

Gregory T. Kleinheinz, R.S., Ph.D.

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EDUCATION:

Ph.D. Michigan Technological University, Houghton, MI, 1997
Program: Environmental Microbiology

B.S. Northern Michigan University, Marquette, MI, 1993
Major: Biology Minor: Chemistry

Additional Graduate Coursework:

University of Nebraska Medical Center, Lincoln, NE, 2004

- Immunology

PROFESSIONAL LICENSES:

Environmental Health, Registered Sanitarian (RS) – Wisconsin & Michigan (WI License #7037724)

Licensed Well Pump Installer – WI DNR (WI License #8361)

Wisconsin Contractor License – Dept. of Safety & Prof. Services (Lic. # 090100017)

ADMINISTRATIVE EXPERIENCE:

Department Chair, Department of Engineering & Engineering Technology, University of Wisconsin Oshkosh (2014-present) As the inaugural Chair I am responsible for all aspects of Departmental operations and building this department from its inception to its current state of ~200 majors, entirely new facilities, and hiring of all faculty and staff.

- Responsible for start-up of this program from no faculty, no facilities, and no funding to a thriving department of ~200 majors and 12 faculty and staff.
- Led the development and construction of new facilities and programming from start-up through program maturity.
- Responsible for faculty hiring, review, and mentoring of all program faculty and staff.
- Responsible for development of three nationally accredited majors in the program – Electrical, Environmental, and Mechanical Engineering Technology
- Developed five certificates and one minor to augment three majors.
- Establishment of multiple new facilities and their safety training and operational plans.
- Responsible for initial budget development and ongoing budget management. Program is 100% funded by program revenue.
- Co-author of \$1.8 million dollar economic development grant for program start-up.
- Development of 20+ articulation agreements with regional colleges and universities.
- Responsible for set-up of revenue accounts for faculty and staff professional development.

- Led efforts for external fundraising for student scholarships, naming of facilities, and faculty support.
- Architect of the novel UW Oshkosh engineering cohort program for BS completion for working adults. Program is 100% funded by program revenue.
- Primary author of Department of Workforce Development grant funding business partnerships for employee BS degree completion.
- Responsible for leading initial external accreditation efforts with ABET
- Lead all external contract negotiation and establishment of relationships with external partners including external advisory boards.
- Hiring, review, and mentoring of faculty and staff.
- Responsible for setting strategic direction of the department.
- Responsible for obtaining extramural funding to support departmental growth and operations.
- Coordinated internship experiences with local industry for every student in the program.
- Work with university governance processes on curricular issues.

Director, Environmental Research & Innovation Center, University of Wisconsin Oshkosh (2010-present) As the founding Director of this facility I have overall responsibility for all aspects of operations from strategic planning, budgeting, staff, and facilities.

- Responsible for start-up of this facility to continued operations
- Responsible for national certification of laboratory by CDC, WI DNR, US EPA, DATCP, US Composting Council, and US Biogas Council
- Overall management of full-time research staff, faculty partners, and student research assistants.
- Responsible for all budgeting, strategic planning, and external partner relations.
- Management of all facilities, research equipment, teaching classrooms, and pilot facilities
- Coordination of fundraising and corporate partnerships.
- Management of international Postdoctoral researcher.
- Responsible for all water research related activities and research.
- Responsible for external relations with partners throughout the United States and operations of a full-service water testing lab with field operations.
- Responsible for all budgeting.
- Led contract formulation and negotiations with external partners.
- Hiring, review, and retention of staff.
- Management of research staff and 30-50 student research assistants per year.

Viessmann Endowed Chair of Sustainable Technology, University of Wisconsin Oshkosh (2014-present)

I accepted the inaugural Viessmann Chair via a national search as an addition to my other administrative responsibilities. In this part of my position I have been responsible for all aspects of developing this position, its strategic agenda, securing of extramural funding, and staffing all initiatives.

- Responsible for setting strategic direction of sustainable technology research.
- Responsible for obtaining extramural funding to support programming related to sustainable technology.
- Identify external project opportunities and match opportunities with appropriate faculty members
- Establishment and operation of the three remote testing laboratories in Wisconsin
- Responsible for all aspects of field testing, water well testing, and compliance for over 2,000 facilities.
- Overall budget responsibility for over 20 separate funding accounts in excess of \$15 million from industry, state, federal, and local sources.
- Led establishment of business-university relationship development.
- Coordinated international internship program with German business partner.
- Responsible for facilities in four locations and all operations at each location
- Coordinate hiring and supervision of full-time and seasonal staff.

Associate Dean, College of Letters and Science, University of Wisconsin Oshkosh (2010-2014)

As Associate Dean I was responsible for all auxiliary programming in the college including new initiatives and the largest program revenue program at UW Oshkosh, the Cooperative Academic Partnership Program (CAPP).

- Responsible setting strategic direction and the growth of the CAPP from 750 students to over 2,800 students.
- Author of UW System COBE Grant for increased in concurrent enrolment programming across the University of Wisconsin system
- Led College-wide strategic planning and development of the current Strategic Plan
- Responsible for the development, implementation, and operation of new programs
- Responsible for the construction, commissioning, and operation of two biogas systems used for teaching and research.
- Responsible for increasing faculty involvement in concurrent enrollment programs.
- Increased the number of schools offering CAPP by over 100%
- Responsible for development and implementation of new programming
- Overall responsibility for 100+ liaison faculty and staff
- Increased academic department breadth in concurrent offerings by 40%
- Led National Alliance of Concurrent Enrollment Partnerships (NACEP) reaccreditation efforts for the CAPP
- Managed >\$1million dollar annual budget.
- Responsible for budgeting and management of auxiliary budgets
- Led in the development of external partnerships
- Executive Board member for NACEP
- Led the university's efforts to construct and commission both a dry digester and small farm digester.

Dean's Leadership Fellow, University of Wisconsin Oshkosh (2008-2009)
Assumed leadership of special projects in the Dean's Office.

- Led efforts on departmental budget efficiency
- Identified strategic opportunities for the college

Faculty Associate for Grants and Contract Development, University of Wisconsin Oshkosh (2006-2008)

- Led grant training activities for new and existing faculty
- Primary author McNair Scholars grant for program establishment
- Producer of 1st Edition of the Oshkosh Scholar undergraduate research publication

Chair, UW Solid Waste Research Council, University of Wisconsin System, Madison, WI (2008-2014)

- Responsible for overall program operations
- Budget, funding of grant proposals, and oversight of the program.
- Led coordination with UW System and external constituents.

President, Great Lakes Beach Association, (2009 – 2011)

Interim Director, Aquatic Research Laboratory, University of Wisconsin Oshkosh (2008)

Cooperative Academic Partnership Program (CAPP) Liaison Professor, University of Wisconsin Oshkosh (2000 – 2014)

Microbiology Internship Director, Department of Biology and Microbiology, University of Wisconsin Oshkosh (2000-2009)

President, GTK Consulting and Contracting LLC, Winneconne, WI (1995-present)

- Founded company and am Principal
- Environmental and educational consulting services
- COVID management strategies and infection control process review

ACADEMIC APPOINTMENTS:

- **Viessmann Chair of Sustainable Technology**, University of WI Oshkosh, 2014 – present)
- **Professor of Environmental Engineering Technology**, September 2014 – Present
 - University of Wisconsin-Oshkosh, Department of Engineering & Engineering Technology.
- **Associate Dean**, College of Letters and Science, University of Wisconsin Oshkosh (2010-2014)
- **Full Professor of Environmental Microbiology**, Department of Biology & Microbiology, University of Wisconsin Oshkosh (2010-2014)
 - Promotion to Full Professor Department of Biology & Microbiology in 2010
- **Associate Professor**, University of Wisconsin Oshkosh (2005-2010)
 - Awarded the Oshkosh B'Gosh Endowed Professorship in 2006
 - Tenured in Department of Biology & Microbiology in 2005
- **Assistant Professor**, University of Wisconsin (1999-2005)

- **Research Assistant Professor**, Michigan Technological University (1997-1999)
- **Postdoctoral Research Scientist**, Michigan Technological University (1997)
- **Ph.D. Fellow/Research Assistant**, Michigan Technological University (1995-1997)
- **Graduate Teaching Assistant/Research Assistant/Lab Manager**, Michigan Technological University (1993-1995)

SELECT PROFESSIONAL PUBLICATIONS:

Elko, N., Foster, D., Kleinheinz, G., Raubenheimer, B *et al*, (2022 In-press). Needs and Recommendations for Human and Ecosystem Health in Coastal Systems Coastal Pollutants & Resilient Ecosystems. *Shore and Beach*, 90(1).

Richter, M, Thiel, C., and Kleinheinz, G. 2020. Standardized Laboratory Testing for Biomethane Potential. *Chemical Engineering & Process Techniques*, 5 (1) 1058.

Campbell, A. and Kleinheinz, G. 2020. Comparison of qPCR and traditional beach monitoring methods at select Great Lakes beaches and the impact on beach management. *Lake and Reservoir Management*. 36:155-168.

Gondek, M., Thiel, C., Kleinheinz, G., and Weindorf, D., 2020. Soluble salts in compost and their effects on soil and plants: A review. 28(2), 59–75 *Compost Sci. and Utilization*.

Sivaganesan, M; Briggs, S; Dreelin, E; Aslan, A; Dorevitch, S.; Shrestha, A; Isaacs, N; Kinzelman, J; Kleinheinz, G; Noble, R; Rediske, R; Scull, B; Rosenberg, S; Weberman, B; Sivy, T; Southwell, B; Siefiring, S; Oshima, K; Haugland, R., Tiong. A; 2019. Evaluation of multiple laboratory performance and variability in analysis of recreational freshwaters by a rapid *E. coli* qPCR method (Draft Method C). *Water Research*. (156): 456-464.

Tiong GimAw, Sivaganesan, M; Briggs, S; Dreelin, E; Aslan, A; Dorevitch, S.; Shrestha, A; Isaacs, N; Kinzelman, J; Kleinheinz, G; Noble, R; Rediske, R; Scull, B; Rosenberg, S; Weberman, B; Sivy, T; Southwell, B; Siefiring, S; Oshima, K; Haugland, R., 2019. Evaluation of multiple laboratory performance and variability in analysis of recreational freshwaters by a rapid *Escherichia coli* qPCR method (Draft Method C) *Water Research*. (156): 465-474.

Weiskerger, C, Harwood, V, Warish, A, Aslan, A, Avolio, J , Badgley, B, Boehm, J, Edge, T, Fleisher, J, Heaney, C, Jordão L, Kinzelman, J, Klaus, J, Kleinheinz, G Meriläinen, P, Jean Nshimiyimana, P, Phanikumar, S , Piggot, A, Pitkänen, T, Robinson, C, Sadowsky, M, Staley, C, Staley, Z, Symonds, E, Vogel, E, Yamahara, K, Whitman, R, Solo-Gabriele, H, and Brandão, J. 2018. Microbial Dynamics and Human Health Risks in the Continuum between Beach Water and Sand, and Possible Effects of a Changing Earth. *Water Research*. (162): 456-470.

Kim K, Whelan G, Molina M, Parmar R, Wolfe K, Galvin M, Duda P, Zepp R, Kinzelman JL, Kleinheinz GT, Borchardt MA.. 2018. Using Integrated Environmental Modeling to Assess Sources of Microbial Contamination in Mixed-Use Watersheds.. *J. of Environmental Quality*. 47(5):1103-1114.

Whelan, G, Kim, K, Parmar, R, Laniak, G, Wolfe, K, Galvin, M, Molina, M, Pachepsky, M, Duda, P, Zepp, R, Prieto, L, Kinzelman, J, Kleinheinz, G, and Borchardt, M. 2018. Capturing Microbial Sources Distributed in a Mixed-use Watershed within an Integrated Environmental Modeling Workflow. *Environmental Modelling and Software*. 99:126-146.

Kleinheinz, G. 2017. Seasonal Impacts on Indoor Fungal Concentrations After Mold Remediation. *International Journal of Engineering Research & Science*. 3(1) 24-30.

Kleinheinz, G., and Campbell, A. 2017. Seasonal Impacts on Indoor Fungal Concentrations After Mold Remediation. 2(1):1-11 *Journal of Earth Sciences & Environmental Studies*.

Hernandez, J. and G. Kleinheinz. 2016. Comparison of two laboratory methods for the determination of biomethane potential of organic feedstocks. *J. of Microbiological Methods*. 130:54-60.

Kleinheinz, G., and Langolf, B.. 2016. A long-term study of a lava rock-based biofilter for hydrogen sulfide, ammonia, and volatile organic compounds (VOCs) treatment at a wastewater treatment facility. *Nature Environ. and Pollution Technology*. 15(4):1279-1284.

Sheth, N. McDermott, C., Busse, K. and G. Kleinheinz. 2016. Evaluation of Enterococcus concentrations at beaches in Door County, WI (Lake Michigan, USA) by qPCR and defined substrate culture analysis. *J. Great Lakes Research*. 42:768-774.

Corsi, S.R., Borchardt, M.A., Carvin, R.B., Burch, T., Spencer, S.K., Lutz, M.A., McDermott, C.M., Busse, K., Kleinheinz, G.T., Feng, X., Zhu, J. 2016. Human and bovine viruses and bacteria at three Great Lakes beaches: Environmental variable associations and health risk. *Environmental Science and Technology*. 50(2):987-995.

Bartell, R., Matson, E., Mueller-Spitz, S., and Kleinheinz, G. 2015. Investigation of Methanosarcinales and Methanomicrobiales Presence with a Dry Anaerobic Digester. *J. of Microbiological Research*. 5(3):101-108.

Whitman, Harwood, Edge, Nevers, Byappanahalli, Vijayayavel, Brandao, Sadowsky, Wheeler-Alm, Crowe, Ferguson, Ge, Halliday, Kinzelman, Kleinheinz, Staley, and Solo-Gabriele. 2014. Microbes in Beach Sands: Integrating Environment, Ecology and Public Health. *Reviews in Environmental Science and Biotechnology*. 13(3):329-368.

Juckem, P.F., Corsi, S.R., McDermott, C., Kleinheinz, G., Fogarty, L.R., Haack, S.K., and Johnson, H.E., 2013, Evaluation of potential sources and transport mechanisms of fecal indicator bacteria to beach water, Murphy Park Beach, Door County, Wisconsin: U.S. Geological Survey Scientific Investigations Report 2012-5190, 29 p.

Kleinheinz, G.T., Busse, K.M., Gorman, W., and McDermott, C.M. 2012. Comparison of Petrifilm and Colilert methods for *E. coli* enumeration in recreational water. 2012. *Lake and Reservoir Management*, 28:328-337.

Badgley, B., Ferguson, J., Vanden Heuvel, A., Kleinheinz, G., McDermott, C., Sandrin, T., Kinzleman, J., Junion, E., Byappanahalli, M., Whitman, M., and Sadowsky, M., (2011) Multi-Scale Temporal and Spatial Variation in Genotypic Composition of *Cladophora*-borne *E. coli* Populations in Lake Michigan. *Water Research*. 45(2):721-31.

Vanden Heuvel, A., McDermott, C., Pillsbury, R., Sandrina, T., Kinzleman, J., Ferguson, J., Sadowsky, M., Byappanahalli, M., Whitman, R., and G. Kleinheinz. 2010. The green alga, *Cladophora*, promotes *E. coli* growth and contamination of recreational. *Journal of Environmental Quality*. 39:1-12.

Giebel, R., C. Worden, S. M. Rust, G. T. Kleinheinz, M. Robbins, and T. R. Sandrin. 2010. Microbial Fingerprinting using Matrix-Assisted Laser Desorption Ionization Time-Of-Flight Mass Spectrometry (MALDI-TOF MS): Applications and Challenges. *Advances in Applied Microbiology*, Chapter 6, Volume 71. Elsevier Inc.

Kleinheinz, G.T., C. M. McDermott, A. Brown. 2009. Effects of Rainfall on *E. coli* concentrations at Door County, Wisconsin Beaches. *Intern. Journal of Microbiology*. Vol 2009. Article ID 876050.

Nevers, M., Shively, D., Kleinheinz, G., McDermott, C., Schuster, W., Chomeau, V., and Whitman, R. 2009. Geographic relatedness and predictability of *E.coli* along peninsular beach complex of Lake Michigan. *Journal of Environmental Quality*., 38:1-8.

Kleinheinz, G.T., Coenan, A., Zehms, T., Preedit, J., Leewis, M. C., and McDermot, C., 2009. Effect of aquatic macrophytes on the survival of *Escherichia coli* in a laboratory microcosm. *Water Resources Management*, 25:149-154.

Englebert, E., McDermott, C.M., and Kleinheinz, G.T. 2008. Impact of the alga *Cladophora* on the survival of *E.coli*, *Salmonella*, and *Shigella* in laboratory microcosm. *Journal of Great Lakes Research*. 34:377-382.

Kleinheinz, G.T., Zehms, T., Koenig, K. 2008. Evaluation of stormwater biofilter media for *Escherichia coli* removal in a laboratory microcosm. *Air, Soil and Water Research*, 1:1-10.

Zehms, T., McDermot, C., and Kleinheinz, G.T. 2008. Microbial concentrations in sand and their effect on beach water in Door County, WI. *Journal of Great Lakes Research*, 34:524-534.

Englebert, E., McDermott, C.M., and Kleinheinz, G.T. 2008. Effects of the Nuisance algae, *Cladophora* on *Escherichia coli* concentrations at recreational beaches in Wisconsin. *Science of the Total Environment*, 404(1):10-17.

Siegrist, T., Anderson, P., Huen, W., Kleinheinz, G., McDermot, C., and Sandrin, T. 2007. Application of Matrix-assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF-MS) Based Fingerprinting of *Escherichia coli* to Bacterial Source Tracking. *Journal of Microbiological Methods*. 68(3) 554-562.

- Langolf, B. and G. Kleinheinz. 2006. Biofiltration alpha-pinene in a lava rock-based biofilter. *Bioresource Technology*. 97:1951-1958.
- Kleinheinz, G. T., C. M. McDermott, M. C. Leewis, and E. Englebert. 2006. Influence of sampling depth on *Escherichia coli* concentrations in beach monitoring. *Water Research*. 40:3831-3837.
- Sampson, R., S. Swiatnicki, V. Osinga, J. Supita, C. McDermott, and G. Kleinheinz. 2006. Effect of temperature and sand on *E. coli* survival in a lake water microcosm. *Journal of Water and Health*. 4:389-393.
- Kleinheinz, G., C. McDermott, and V. Chommeau. 2006. Evaluation of Avian Waste and Birds Counts as Predicators of *Escherichia coli* Contamination at Door County, WI Beaches. *Journal of Great Lakes Research*. 32:117-123.
- Sampson, R., Swiatnicki, S., C. McDermot, and G. Kleinheinz. 2006. The effects of Rainfall on *E.coli* and total coliform levels at 15 Lake Superior Beaches. *Water Resource Management*. 20(1):151-159.
- Kleinheinz, G., Langolf, B., and E. Englebert. 2006. Characterization of Fungal Levels After Mold Remediation. *Microbiological Research*. 161(4):367-376.
- Sampson, R., Swiatnicki, S. C. McDermott, and G. Kleinheinz. 2005. *E.coli* at Lake Superior Recreational Beaches. *Journal of Great Lakes Research*. 31:116-121.
- Kleinheinz, G.T., McDermott, C.M. and R. Sampson. 2003. Recreational Water: Microbial Contamination and Human Health. Special "Water" Volume of the *Transactions of the Wisconsin Academy of Sciences*, 90:75-86.
- Keffer, J., G.T. Kleinheinz. 2002. Use of *Chlorella vulgaris* for CO₂ mitigation in a photobioreactor. *J. of Ind. Micro. and Biotech.* 29:275-280.
- Manninen, M.R., G.T. Kleinheinz, and B.A. Niemi. 2003. Operation of a Coupled Biological System for the Degradation of Volatile Organic Compounds (VOCs) from a Complex Air Stream. *Archives of Env. Cont. and Toxicology*, 45(1):1-10.
- Kleinheinz, G.T. and T. Vik. 2002. Biofiltration for Odor Mitigation at Wastewater Treatment Facilities. *In: Proceedings of the Water Environment Federation Technical Conference*. Chicago, IL. (Manuscript and presentation.)
- Dhamwichukorn, S., G.T. Kleinheinz, and S.T. Bagley. 2001. Thermophilic Biofiltration of Methanol and Alpha-Pinene. *J. of Ind. Micro. and Biotech.* 26:127-133.
- Vik, T. and G.T. Kleinheinz. 2001. Wastewater treatment plant odor control using a lava rock-based biofilter. *In: Water Environment Federation special publication "Biosolids 2001"*. San Diego, CA.

Lewis, A.J., and G.T. Kleinheinz. 2000. Surfactant Enhanced Biofiltration. Proceedings of the Air and Waste Management Association Annual Meeting, Salt Lake City, UT, June 17-22. (Manuscript and presentation.)

Kleinheinz, G.T. 1999. Academic-Industrial Collaborations Enhance Biofiltration Development. *Environmental Technology*. Vol. 9, No. 4, July/August. (Awarded the 'Editor's Choice' award.)

Kleinheinz, G.T., B.A. Niemi, J.T. Hose, and G.D. McGinnis. 1999. Development of a "Second Generation" Biofiltration System. Proceedings of the Air and Waste Management Association Annual Meeting. St. Louis, MO, June 21-24. (Presentation and reviewed manuscript)

Manninen, M.R., G.T. Kleinheinz, and S.T. Bagley. 1999. A Biological "Treatment Train" for the Biodegradation of a Complex Mixture of VOCs. Proceedings of the Air and Waste Management Association Annual Meeting. St. Louis, MO, June 21-24. (Presentation and reviewed manuscript)

Niemi, B.A., G.T. Kleinheinz, and G.D. McGinnis. 1999. Development of a Novel On-Line GC Sampling Method for Industrial Effluents. Proceedings of the Air and Waste Management Association Annual Meeting. St. Louis, MO, June 21-24. (Presentation and reviewed manuscript)

Williams, L.S., T.M. Flicker, B.A. Niemi, G.T. Kleinheinz, and G.D. McGinnis. 1999. Pollution Prevention Technology for the Forest Products Industry. Proceedings of the Air and Waste Management Association Annual Meeting. St. Louis, MO, June 21-24. (Presentation and reviewed manuscript)

Kleinheinz, G.T., J.T. Hose, B.A. Niemi, and G.D. McGinnis. 1999. Development of a Coupled Physical/Chemical and Biofiltration System. Proceedings of the TAPPI Environmental Conference. Nashville, TN. (Presentation and reviewed manuscript)

McGinnis, G.D., L. Williams, G.T. Kleinheinz, and B.A. Niemi. 1999. Reducing Volatile Organic Compound (VOC) Press Emissions from Oriented Strand Board (OSB) Manufacturing. TAPPI Environmental Conference. Nashville, TN. (Presentation and manuscript)

Kleinheinz, G.T., and S.T. Bagley. 1998. Biofiltration and "Detoxification" of a Complex Mixture of Volatile Organic Compounds (VOCs). *J. of Industrial Micro. and Biotech.* 20:101-108.

Kleinheinz, G.T. and W. P. St. John. 1998. Method Comparison for Quantification of a Complex Mixture of VOC's in a Biofiltration Unit. In: "Environmental Toxicology and Risk Assessment: Seventh Volume", ASTM STP 1333, E. E. Little, A. J. DeLonay, and B. M. Greenberg, Eds., American Society for Testing and Materials, Conshocken, PA, USA.

Kleinheinz, G.T., and W.P. St. John. 1997. Sampling and incorporation of air-stream VOC samples in the Microtox toxicity testing system. *J. of Environmental Toxicology and Chemistry*. 16:2064-2066.

Kleinheinz, G.T., and S.T. Bagley. 1997. The Comprehensive Evaluation of a Two-Phase Liquid Biodegradation system. *Journal of Biology*. 2:2-9.

Kleinheinz, G.T., and S.T. Bagley. 1997. Simple Method for the Recovery and Cultivation of Petroleum Hydrocarbon Utilizing Bacteria. *Journal of Microbiological Methods*. 29:139-144.

OTHER PROFESSIONAL PUBLICATIONS:

Giebel, R., C. Worden, S. M. Rust, G. T. Kleinheinz, M. Robbins, and T. R. Sandrin. 2010. Microbial Fingerprinting using Matrix-Assisted Laser Desorption Ionization Time-Of-Flight Mass Spectrometry (MALDI-TOF MS): Applications and Challenges. *Advances in Applied Microbiology*, Chapter 6, Volume 71. Elsevier Inc.

Worden, C., Kleinheinz, G., and Sandrin, T., 2009. Effects of Metals on Microorganisms in the Environment. In: *Handbook of Industrial and Hazardous Wastes Treatment*, Chapter 11, Volume II. Taylor and Francis, New York, NY.

Pittner, P. and G. Kleinheinz. 2009. Bringing Back our Beaches: A naturalized approach to E.coli Reduction. *Land and Water*, March/April, pages 44-47.

Jeter, S., Kachur, R., McDermott, C., and G. Kleinheinz. 2009. A Guide to Conducting Beach Sanitary Surveys in Wisconsin. DVD, Copywrite UWO, WI DNR, and USEPA, 2009.

Kleinheinz, G.T. and P.C. Wright. 2008. Biological Odor and VOC Control Processes. In: *The Handbook of Environmental Engineering: Biological Treatment Processes*. Volume 8, Chapter 18. Humana Press, New York, NY.

Kleinheinz, G. and E. Englebert. 2005. *Cladophora* and the beach: Implications for Public Health. *In-press*: Technical Report, UW-Milwaukee WATER Institute.

Kleinheinz, G.T. and P.C. Wright. 2004. Gas-Phase Biofiltration. In: *The Handbook of Environmental Engineering: Air Pollution Control Engineering*. Volume 1, Chapter 11. Humana Press, New York, NY.

Kleinheinz, G.T. and H. Benson. 2002. *Microbiology Laboratory Manual*, 2nd Edition. McGraw-Hill Custom Publishing Division. ISBN # - 0074196731.

Kleinheinz, G.T. and H. Benson. 2000. *General and Environmental Microbiology Laboratory Manual*. McGraw-Hill Custom Publishing Division. ISBN # - 0072445777.

SELECT GRANTS/RESEARCH FUNDING RECEIVED (PI or co-PI):

Environmental Research and Innovation Center and previous Environmental and Industrial Microbiology Laboratory (2000 - on-going) Conducting a variety of outreach and scientific services. State-Certified Facility (State of WI Facility ID 105-445). Facilities are located in Eagle River, Oshkosh, Manitowoc, and Sturgeon Bay, WI. **Project revenue to date = >\$4.5 million.**

US EPA (2021-2023) Clean-up of aquatic debris and trash from northeaster Wisconsin marinas, harbors, and shorelines (PI). **Funded - \$474,000.**

Wisconsin Coastal Management Program (2021-2022) Survey of public access and aquatic debris accumulation locations along Wisconsin's Great Lakes shoreline (PI). **Funded - \$45,000.**

National Oceanic and Atmospheric Administration (NOAA) – Marine Debris Program (2021-2023) Clean-up of aquatic debris along Great Lakes shorelines and within marinas. (co-PI)., **Funded - \$747,000.**

National Oceanic and Atmospheric Administration (NOAA) - WI Sea Grant (2018-2020) The Impact of Re-engineering on Both Beach Water Quality and the Economic Value of the Beach (PI)., **Funded - \$198,237.**

Vilas County, WI (via WI DNR and USEPA) (2020-2022) Transient Non-Community Well Monitoring Program. **Funded - \$128,000.**

Clean Boats Clean Waters (2017-22) Boat Landing Inspection Program in Vilas County. **Funded - \$128,000/yr.**

Door County Health Department. (2019-22). Beach monitoring and rapid methods monitoring of Door County beaches. **Funded - \$61,000/yr.**

Vilas County Department of Public Health (2009-on-going) DHS Agent Environmental Health Program. **Funded - \$250,000/yr. (on-going)**

WI DNR. (2015-22). Beach monitoring and water monitoring of Manitowoc, Iron, and Kewaunee County beaches. **Funded - \$18,000/yr.**

Clean Boats Clean Waters (2018) Boat Landing Inspection Program in Vilas County. **Funded - \$141,000.**

Vilas County, WI (via WI DNR and USEPA) (2018-2020) Transient Non-Community Well Monitoring Program. **Funded - \$124,000.**

Door County Health Department. (2018). Beach monitoring and rapid methods monitoring of Door County beaches. **Funded - \$61,000.**

Clean Boats Clean Waters (2017) Boat Landing Inspection Program in Vilas County.
Funded - \$128,000.

State of Wisconsin, Department of Workforce Development. 2015-2017. Accelerated Bachelors Degree in Engineering Technology for returning adults. Fast Forward Program.
Funded - \$138,000.

Door County Health Department. (2017). Beach monitoring and rapid methods monitoring of Door County beaches. **Funded - \$61,000.**

WI DNR. 2017. Beach Monitoring for Iron, Kewaunee, and Manitowoc Counties.
Funded - \$17,000.

Vilas County Department of Public Health (2017) Transient well testing for E.coli and Nitrate. **Funded - \$59,000.**

Clean Boats Clean Waters (2016) Boat Landing Inspection Program in Vilas County.
Funded - \$118,000.

US Oil. (2016) Remodeling of ERIC boathouse to house biodiesel lab. **Funded - \$10,000.**

WI DNR via US EPA. (2016). Beach monitoring and rapid methods monitoring of Door County beaches. **Funded - \$60,000.**

Door County Community Foundation, County Wide Well Monitoring Program. (2016)
Funded - \$32,000.

WI DNR. 2016. Beach Monitoring for Iron, Kewaunee, and Manitowoc Counties.
Funded - \$17,000.

Vilas County Department of Public Health (2016) Transient well testing for E.coli and Nitrate. **Funded - \$54,000.**

Groundwater Coordinating Council (2015-16). Evaluation of rapid qPCR methods for groundwater monitoring. **Funded - \$35,000.**

National Oceanic and Atmospheric Administration (NOAA) - WI Sea Grant (2013-2015) Assessment of Beach Remediation Efforts at Select Lake Michigan Beaches (PI).,
Funded - \$195,000.

WI DNR via US EPA. (2015). Beach monitoring and rapid methods monitoring of Door County beaches. **Funded - \$60,000.**

WI DNR. 2015. Beach Monitoring for Iron, Kewaunee, and Manitowoc Counties.
Funded - \$20,000.

Vilas County Department of Public Health (2015) Transient well testing for E.coli and Nitrate. **Funded - \$48,000.**

State of Vermont (2015-16). Pathogen destruction in anaerobic digestion systems. **Funded - \$12,000.**

Door County Community Foundation, County Wide Well Monitoring Program. (2015) **Funded - \$25,000.**

USDA. Rural Utilities Services, Solid Waste Management Grant Program, Optimization and Technical Training of a Small Farm Mixed Biodigester – Getting it Right: Organic Waste Stream Management for Rural Communities & Small Farms. (2014-2015) **Funded - \$139,624.**

Vilas County Department of Public Health (2014) Transient well testing for E.coli and Nitrate. **Funded - \$50,000.**

Vilas County Department of Public Health (2014) Transient well testing for E.coli and Nitrate. **Funded - \$48,000.**

Vilas County Department of Public Health (2013) Transient well testing for E.coli and Nitrate. **Funded - \$48,000.**

Iron County Department of Public Health (2013-14) Agent Environmental Health Program. **Funded - \$53,000.**

WI DNR. 2013-14. Beach monitoring in northern WI beaches. **Funded - \$22,000.**

US EPA, Great Lakes Restoration Initiative, (2013-2015) Implementation of Beach Restoration Engineering at northern Wisconsin beaches. **Funded - \$500,000.**

US EPA, Great Lakes Restoration Initiative, (2013-2015) Implementation of Beach Restoration Engineering at northern Wisconsin beaches. **Funded - \$500,000.**

US EPA, Great Lakes Restoration Initiative, (2011-2014) Comprehensive beach sanitary surveys in northern Wisconsin. **Funded - \$1,073,000.**

Vilas County Department of Public Health (2013) Transient well testing for E.coli and Nitrate. **Funded - \$48,000.**

US EPA, (2010-2013) - Beach Sanitary Surveys of Northern Wisconsin. **Funded - \$250,000.**

US EPA (2010-2013) - Beach Sanitary Surveys of Southern Wisconsin. **Funded - \$250,000.**

WI DOA, Division of Energy Services, Waste to Energy-High Solid Anaerobic Digestion & BioProducts. (2012) **Funded - \$64,500**

US EPA (2010-2013) - Establishment of Rapid Testing qPCR laboratories throughout Wisconsin. **Funded - \$249,800.**

US EPA via BayLake Regional Planning Commission, (2010-2013) Beach Sanitary Surveys of Northeast Wisconsin. **Funded - \$332,191.**

Vilas County Department of Public Health (2012) Transient well testing for E.coli and Nitrate. **Funded - \$44,000.**

Iron County Department of Public Health (2012) Agent Environmental Health Program. **Funded - \$53,000.**

Vilas County Department of Public Health (2010-2014) WDATCP Environmental Health Program. **Funded - \$15,000/yr.**

National Oceanic and Atmospheric Administration (NOAA) - WI Sea Grant (2010-2012) Pathogenicity Potential of Bacteria at Lake Michigan Beaches Containing the Nuisance Alga Cladophora (PI)., **Funded - \$190,000.**

Vilas County Department of Public Health (2011) Transient well testing for E.coli and Nitrate. **Funded - \$42,000.**

Iron County Department of Public Health (2011) Agent Environmental Health Program. **Funded - \$44,000.**

WI Department of Natural Resources (via US EPA) (2010) Coordination of Wisconsin BEACH Act Monitoring Program. **Funded - \$10,500.**

Vilas County Department of Public Health (2010) Transient well testing for E.coli and Nitrate. **Funded - \$39,500.**

Door County Department of Public Health (via WIDNR and US EPA) (2010) E.coli monitoring of Door County Recreational Waters. **Funded - \$56,000.**

American Health Education Council, UW-Madison (2010) Support for two student interns. **Funded - \$4,800.**

WI Department of Natural Resources (via US EPA) (2010) E.coli monitoring of Lake Superior Recreational Waters. **Funded - \$42,500.**

WI Department of Natural Resources (via US EPA) (2009) Coordination of Wisconsin BEACH Act Monitoring Program. **Funded - \$13,500.**

Door County Department of Public Health (via WIDNR and US EPA) (2009) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$56,000.**

WI Department of Natural Resources (via US EPA) (2009) *E.coli* monitoring of Lake Superior Recreational Waters. **Funded - \$49,500.**

American Health Education Council, UW-Madison (2009) Support for two student interns. **Funded - \$4,800.**

US Geological Survey (2009) Impact of groundwater on beach conditions at Murphy Park. **Funded - \$7,500.**

TIDI Products. 2009. Evaluation of paper barriers for infection control. **Funded - \$3,500.**

Oneida County. 2009. Monitoring Oneida County Beaches. **Funded - \$2,000.**

National Oceanic and Atmospheric Administration (NOAA) - WI Sea Grant (2007-2009) Evaluation of the Algal Nuisance *Cladophora* and its Effect on *E.coli* and Beach Closures (PI), **Funded – Total project \$409,000 (3-years).**

Vilas County Department of Public Health (2009) Transient well testing for *E.coli* and Nitrate. **Funded - \$38,500.**

Manitowoc County Department of Public Health (via WIDNR and US EPA) (2009) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$7,500.**

Door County Soil and Water Conservation Department (2009) Dunes Lake Monitoring Summer 2009. **Funded - \$2,000.**

Vilas County Department of Public Health (2008-2009) Limited Agent Environmental Health Program. **Funded - \$45,000.**

US EPA (via WI DNR). (2008-2009). Creation of an Instructional DVD video for Local Beach Managers on Conducting Sanitary Surveys. **Funded - \$20,000**

Vilas County Department of Public Health (2008) Limited Agent Environmental Health Program. **Funded - \$5,000.**

US Geological Survey (2008) Impact of groundwater on beach conditions at Murphy Park. **Funded - \$2,500.**

Vilas County Department of Public Health (2007-2008) Tourist Rooming House Testing and Inspection program. **Funded - \$35,000.**

Kewaunee County Department of Public Health (via WIDNR and US EPA) (2008) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$5,000.**

Manitowoc County Department of Public Health (via WIDNR and US EPA) (2008) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$7,500.**

US EPA (via WI DNR). 2007-2008. Sanitary Surveys for Wisconsin Communities. **Funded - \$93,000.**

Door County Department of Public Health (via WIDNR and US EPA) (2008) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$56,000.**

WI Department of Natural Resources (via US EPA) (2008) *E.coli* monitoring of Lake Superior Recreational Waters. **Funded - \$32,500.**

Vilas County Department of Public Health (2007-2008) Tourist Rooming House Testing and Inspection program. **Funded - \$35,000.**

Vilas County Department of Public Health (2008) Transient well testing for *E.coli* and Nitrate. **Funded - \$38,500.**

Oneida County. 2008. Monitoring Oneida County Beaches. **Funded - \$2,000.**

Door County Department of Public Health (via WIDNR and US EPA) (2007) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$56,000.**

WI Department of Natural Resources (via US EPA) (2007) *E.coli* monitoring of Lake Superior Recreational Waters. **Funded - \$36,500.**

Manitowoc County Department of Public Health (via WIDNR and US EPA) (2007) *E.coli* monitoring of Manitowoc County Recreational Waters. **Funded - \$7,500.**

Vilas County Department of Public Health (2007) Transient well testing for *E.coli* and Nitrate. **Funded - \$37,000.**

Ashland County Department of Public Health (2007) Transient well testing for *E.coli* and Nitrate. **Funded - \$5,000.**

Oneida County. 2007. Monitoring Oneida County Beaches. **Funded - \$2,000.**

TIDI Products. 2007. Evaluation of paper barriers for infection control. **Funded - \$5,000.**

Door County Department of Public Health (via WIDNR and US EPA) (2006) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$56,000.**

WI Department of Natural Resources (via US EPA) (2006) *E.coli* monitoring of Lake Superior Recreational Waters. **Funded - \$35,000.**

Door County Department Soil and Water Conservation (2006-2007) Determination of the Source of *E.coli* in Door County Recreational Water. **Funded - \$59,700.**

Vilas County Department of Public Health (2006) Transient well testing for *E.coli* and Nitrate. **Funded - \$35,500.**

Food Packaging Institute. (2006) Comprehensive tabletop sanitation study. **Funded - \$15,000.**

Kimberly Clark Corporation. (2006-current) Confidential collaborative research. **Funded - >\$60,000.**

Ashland County Department of Public Health (2006) Transient well testing for *E.coli* and Nitrate. **Funded - \$5,500.**

Door County Soil and Water Conservation Department (2006). Statistical analysis of beach data. **Funded - \$4,200.**

Oneida County. 2006. Monitoring Oneida County Beaches. **Funded - \$2,000.**

National Science Foundation (NSF) – Research Experience for Undergraduates (REU) Program (2005). Paid faculty member and student mentor.

Bureau of Communicable Disease (via CDC), State of Wisconsin (2005). Environmental Health Source-tracking project Phase II. **Funded - \$10,000.**

Bureau of Communicable Disease (via CDC), State of Wisconsin (2005). Environmental Health Source-tracking project Phase I. **Funded - \$20,000.**

Door County Department of Public Health (via WIDNR and US EPA) (2005) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$56,000.**

WI Department of Natural Resources (via US EPA) (2004) *E.coli* monitoring of Lake Superior Recreational Waters. **Funded - \$29,200.**

Door County Department Soil and Water Conservation (2005-2006) Determination of the Source of *E.coli* in Door County Recreational Water. **Funded - \$40,000.**

Ozaukee County Department of Public Health (2005) Potential Impact of *Cladophora* on Public Health at Bathing Beaches. **Funded - \$3,000.**

Vilas County Department of Public Health (2005) Transient well testing for *E.coli* and Nitrate. **Funded - \$29,000.**

Ashland County Department of Public Health (2005) Transient well testing for *E.coli* and Nitrate. **Funded - \$6,000.**

City of Sturgeon Bay, WI (2005) Source tracking of *E.coli* found at Sturgeon Bay beaches. **Funded - \$2,500.**

Oneida County. 2005. Monitoring Oneida County Beaches. **Funded - \$2,000.**

Village of Ephraim, WI (2005) Source tracking of *E.coli* found at Ephraim beaches. **Funded - \$2,000.**

Door County Department Soil and Water Conservation (2004-2005) Determination of the Source of *E.coli* in Door County Recreational Water. **Funded - \$40,500.**

WI Department of Natural Resources (via US EPA) (2004) *E.coli* monitoring of Lake Superior Recreational Waters. **Funded - \$32,200.**

WI Department of Natural Resources (via US EPA) (2004) *E.coli* monitoring of Kewaunee County Recreational Waters. **Funded - \$4,000.**

Door County Department of Public Health (via WIDNR and US EPA) (2004) *E.coli* monitoring of Door County Recreational Waters. **Funded - \$54,000.**

Door County Department Soil and Water Conservation (2004) Avian Waste Survey. **Funded - \$6,000.**

WI Department of Natural Resources (via US EPA) (2004) *E.coli* monitoring of Kewaunee County Recreational Waters. **Funded - \$4,000**

Oneida County. 2004. Monitoring Oneida County Beaches. **Funded - \$2,000.**

Small Grants Program, UW-Oshkosh (2004) Acquisition of Systat Version 11.o. **Funded - \$500.00**

WI Department of Natural Resources (via US EPA) (2003) *E.coli* monitoring of Lake Superior Recreational Waters. **Funded - \$42,000.**

Door County Department of Public Health (via WIDNR and US EPA) (2003) Microbial Monitoring and Source Determination in Door County Recreational Waters. **Funded - \$74,000.**

Bureau of Communicable Disease, State of Wisconsin (2004) Public Health Capacity Building in Northern Wisconsin. **Funded - \$5,000.**

Faculty Development Program, UW-Oshkosh (2004) "Serotracking" for evaluation the source of *E.coli* in recreational waters. **Funded - \$12,000.**

Undergraduate Student Collaborative Grant, UW-Oshkosh, (2004) Microcystin Levels at Oneida County, WI Beaches. **Funded - \$2,500.** (With Victoria Osinga)

Undergraduate Student Collaborative Grant, UW-Oshkosh, (2004) Source-tracking of *E.coli* recovered from Door County recreation beaches. **Funded - \$2,500.** (With Angela Keifer)

Kewaunee County Department of Public Health (via WIDNR and US EPA) (2003) *E.coli* monitoring of Kewaunee County Recreational Waters. **Funded - \$4,000.**

Solid Waste Research Program (2003-2004) Demonstration Project: Manufactured Gas Plant waste detoxification. **Funded - \$30,000.**

Packerland Meats, Inc., (2003-2004) Development of a novel microbial intervention technique using *Lactobacillus* and for elimination of *E.coli* O157:H7. **Funded = \$15,000.**

Solid Waste Research Program (2003) Novel method for decreasing long-term health risks associated with Manufactured Gas Plant wastes. **Funded - \$15,000.**

Solid Waste Research Program, Student-Faculty Collaborative Section (2003) Microbial optimization of the Winneconne, WI compost facility. **Funded - \$1,250.**

Oneida County. 2003. Monitoring Oneida County Beaches. **Funded - \$2,000.**

Vilas County, Land and Water Conservation Department (2003) *E.coli* levels at recreational beaches in Vilas County, WI. **Funded - \$1,500.**

Servpro of the Fox Cities, Inc. (2002-2004) Indoor air evaluations for allergenic/pathogenic fungi after remediation. **Funded - \$10,000.**

Joseph Campionne, Inc. (2000-2010) Microbial food testing. **Funded ~ \$1,000/year.**

Undergraduate Student Collaborative Grant, UW-Oshkosh, (2003) Recreational beach monitoring in Vilas County, WI. **Funded - \$2,500.** (With Brian Langolf)

Undergraduate Student Collaborative Grant, UW-Oshkosh, (2003) Indicator microbial levels and source tracking at Menomonie Park in Oshkosh, WI. **Funded - \$2,500.** (With Vicki Osinga)

University of Wisconsin System, Teaching Facility Modernization Program (2002) Modernization and New Microscopy Equipment for Microbiology Teaching Laboratory at UW-Oshkosh. **Funded - \$23,800.**

MERLOT Program, UW-Madison (2002-2003) Development of Learning Objects for Microbiology courses. **Funded - \$1,500.**

Faculty Development Program, UW-Oshkosh (2002) *E.coli* and enterococci levels in recreational waters in Vilas and Winnebago Counties, WI. **Funded ~ \$15,000.**

Small Grants Program, UW-Oshkosh (2002) Microbiological Water Quality testing. **Funded - \$500.00**

Neenah-Menasha Sewerage Commission (2002-2003) Biofilter Monitoring. **Funded - \$5,000.**

Grand Chute Menasha West Sewerage Commission (2001-2002) Ozone disinfection Study. **Funded - \$4,500.**

Associated Recyclers of Wisconsin (2001-2002) Effect of fecal coliforms from fish on denitrification using a recycled filter system. **Funded - \$6,500.**

UW-System, UW Women and Science Program. (2001) Incorporation of inquiry-based learning techniques into an introductory microbiology course. **Funded - \$4,722.**

Minergy Corporation (2001) Fox River PCB Sediment Study. **Funded - \$6,200.**

U.S. Department of Energy, ERLE Equipment Grant. (2001) Mass Spectrometer. **Funded ~\$10,000.**

Undergraduate Student Collaborative Grant, UW-Oshkosh, (2001) Water Quality Evaluation of a Northern Lake. **Funded - \$2,500.** (With Brian Langolf)

Undergraduate Student Collaborative Grant, UW-Oshkosh, (2001) Impacts of Developments on Riparian Zones. **Funded - \$2,500.** (With Erik Englebert)

Neenah-Menasha Sewerage Commission (2001-2002) Biofilter Monitoring. **Funded - \$6,000.**

Faculty Development Program, UW-Oshkosh (2001) Microbiological and Water Quality Assessment of Beatons Lake, MI. **Funded ~\$14,000.**

Faculty Development Program, UW-Oshkosh (2000-2001) Surfactant Enhanced Biofiltration. \$10,500

Neenah-Menasha Sewerage Commission (2000-2001) Biosolids Market Analysis. \$6,000.

Solid Waste Research Program of Wisconsin (2000-2001). Greenhouse Studies for the Reuse of Currently Disposed of Biosolids: A Demonstration Study (*\$10,000*)

Neenah-Menasha Sewerage Commission (1999-2000) Pilot-Scale Demonstration of Odor Abatement Technologies. \$29,900.

Weyerhaeuser Corporation (1999-2000) Biofiltration monitoring and optimization. \$29,000

Solid Waste Research Program of Wisconsin (1999-2000). Improved Bulking and Bioslids production at a

Municipal Wastewater Treatment Plant. \$2,500

Solid Waste Research Program of Wisconsin (1999-2000). Improved Bulking and Bioslids production at a Municipal Wastewater Treatment Plant. \$2,500

Research Excellence Fund, Michigan Technological University, (1999)
Greenhouse gas Reduction studies. **ABTco, Inc., (1999)** Monitoring, Optimization, and Humidifaction Enhancement of Two Industrial

Biofiltration Units, \$20,000+ (multiple year project for \$20,000 per year)

Michigan Department of Natural Resources (DNR), (1998) Optimization of Biological Process at a Michigan Industrial Site, \$29,000.

OBRELMEC, S.A. (Argentina), (1998) Evaluation and Remediation of an Industrial Site, \$18,000.

Blue Planet Technologies, (1998) Use of Supercritical CO₂ for the Removal of Paint from Wash Lines and the

Evaluation of Bioremediation for the Degradation of Solvent Waste, \$6,000.

ABTco, Inc., (1998) Monitoring and Optimization of Two Operating Biofiltration Units, \$27,200.

Nova Consultants, (1998) Identification of Bacteria from a Bioremediation Field Site, \$2,000.

ABTco, Inc., (1997) Optimization of Industrial Microbial Growth for Biofiltration, \$15,000.

TAPPI Foundation, (1997) Investigation of the use of Thermophilic Microorganisms in Biofiltration Operations, \$58,500.

Research Excellence Fund, Michigan Technological University, (1997-98)
Development of a Second Generation Biological Treatment Process to Reduce Air Emissions from Manufacturing Industries, 1996, \$55,000. (*Continuation Project Funded*)

Azure Environmental, (1997) Equipment Grant for the Acquisition of a Microtox Toxicity Bioassay System, \$22,000.

Azur Environmental, (1996) Air Sampling - Product Development Grant, \$1,500. (*Project Funded*)

U.S. Department of Energy (DOE), (1996-99) Coupled Physical/Chemical and Biofiltration Technologies to

Reduce Air Emissions from Forest Products Industries, July, \$640,000. (**3-year Project**)

Research Excellence Fund, Michigan Technological University, (1996-99) Development of a Second Generation Biological Treatment Process to Reduce Air Emissions from Manufacturing Industries, \$255,000.

Microbics, Corp., (1996) Equipment Grant for the Acquisition of a Microtox Toxicity Bioassay System, \$20,000.

World Minerals, Inc., (1996) Celite R-635 Product Development/Application Grant.

Sigma Xi, (1995) Grants-in-Aid of Research, "*Determination of Biochemical Oxygen Demand in an Industrial Bioremediation System.*". \$639.00.

INVITED PROFESSIONAL PRESENTATIONS:

I have conducted over 125 invited professional presentation. A detailed list is available upon request.

GRADUATE STUDENTS THESIS SUPERVISED:

1. Manninen, Mark R. 1999 - Evaluation of a Coupled Biological "Treatment Train" for the Biodegradation of a Complex Waste Air Stream. (Michigan Tech University)
2. Lewis, Andrew J. 2001 - The Bench-Scale Biofiltration of Water-Insoluble Volatile Organic Compounds
3. Keffer, Jamie E. 2001 - Analysis of Carbon Dioxide Mitigation by *Chlorella Vulgaris* in an Experimental Photobioreactor
4. Langolf, Brian M. 2004 - Determination of Microbial and Chemical Emissions During Biofiltration
5. Sampson, Reynee W. 2004 - Microbial Monitoring and Source Tracking at Lake Superior, Wisconsin Beaches
6. Leewis, Mary-Cathrine CE. 2006 - Impact of Aquatic Macrophytes on *Escherichia Coli* Concentrations at Recreational Inland Beaches
7. Zehms, Tabitha T. 2007 - Evaluation of Microbial Concentrations in Sand and Their Effect on Beach Water
8. Englebort, Erik Thomas 2007 - Effects of *Cladophora* on Indicator Organisms at Recreational Beaches in Wisconsin
9. Jeter, Sonja N. 2007 - Host Differences in The *Bacteroides* 16s rRNA Gene From Avian Waste and Canine Feces as a Means of Bacterial Source Tracking in Beach Water

10. Vanden Heuvel, Amy L. 2009 - *Cladophora* Promotes *Escherichia Coli* Growth and Contamination of Recreational Waters in Lake Michigan
11. Griesbach, Amanda M. 2013 - Impact of Rainfall on *Escherichia Coli* Concentrations at Beaches in Door County, Wisconsin
12. Meka, Bhargavi 2013 - Using Traditional and Molecular Techniques to Quantify *Campylobacter jejuni* in Beach Water Samples
13. Busse, Kimberly M. 2014 - Comprehensive Sanitary Survey Evaluation of High Risk Beaches in Northern Wisconsin
14. Bartell, Ryan D. 2015 - Methanogen Community Dynamics Within a Dry Anaerobic Digester
15. Hernandez, Jorge A. 2015 - Bio-Methane Potential Method Development and Process Optimization of a Dry Biodigester
16. Koenig, Brooke A. 2015 - Effect of Feedstock Composition on Performance of a Dry Anaerobic Digester
17. Johnson, Shannon A. 2017 - Culturability of Potential Pathogenic Bacteria in a Co-Digestion Anaerobic Digester System
18. Campbell, Aaron M. 2017 - An Evaluation of U.S. EPA qPCR Methods at Select Door County, WI Beaches
19. Hernandez, Roland Jr. 2018 - Detection of *Escherichia Coli* in Northern Lake Michigan Waters Using QPCR Method C
20. Ebert, Samantha J. 2020 - Evaluation of Alternative Fecal Indicator Enumeration Methods at Door County, WI Beaches