# Summary

# Since October 2009, John McLennan has been an Associate Professor in the Department of Chemical Engineering at the University of Utah. He has been a Senior Research Scientist at the Energy & Geoscience Institute and a Research Professor in the Department of Chemical Engineering at the University of Utah, since January 2008. He has a Ph.D. in Civil Engineering from the University of Toronto, in 1980. He has thirty years of experience in geomechanics with petroleum service and technology companies. He worked nine years for Dowell Schlumberger in their Denver, Tulsa and Houston facilities. Later, with TerraTek in Salt Lake City, Advantek International, in Houston, and ASRC Energy Services in Anchorage, he worked on projects concerned with coalbed methane recovery, rock mechanical properties determinations, produced water and drill cuttings reinjection, as well as casing design issues related to compaction. Recent work has focused on optimized gas production from shales and unconsolidated formations, fluid-rock interactions, geothermal energy recovery, in-situ microbial generation of natural gas and high temperature rock testing.

# Experience

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| October 2009 |  | USTAR Associate Professor, Department of Chemical Engineering, University of Utah and Senior Research Scientist, Energy & Geoscience Center, University of Utah |
| January 2008 |  | Research Professor, Energy & Geoscience Institute, Departments of Civil and Chemical Engineering, University of UtahWithin the Energy & Geoscience Institute promote geomechanics and fundamental research in unconventional hydrocarbons, and engineered geothermal systems. Within the Department of Chemical Engineering, participate in two RPSEA programs (one on gas production from low permeability sands and one on flow assurance). |
| 2003 - 2008 |  | Technical Director, ASRC Energy Services E & P Technology, Anchorage, AK |
| 2001 - 2002 |  | Executive Vice President, Advantek International Corporation, Salt Lake City, UTInvolved with projects ranging from individual consulting efforts to participation in large consortium projects concerning produced water reinjection, compaction/subsidence and wellbore integrity. Central participant in corporate strategy to consolidate numerical and analytical tools, historical experience, correlations and risk analysis in overall knowledge-based packages for planning, drilling, completing, stimulating and managing reservoirs. Other projects encompass software development; evaluations, predictions, back-analyses and recommendations for exploitation strategies; and formulation of Best Practices. |
| 1989 - 2001 |  | Executive Vice President, TerraTek, Inc., Salt Lake City, UTVice President — 1992-1999, Management of field and laboratory routine and special core analysis, geology, computerized tomography and rock mechanics investigations for oil/gas, coal and civil construction projects. Supervision of approximately 25 scientists, engineers, technicians and support staff. Coordination of sales, marketing and relevant accounting/project tracking activities. Technical participation in high profile and new venture projects including multiple projects for the Gas Research Institute. Rock Mechanics Short Courses for clients.**Vice President, Engineering Testing and Simulations** — 1989-1992Management of field and laboratory rock mechanics investigations for oil/gas, coal, and civil construction projects. |

# Education

* B.A.Sc. Geological Engineering, University of Toronto, 1974
* M.A.Sc. Civil Engineering (Soil Mechanics), University of Toronto, 1976
* Ph.D. Civil Engineering (Rock Mechanics), University of Toronto, 1980

# Publications

* 1. McLennan, J.D.: “Study and Analysis of Lateral Pressure in Two Granular Materials,” M.A.Sc. Thesis, University of Toronto, Dec. 1975.
	2. McLennan, J.D. and Roegiers, J-C.: “Stress Conditions Around the Niagara Gorge,” Proc. 3rd Symp. Eng. Applications to Solid Mechanics, Toronto, 1976.
	3. Roegiers, J-C. and McLennan, J.D.: “Rock Mechanics Problems Associated with Hot Dry Rock Geothermal Energy Extraction,” Proc. Hot Dry Rock Geothermal Workshop, Los Alamos Scientific Laboratory, Los Alamos, New Mexico, LA-7470-C, April 1978.
	4. Roegiers, J-C. and McLennan, J.D.: Numerical Modeling of Pressurized Fractures, University of Toronto, Department of Civil Engineering, ISBN 0316-7968, Pub 78-08, October 1978.

# Patents and Disclosures

1. Diesel Microemulsion Biofuels. Status: Pending. Type: Parent/Utility. Inventors: Thu Thi Le Nguyen, Melisa Saleb Ramallo, John D. McLennan, Jacob Isaac Kalunakaahele Abraham. File date 05/10/2012. Assignee: The University of Utah. Country: United States.
2. Optimization of Biogenic Methane Production From Hydrocarbon Sources. Status: Pending. Type: Provisional. Inventors: D. Jack Adams, Michael L. Free, John D. McLennan, Jack (John R.) Hamilton. File date 04/10/2012. Assignee: The University of Utah. Country: United States.
3. Periodic Symmetry Defined Bioreactors (# ). Status: Pending. Type: Provisional. Inventors: Leonard F. Pease, Swomitra K. Mohanty, John D. McLennan, Anthony Butterfield, Samuel Doane, Rete Browning, Tyler Lee. File date 02/18/2014. Assignee: The University of Utah. Country: United States.

# Organizations and Societies

* Society of Petroleum Engineers, Member and 2007 Chairperson of Salt Lake Section, Currently Program Chair, Member Membership Committee
* Society of Professional Well Log Analysts
* American Rock Mechanics Association, Board of Directors, Vice President Elect