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Education

Ph.D. 1990 Geology, Cornell University: minors in structural mechanics and geodynamics
M.S. 1987 Geology, Cornell University
B.A. 1984 Geology, Dartmouth College

Professional Experience

2009-present Graduate Adviser, Department of Geological Sciences, The University of Texas at Austin
2008-present Research Professor, Bureau of Economic Geology, The University of Texas at Austin
2007-present Professor, Department of Geological Sciences, The University of Texas at Austin
2007-present Jackson Chair of GeoSystems, The University of Texas at Austin
2007-present Research Professor, Texas Institute of Geophysics and Bureau of Economic Geology, The University of Texas at Austin
2003-2007 Professor of Geosciences, Pennsylvania State University
2002-2003 Visiting Scientist, Massachusetts Institute of Technology, Department of Civil and Environmental Engineering
1998-2007 Co-Director of the Petroleum GeoSystems Initiative, The Pennsylvania State University
1997-2003 Associate Professor of Geosciences, The Pennsylvania State University
1993-1997 Assistant Professor of Geosciences, The Pennsylvania State University
1992-1993 Research Scientist and Crosby Lecturer, Massachusetts Institute of Technology
1991-1992 Associate Research Scientist, Lamont-Doherty Geological Observatory
1991 Visiting Scientist, Exxon Production Research Company
1990-1991 Post-Doc. Associate, Lamont-Doherty Geological Observatory
1983 Geologist, Comp. Minera Autlan, Otongo Hgo., Mexico
1982-1983 Geologist, Refinadora Costarricense De Petroleo, San Juan, Costa Rica

Recent Honors

2011 Chair: 2nd Gordon Research Conference on Hydrates
2010 Informal Advisor to Energy Secretary S. Chu's BP Macondo Well Integrity Team
2010 Vice Chair: 1st Gordon Research Conference on Hydrates
2008 Keynote Speaker/ Co-Convener, 'Subsurface sediment mobilization and fluid flow', Geological Society, London.

Papers in Refereed Journals (20 most recent)

1. You, Y., **Flemings, P.B.**, Mohrig, D., in press, Dynamics of dilative slope failure, *Geology*
2. Sawyer, D. E., **Flemings, P.B.**, Mohrig, D. and Buttles, J., 2013, Mudflow Transport Behavior and Deposit Morphology: Role of Shear Stress to Yield Strength Ratio in Subaqueous Experiments, *Marine Geology*, doi: 10.1016/j.margeo.2012.01.009
3. Bohn, C. W., **Flemings, P.B.**, and Slingerland, R.L., 2012, Accommodation change during bypass across a late stage fan in the shallow Auger basin, in *Application of Seismic Geomorphology Principles to Continental Slope and Base-of-Slope Systems: Case Studies from Seafloor and Near-Seafloor Analogues*, Volume 99, SEPM (Society for Sedimentary Geology), p. 225-242, doi: 10.2110/pec.12.99.0225.
4. **Flemings, P.B.**, John, C., Behrmann, J., 2012, Expedition 308 synthesis: overpressure, consolidation, and slope stability on the continental slope of the Gulf of Mexico. *In* Flemings, P.B., Behrmann, J.H., John, C.M., and the Expedition 308 Scientists, *Proc. IODP*, 308: College Station TX (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.308.215.2012
5. Day-Stirrat, R.J., **Flemings, P.B.**, You, Y., Aplin, A.C., and van der Pluijm, B.A., 2012, The fabric of consolidation in Gulf of Mexico mudstones, *Marine Geology*, v. 295–298, p. 77-85, doi: 10.1016/j.margeo.2011.12.003.
6. Foroozan, R., Elsworth, D., **Flemings, P.B.**, Bilotti, F., and Muhuri, S., 2012, The role of permeability

evolution in fault zones on the structural and hydro-mechanical characteristics of shortening basins, *Marine and Petroleum Geology*, v. 29, p. 143-151, doi: 10.1016/j.marpetgeo.2011.08.007.

7. Luo, G., Nikolinakou, M.A., **Flemings, P.B.**, and Hudec, M.R., 2012, Geomechanical modeling of stresses adjacent to salt bodies: Part 1 - Uncoupled models: *American Association of Petroleum Geologists Bulletin*, v. 96, p. 43-64.
8. Nikolinakou, M.A., Luo, G., Hudec, M.R., and **Flemings, P.B.**, 2012, Geomechanical modeling of stresses adjacent to salt bodies: Part 2 - Poroelastoplasticity and coupled overpressures: *American Association of Petroleum Geologists Bulletin*, v. 96, p. 65-85.
9. Day-Stirrat, R.J., Schleicher, A.M., Schneider, J., **Flemings, P.B.**, Germaine, J.T., and van der Pluijm, B.A., 2011, Preferred orientation of phyllosilicates: Effects of composition and stress on resedimented mudstone microfabrics: *Journal of Structural Geology*, v. 33, p. 1347-1358, DOI 10.1016/j.jsg.2011.06.007.
10. Liu, X.L., and **Flemings, P.B.**, 2011, Capillary effects on hydrate stability in marine sediments: *Journal of Geophysical Research-Solid Earth*, v. 116, Doi 10.1029/2010jb008143.
11. Long, H., **Flemings, P.B.**, Germaine, J.T., and Saffer, D.M., 2011, Consolidation and overpressure near the seafloor in the Ursa Basin, Deepwater Gulf of Mexico: *Earth and Planetary Science Letters*, v. 305, p. 11-20, DOI 10.1016/j.epsl.2011.02.007.
12. Moore, J.C., Urgeles, R., Conin, M., **Flemings, P.B.**, and Iturrino, G.J., 2011, Threshold of borehole failure: Breaking in before breaking out, Mississippi fan, Gulf of Mexico: *Geosphere*, v. 7, p. 684-693, Doi 10.1130/Ges00613.1.
13. Nikolinakou, M.A., Luo, G., Hudec, M.R., and **Flemings, P.B.**, 2011 Geomechanical modeling of stresses and pore pressures in mudstones adjacent to salt bodies, *Proceedings of the 45th US Rock Mechanics/Geomechanics Symposium: San Francisco, CA*, p. 8.
14. Schneider, J., **Flemings, P.B.**, Day-Stirrat, R.J., and Germaine, J.T., 2011, Insights into pore-scale controls on mudstone permeability through resedimentation experiments: *Geology*, v. 39, p. 1011-1014, Doi 10.1130/G32475.1.
15. Smith, A.J., **Flemings, P.B.**, and Fulton, P.M., 2011, Observations and Models of Heat and Salt Generation in Deepwater Gulf of Mexico Vents, *Proceedings of the 7th International Conference on Gas Hydrates: Edinburgh, Scotland, United Kingdom*, p. 639 - 651.
16. Song, I., Saffer, D.M., and **Flemings, P.B.**, 2011, Mechanical characterization of slope sediments: Constraints on in situ stress and pore pressure near the tip of the megasplay fault in the Nankai accretionary complex: *Geochemistry Geophysics Geosystems*, v. 12, Doi 10.1029/2011gc003556.
17. Huuse, M., Jackson, C.A.L., Van Rensbergen, P., Davies, R.J., **Flemings, P.B.**, and Dixon, R.J., 2010a, Subsurface sediment remobilization and fluid flow in sedimentary basins: an overview: *Basin Research*, v. 22, p. 342-360, DOI 10.1111/j.1365-2117.2010.00488.x.
18. Huuse, M., Van Rensbergen, P., Jackson, C.A.L., **Flemings, P.B.**, Davies, R.J., and Dixon, R.J., 2010b, Subsurface Sediment Remobilization and Fluid Flow in Sedimentary Basins: Preface: *Basin Research*, v. 22, p. 341-341.
19. Lin, W., et al., 2010, Present-day principal horizontal stress orientations in the Kumano forearc basin of the southwest Japan subduction zone determined from IODP NanTroSEIZE drilling Site C0009: *Geophysical Research Letters*, v. 37, p. L13303, DOI 10.1029/2010gl043158.
20. Reilly, M.J., and **Flemings, P.B.**, 2010, Deep pore pressures and seafloor venting in the Auger Basin, Gulf of Mexico: *Basin Research*, v. 22, p. 380-397, DOI 10.1111/j.1365-2117.2010.00481.x.

Recent Reports

1. **Flemings, P. B.**, Germaine, J., Adams, A., Betts, W., Braunscheidel, M., Casey, B., Day-Stirrat, R., Gao, B., Heppard, P., Horan, A., Luo, G., Marjanovic, J., Merrell, M., Nikolinakou, M., Sawyer, D., Sayers, C., Schneider, J., Smith, A., You, Y., 2011, UT GeoFluids annual report to Industrial Associates for 2011: slide set 2: The University of Texas at Austin, Bureau of Economic Geology, annual report prepared for Anadarko, BHP, BP, Chevron, ConocoPhillips, ExxonMobil, Hess Corp, Schlumberger, Shell, Statoil, Total, (26 presentations), Online.
2. **Flemings, P. B.**, Germaine, J., Basin, T., Braunscheidel, M., Darnell, K., Day-Stirrat, R., Hudec, M., Luo, G., Nelson, H., Nikolinakou, M., Sawyer, D., Schneider, J., You, Y., 2010, UT GeoFluids annual report to Industrial Associates for 2010: slide set 1: The University of Texas at Austin, Bureau of Economic Geology, annual report prepared for Anadarko, BHP, BP, Chevron, ConocoPhillips, Devon, ExxonMobil, Hess Corp, Schlumberger, Shell, (22 presentations), Online.
3. Dooley, Tim, Hudec, M. R., Jackson, M. P. A., Nikolinakou, M. A., Luo, Gang, Braunscheidel, M., Norton, Ian,

McDonnell, Angela, Wagner, Bryce, and **Flemings, P. B.**, 2010, Applied Geodynamics Laboratory annual report to Industrial Associates for 2010: slide set 29, annual report, The University of Texas at Austin, Bureau of Economic Geology, prepared for Anadarko, BHP Billiton, BP, CGGVeritas, Chevron, Cobalt, ConocoPhillips, Devon, ENI, ExxonMobil, Fugro, Global Geophysical, GX Technology, Hess, IMP, INEXS, Maersk, Marathon, Mariner, Murphy, Nexen, Noble, Pemex, Petrobras, PGS, Repsol-YPF, Samson, Saudi Aramco, Shell, StatoilHydro, TGS-NOPEC, Total, WesternGeco, and Woodside, CD-ROM.

Recently Presented Abstracts

1. Adams, A., Germaine, J.T., **Flemings, P.B.**, (2011), Stress-Induced Permeability Anisotropy of Resedimented Boston Blue Clay, Abstract H12B-08, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
2. Betts, W.S., **Flemings, P.B.**, Schneider, J., (2011), Permeability and compressibility of resedimented Gulf of Mexico mudrock, Abstract MR43A-2133, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
3. **Flemings, P.B.**, (2011), Methane gas flow through the hydrate stability zone: self-sealing vs. runaway venting, Abstract GC41B-0801, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
4. **Flemings, P.B.**, Luo, G., Nikolinakou, M.A., Hudec, M., (2011), Geomechanical modeling of salt-sediment interaction in evolving sedimentary basins, Abstract T42A-04, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
5. Sawyer, D., **Flemings, P.B.**, Nikolinakou, M.A., (2011), Growth, Failure, and Erosion of Submarine Channel Levees on the Upper Mississippi Fan, Gulf of Mexico, Abstract EP33C-0928, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
6. Smith, A.J., **Flemings, P.B.**, Fulton, P.M., (2011), Observations and Models of Heat and Salt Generation at a Deepwater, Abstract OS12A-04, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
7. You, Y., **Flemings, P.B.**, Mohrig, D., (2011), The importance of dilation strength in determining the dynamics of dilative slope failure, Abstract T51C-2350, presented at 2011 Fall Meeting, AGU, San Francisco, Calif. 5-9 Dec.
8. Nikolinakou, M., **Flemings, P.B.**, (2011), Stresses and Pore pressures at the crest of dipping structures, presented at Geopressure 2011, Galveston TX, Oct 2-5
9. Schneider, J., **Flemings, P.B.**, Day-Stirrat, R.J., and Germaine, J.T. (2011), Insights into pore-scale controls on mudstone permeability and compressibility through resedimentation experiments, presented at GeoPressure 2011: An International Interdisciplinary Conference on Pressure Regimes and Their Prediction at all Scales, Galveston, Texas, October 2-5.
10. Schneider, J., **Flemings, P.B.**, Germaine, J.T., Compression and permeability behavior of resedimented mudstones from seaward of the Nankai Trough, IODP Expedition 322, Site C0011, presented at 2011 Expedition 319/322 2nd post-cruise meeting, Barcelona, Spain, 26-28 Sept.

Recent Participation in Seminars and Workshops

EarthScope-GeoPRISMS Science Workshop for Eastern North America, Bethlehem, PA, October 2011 (Convener)

GEOPRESSURE 2011, Galveston, TX, October 2011 (Co-chair)

EarthScope-GeoPRISMS Opportunities in Eastern North America, Mini-Workshop, Austin, TX, May 2011 (Convener)

EarthScope National Meeting, Austin, TX, May 2011 (Convener)

USGS Hazard Workshop, Menlo Park, CA, March 2011

UT GeoFluids Industrial Affiliates Meeting, Austin, TX, Feb. 2011 (meeting organizer)

GeoPRISMS Implementation Workshop: Subduction Cycles and Deformation, Austin, TX, January 2011

Recent Invited Lectures

1. Offshore Active Processes and Hazards, RIE Lehigh conference, October 2011, Bethlehem, PA
2. Sub-seafloor Oil-plume Containment: How can we preserve and build the required expertise to respond to large oil vents in the US waters? Is there a role beyond spill response?, National USGS Marine Geohazards Workshop, Pore Pressure and the Macondo Well, March 2011, Menlo Park.
3. California Institute of Technology, 'Pore Pressure, shallow to deep,' November 2010.
4. Dept of Geophysics, Stanford University, 'Pore pressure, shallow to deep'. November 2010
5. Bureau of Economic Geology, Jackson School of Geosciences, 'Pore pressure, trap integrity, and seafloor venting,' April 2010.