SALLY L. POTTER-MCINTYRE, Ph.D.

EDUCATION

- A.S., Colorado Mountain College, 2004
- B.S. in Geology, Mesa State College, summa cum laude, 2006
- M.S. in Geology, University of Utah, 2009
- Ph.D. in Geology, University of Utah, defended September, 28, 2012; degree issued May, 2013

AREAS OF EXPERTISE

- Sedimentology, sedimentary diagenesis, basin analysis
- Geochemistry of terrestrial environments, geobiology
- Mars sedimentology and sedimentary/geochemical records of life

COURSES

- Stratigraphy and Sedimentology
- Advanced Stratigraphy and Sedimentology
- Petroleum Geology

EMPLOYMENT

- Assisstant Professor of Geology, Department of Geology, Southern Illinois University, Carbondale, IL
- Lecturer, Colorado Mesa University, Department of Physical and Environmental Sciences, Fall, 2012 to present
- Energy and Geoscience Institute at the University of Utah, summer 2011. Field Geologist.
- Research Assistant (to B.J. McPherson), Fall 2011 – present
- Energy and Geoscience Institute at the University of Utah, summer 2010: Field Geologist. CO_2 sequestration project; Atlas III project; Brian McPherson, supervisor; Conducted field studies of potential CO2 reservoir seals, mentored undergraduate student field and lab efforts; led field trip to Capitol Reef to examine sedimentology and structure of the Jurassic rocks on the Colorado Plateau
- Teaching Assistant, University of Utah, Fall 2010, Spring 2011
- Graduate Fellow, Fall 2009 – Spring, 2010
- Research Assistant (to M. Chan), Fall 2006 – Spring 2008

GRANTS, PROFESSIONAL SERVICE AND MEMBERSHIPS

- Unconventional Energy Center for Applied Research grant: Depositional Environment of the Jurassic Wanakah Formation: Applications for CO2 sequestration, enhanced oil recovery and training the next generation of industry geoscientists
- University of Utah Stokes Fellowship, 2009/10
- ExxonMobil Geoscience Grant, 2009
- Co-chair for 2007 Association for Women Geoscientists 2007 Convention, "Transitions", October 2007
- Alternate Rocky Mountain Regional Delegate to the Association for Women Geoscientists Board of Directors, October, 2006 to 2012
- Salt Lake Valley Science and Engineering Fair Special Awards judge, 2009, 2010
- Hillside Middle School science fair judge, 2011
- Member of the Geological Society of America, Association for Women Geoscientists, and American Association of Petroleum Geologists

INVITED PRESENTATIONS/WORKSHOPS

- 2007 Josep Comas i Sola International Summer School in Astrobiology, July 2007, Santander, Spain, co-sponsored by NASA Astrobiology Institute (NAI) and the Centro de Astrobiologia, full scholarship
    - One of 10 American graduate student, postdoc and early career scientists selected for funding by NAI
- 2008 Ground Truth from Mars: Science Payoff from a Sample Return Mission, Albuquerque, New Mexico, funded by Jet Propulsion Laboratory
    - One of ~10 graduate students selected
- 2010 Sweden AbGradCon, invited presentation and full scholarship, Tällberg, Sweden
    - One of ~80 international graduate student, postdoc and early career scientists invited and funded
- 2010 Mesa State College, invited speaker
- 2011 UH/NAI Astrobiology Winter School, University of Hawaii
    - One of 40 international graduate student, postdoc and early career scientists selected for participation and funded
- 2011 NASA Planetary Science Summer School at Jet Propulsion Laboratory, Trojan asteroid rendezvous mission, 2011, full scholarship
    - One of 34 American Ph.D. students and postdocs selected for participation and funded
- 2011 Sao Paulo Advanced School of Astrobiology, University of Sao Paulo, Brazil
    - One of 75 international undergraduate, graduate, postdoc, and early career scientists invited and funded.
- 2013 AbGradCon, McGill University, Montreal, Quebec, Canada

SELECTED PUBLICATIONS

In press/In prep

Diniega, S., Balcerski, J., Carande, B., Diaz-Silva;, R.A., Fraeman, A.A., Guzewich, S.D., Hudson, J., Nahm, A.L., **Potter-McIntyre. S.L**., Route, M., Sayanagi, K., Urban, K., Vasisht, S., Benneke, B., Gil, S., Livi, R., Williams, B., Budney, C.J., Lowes, L.L., 2012. Mission to the Trojan Asteroids: lessons learned during a JPL Planetary Science Summer School mission design exercise. Planetary and Space Science, in press.

Potter-McIntyre, Sally L., Allen, J.L., Lee, S-Y., Chan M.A., McPherson, B.J., 2012. Iron Precipitation in a Natural CO_2 Reservoir: Jurassic Navajo Sandstone in the northern San Rafael Swell, UT, USA. Geofluids, in press.

Han, W-S., Lee, S-Y., Allen, J.L., and **Potter-McIntyre, S.L.**, 2012. Potential Effects of Dip and Sinusoidal Structures in Geologic Formations on CO2 Plume Migration and Storage. International Journal of Greenhouse Gas Control, in review.

Allen, J.L., Lee, S-Y., **Potter-McIntyre, S.L.,** 2012, Three Dimensional Geologic Model of the Eolian Jurassic Navajo Sandstone in Central Utah for the Evaluation of CO_2 Sequestration, UGA Guidebook, in review.

Potter-McIntyre, S.L., Chan, M.A., and McPherson, B.J., 2012, Evaluating the Role of Organics, Mineralogy and Petrophysical Properties on Early Diagenesis and Concretion Formation in Volcaniclastic Host Rock Composition, Journal of Sedimentary Research, in review.

Potter-McIntyre, S.L., Chan, M.A. and McPherson, B.J., 2012, Textural and Mineralogical Characteristics of Microbial Fossils Associated with Modern and Ancient Iron (Oxyhydr)oxides, Earth and Planetary Science Letters. submitted.

Peer-reviewed Publications and Book Chapters

Chan, M.A., **Potter, S.L**., Bowen, B.B., Petersen, E.U., Parry, W. T., Bowman, J.R., Barge, L., and Seiler, W., 2011. Characteristics of terrestrial ferric oxide concretions and implications for Mars, in: Grotzinger, J. and Milliken, R. (eds.), Sedimentary Geology of Mars: SEPM Special Publication 102.

Chan, M.A., Parry, W. T., Bowen, B.B., and **Potter, S.L**., 2011. Follow the water: Connecting a CO2 reservoir and bleached sandstone to iron-rich concretions in the Navajo Sandstone of south-central Utah, USA – COMMENT. Geology.

Potter, Sally L., Chan, M., Petersen, E., Dyar, M.D., Sklute, E., 2011. Characterization of Navajo Sandstone Concretions: Mars comparison and criteria for distinguishing diagenetic origins. Earth and Planetary Science Letters 301, 444-456.

Potter, Sally L., Chan, M.A., 2011. Joint controlled fluid flow patterns and iron mass transfer in Jurassic Navajo Sandstone, Southern Utah, USA. Geofluids 11, 184-198.

Barge, L.M., Hammond, D.E., Chan, M.A., **Potter, S.L**., Petruska, J., Nealson, K.H., 2011. Precipitation patterns formed by self-organizing processes in porous media. Geofluids 11, 124-133.

Selected Abstracts

Potter-McIntyre, Sally L., Chan, M.A., McPherson, B.J., 2012, Textural and mineralogical characteristics of microbial fossils in modern and ancient iron (oxyhydr)oxides, accepted AGU abstract

Potter-McIntyre, Sally L., Allen, J.L., Lee, S-Y., Han, W.S., Chan, M.A., McPherson, B.J., 2012, Iron precipitation in a natural CO_2 reservoir: Jurassic Navajo Sandstone in the northern San Rafael Swell, UT, USA, RMSAAPG Abstract 0309.

Potter-McIntyre, Sally L., Chan, M.A., McPherson, B.J., 2012. Iron (oxyhydr)oxide biosignatures in the Brushy Basin Member of the Jurassic Morrison Formation, Colorado Plateau, USA: Analog for martian diagenetic iron. Abstracts of Papers Submitted to the Lunar and Planetary Science Conference, Abstract, vol. 43, Abstract #1940.

Potter, Sally L., Chan, M.A., McPherson, B.J., 2011. Iron precipitation in the Brushy Basin Member of the Jurassic Morrison Formation: Clues to diagenetic biogeochemical cycles. Abstracts with Programs - Geological Society of America

Potter, Sally L., Allen, J.L., Han, W.S., McPherson, B., Chan, M.A., 2010. Diagenetic iron oxide precipitation; a proxy for supercritical CO2 spatiotemporal flow. Abstracts with Programs - Geological Society of America 42.

Potter, Sally L., Petersen, E.U., Chan, M. A., 2009. QEMSCAN: A Revolutionary Sedimentary Petrology Tool. GSA Annual Meeting (18-21 October 2009) Paper No. 42-5.

Potter, Sally L., Chan, M. A., 2009. Characterization of Navajo Sandstone Concretions: Mars Comparisons and Criteria for Distinguishing Diagenetic Origins. Abstracts of Papers Submitted to the Lunar and Planetary Science Conference, vol. 40, Abstract #2100.

Potter, Sally L., Chan, M. A., Petersen, E. U., 2008. Mineralogical characterization of Navajo Sandstone iron oxide concretions using QEMSCAN and reflectance spectroscopy: analogue for Martian diagenetic processes. Abstracts of Papers Submitted to the Lunar and Planetary Science Conference, vol. 39, Abstract #1230.

Potter, Sally L., Chan, M. A, 2007. Joint controlled fluid flow patterns in Jurassic Navajo Sandstone: analog implications for Mars hematite. Abstracts with Programs - Geological Society of America, vol. 39, no. 6, p. 284.

Potter, Sally L., Chan, M. A, 2007. Textural characteristics of spheroidal iron oxide concretions: terrestrial analogues for Mars. Abstracts of Papers Submitted to the Lunar and Planetary Science Conference, vol. 38, Abstract #1896.