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**and**  
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## **Education**

PhD, Geochemistry, 1983-1987, Colorado School of Mines, Golden, Colorado

## **Specialization**

The chemical dynamics of natural water systems with particular interest in contaminant degradation, the geochemical processes that control groundwater chemistry in regional aquifer systems and the development of in-situ sensing devices.

## **Recent Grant Activity**

Grundl, T. (PI), Newton, R. (Co-PI) "Anthropogenically driven changes to the metagenome of a shallow groundwater and its effect on aquifer" Wisconsin Groundwater Research Council, \$88,905 (July 2016 - June 2018).

Grundl, T. (PI) "Assessing the Effect of Riverbank Inducement on Groundwater Quality" Wisconsin Groundwater Research Council, \$81,898 (July 2013 - June 2015).

Klaper, R. (PI), Grundl, T. J. (Co-PI), "Wastewater Chemical/Pharmaceutical Degradation Study", Milwaukee Metropolitan Milwaukee Sewage District, \$91,267, (May 2012 – March 2014).

Grundl, T. J., Elam, W.T. (Co-PI) "Feasibility study of in-situ XRF measurement for long term diffusion experiments", Swiss National Cooperative for the Disposal of Radioactive Waste, \$714,000, (July 2012 - December 2014).

Grundl, T. J. (PI), Kean, W. F. (Co-PI), Cherkauer, D. (Co-PI), "Investigation of water resource management alternatives in rapidly developing areas", Brico Fund, \$255,000, (July 2009 - June 2011).

Grundl, T. J. (PI), "Assessing the effect of Pleistocene glaciation on the sandstone aquifer of eastern WI", Wisconsin Groundwater Research Council, \$49,995 (June 2009 - July 2010).

Aldstadt, J. (PI), Grundl, T. (Co-PI) and Christensen, E. (Co-PI), 2007. "Modeling the fate of lead in battlefield soils" 7/07-6/08, UWM-Research Growth Initiative. \$150,100.

Grundl, T. J. (PI), "Sustainable Management of Water Resources: SE Wisconsin and beyond", Brico Fund, \$198,500 (January 2006 - January 2008).

Grundl, T. "An In-situ X-ray Fluorescence System for Metals Contaminated Harbor Sediments". 9/03-12/06. USEPA-Great Lakes National Program Office. \$148,300.

## Recent Publications and Reports

Grundl, T. J., Fields-Sommers, L., Graham, J. (2016) Groundwater-Surface Water Interactions Caused by Pumping from a Riverbank Inducement Well Field. Final Report submitted to UW System Groundwater Research Program Project #WR13R002.15pp.

Byers, H., McHenry, L. J., Grundl, T. J. (2016) Forty-nine major and trace element concentrations measured in Soil Reference Materials NIST SRM 2586, 2587, 2709a, 2710a and 2711a using ICP-MS and Wavelength Dispersive-XRF. *Geostandards and Geoanalytical Research*. doi: 10.1111/j.1751-908X.2016.00376.x , 13 pp.

Elam, T., Grundl, T., Leupin, O., Descostes, M., (2013) "Design of an In-situ XRF Instrument for Elemental Diffusion Measurements" *Advances in X-ray Analysis*. Vol. 56:157-166.

Grundl, T. J., Magnusson, N., Brennwald, M., Kipfer, R. (2013) Mechanisms of subglacial groundwater recharge as derived from noble gas,  $^{14}\text{C}$  and stable isotopic data. *Earth Planetary Sci. Lett.* 369-370:78-85.

Winkel, L.H.E., Johnson, C.A., Lenz, M., Grundl, T., Leupin, O.X., Amini, M., Charlet, L. (2012). Environmental Selenium-From Microscopic Processes to Global Understanding. *Environmental Science and Technology (feature article)*, 46(2), 571-579.

Grundl, T. J. (2011). *Aquatic Redox Chemistry* Tratnyek, P., Grundl, T., Haderlein, S. (Ed.), ACS Symposium Series Vol. 1071, 618 pp. American Chemical Society.

Grundl, T., Haderlein, S., Nurmi, J., Tratnyek, P. (2011). Introduction to aquatic redox chemistry. In Tratnyek, P., Grundl, T., Haderlein, S. (Ed.), "*Aquatic Redox Chemistry*" ACS Symposium Series Vol. 1071, Oxford University Press, pp. 1-14.

Grundl, T., Magnusson N., Krall, J. (2011). Assessing the effects of Pleistocene glaciation on the sandstone aquifer in eastern Wisconsin. Final Report submitted to UW System Groundwater Research Program Project #WR09R004. 26 pp.

Klump, S., Grundl, T., Purtschert, R., Kipfer, R. (2008). Groundwater and climate dynamics derived from noble gas,  $^{14}\text{C}$  and stable isotope data. *Geology*, 36(5), 395-398.

Alessi, D., Grundl, T. J. (2008). Reduction of 2,4,6-trinitrotoluene (TNT) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) by hydroxyl-complexed Fe(II). *Journal Environ. Engrg.*, 134(12), 937-943.

Grundl, T. and Elam, T. (2007). An In-situ Probe for Metal-Contaminated Harbor Sediments. Final Report submitted to USEPA Great Lakes National Program Office. 33 pp.

Grundl, T., Cape, M. (2006). Geochemical factors controlling radium activity in a sandstone aquifer. *Ground Water*, 44(4), 518-527.

Grundl, T., Bradbury, K., Feinstein, D., Friers, S., Hart, D. (2006). Combined hydrologic/geochemical investigation of groundwater conditions in the Waukesha county area, WI. Final Report submitted to Wisconsin Groundwater Research Program. 75 pp.

### **Recent Scholarly and Professional Media Contributions**

TV, WTMJ Channel 4, Milwaukee. (June 2016). An interview explaining the importance of correct sampling procedures when sampling for lead contamination in a city's drinking water supply.

Radio, WUWM Public Radio, Milwaukee. (May 2016). 30 minute interview along with Rebecca Klaper on water contamination issues in the state of Wisconsin.

Radio, WORT -Madison. (February 2016). interview about radium issues in Wisconsin groundwaters

TV, Milwaukee Channel 12. (February 2016). interview on the chemistry behind the Flint MI water fiasco.

Internet, doc/UWM series entitled "Water Docs". (2011). This is one of a series of video clips highlighting various UWM researchers (on vimeo.com)

Appeared in a full length movie on the issues surrounding the adoption of the Great Lakes Compact (2008) Movie was shown at Discovery World and on MPTV channels 10 and 36. This is the movie that Rebecca Klaper was instrumental in putting together.

Radio, Milwaukee (WUWM) public radio interview and Fox 6 televised interview on variations in Lake Michigan lake levels (2008).

Madison (WORT) public radio interview on radium in Madison water supply (2007).

### **Recent Presentations**

Armstrong, M., Johnson, M. , Siwula, P. , Winter, C. , Grundl, T., International Association for Great Lakes Research, Toronto Canada, "Creating a Hydrologic Budget: Preliminary Measurements of Laguna Bacalar, Mexico" (June 2016).

Grundl, T. J., Fields-Sommers, L. , Graham, J. , Conference, Wisconsin Section American Water Resources Association Annual Meeting, Wisconsin Dells, "Groundwater-surface water interactions caused by pumping from a riverbank inducement well field" (March 2016).

- Grundl, T. J., Waukesha WI, "A few environmental issues pertaining to the sustainable use of water in Wisconsin" **Invited**. (November 2015).
- Grundl, T. J., American Indian Studies 203 guest lecture, UWM campus, "Environmental issues pertaining to the sustainable use of water in Wisconsin" (September 2015).
- Grundl, T. J. , Klaper, R., Blair, B., Hedman, C., Nikolaus, A., Conference, Geological Society of America Northeastern Region, Madison, WI, "The fate of Pharmaceuticals and Personal Care Products in a Waste Water Treatment Plant: Implications for Discharge to Urban Waters" (May 2015).
- Fields-Sommers, L. , Grundl, T. J., Wisconsin Section American Water Resources Association Annual Meeting, Oconomowoc, WI, "Assessing the Effects of Riverbank Inducement on Groundwater Quality of a Shallow Aquifer in Southeastern Wisconsin" published in proceedings. (March 2015).
- Grundl, T. J. , Blair, B. , Klaper, R., Nikolaus, A. , Hedman, C. , Wisconsin Section American Water Resources Association Annual Meeting, Oconomowoc, WI, "The Fate of Emerging Contaminants in a Municipal Waste Water Treatment Plant" (March 2015).
- Watson, Z. T. , Han, W. S., Grundl, T. J., Kampman, N., Han, K.-D., Conference, American Geophysical Union, San Francisco, California, "Temporal chemical variations during the eruption cycle at Crystal geyser in Green River, Utah: Inverse modeling of fluid sourcing and implications to the geyser mechanism" (December 2014).
- Grundl, T. J., Milwaukee Public Museum, "Environmental issues pertaining to the sustainable use of groundwater in Wisconsin" **Invited**. (October 2014).
- Grundl, T. J. , Alverno College, "The Use of Chemical Signatures to Deduce the Health, Provenance and History of Groundwater in Eastern Wisconsin" **Invited**. (October 2014).
- Grundl, T. J. , Dlugolecki, A. , Wisconsin Section American Water Resources Association Conference, "Applying geochemistry to investigate the occurrence of riverbank inducement into a shallow aquifer in Southeastern Wisconsin" (March 2013).
- Blair, B., Nicholas, A., Hedman, C., Tandon, S., Klaper, R., Grundl, T. American Water Works Association National Meeting "The Occurrence and Fate of PPCPs in a Conventional Activated Sludge System: Assessing Negative Removal Efficiencies" (February 2013)
- Grundl, T., Magnusson, N., Kipfer, R., Brennwald, M. Annual meeting Wisconsin Groundwater Coordinating Council, "What happens to the underlying aquifer when you put 1000 meters of ice on top?" **Invited** (February 2013)
- Watson, Z., Han, W., Grundl, T.J. Conference, National Geological Soc. America, "Geochemical evolution and eruption dynamics in Crystal Geyser, Green River ,Utah", published in proceedings. (November 2012).

- Elam, T. , Grundl, T. J. , Leupin, O. , Descostes, M. , Conference, Denver Xray Conference, "Design of an In-situ XRF Instrument for Elemental Diffusion Measurements", published in proceedings. (August 2012).
- Grundl, T. J. , Magnusson, N. , Brennwald, M. , Kipfer, R. , Conference, Goldschmidt Conference, Montreal, CA. "Mechanisms of subglacial groundwater recharge as derived from noble gas, 14C, and stable isotopic data", published in proceedings. (July 2012).
- Grundl, T. J. , Conference, Wisc. Groundwater Association, "Numeric flow models and chemical speciation models: an actual example of synergism", Invited. (April 2012).
- Grundl, T. J. , Magnusson, N. , Brennwald, M. , Kipfer, R. , Conference, American Water Resources Association - Wisc. section, "Mechanisms of paleorecharge in the deep sandstone aquifer using noble gas, 14C and stable isotope tracers", published in proceedings. (March 2012).
- Grundl, T. J. , Colloquium/Symposium, UW-Oshkosh seminar series, "What happens to the underlying aquifer when you put ¼ mile of ice on top?", **Invited**. (March 2012).
- Grundl, T. J. , Magnusson, N. , Kipfer, R. , Brennwald, M. , Conference, National Geological Soc. America, "Dynamics of paleo-recharge in a deep confined aquifer system", published in proceedings. (October 2011).
- Bradbury, K. , Grundl, T. J. , Workshop, Wisconsin Ideas Forum, "Groundwater Challenges and Issues", **Invited**. (October 2011).
- Cherkauer, D. , Feinstein, D. , Grundl, T. J. , Boersma, P. , Wisc. DNR requested presentation, "Examining the Viability of Riverbank Inducement (RBI) as another source of water in SE Wisconsin", **Invited**. (April 2011).
- Grundl, T. J. , Seminar, WATER Institute Anchor Watch Series, "Groundwater is not Isolated! (interactions with surface water and ice)", **Invited**. (September 2010).
- Grundl, T. J. , Lecture, All Things Water Series -UWM, "Deep groundwater? Shallow groundwater? Surface water? A Water Supply Primer for SE Wisconsin", **Invited**. (April 2010).
- Grundl, T. J. , Holzbauer, M. , Conference, American Water Resources Assoc. - Wisc. section, "Can anthropogenic influences be traced in groundwater using simple geochemistry?", published in proceedings. (March 2010).
- Cherkauer, D. , Feinstein, D. , Grundl, T. J. , Kean, B. , Colloquium/Symposium, WATER Institute Anchor Watch Series, "Riverbank Inducement Project:Status Report",. (February 2010).
- Grundl, T. J. , W.T. Elam, Applied Physics Lab, U. of Washington. , Workshop, Paul Scherrer Institute, Switzerland, "In-situ X-ray spectroscopy", , **Invited**. (August 2009).

- Grundl, T. J. , Big Cedar Lake WI, "A discussion on protecting the groundwater supply in the Cedar Lakes area", (July 2009).
- Magnusson, N. , Grundl, T. J. , Conference, American Water Resources Assoc. - Wisc. section, "Assessing the Effects of Pleistocene Glaciation on the Water Supply of Eastern Wisconsin", published in proceedings. (March 2009).
- Holzbauer, M. , Grundl, T. J. , Conference, American Water Resources Assoc. - Wisc. section, "Tracking Shallow Groundwater Anthropogenic Effects in Southeastern Wisconsin", published in proceedings. (March 2009).
- Grundl, T. J. , Seminar, UW Washington County departmental seminar, West Bend, WI, "Geology and how it affects water issues", **Invited**. (March 2009).
- Magnusson, N. , Grundl, T. J. , Conference, Wisc. Groundwater Assoc., "Assessing the Effects of Pleistocene Glaciation on the Water Supply of Eastern Wisconsin", (March 2009).
- Grundl, T. J. , Kipfer, R. , Klump, S. , Purtschert, R. , Conference, Geological Society of America - North Central Region, "Recharge History of the Cambro-Ordovician Aquifer in SE Wisconsin" published in proceedings. (October 2008).
- Grundl, T. J. , Seminar, University of Illinois-Chicago, "The deep sandstone aquifer – what do we know about it and why is it central to Great Lakes policy?", **Invited**. (September 2008).
- Wilberding, R. , Grundl, T. J. , Conference, American Water Resources Assoc.-Wisc. section, "Anthropogenic Effects of WWTP Effluent on Shallow Groundwater and Streams of Southeastern Wisconsin", published in proceedings. (March 2008).
- Grundl, T. J., Conference, American Water Works Association, Albuquerque, NM. "Control of Radium Activity by Sulfate Mineral Co-precipitation", published in proceedings. (January 2008).
- Grundl, T. J., Conference, Illinois Groundwater Association, Naperville IL, "Water Quality in the Cambro-Ordovician Aquifer with Emphasis on Radium and Salinity", published in proceedings, **Invited**. (October 2007).
- Klump, S. , Grundl, T. J. , Purtschert, R. , Kipfer, R. , Conference, Goldschmidt Conference, Cologne Germany, "Excess air as a potential tracer for paleohydrological conditions", published in proceedings. (July 2007).
- Grundl, T. J. , Elam, T. , Seminar, USEPA Region 5 seminar, "Real-Time Mapping of Contamination in Harbor Sediments", **Invited**. (May 2007).
- Grundl, T. J. , Kipfer, R. , Klump, S. , Conference, American Water Resources Assoc. - Wisc. section, "Pleistocene Hydrology of the Deep Sandstone Aquifer in Southeast Wisconsin", published in proceedings. (March 2007).

Grundl, T. (Presenter and Author) Leupin, O. „Using geospatial analysis of soil and climatic properties as a new tool to predict areas of Se related diseases”. Given at the Swiss Federal Institute of Aquatic Sciences, Zurich Switzerland. **Invited**. (Oct. 2006).

Grundl, T. Insights into the Geochemistry of a Regional Sandstone Aquifer. Northern Illinois University Geosciences Dept. seminar series, DeKalb, IL. **Invited**, (November 2006).

### **Department/Program Administration**

Dean. (May 2016-present)

Associate Dean for Academics, School of Freshwater Sciences

Chairman. (January 2010 – September 2016).

School of Freshwater Sciences Executive Committee Chair(in effect the department Chairman)

Chairman. (January 2005 - August 2009).

Department Chair - Geosciences