

# WILLIAM W. SLACK

CINCINNATI, OHIO  
PHONE: 513 469 6040

---



## WORK EXPERIENCE

---

- **3/94 – Present: FRx, Inc.**

*Vice President, Cincinnati*

Principal and founder of the company, which commercially provides new and recently developed technology, especially in remediation of contaminated soil. Responsible for execution of all operations of the company, including administrative oversight, sales, marketing, engineering, and field activities.

- **8/90 – 9/97: University of Cincinnati**

*Geochemical Group Leader, Center for GeoEnvironmental Science and Technology*

Managed a multi-disciplinary group of 9 scientists and engineers doing research of methods for in situ remediation of contaminated soils. Personally listed as principal investigator for research sponsored by the US EPA as well as for research and technical services for corporate clients. As adjunct faculty provided consultation to students and sat upon advisory committees for graduate students in environmental engineering and geology. Also compiled and taught a course on Solidification and Stabilization processes for contaminated soil.

- **88 – 90: Chevron USA**

*Engineering Manager, Midland, Texas*

Supervised twelve engineers and held responsibility for engineering analysis and project design for 37 oil fields, which produced, in aggregate, 22000 bbl oil per day from 3700 wells. Prepared budgets, coordinated efforts with other corporate elements, and negotiated with partners, vendors, and customers.

- **Chevron USA**

*Senior Project Engineer, Houston*

Conducted and directed studies of petroleum reservoirs. Designed and evaluated enhanced oil recovery projects for oil fields along the Gulf coast and in West Texas.

- **Gulf Research and Development Company**

*Research Engineer, Pittsburgh*

Planned, justified, conducted and documented fundamental investigations of multiphase flow through porous media utilizing bench top experiments and numerical models.

## EDUCATION

---

- Ph.D., Chemical Engineering, Carnegie Mellon University
- M.S., Chemical Engineering, Carnegie Mellon University
- B.S., Chemical Engineering, Cornell University

## PROFESIONAL QUALIFICATIONS

---

- Professional Engineer, Ohio, No. E-56519
- Professional Engineer, Kentucky, No. 21337

## CERTIFICATIONS

---

- Hazardous Waste Site Worker (40 hr HAZWPR)
- Hazardous Waste Site Supervisor
- Current 8 Hr Refresher
- OSHA Lockout/Tagout training
- OSHA Respiratory Protection training
- OSHA Hearing Conservation training
- WHIMS for Managers and Supervisors
- Basic Safety Training from Sarnia-Lambton IEC
- US DOE Radiological Worker I & II
- Heavy Equipment Operator Certification
- 10,000 PSI Water Jet Operator Certification
- Hydraulic Fracturing Equipment Operator Certification

## AFFILIATIONS

---

- National Groundwater Association
- American Institute of Chemical Engineers
- Society of Petroleum Engineers

## SELECTED PUBLICATIONS / PRESENTATIONS

---

- Murdoch, L.C., D. Wilson, K. Savage, W. Slack, and J. Uber. Alternative Methods for Fluid Delivery and Recovery. USEPA/625/R-94/003, 1995.
- Seigrist, R. L., K.S. Lowe, L.C. Murdoch, W.W. Slack, T.C. Houk. X-231A demonstration of in situ remediation of DNAPL compounds in low permeability media by soil fracturing with thermally enhanced mass recovery and reactive barrier destruction. DOE document ORNL/TM-13534, March 1998.
- Whiting, T., W. Slack, L.C. Murdoch. Dual-phase extraction with hydraulic fractures at a superfund site. International Conf. On Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA, May 1998.
- Murdoch, L.C., W. Slack, R. Siegrist, S. Vesper, T. Meiggs, Hydraulic fracturing advances. Civil Engineering, May 1997, 10A-12A.
- Murdoch, L.C., M. Kemper, and W.W. Slack. Applications of hydraulic fractures during in situ remediation. 1st Hawaiian National Remediation Technology Conference, Honolulu, HI, Sept. 1994.
- Murdoch, L.C., W. Slack, R. Siegrist, S. Vesper, T. Meiggs, Advanced hydraulic fracturing methods to create in situ reactive barriers. Proceedings of the International Containment Technology

Conference and Exhibition, Feb. 9-12, 1997, St. Petersburg, FL

- S.C. Hunt, T.O. Meiggs, L.C. Murdoch, W.W. Slack. Method and system for bioremediation of contaminated soil using inoculated support spheres. Patent 5,733,067 issued 31 March 1998.
- Murdoch, L.C., W.W. Slack, W. Harrar, B. Nilsson, and R. Siegrist. Sidewall sensors for monitoring fractured clay till. *Journal of Nordic Hydrology*.
- Murdoch, L.C., W.W. Slack, W. Harrar, R. Siegrist, and T. Whiting. Sidewall sensors for measuring in situ properties. *Remediation of Chlorinated and Recalcitrant Compounds Conference Proceedings*, Monterey, CA, May 18-21, 1998.
- Murdoch, L.C., W.W. Slack, W. Harrar, B. Nilsson, and R. Siegrist. Sidewall sensors for monitoring fractured clay till. *Proceedings of the Mass Transport in Fractured Aquifers and Aquitards Conference*. Copenhagen, DK. May 14-16, 1998.
- Murdoch, L.C., W.W. Slack, W. Harrar, R. Siegrist, and T. Whiting. Arrays of sidewall sensors to monitor subsurface conditions. *4th International Symposium on Environmental Geotechnology*, Boston, Mass. Aug. 9-13, 1998.
- William W. Slack, Lawrence C. Murdoch, Rex Hodges, and Dave Butler, "Recovering Free Product from Clay Using Hydraulic Fractures" *Second Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, 2000.
- William W. Slack and Lawrence C. Murdoch, "Hydraulic Fractures to Improve In Situ Remediation" *Second Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, 2000.
- Murdoch, L.C. J.R. Richardson, and W.W. Slack. Hydraulic fractures in fine-grain materials. *Southeastern Geol. Soc. Amer*, abstracts, March 2000.
- Agee, C., L.C. Murdoch, S. Brame, W.W. Slack. Effects of hydraulic fractures on well performance in saprolite *Southeastern Geol. Soc. Amer*, abstracts, March 2000.
- Davis-Hoover, Wendy J., L. Taras Bryndzia, Michael H. Roulier, Lawrence C. Murdoch, Mark C. Kemper, Phillip R. Cluxton, Souhail Al-Abed, William W. Slack, Stephen J. Vesper, "In Situ Bioremediation Utilizing Horizontal Lasagna", *Fifth International Symposium for In Situ and On-Site Bioremediation*, San Diego, CA, April 1999.
- Davis-Hoover, Wendy J., Michael H. Roulier, L. Taras Bryndzia, Lawrence C. Murdoch, Mark C. Kemper, Phillip R. Cluxton, Souhail Al-Abed, William W. Slack, Stephen J. Vesper, "Horizontal Lasagna to Bioremediate Trichloroethylene In Situ", *Midwest Focus Groundwater Conference*, National Groundwater Association, Chicago, October 1999.