013.
14. Blair, B.D., J.P. Crago, C.J. Hedman, R. Treguer, C. Magruder, S. Royer, and R.D. Klaper. Evaluation of a model for the removal of pharmaceuticals, personal care products, and hormones from wastewater. *Science of the Total Environment*. 444:515-521, 2013.
15. Lowry, S.J, B.L. Sprague, E.J. Aiello Bowles, C.J. Hedman, J. Hemming, J.M. Hampton, E.S. Burnside, G.A. Sisney, D.S. Buist, and A. Trentham-Dietz. Mammographic breast density and serum phytoestrogens. *Nutr. Cancer*. 64(6):783-789, 2012.

16. Dequattro, Z.A., E.J. Peissig, D.S. Antkiewicz, E.J. Lundgren, **C.J. Hedman**, J.D. Hemming, and T.P. Barry. Effects of progesterone on reproduction and embryonic development in the fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Chem.* 31:851-856, 2012.
17. Long, S.C., J.R. Stietz, J. Olstadt, **C.J. Hedman**, and J.D. Plummer. Characterizing paper mill effluent using indicators and source tracking methods. *JAWWA.* 104:47-48, 2012.
18. Trentham-Dietz, A., B.L. Sprague, J. Wang, J.M. Hampton, D.S.M. Buist, E. Aiello Bowles, G. Sisney, E. Burnside, J. Hemming, and **C. Hedman**. Phenol xenoestrogens and mammographic breast density. *Cancer Epidemiol. Biomarkers Prev.* 21:561-562, 2012.
19. Gao, J., **C. Hedman**, C. Liu, T. Guo, and J.A. Pedersen. Transformation of sulfamethazine by manganese oxide in aqueous solution. *Environ. Sci. Technol.* 46:2642-2651, 2012.
20. Ginsberg, G., B. Toal, N. Simcox, A. Bracker, B. Golembiewski, T. Kurland, and **C. Hedman**. Human health risk assessment of synthetic turf fields based upon investigation of five fields in Connecticut. *J. Toxicol. Environ. Health A.* 74:1150-1174, 2011.
21. Simcox, N.J., A. Bracker, G. Ginsberg, B. Toal, B. Golembiewski, T. Kurland, and **C. Hedman**. Synthetic turf field investigation in Connecticut. *J. Toxicol. Environ. Health A.* 74:1133-1149, 2011.
22. Olson, C.N., M.M. Galloway, G. Yu, **C.J. Hedman**, M.R. Lockett, T. Yoon, E.A. Stone, L.M. Smith, and F.N. Keutsch. Hydroxycarboxylic acid-derived organosulfates: synthesis, stability, and quantification in ambient aerosol. *Environ. Sci. Technol.* 45:6468-6474, 2011.
23. Sprague, B., A. Trentham-Dietz, **C. Hedman**, J. Hemming, J. Hampton, D. Buist, E. Aiello Bowles, E. Burnside, and G. Sisney. The association of serum phthalates and parabens with mammographic breast density. *Cancer Epidemiol. Biomarkers Prev.* 20:718, 2011.
24. Havens, S.M., **C.J. Hedman**, J.D.C. Hemming, M.G. Mieritz, M.M. Shafer, and J.J. Schauer. Stability, preservation, and quantification of hormones and estrogenic and androgenic activities in surface water runoff. *Environ. Toxicol. Chem.* 29:2481-2490, 2010.
25. Stone, E. A., **C.J. Hedman**, J. Zhou, M.M. Mieritz, J.J. Schauer. Insights to the nature of secondary organic aerosol in Mexico City during the MILAGRO Experiment 2006, *Atmospheric Environment*, 44: 312-319 2010.
26. Stone E.A., **C.J. Hedman**, R.J. Sheesley, M.M. Shafer, J.J. Schauer. Investigating the chemical nature of humic-like substances (HULIS) in North American atmospheric aerosols by liquid chromatography tandem mass spectrometry (LC-MS/MS). *Atmospheric Environment*, 43:4205-4213, 2009.
27. Rubert, K.F., IV, **C.J. Hedman**, J.A. Pedersen. Influence of MnO₂ on the transformation of oxy- and chlortetracycline in pond water. In *Veterinary Pharmaceuticals in the Environment*, ACS Symposium Series No. 1018; Coats, J.R.; Henderson, K.L. (eds.); Oxford University Press: New York, 2009, pp. 45-65.
28. Wilcox, J., J. Bahr, **C. Hedman**, J. Hemming, M. Barman, K. Bradbury. Removal of organic wastewater contaminants in septic systems using advanced treatment technologies. *J. Environ. Qual.* 38:149-156, 2009.
29. **Hedman, C.**, W. Krick, D. Karner, E. Harrahy, W. Sonzogni. New measurements of cyanobacterial toxins in Wisconsin waters. *J. Environ. Qual.* 37:1817-1824, 2008.
30. Guo, T., S. Geis, **C. Hedman**, M. Arndt, W. Krick, W. Sonzogni. Characterization of ethyl chloroformate derivative of beta-methylamino-L-alanine. *J. Am. Soc. Mass Spectrom.*, 18:817-825 2007.
31. Bialk, H., **C. Hedman**, A. Castillo, J. Pedersen. Laccase-mediated michael addition of ¹⁵N-sulfapyridine to a model humic constituent. *Environ. Sci. Technol.*, 41(10):3593-3600, 2007.
32. Loughrin, J., L. Reichmann, D. Smieja, S. Amer, **C. Hedman**. NIOSH Method 7303, Elements by ICP (Hot Block/HCl/HNO₃ Digestion). NIOSH Manual of Analytical Methods (NMAM), Fourth Edition, 2003.
33. Moser, D., D. Zarka, **C. Hedman**, and T. Kallas. Plasmid release from cyanobacteria by electroextraction and cell leakage. *Federation of European Microbiological Societies (FEMS) Microbiology Letters*, 128(3):307-313, 1995.

Selected Presentations

1. **Hedman, C. J.**, X. He, D. McManaway, R. Pieters, A. Miles, J. Plath. Forensic Drugs Screening Analysis by HPLC Coupled to QTOF Mass Spectrometry: Comparison to a Routine EMIT, HPLC, GC/NPD and GC/MS Workflow. Presented by C. Hedman (Young Investigator Travel Grant Recipient) at The Association for Mass Spectrometry Applications to the Clinical Lab Meeting (MSACL 2015 US), San Diego, CA, March 28, 2015.
2. **Hedman, C.J.**, S. Tremintin, W. Krick. Cyanobacterial toxins analysis by direct aqueous injection high-performance liquid chromatography – quadrupole linear ion trap tandem mass spectrometry. Presented by C. Hedman at the 61st American Society for Mass Spectrometry (ASMS) Conference and Allied Topics, Minneapolis, MN, June 12, 2013.
3. **Hedman, C. J.**, T.E. Ziegler, J.W. Kemnitz, D. Wiebe, J. Plath, S. Dey. Development of a sensitive LC/MS/MS method for Vitamin D metabolite measurement using novel derivatization chemistry. Presented by C. Hedman at the WI Institute for Clinical and Translational Research (ICTR) Resource Fair, October 22, 2012.

4. **Hedman, C.J.** Application of a new derivatization chemistry for 1,25-dihydroxyvitamin D analysis in human and non-human primate serum by HPLC-MS/MS. Presented by C. Hedman at the 60th American Society for Mass Spectrometry (ASMS) Conference and Allied Topics, Vancouver, BC, March 23, AB/SCIEX Breakfast Seminar, 2012.
5. **Hedman, C.J., J.C. Hemming.** Bioassay directed fractionation and identification of estrogenic and androgenic compounds in livestock operation runoff by HPLC-UV-FL-MS/MS. Presented by C. Hedman at the Am. Chem. Soc. Natl. Mtg., San Diego, CA. Mar. 28, Program Session ENVR 267, 2012
6. **Hedman, C.J., J.C. Hemming, M.G. Mieritz, S.M. Havens, M.M. Shafer, S.W. Geis.** Bioassay Directed Fractionation and Identification of Estrogenic Compounds in CAFO Runoff by HPLC-UV-FL-MS/MS. Presented by C. Hedman at 17th Annual Midwest SETAC Meeting, LaCrosse, WI, 2009.
7. **Hedman, C.** Pharmaceuticals and personal care product (PPCP) analysis as part of an integrated anthropogenic waste indicator (AWI) analysis scheme. Invited presentation - The American Water Works Association Water Quality Technology Conference, Cincinnati, OH, 2008.
8. **Stone, E.A., C.J. Hedman, M.M. Shafer, J.J. Schauer.** Chemical characterization of humic like substances (HULIS) in North American atmospheric aerosols using LC-MS/MS. Presented by E. Stone at The 9th International Conference of Carbonaceous Particles in the Atmosphere, Berkeley, CA, 2008.
9. **Hedman, C. and S. Long.** A Microbial Source Tracking Toolbox for the Great Lakes Region. Presented by C. Hedman at The American Water Resources Association – Wisconsin Section 32nd Annual Meeting, Brookfield, WI, 2008.
10. **Harrahy, E.A., D.A. Perkins, C.J. Hedman, W.R. Krick.** Cyanobacteria and cyanobacterial toxins in wisconsin surface waters: results of a statewide monitoring program. Presented by E. Harrahy at The American Water Resources Association – Wisconsin Section 32nd Annual Meeting, Brookfield, WI, 2008.
11. **Hedman, C.** Algal Toxin Analysis: Current Identification and Quantification Options. Invited presentation - 6th Annual U.S. EPA Region 5 SWiMS Meeting, Chicago, IL, 2007.
12. **Rubert, K.F. IV, C.J. Hedman, J.A. Pedersen.** Abiotic transformation of tetracycline antibiotics in a natural surface water and in the presence of MnO₂. Presented by K. Rubert at the Am. Chem. Soc. Natl. Mtg., Chicago, IL. Mar. 25-29, Program Session AGRO 35, 2007.
13. **Rubert, K.F. IV, C.J. Hedman, J.A. Pedersen.** MnO₂-mediated transformation of oxytetracycline and chlortetracycline: Characterization of transformation products. Presented by K. Rubert at the Am. Chem. Soc. Natl. Mtg., Chicago, IL. Mar. 25-29, Program Session ENVR 172, 2007.
14. **Wilcox, J.D., J.M. Bahr, C.J. Hedman, K. Bradbury.** Investigation of source concentrations and transport of hormones and pharmaceuticals beneath on-site waste-water treatments systems. Presented by J. Wilcox at the GSA Annual Meeting, Abstracts with Program, 2006.
15. **Wilcox, J. D, J. M. Bahr, C.J. Hedman, K. Bradbury.** Investigation of Hormone and Pharmaceutical Transport through Unsaturated and Saturated Sediments Using Laboratory Column Experiments. Presented by J. Wilcox at the AWRA Wisconsin Section Meeting, Program and Abstracts, p. 12, 2006.
16. **Hedman, C., J. Wilcox, J. Bahr, K. Bradbury.** High Performance Liquid Chromatography - Tandem Mass Spectrometry (HPLC/MS/MS) Analysis of Water for Pharmaceutical Compounds and Personal Care Products (PPCPs). Presented by C. Hedman at 14th Annual Midwest SETAC Meeting, Madison, WI, 2006.

Current Research Support

- November 2014. SCIEX Mass Spectrometry Young Investigator Award.

Current Ph.D Committee Commitments

- Mary Seaman – Ph.D. Candidate at UW-Milwaukee

Predoctoral and postdoctoral training experience

As part of his position at the Wisconsin State Laboratory of Hygiene, Dr. Hedman provides mentoring and training of predoctoral and postdoctoral scientists for aspects of their research involving sample analysis in environmental and/or biological matrices by high performance liquid chromatography coupled to mass spectrometric detection including: study design, method development, method validation, sample preparation, sample analysis, data review and calculation and data reduction and reporting. See tables 5A, 5B, 6A, and 6B for a summary of predoctoral and postdoctoral scientists that Dr. Hedman has mentored over the past ten years and a listing of publications that have occurred as a result of these efforts.

Table 1A. Predoctoral Mentees of Dr. Curtis Hedman

Staff Member	Past / Current Trainee	Trainee Name (Where Training Occurred)	Training Period (Degree)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Hedman	Present	Ashley Brinkman (WI State Lab)	5 years (PhD)	Aminoflavone analysis in rat serum and tumor tissue	PhD – 2015, PI – Wei Xu, Professor of Oncology,
Hedman	Present	Javier Velasco (WI State Lab)	5 years (PhD)	Analysis of organic pollutants in sea turtle eggs	PhD - 2015, PI – Warren Porter, UW-Madison Zoology Dept.
Hedman	Present	Sara Nason (WI State Lab)	4 years (PhD)	Plant Uptake of PPCPs	Degree pending
Hedman	Present	Miller, Elizabeth (WI State Lab)	4 years (PhD)	Plant Uptake of PPCPs	Degree pending
Hedman	Past	Havens, Sonya (WI State Lab)	5 years (PhD)	Hormones in Concentrated Animal Feeding Operations	Lab Manager, Saskatchewan, CA
Hedman	Past	Lewis, Samantha (WI State Lab)	3 years (PhD, pending)	Hormonal activity in prostate cancer cells	Degree pending
Hedman	Past	Blair, Benjamin (WI State Lab)	5 years (PhD)	PPCPs in the environment	Post Doc, U. of Colorado
Hedman	Past	Sprague, Brian (WI State Lab)	4 years (PhD)	Xenoeestrogens and breast cancer	Assistant Professor, U. of Vermont

Staff Member	Past / Current Trainee	Trainee Name (Where Training Occurred)	Training Period (Degree)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Hedman	Past	DeQuattro, Zach	5 years (PhD, pending)	Hormones and fish toxicity	Degree pending
Hedman	Past	Gao, Juan (WI State Lab)	5 years (PhD)	Transformation of sulfamethazine by manganese oxide in aqueous solution	Assistant Professor, China
Hedman	Past	Yu, Ge (WI State Lab)	4 years (PhD, pending)	Atmospheric organosulfates characterization	Degree pending
Hedman	Past	Stone, Elizabeth (WI State Lab)	4 years (PhD)	Atmospheric aerosol characterization	Assistant Professor, Iowa State U.
Hedman	Past	Rubert, Kennedy (WI State Lab)	5 years (PhD)	Transformations of tetracyclines in the environment	Post Doc, U. of WI-Madison
Hedman	Past	Willcox, Jeffrey (WI State Lab)	4 years (PhD)	PPCPs in septic system outfalls	Assistant Professor, U. of NC at Asheville
Hedman	Past	Bialk Heidi	4 years (PhD)	Sulfapyridine reactions with Humic Substances	Center for Risk Science Innovation and Application, Washington DC

N/A – information not available.

Table 1B. Postdoctoral Mentees of Dr. Curtis Hedman

Faculty Member	Past / Current Trainee	Trainee Name (Where Training Occurred)	Postdoc Research Training Period	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Hedman	Current	Jeong, Clara (WI State Lab)	2 years	Phthalate metabolites in rat serum for prostate cancer studies	Post Doc, U. of WI-Madison / NIH, PI – Dr. William Ricke
Hedman	Past	Kurian, Joseph	1 year	Analysis of Bisphenol A exposure in rats	Assistant Research Professor of Obstetrics and Gynecology, Southern Illinois University School of Medicine
Hedman	Past	Theberge, Ashleigh (WI State Lab)	3 years	Hormone analysis by suspended microfluidics	Assistant Professor, University of Washington, beginning Jan., 2016
Hedman	Past	Miller-Schulze (WI State Lab)	3 years	Chlorplatin by HPLC-MS/MS	Assistant Professor, CA State University - Sacramento
Hedman	Past	Guo, Tan (WI State Lab)	3 years	Environmental analysis by HPLC-MS/MS	Bioanalytical Chemist, State of CA
Hedman	Past	Rubert, Kennedy (WI State Lab)	3 years	Salicinoids in plant material	Post Doc, U. of WI-Madison

Table 2A. Publications of Research Completed by Predoctoral Trainees

Mentor(s)	Past / Current	Name of Trainee (Years in Program)	Publication (Authors, Year, Title, Journal, PMID)
Hedman	Past	Blair, Benjamin (5)	Blair, B. A. Nikolaus, C. Hedman, R. Klaper, T. Grundl. Evaluating the Degradation, Sorption, and Negative Mass Balances of Pharmaceuticals and Personal Care Products during Wastewater Treatment. <i>Chemosphere</i> . 134C:395-401, 2015
Hedman	Past	Havens, Sonya (5)	Havens, S.M., C.J. Hedman, J.D.C. Hemming, M.G. Mieritz, M.M. Shafer, J.J. Schauer, 2014, Comparison of Accelerated Solvent Extraction, Soxhlet and Sonication Techniques for the Extraction of Estrogens, Androgens and Progestogens from Soils, <i>Journal of Agricultural Chemistry and Environment</i> , 3:103-120.
Hedman	Past	Lewis, Samantha (3)	Lewis, S.R., C.J. Hedman, T. Ziegler, W.A. Ricke, J.S. Jorgensen, 2014, Steroidogenic factor 1 promotes aggressive growth of castration-resistant prostate cancer cells by stimulating steroid synthesis and cell proliferation, <i>Endocrinology</i> , 155(2):358-69.
Hedman	Past	Blair, Benjamin (5)	Blair, B.D., J.P. Crago, C.J. Hedman, and R.D. Klaper, 2013, Pharmaceuticals and personal care products found in the Great Lakes above concentrations of environmental concern, <i>Chemosphere</i> , 93(9):2116-2123.
Hedman	Past	Sprague, Brian (4)	Sprague, B.L., A. Trentham-Dietz, C.J. Hedman, J. Wang, J.D.C. Hemming, J.M. Hampton, D.S. Buist, E.J. Bowles, G.S. Sisney, and E.S. Burnside, 2013, Circulating serum xenoestrogens and mammographic breast density, <i>Breast Cancer Research</i> , 15(3):R45.
Hedman	Past	Sprague, Brian (4)	Wang, J., A. Trentham-Dietz, J.D. Hemming, C.J. Hedman, and B.L. Sprague, 2013, Serum factors and clinical characteristics associated with serum E-screen activity, <i>Cancer Epidemiol Biomarkers Prev</i> , 22(5):962-971.
Hedman	Past	Blair, Benjamin (5)	Blair, B.D., J.P. Crago, C.J. Hedman, R. Treguer, C. Magruder, S. Royer, and R.D. Klaper, 2013, Evaluation of a model for the removal of pharmaceuticals, personal care products, and hormones from wastewater, <i>Science of the Total Environment</i> , 444:515-521.
Hedman	Past	Sprague, Brian (4)	Lowry, S.J., B.L. Sprague, E.J. Aiello Bowles, C.J. Hedman, J. Hemming, J.M. Hampton, E.S. Burnside, G.A. Sisney, D.S. Buist, and A. Trentham-Dietz, 2012, Mammographic breast density and serum phytoestrogens. <i>Nutr. Cancer</i> . 64(6):783-789.
Hedman	Past	DeQuattro, Zach (5)	Dequattro, Z.A., E.J. Peissig, D.S. Antkiewicz, E.J. Lundgren, C.J. Hedman, J.D. Hemming, and T.P. Barry, 2012, Effects of progesterone on reproduction and embryonic development in the fathead minnow (<i>Pimephales promelas</i>), <i>Environ. Toxicol. Chem.</i> , 31:851-856.
Hedman	Past	Sprague, Brian (4)	Trentham-Dietz, A., B.L. Sprague, J. Wang, J.M. Hampton, D.S.M. Buist, E. Aiello Bowles, G. Sisney, E. Burnside, J. Hemming, and C. Hedman, 2012, Phenol xenoestrogens and mammographic breast density, <i>Cancer Epidemiol. Biomarkers Prev</i> , 21:561-562.
Hedman	Past	Gao, Juan (5)	Gao, J., C. Hedman, C. Liu, T. Guo, and J.A. Pedersen. Transformation of sulfamethazine by manganese oxide in aqueous solution, 2012, <i>Environ. Sci. Technol</i> , 46:2642-2651.

Mentor(s)	Past / Current	Name of Trainee (Years in Program)	Publication (Authors, Year, Title, Journal, PMID)
Hedman	Past	Yu, Ge (4)	Olson, C.N., M.M. Galloway, G. Yu, C.J. Hedman, M.R. Lockett, T. Yoon, E.A. Stone, L.M. Smith, and F.N. Keutsch, 2011, Hydroxycarboxylic acid-derived organosulfates: synthesis, stability, and quantification in ambient aerosol, <i>Environ. Sci. Technol.</i> , 45:6468-6474.
Hedman	Past	Sprague, Brian (4)	Sprague, B., A. Trentham-Dietz, C. Hedman, J. Hemming, J. Hampton, D. Buist, E. Aiello Bowles, E. Burnside, and G. Sisney, 2011, The association of serum phthalates and parabens with mammographic breast density, <i>Cancer Epidemiol. Biomarkers Prev.</i> , 20:718.
Hedman	Past	Havens, Sonya (5)	Havens, S.M., C.J. Hedman, J.D.C. Hemming, M.G. Mieritz, M.M. Shafer, and J.J. Schauer, 2010, Stability, preservation, and quantification of hormones and estrogenic and androgenic activities in surface water runoff, <i>Environ. Toxicol. Chem.</i> , 29:2481-2490.
Hedman	Past	Stone, Elizabeth (4)	Stone, E. A., C.J. Hedman, J. Zhou, M.M. Mieritz, J.J. Schauer, 2010, Insights to the nature of secondary organic aerosol in Mexico City during the MILAGRO Experiment 2006, <i>Atmospheric Environment</i> , 44: 312-319.
Hedman	Past	Stone, Elizabeth (4)	Stone E.A., C.J. Hedman, R.J. Sheesley, M.M. Shafer, J.J. Schauer, 2009, Investigating the chemical nature of humic-like substances (HULIS) in North American atmospheric aerosols by liquid chromatography tandem mass spectrometry (LC-MS/MS), <i>Atmospheric Environment</i> , 43:4205-4213.
Hedman	Past	Rubert, Kennedy (5)	Rubert, K.F., IV, C.J. Hedman, J.A Pedersen, 2009, Influence of MnO2 on the transformation of oxy- and chlortetracycline in pond water. in <i>Veterinary Pharmaceuticals in the Environment</i> , ACS Symposium Series No. 1018; Coats, J.R.; Henderson, K.L. (eds.); Oxford University Press: New York, pp. 45-65.
Hedman	Past	Wilcox, Jeffrey (4)	Wilcox, J., J. Bahr, C. Hedman, J. Hemming, M. Barman, K. Bradbury, 2009, Removal of organic wastewater contaminants in septic systems using advanced treatment technologies, <i>J Environ Qual</i> , 38:149-156.
Hedman	Past	Bialk, Heidi (4)	Bialk, H., C. Hedman, A. Castillo, J. Pedersen, 2007, Laccase-mediated michael addition of ¹⁵ N-sulfapyridine to a model humic constituent, <i>Environ Sci Technol</i> , 41(10):3593-3600.

Table 2B. Publications of Research Completed by Postdoctoral Trainees

Mentor(s)	Past / Current	Name of Trainee (Years in Program)	Publication (Authors, Year, Title, Journal, PMID)
Hedman	Past	Kurian, Joseph (1)	Kurian, J.R., K.L. Keen, B.P. Kenealy, J.P. Garcia, C.J. Hedman, E. Terasawa. Acute Influences of Bisphenol A Exposure on Hypothalamic Release of Gonadotropin-Releasing Hormone and Kisspeptin in Female Rhesus Monkeys. <i>Endocrinology</i> . 156(7):2563-70, 2015.
Hedman	Past	Rubert, Kennedy (3)	Rubert-Nason, K.F., C.J.Hedman, L.M. Holeski, R.L. Lindroth, 2014, Determination of Salicinoids by Micro-high-performance Liquid Chromatography and Photodiode Array Detection, <i>Phytochemical Analysis</i> , 25(3):185-191.
Hedman	Past	Theberge, Ashleigh (2)	Cassavant, B.P., E. Berthier, E., A.B. Theberge, J. Berthier, S.I. Montanez-Sauri, L.L. Bischel, K. Brakke, C.J. Hedman, W. Bushman, N.P. Keller, and D.J. Beebe, 2013, Suspended microfluidics, <i>Proc Natl Acad Sci USA</i> , 110(25):10111-10116.