

# DALE FITZ

## OBJECTIVE

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Retired from Exxon-Mobil in 2016 after more than 34 years but still looking for interesting cased-hole, nuclear, and production logging problems to solve.

Dale is currently developing a cased-hole and production logging course.

## SUMMARY OF QUALIFICATIONS

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- Extensive experience in cased-hole and production logging job planning, execution, and interpretation support part time.
- Forty years' experience working internationally as a Petrophysicist with Exxon-Mobil.

## SPECIAL SKILLS

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- Cased-Hole Nuclear log and Production Log Expert. Can plan, interpret, mentor and train in these areas.

## PROFESSIONAL EXPERIENCE

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July 2016 onward	THE PETROPHYSICIST LTD. <i>Independent Petrophysical Consultant</i>	FRANCE
	Looking for new problems to solve and people to help.	
September 2009 to December 2016	EXXON MOBIL EXPLORATION COMPANY, <i>Senior Technical Consultant</i>	TEXAS, U.S.A.
	Duties involved advising Petrophysicists and Engineers world-wide on how to design and execute open-hole and cased-hole logging programs and to interpret the results of the data collected from these programs. Also, involved with improving production log interpretation techniques in high-angle and horizontal wells and providing training in cased-hole and production logging interpretation.	
December 2005 to September 2009	EXXON MOBIL UPSTREAM RESEARCH COMPANY <i>Senior Research Associate</i>	TEXAS, U.S.A.
	Duties involved developing and teaching the new Advanced Cased-Hole and Production Logging Course in addition to teaching the Basic Cased-Hole and Production Logging School. Duties also involved conducting research in uncertainty in petrophysical analysis and performing production log interpretations in complex high-angle wells world-wide. Also, developed methods for production log interpretation in tight gas and shale gas reservoirs	
April 2001 to November 2005	EXXON MOBIL EXPLORATION COMPANY <i>Geological Advisor</i>	TEXAS, U.S.A.
	Duties involved providing consultation world-wide to ExxonMobil subsidiaries, going on-site for short term, high profile integrated formation evaluation projects and performing numerous open-hole, cased-hole, and production logging petrophysical analyses supporting several major fields and field developments around the world.	
April 1998 to April 2001 & January 1997 to September 1997	EXXON EXPLORATION COMPANY <i>Geological Associate</i>	TEXAS, U.S.A.
	Duties involved new logging tool evaluation; cased-hole log interpretation; providing cased-hole training; developing new open-hole log analysis training; performing advanced log analysis for thinly bedded and shaly sandstone formations; evaluating vendor log analysis software; and performing well-site duty associated with evaluating new logging tools and running conventional logging tools in time-lapse monitoring projects. Earlier work involved an equity determination in a North Sea oil field.	

September 1997 to March 1998 & July 1994 to December 1996

ESSO PRODUCTION MALAYSIA MALAYSIA  
*Geological Associate*  
 Duties involved fieldwide formation evaluation studies for several major Malay Basin fields using both resistivity log analysis approaches and capillary pressure water saturation models. Also, involved in cased-hole log analysis support, cased-hole well-site supervision, extensive core analysis and interpretation and mentoring Malaysian nationals.

July 1981 to July 1994

EXXON EXPLORATION COMPANY TEXAS, U.S.A.  
*Geological Associate*  
 Served as Group Leader of the Thin Bed/Shaly Sand Group for seven years.  
 Initiated a research project on new methods to interpret wireline logs in thinly bedded, shaly sandstone reservoirs, including those in the Malay Basin and Gulf of Mexico. Developed strip core sampling techniques to improve representativeness of core samples in thinly bedded, mineralogically complex reservoirs.  
 Developed and tested new pulsed neutron capture techniques to monitor oil-water contact movement through casing in marginal salinity environments such as the Gippsland Basin in Australia and Brent field in the North Sea. Developed and applied techniques to quantify oil and gas saturation changes in high salinity environments for enhanced oil recovery projects and performed well-site work for this project.  
 Conducted research on nuclear magnetic resonance logging. Performed well-site work associated with this research. Primary developer of Exxon's Cased-Hole Nuclear Logging Course and primary person for updating Exxon's Basic Well Logging School. Taught the Cased-Hole Nuclear Logging Course and the Basic Well Logging School for Exxon's world-wide affiliates for over ten years.  
 Provided advice to all Exxon upstream operating affiliates on designing special logging programs and often provided well-site assistance for these programs.

#### ACADEMIC EXPERIENCE

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July 1978 to July 1981

UNIVERSITY OF HOUSTON TEXAS, U.S.A.  
*Research/Visiting Assistant Professor (Department of Chemistry)*  
 Conducted research in theoretical molecular scattering of simple molecules by developing and applying approximate quantum mechanical methods (17 refereed publications) and taught Freshman Chemistry.

January 1977 to July 1978

UNIVERSITY OF TORONTO ONTARIO, CANADA  
*Post-Doctoral Research Associate (Department of Chemistry)*  
 Conducted research in theoretical molecular scattering of simple molecules using semi-classical methods (3 refereed publications) and tutored undergraduate chemistry courses.

September 1975 to December 1976

MAX-PLANCK INSTITÜT FÜR STRÖMUNGSFORSCHUNG GERMANY  
*Alexander von Humboldt Post-Doctoral Fellow*  
 Conducted research in theoretical and experimental molecular scattering of simple molecules using approximate quantum mechanical methods (4 refereed publications).

June 1975 to September 1975

UNIVERSITY OF ILLINOIS ILLINOIS, U.S.A.  
*Post-Doctoral Research Associate (Department of Chemistry)*  
 Conducted research in theoretical scattering of simple molecules using semi-classical mechanical methods (2 refereed publications).

## EDUCATION

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1970 – 1975	UNIVERSITY OF ILLINOIS <i>Ph.D. Physical Chemistry</i> Theoretical physical chemistry with emphasis on molecular scattering theory.	U.S.A.
1967 – 1970	OKLAHOMA STATE UNIVERSITY <i>B.Sc. Chemistry</i> Organic and physical chemistry.	

## PROFESSIONAL HONOURS

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1996	Society of Petroleum Engineers Outstanding Technical Editor Award in 1996.
1994	Society of Professional Well Log Analysis Distinguished Speaker in 1994.

## COMPANY HONOURS (EXXON MOBIL)

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1988-1991	Exxon Production Research Outstanding Instructor Award.
1983 1986 1989 1991	Exxon Company U.S.A. Outstanding Instructor Awards for Well Logging.
1992	Exxon Company U.S.A. Distinguished Instructor Award for Production Training.
2003-2013	ExxonMobil Upstream Technical Training Excellence in Instruction Award.

## LANGUAGES

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Fluent in English and German. Basic speaking and reading of Spanish.

## EXTERNAL PUBLICATIONS

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- Guo, P., Zhou J., Lewis, D., Alberto, M., Gaillot, P., Wertanen, S., Fitz, D., and Passey, Quinn, 2013, Quantitative Formation Evaluation toolkit for High-Angle and Horizontal Wells, presented at the 54th Annual Symposium of the SPWLA, New Orleans, Louisiana, June 22-26, 2013, Paper HHH.
- Mendoza, A., Gaillot, P., Yin, H., Nicosia, W., Guo, P., Mardon, D., Passey, Q., Wertanen, S., Zhou, J., and Fitz, D. E., 2012, A High Angle and Horizontal Well Interpretation Toolkit for Quantitative Formation Evaluation and reservoir Characterization, presented at the SPE Kuwait International petroleum Conference and Exhibition, Kuwait City, Kuwait, December 10-12, 2012, SPE-163340
- Pathak, P., Fitz, D. E., and Babcock, K., 2011, Residual Oil Saturation Determination for EOR Projects in a Mature West Texas Carbonate Field, presented at the SPE Enhanced Oil Recovery Conference, Kuala Lumpur, Malaysia, July 19-21, 2011, SPE145229.
- Guo, P., Fitz, D., and Spears, R., 2010, Pulsed Neutron Logging in Tight Gas Sand Reservoirs: A Cost Effective Evaluation Approach, presented at the 51st Annual Logging Symposium of the SPWLA held in Perth, Australia, June 19-23, 2010.
- Rosenbaum, D. F., Etten, J. P., Mirza, M. A., Mattio, L., Musgrove, F. W., Ellison, T. K., Alvarez, J. O., Shuchart, C. E., Fitz, D. E., Baker, B. H. and Hecker M. T., 2009, Design and Implementation of Horizontal Injectors for Liquid Injection from Gas Production and LNG Operations in Qatar, presented at the International Petroleum Technology Conference, Doha, Qatar, December 7-9, 2009, IPTC-13605.
- McCracken, M. W., Fitz, D. E., and Ryan, T., 2008, Tight Gas Surveillance and Characterization Impact on Production Logging, presented at the 2008 SPE Unconventional Reservoirs Conference held in Keystone, Colorado, SPE 114165.
- Guo, P. and Fitz, D., 2008, Impact of LWD Tool Wear on Density Measurement Accuracy in Extended Reach Wells, presented at the 49th Annual Logging Symposium of the SPLWA held in Edinburgh, Scotland, May 25-28, 2008.
- Fitz, D. E., Guzmán-García, A. G., Sunder, R., Billingham, M., and Smolensky, V., 2006, Pushing the envelope for Production Logging in Extended reach Horizontal Wells in Chayvo Field, Sakhalin, Russian – New Conveyance and Flow Profiling Approach, presented at the 2006 SPE Russian Oil & Gas Technical Conference and Exhibition held in Moscow, Russian, SPE 103589.

- Passey, Q. R., Yin, H., Rendeiro, C. M., and Fitz, D. E., 2005, Overview of High-Angle and Horizontal Well Formation Evaluation: Issues, Learnings, and Future Directions, 46th Annual Symposium of the Society of Professional Well Log Analyst, Paper A.
- Fitz, D. E., 2004, Issues with Long-term Cased-hole Quantitative Fluid Saturation Monitoring, invited talk given at the 45th Annual Symposium of the Society of Professional Well Log Analyst, held in Noorweijk, the Netherlands.
- Fitz, D. E., 2003, Cyclic noise in open-hole and cased-hole logging measurements: its impact and remediation, presented at the 2003 Annual Technical Conference and Exhibition of the Society of Petroleum Engineers held in Denver, Colorado, SPE 84203.
- Bowers, M.C. and Fitz, D. E., 2000, A probabilistic approach to determine uncertainty in calculated water saturation, 41st Annual Symposium of the Society of Professional Well Log Analysts, Paper QQ.
- Fitz, D. E. and Ganapathy, N., 1993, Quantitative monitoring of fluid saturation changes using cased-hole logs, 34th Annual Symposium of the Society of Professional Well Log Analysts, Paper XX, pp. 25.
- Dahlberg, K. E. and Fitz, D. E., 1988, Comparing log-derived and core-derived porosity and mineralogy in thinly bedded reservoirs: an integrated approach, 29th Annual Symposium of the Society of Professional Well Log Analysts, Paper XX, pp. 18.
- Kouri, D. J and Fitz, D. E., Angular momentum decoupling approximations: Current status, successes, and difficulties, *Journal of Physical Chemistry*, Vol. 86(12), pp. 2224-2231.
- Liu, W.-K., McCourt, F. R., Fitz, D. E., and Kouri, D. J., 1982, Close-coupled and coupled-states calculation of shear viscosity SBE cross sections for the H<sub>2</sub>-He system, *Journal of Chemical Physics*, Vol. 76(10), pp. 5112-5127.
- Fitz, D. E., Kouri, D. J., Liu, W.-K., McCourt, F. R., Evans, D., and Hoffman, D. K., 1982, The utility of the CS and IOS approximations for calculating generalized phenomenological cross sections in atom-diatom systems, *Journal of Physical Chemistry*, Vol. 86, pp. 1087-1096.
- Liu, W.-K., McCourt, F. R., Fitz, D. E., and Kouri, D. J., 1981, Production and relaxation cross sections for the shear viscosity SBE. II IOSA results for the N<sub>2</sub>-He system, *Journal of Chemical Physics*, Vol. 75(3), pp. 1496-1508.
- Khare, V., Fitz, D. E., Kouri, D. J., Evans, D., and Hoffman, D. K., 1981, "On CC and CS descriptions of phase sensitive cross sections: computations for He + HCL", *Potential Energy Surfaces and Dynamics Calculations*, edited by Truhlar, D. G., (Plenum, New York), pp. 475-494.
- Khare, V., Fitz, D. E., Kouri, D. J., CS(lav) and CC computational study of degeneracy averaged differential cross sections and  $\square$  m-integral cross sections: He-CO, HD-Ne, and He-H<sub>2</sub>, *Chemical Physics*, Vol. 56, pp. 267-276.
- Fitz, D. E., Kouri, D. J., Evans, D. and Hoffman, D. K., 1981, On CC, CS, and IOS generalized phenomenological cross sections for atom-diatom mixtures, *Journal of Chemical Physics*, Vol. 74(9), pp. 5022-5030.
- Fitz, D. E., Khare, V., and Kouri, D. J., 1981, A comparison of the l-average coupled states, corrected coupled states, and close coupling results for a model system, *Journal of Physical Chemistry*, Vol. 86, pp. 1087-1096.
- Fitz, D. E., Beard, L. H., and Kouri, D. J., 1981, Close coupled, infinite order sudden, distorted wave-energy sudden, and quasiclassical trajectory study of a model H<sub>2</sub>-uncorrugated surface scattering system, *Chemical Physics*, Vol. 59, pp. 257-268.
- Fitz, D. E., Bawagan, A. O., Beard, L. H., Kouri, D. J., and Gerber, R. B., 1981, Rotational-translational energy exchange in molecular-surface collisions, *Chemical Physics Letters*, Vol. (80), pp. 537-540.
- Fitz, D. E. and Kouri, D. J., 1981, Coupled states study of nonreactive F(2P)+H<sub>2</sub>(1 $\square$  g+) collisions, 1981, *Journal of Chemical Physics*, Vol. 74(7), pp. 3933-3938.
- Khare, V., Fitz, D. E., and Kouri, D. J., 1980, Effect of phase and orbital wave parameter choices on CS and IOS degeneracy averaged differential cross sections, *Journal of Chemical Physics*, Vol. 73(6), pp. 2802-2810.

- Fitz, D. E., Khare, V., and Kouri, D. J., 1980, Comment on "Differential cross sections for the  $j=0 \rightarrow 1$  rotational excitation in HD-Ne collisions and their relevance to the anisotropic interaction", *Journal of Chemical Physics*, Vol. 73(8), pp. 4147-4148.
- Fitz, D. E. and Kouri, D. J., 1980, On the sudden approximation of computational tests and factorization of cross sections and related scattering phenomena, *Chemical Physics*, Vol. 47, pp. 195-208.
- Fitz, D. E. and Kouri, D. J., 1980, CS and IOS approximations for fine structure transitions in Na(2P)-He(1S) collisions, *Journal of Chemical Physics*, Vol. 73(10), pp. 5115-5121.
- Brumer, P., Fitz, D. E., and Wardlaw, D., 1980, Time delay for bimolecular collisions: utility of the spectral theorem in the classical limit, *Journal of Chemical Physics*, Vol. 72(1), pp. 386-394.
- Liu, W.-K., McCourt, F. R., Fitz, D. E., and Kouri, D. J., 1979, Production and relaxation cross sections for the shear viscosity Senftleben-Beenakker effect. I. Formal expressions and their coupled-states and infinite-order-sudden approximations for atom-diatom systems, *Journal of Chemical Physics*, Vol. 71(1), pp. 415-425.
- Fitz, D. E. and Kouri, D. J., 1979, Computational test of the factorization of differential cross sections in the sudden approximation, *Chemical Physics Letters*, Vol. 67(2,3) pp. 558-560.
- Fitz, D. E. and Brumer, P., 1979, Geometric effects on complex formation in collinear atom-diatom collisions, *Journal of Chemical Physics*, Vol. 70(12), pp. 5527-5533.
- Fitz, D. E., 1978, On the choice of partial wave parameter for IOS calculations of m-dependent rotationally inelastic cross sections, *Chemical Physics Letters*, Vol. 55(2), pp. 202-205.
- Fitz, D. E. and Brumer, P., 1978, Long-lived intermediates in the Borne-Bunker systems, *Journal of Chemical Physics*, Vol. 69(4), pp. 1792-1794.
- Turfa, A., F., Fitz, D. E., and Marcus, R. A., 1977, Semiclassical theory of the effects of collisions between rotors on molecular spectral line shapes. I, *Journal of Chemical Physics*, Vol. 67(10), pp. 4463-4467.
- Tarr, S. M., Rabitz, H., Fitz, D. E., and Marcus, R. A., 1977, Classical and quantum centrifugal decoupling approximations for HCl-Ar, *Journal of Chemical Physics*, Vol. 66(7), pp. 2854-2859.
- Fitz, D. E., 1977, A study of reorientation effects in CsF-Ar using approximate quantum methods, *Chemical Physics*, Vol. 24, pp. 133-142.
- Fitz, D. E. and McGuire, P., 1976, Comparison of the coupled states, infinite order sudden, and exponential Born methods for Ar-CsF collisions, *Chemical Physics Letters*, Vol. 44, pp. 503-504.
- Fitz, D. E. and Marcus, R. A., 1973, Semiclassical theory of molecular spectral line shapes in gases, *Journal of Chemical Physics*, Vol. 59(8), pp. 4380-4392.
- Fitz, D. E. and Marcus, R. A., 1973, Semiclassical theory of molecular spectral line shapes. II. Applications to CO, HCl, and OCS, broadened by inert gases, *Journal of Chemical Physics*, Vol. 62(9), pp. 3788-3796.