

JULIA S. REECE

Last updated: August 30, 2015

Department of Geology and Geophysics
Texas A&M University
MS 3115
College Station, TX 77843-3115

Phone: (979) 458-2728
Email: jreece@geos.tamu.edu
Office: Halbouty Rm. 251

ACADEMIC APPOINTMENTS

2014 – present **Assistant Professor**, Dept. of Geology and Geophysics, Texas A&M University
2013 – 2014 **Postdoctoral Scholar**, Dept. of Geophysics, Stanford University
2012 – 2013 **Postdoctoral Fellow**, Bureau of Economic Geology, The University of Texas at Austin
2006 – 2011 **Graduate Research and Teaching Assistant**, Jackson School of Geosciences, The University of Texas at Austin
2004 – 2006 **Graduate Student Assistant**, Department of Geosciences, University of Bremen
2001 – 2004 **Undergraduate Student Assistant**, Department of Geosciences, University of Bremen

EDUCATIONAL BACKGROUND

2011	Ph.D. , Geosciences	University of Texas at Austin, Austin, TX
2006	Diplom (M.S.) , Geosciences	University of Bremen, Bremen, Germany
2004	B.S. , Geosciences	University of Bremen, Bremen, Germany

RESEARCH STATEMENT

My research program focuses on understanding the mechanics and flow behavior of mudrocks. I am particularly interested in subsurface fluid flow and controls on permeability and compressibility in marine sediments. In addition, I study transport behavior and diagenesis in shale gas reservoirs. My group uses field samples and data and employs a suite of laboratory techniques to pursue these research interests including sedimentological and geotechnical experimentation (grain size, Atterberg Limits, uniaxial consolidation). We also use imaging techniques in order to analyze microstructures of the mudrocks.

FELLOWSHIPS / AWARDS

2012 Author Achievement Award, Bureau of Economic Geology, The University of Texas at Austin
2011 Best JSG Student Paper Award, The University of Texas at Austin
2011 Best Student Speaker Award, Technical Sessions, The University of Texas at Austin
2011 Ewing/Worzel Fellowship, The University of Texas at Austin Institute for Geophysics
2010 AGU Outstanding Student Paper Award (2010 AGU Fall Meeting)
2010 Schlanger Ocean Drilling Fellowship Award, Consortium for Ocean Leadership (\$28,000)
2010 Outstanding Teaching Assistant Award, The University of Texas at Austin
2009 Hess Fellowship
2008 Ewing/Worzel Fellowship, The University of Texas at Austin Institute for Geophysics
2008 Chevron Excellence Award
2008 Ewing/Worzel Fellowship, The University of Texas at Austin Institute for Geophysics
2007 Chevron Excellence Award
2007 ConocoPhillips Distinguished GeoFluids Fellowship

PEER-REVIEWED PUBLICATIONS

ResearcherID: H-8743-2012; H-index: 6 (GoogleScholar); Total Citations: 95 (GoogleScholar)

Published or in press:

1. Flemings, P.B., **Reece, J.S.**, Ditkof, J., Atkins, C.C., Sawyer, D.E. (2015), Data Report: Particle Size Analysis of Sediments in the Nankai Trough, IODP Expedition 319 Hole C009A, *In: Saffer, D., McNeill, L., Byrne, T., Araki, E., Toczko, S., Eguchi, N., Takahashi, K., and the Expedition 319 Scientists, Proc. IODP, 319: Tokyo (Integrated Ocean Drilling Program Management International, Inc.)*, doi: 10.2204/iodp.proc.319.203.2015.
2. Daigle, H. and **Reece, J.S.** (2015), Permeability of two-component granular materials, *Transport in Porous Media*, Vol. 106, p. 523-544, doi:10.1007/s11242-014-0412-6.
3. Casey, B., Germaine, J.T., Flemings, P.B., **Reece, J.S.**, Gao, B., and Betts, W. (2013), Liquid limit as a predictor of mudrock permeability, *Marine and Petroleum Geology*, Vol. 44, p. 256-263, doi:10.1016/j.marpetgeo.2013.04.008.
4. **Reece, J.S.**, Flemings, P.B., and Germaine, J.T. (2013). Data Report: Permeability, compressibility, and microstructure of resedimented mudstone from IODP Expedition 322, Site C0011, *In: Saito, S., Underwood, M.B., Kubo, Y., and the Expedition 322 Scientists, Proc. IODP, 322: Tokyo (Integrated Ocean Drilling Program Management International, Inc.)*, doi:10.2204/iodp.proc.322.205.2013.
5. **Reece, J.S.**, Flemings, P.B., Dugan, B., Long, H., and Germaine, J.T. (2012), Permeability-porosity relationships of shallow mudstones in the Ursa Basin, northern deepwater Gulf of Mexico, *Journal of Geophysical Research*, 117, B12102, doi:10.1029/2012JB009438.
6. Day-Stirrat, R.J., Schleicher, A.M., **Schneider, J.**, Flemings, P.B., Germaine, J.T., van der Pluijm, B.A. (2011). Preferred orientation of phyllosilicates: Effects of composition and stress on resedimented mudstone microfabrics, *Journal of Structural Geology*, Vol. 33, No. 9, p. 1347-1358, doi:10.1016/j.jsg.2011.06.007.
7. **Schneider, J.**, Flemings, P.B., Day-Stirrat, R.J., Germaine, J.T. (2011). Insights into pore-scale controls on mudstone permeability through resedimentation experiments, *Geology*, Vol. 39, No. 11, p. 1011-1014, doi:10.1130/G32475.1.
8. **Schneider, J.**, Flemings, P.B., Dugan, B., Long, H., and Germaine, J.T. (2009). Overpressure and consolidation near the seafloor of Brazos-Trinity Basin IV, Northwest Deepwater Gulf of Mexico, *Journal of Geophysical Research*, 114, B05102, doi:10.1029/2008JB005922.
9. Winkelmann, D., Geissler, W., **Schneider, J.**, Stein, R. (2008). Dynamics and timing of the Hinlopen/Yermak Megaslide north of Spitsbergen, Arctic Ocean, *Marine Geology*, 250, 34-50, doi:10.1016/j.margeo.2007.11.013.
10. Dugan, B., Flemings, P.B., Urgeles, R., Sawyer, D., Iturrino, G.J., Moore, J.C., **Schneider, J.** (2007). Physical Properties of Mass Transport Complexes in the Ursa Region, Northern Gulf of Mexico (IODP Expedition 308) Determined from Log, Core, and Seismic Data, *Proceedings 2007 Offshore Technology Conference: Paper OTC 18704*.

INVITED TALKS

- 2015 Department of Geology, University of Georgia, GA
2013 School of Earth Sciences, The Ohio State University, OH
2013 Department of Geology & Geophysics, Texas A&M University, TX
2012 Department of Geophysics, Stanford University, CA

PARTICIPATION IN SEMINARS AND WORKSHOPS

- 2014 **Workshop Participant**, ADVANCE Roadmap for a Successful Academic Career Workshop, College Station, TX, April 7-8
- 2013 **Workshop Participant**, IODP Workshop on Multidisciplinary Transect Drilling During Transits, College Station, TX, November 11-13
- 2012 **Workshop Participant**, Building U.S. Strategies for 2013-2023 Scientific Ocean Drilling, Denver, Colorado, April 30-May 2
- 2009 **Invited Workshop Participant**, Seabed Sediment Pore Pressure: Genesis, Measurement and Implications for Design/Analysis, Oslo, Norway, March 24-25
- 2008 **Summer School Participant**, Marie Curie Summer School on Aqueous and Porous Materials, Trèst, Czech Republic, August 19-29
- 2008 **Software Training Course Participant**, TEMIS 2D/3D (Basin Modeling), Beicip-Franlab, Houston, TX
- 2007 **Workshop Participant**, Soil Mechanics, Shell E&P, Houston, TX

FIELD EXPERIENCE

- 2005 **Shipboard Sedimentologist**, Integrated Ocean Drilling Program Expedition 308 (Gulf of Mexico Hydrogeology), *R/V JOIDES Resolution*
- 2004 **Student Assistant**, Expedition ARK XX/3 (Arctic Ocean, Svalbard), *R/V Polarstern*
- 2002 **Student Assistant**, Expedition M54/2 (Costa Rica, Nicaragua), *R/V Meteor*
- 2001-04 **Various Undergraduate Research Field Projects**, Led by University of Bremen, Germany

RESEARCH ACTIVITIES

- 2014 **Setting up** own Dynamic Subsurface Processes Laboratory at Texas A&M University
- 2011 **Shore-based scientist** working on Integrated Ocean Drilling Program (IODP) Expedition 322, Nankai Trough, Japan
- 2008-09 **Helped design and setup** the Jackson School of Geosciences GeoMechanics Lab at The University of Texas at Austin
- 2008-09 **Visiting Student** at Department of Civil and Environmental Engineering at Massachusetts Institute of Technology (MIT) (7 months), supervised by Dr. John T. Germaine. Built, setup, and performed uniaxial consolidation and flow-through permeability experiments.

ACTIVE FUNDING

American Chemical Society, Petroleum Research Fund Doctoral New Investigator 2015 - 2017
Effects of microbial activity on mechanical and transport properties of mudstones
Principal Investigator: Julia Reece (TAMU); Collaborator: Mike Tice (TAMU)
Total award: \$110,000

EXPIRED FUNDING

Consortium for Ocean Leadership, Schlanger Ocean Drilling Fellowship Award 2010 - 2011
Resedimentation of Nankai mudstones to illuminate lithologic control on permeability and compressibility
Principal Investigator: Julia Reece (UT); PhD Supervisor: Peter Flemings (UT)
Total award: \$28,000

NON PEER-REVIEWED REPORTS

1. Benson, S., Harris, J., Maher, K., Zoback, M., Agarwal, A., Aird, T., Alshuhail, A., Druhan, J., **Reece, J.**, Strandli, C., Vialle, S., Zahasky, C. (2013). Assessment of leakage detection and intervention scenarios for CO2 sequestration. CCP3 Contingency Planning: White Paper on existing literature, Stanford Center for Carbon Storage, Stanford University.
2. Aliyeva, S., Allan, A.M., Lopéz, H.S.A., Brown, J., Dahl, J.E.P., Das, I., Druhan, J., Dutta, P., Dvorkin, J., Ebert, Y., El Hussein, A., Grana, D., Grombacher, D., Heller, R., Hol, S., Kanitpanyacharoen, W., Kobayashi, Y., Kohli, A., Konishi, C., Lin, Y., Maher, K., Mavko, G., Mukerji, T., Rassouli, F., **Reece, J.S.**, Saxena, N., Sen, A., Skurtveit, E., Tew, A., Vaorio, T., Vialle, S., Walsh, R., Walters, R., Xia, Y., Yang, A., and Zoback, M.D. (2013), Stanford Rock Physics & Borehole Geophysics Project, Vol. 133, Stanford University.
3. Flemings, P.B., Germaine, J.T., Adams, A., Alberty, M., Betts, W., Bhandari, A.R., Casey, B., Coleff, D., Deirieh, A., Fahy, B., Gao, B., Hermanrud, C., Hurd, G., Luo, G., Marjanovic, J., Merrell, M., Meyer, D., Nikolinakou, M., **Reece, J.S.**, and You, Y. (2013). UT GeoFluids annual report to Industrial Associates for 2013: slide set 4, annual report prepared for Anadarko, BHP, BP, Chevron, ConocoPhillips, ExxonMobil, Hess Corp, Schlumberger, Shell, Statoil, Total, The University of Texas at Austin, Bureau of Economic Geology.
4. Flemings, P.B., Germaine, J.T., Adams, A., Betts, W., Casey, B., Cronin, M., Day-Stirrat, R.J., Gao, B., Greeley, D., Horan, A., Katahara, K., Luo, G., Majanovic, J., Merrell, M., Nikolinakou, M., Polito, P., **Schneider, J.**, Smith, A., You, Y. (2012). UT GeoFluids annual report to Industrial Associates for 2012: slide set 3, 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 (23 presentations), Online
5. Flemings, P.B., Germaine, J.T., Adams, A., Betts, W., Braunscheidel, M., Casey, B., Day-Stirrat, R.J., Gao, B., Heppard, P., Horan, A., Luo, G., Majanovic, J., Merrell, M., Nikolinakou, M., Sawyer, D.E., 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
6. Flemings, P.B., Germaine, J.T., Basin, T., Braunscheidel, M., Darnell, K., Day-Stirrat, R.J., Hudec, M.R., Luo, G., Nikolinakou, M., Sawyer, D.E., **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

CONFERENCE ABSTRACTS

2014

Reece, J.S., Zoback, M.D., and Kohli, A.H. (2014), Effect of Shear Slip on Fault Permeability in Shale Reservoir Rocks, Abstract H13Q-03, presented at 2014 Fall Meeting, AGU, San Francisco, Calif., December 15-19.

Al Ismail, M.I., Hol, S., **Reece, J.S.**, and Zoback, M.D. (2014), The Effect of CO₂ Adsorption on Permeability Anisotropy in the Eagle Ford Shale, presented at the "The Challenges of Studying Low Permeability Materials" workshop, Cergy-Pontoise University, December 2.

Al Ismail, M.I., Hol, S., **Reece, J.S.**, and Zoback, M.D. (2014). The Effect of CO₂ Adsorption on Permeability Anisotropy in the Eagle Ford Shale (Poster), Conference Paper 1921520 presented at the Unconventional Resources Technology Conference, Denver, Colorado, August 25-27.

2012

Reece, J.S. and Flemings, P.B. (2012). Prediction of hydraulic diffusivity in marine mudstones through re-sedimentation experiments (Poster), Abstract MR33B-2463 presented at 2012 Fall Meeting, AGU, San Francisco, California, December 3-7.

Bhandari, A.R., **Reece, J.S.**, Cronin, M.B., Flemings, P.B., and Polito, P.J. (2012). Transient pressure-pulse decay permeability measurements in the Barnett shale, Abstract MR33B-2462 presented at 2012 Fall Meeting, AGU, San Francisco, California, December 3-7.

Flemings, P.B., **Reece, J.S.**, Adams, A.L., and Germaine, J.T. (2012). Making Mudstones: insights into material behavior through re-sedimentation experiments, Abstract MR23D-04 presented at 2012 Fall Meeting, AGU, San Francisco, California, December 3-7.

Reece, J.S., Flemings, P.B., and the Expedition 322 Scientists (2012). Deformation and transport processes of re-sedimented mudstones in their initial pre-subduction conditions (Poster), GSA Penrose Conference on Deformation, fluid flow, and mass transfer in the forearc of convergent margins, Lucca, Italy, March 25-31.

2011

Betts, W.S., Flemings, P.B., **Schneider, J.**, (2011), Permeability and compressibility of re-sedimented Gulf of Mexico mudrock, Abstract MR43A-2133 presented at 2011 Fall Meeting, AGU, San Francisco, California, December 5-9.

Schneider, J., Flemings, P.B., Day-Stirrat, R.J., Germaine, J.T. (2011). Insights into pore-scale controls on mudstone permeability and compressibility through re-sedimentation experiments (Oral), Geopressure 2011, An International Interdisciplinary Conference on Pressure Regimes and Their Prediction at all Scales, Galveston, TX, October 2-5.

Schneider, J., Flemings, P.B., Day-Stirrat, R.J., Germaine, J.T. (2011). Insights into pore-scale controls on mudstone permeability and compressibility through re-sedimentation experiments (Oral), Abstract EGU2011-9052 presented at EGU General Assembly 2011, Vienna, Austria, April 3-8.

Schneider, J., Flemings, P.B., Germaine, J.T., Compression and permeability behavior of re-sedimented mudstones from seaward of the Nankai Trough, IODP Expedition 322, Site C0011, presented at 2011 Expedition 319/322 2nd post-cruise meeting, Barcelona, Spain, September 26-28.

Flemings, P.B., Atkins, C., **Schneider, J.**, Particle size analysis IODP Expedition 319 Site C0009 (1521-1595 mbsf), presented at 2011 Expedition 319/322 2nd post-cruise meeting, Barcelona, Spain, September 26-28.

2010

Schneider, J., Flemings, P.B., Day-Stirrat, R.J., Germaine, J.T. (2010). Experimentally derived model to predict permeability behavior of mudstones (Poster), Abstract MR11B-1880 presented at 2010 Fall Meeting, AGU, San Francisco, CA, December 13-17.

Schneider, J., Peets, C.S., Flemings, P.B., Day-Stirrat, R.J., Germaine, J.T. (2010). Experimentally derived mechanical and flow properties of mudstones (Poster), Extended Abstract for the EAGE Shale Workshop - Shale – Resource and Challenge, 3 pp., Nice, France, April 26-28.

2009

Schneider, J., Peets, C.S., Flemings, P.B., Day-Stirrat, R.J., Germaine, J.T. (2009). Experimentally derived mechanical and flow properties of fine-grained soil mixtures (Poster), Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract H23F-1024, San Francisco, CA, December 14-18.

Day-Stirrat, R.J., Flemings, P.B., Strong, H.E., **Schneider, J.**, Sawyer, D.E., Schleicher, A.M. (2009). The fabric of Mass Transport Deposits in the Ursa Basin, Gulf of Mexico, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract T53C-1607, San Francisco, CA, December 14-18.

Strong, H.E., Flemings, P.B., Sawyer, D.E., Germaine, J.T., Day-Stirrat, R., **Schneider, J.**, (2009). Consolidation characteristics of mass transport deposits in Ursa Basin, Northern Gulf of Mexico, American Association of Petroleum Geologists National Meeting, Denver Colorado.

2008

Schneider, J., Flemings, P.B., Dugan, B., Long, H., Germaine, J.T., Saffer, D.M. (2008). Porosity vs. Permeability Behavior of Shallow Mudstones in the Ursa Basin, Deepwater Gulf of Mexico (Poster), Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract OS11A-1105, San Francisco, CA, December 15-19.

Flemings, P.B., You, Y., Sawyer, D., **Schneider, J.** (2008). Forward modeling pore pressure evolution in the Ursa Basin, offshore Louisiana, Gulf of Mexico, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract OS11A-1104, San Francisco, CA, December 15-19.

Flemings, P.B., Dugan, B.E., Sawyer, D.E., **Schneider, J.**, Strong, H.S. (2008). Pore pressure penetrometers document high overpressure near the seafloor where multiple submarine landslides have occurred on the continental slope, offshore Louisiana, Gulf of Mexico, 33rd International Geological Congress, Oslo, Norway.

Schneider, J., Flemings, P.B. (2008). Overpressure and compaction of porous marine sediments (Poster, Oral), Marie Curie Summer School, Knowledge Based Materials, Hydrous and porous systems, Trèst, Czech Republic, August 19-29.

Flemings, P.B., Long, H., **Schneider, J.**, Germaine, J.T., Dugan, B. (2008). Compressibility and Permeability Behavior of Shales at Low Effective Stresses, European Association of Geoscientists & Engineers Research Workshop, 'Compacting and Stressing Out Shales: from Geological to Production Timescales', Berlin, Germany.

Schneider, J., Flemings, P.B., Long, H., Dugan, B., Germaine, J.T., Saffer, D.M., and IODP Expedition 308 Shipboard Scientific Party (2008). Pore pressure prediction near the seafloor in the Brazos-Trinity Basin, Gulf of Mexico (Oral), International Conference "Overpressure 2008: Present and Future Challenges – A Research Conference", Durham, England, April 6-9.

2005

Schneider, J., Moerz, T., Bartetzko, A., Iturrino, G.J., Edeskaer, T.M., Flemings, P.B., Behrmann, J.H., John, C.M., and IODP Expedition 308 Shipboard Scientific Party (2005). Examples of mass wasting and hemipelagic sedimentation of Brazos-Trinity Basin #4 and Ursa Basin (Poster), Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract OS21A-1516, San Francisco, CA, December 5-9.

Schneider, J., Moerz, T., Bartetzko, A., Iturrino, G.J., Edeskaer, T.M., Flemings, P.B., Behrmann, J.H., John, C.M., and IODP Expedition 308 Shipboard Scientific Party (2005). Examples of mass wasting and hemipelagic sedimentation of Brazos-Trinity Basin IV and Ursa Basin, Northern Gulf of Mexico, IODP Expedition 308 (Poster), German IODP Meeting, Greifswald, Germany, March 27-29.

TEACHING EXPERIENCE

2015 **Teaching** undergraduate level class 'Introd. to Sedimentology and Stratigraphy' (GEOL 306)
2014, 2015 **Teaching** undergraduate level class 'Principles of Geological Writing' (GEOL 311)
2014 - present **Mentoring** PhD student in own research group
2011 **Taught 'Permeability Laboratory'** in the graduate course 'Crustal Fluids'
2011 **Mentored undergraduate student** in mudrock analyses and resedimentation.
2010 **Mentored visiting undergraduate and new incoming graduate student** in grain size analyses and geotechnical experimentation.
2010 **Mentored undergraduate student** in grain size analyses.
2010 **Teaching Assistant** for undergraduate course 'Petroleum Geology' at UT Austin
2009 **Mentored summer intern** from Fort Valley State University for two months in geotechnical experimentation.

STUDENT ADVISING

N. Tanner Mills, PhD degree, Texas A&M University, Dept. of G&G, Supervisor, 2015 – present
Autumn Eakin, PhD degree, Texas A&M University, Dept. of G&G, Supervisor, 2014 – present
Naveen Kumar Ganji, MS degree, Texas A&M University, Dept. of Civil Eng., Committee Member, 2015 – present
Dong Wang, PhD degree, Texas A&M University, Dept. of Civil Eng., Committee Member, 2014 – present
William Betts, MS degree, The University of Texas at Austin, Committee Member, 2013 - 2014

SERVICE TO THE UNIVERSITY, PUBLIC AND PROFESSION

2015 – present TAMU Dept. of G&G Graduate Admissions Committee Member
2014 – 17 Member of Science Evaluation Panel (SEP) for International Ocean Discovery Program (IODP)
2013 – 15 Reviewer for American Rock Mechanics Association (ARMA), Marine and Petroleum Geology (MPG), Integrated Ocean Drilling Program – Ocean Leadership, and Geochemistry, Geophysics, Geosystems (G-cubed)

2013 Co-organizer of School of Earth Sciences Postdoc Seminar Series at Stanford University
2012 Judge for Outstanding Student Paper Award (OSPA) at AGU Fall Meeting (Tectonophysics)
2012 Judge at Annual Jackson School Research Symposium, The University of Texas at Austin,
February 4

PROFESSIONAL AFFILIATIONS

American Association of Petroleum Geologists (AAPG)
American Geophysical Union (AGU)
American Rock Mechanics Association (ARMA)
Deformation Experimentalists at the Frontier Of Rock and Mineral research (DEFORM)
European Association of Geoscientists and Engineers (EAGE)
Earth Science Women's Network (ESWN)
Geological Society of America (GSA)

COLLABORATORS

Hugh Daigle (University of Texas at Austin); Brandon Dugan (Rice University); Derek Sawyer (Ohio State University); Michael Tice (Texas A&M University); Mark Zoback (Stanford University)