

GARY KOCUREK

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EDUCATION:

B.S. (with honors), Geology, University of Houston, 1975
M.S., Geology, University of Houston, 1977
Ph.D., Geology, University of Wisconsin, 1980

RESEARCH AREAS:

Sedimentology, stratigraphy, geomorphology, aeolian systems, Mars sedimentary geology

ACADEMIC POSITIONS:

J. Nalle Gregory Chair in Sedimentary Geology, Department of Geological Sciences, University of Texas at Austin, September 2005 - present
Elliott Professor, Department of Geological Sciences, University of Texas at Austin, 1995-2005
Professor, Department of Geological Sciences, University of Texas at Austin, September 1990 - present
Visiting Professor, Academy of Sciences of the Czech Republic and Charles University, Prague, September 2005 - January 2006.
Visiting Professor, Institut de Geologie, Strasbourg, France, September 1994 - May 1995
Associate Professor, Department of Geological Sciences, University of Texas at Austin, September 1986 - August 1990
Assistant Professor, Department of Geological Sciences, University of Texas at Austin, September 1980 - August 1986

UNIVERSITY COURSES TAUGHT:

Graduate: Dynamics of Sedimentary Systems, Sedimentary Processes, Sediments and Sedimentary Rocks, Depositional Systems, Seminar in Sedimentary Processes, Regional Geology of Western North America
Undergraduate – Sedimentary Geology, Sedimentology, Summer Field Camp, Field Methods, Geology of the National Parks, Earth, Wind and Fire, Living With a Planet, Physical Geology

NON-UNIVERSITY SERVICE:

NASA/JPL Mars Science Lab (MSL) Science Team 2012 - present
NSF Panel (Geomorphology & Land Use), November 2009
Organizing Committee, First International Conference on Mars Sedimentology & Stratigraphy, 2009 - 2010, El Paso
Field Trip Leader, NASA, White Sands, NM, April 2008
Editorial Board, *Aeolian Research*, 2008 - 2012
Editorial Board, *Bulletin of Geosciences (Czech)*, 2006 - 2012
Fulbright Selection Committee (Prague), November 2005

J. William Fulbright Scholar (Lecturer, Czech Republic), 2005
Session Co-Organizer & Co-Chair, Geological Society of America Annual Meeting, Denver (CO), 2004
Reviewer, *Opportunity* Results, NASA, April 2004
Member, Mars Space Laboratory 2009 Rover Mission Planning Committee (JPL), 2002 - 2003
Editorial Board, *Sedimentary Geology*, 1995 - 2012
External Examiner, Charles University, Prague (Ph.D. Jiri Laurin, Department of Geochemistry & Mineralogy), 2003
Associate Editor, *Journal of Sedimentary Geology*, 1992 - 1997
Editorial Board, *Sedimentology*, 1991 - 1998
Earth & Sky Radio Series Science Advisor, 1996 - 2004
Script Consultant, National Geographic Television, 1998 - 2000
External Examiner, Aberdeen University (Ph.D. Tim Goodall, Department of Geology), 1995.
SEPM Ad Hoc Committee for New Journal Options, 1992 - 1993
Dr. Scient. degree opponent, Institut fur Almen Geologi, K benhavn Universitet, Copenhagen, Denmark, 1991
Consultant to Super Science Blue Scholastic Magazine, 1990
International Geological Congress, Washington, chairman, Eolian Deposits in Time and Space, 1988 - 1989
Organizer, Eolian Interest Group, Society of Economic Paleontologists and Mineralogists, 1985
Midyear Meeting, Society of Economic Paleontologists and Mineralogists, Golden, chairman, Late Paleozoic and Mesozoic Eolian Systems of the Western United States, 1985
Annual Meeting, American Association of Petroleum Geologists, New Orleans, chairman, Eolian Deposits as Hydrocarbon Reservoirs, 1985
Annual Meeting, Gulf Coastal Association of Geological Societies (SEPM), Austin, program chairman, 1985
Reviewer: *Sedimentology*, *Journal of Sedimentary Research*, *Sedimentary Geology*, *Geology*, *Canadian Journal of Earth Sciences*, *Mathematical Geology*, *Bulletin of American Association of Petroleum Geologists*, *Bulletin of Geological Society of America*, *Earth Science Letter*, *Nature*, *Science*, *Journal of Geophysical Research*, *Geomorphology*, *Earth Surface Processes & Landforms*, *Aeolian Research*, *Earth Planetary Science Letters*, *Holocene*, *Quaternary Science Reviews*, *Catena*
Reviewer: National Science Foundation, Petroleum Research Fund, National Geographic Society, Department of Defense, NASA

UNIVERSITY SERVICES:

Chair, Promotion Committee for Jack Holt, 2014
Chair, Tenure Review Committee for Wonsuck Kim, 2014
Post-tenure Review Committee, 2014
Promotion Committee for Richard Ketcham, 2013
Mentor, Wonsuck Kim 3rd Year Review, 2012
Chair, Appointments Committee, 2011- 2012
Ad hoc committee on selection of Department Manager, 2011
Ad hoc Committee on Department Chair Selection, 2011
Chair, Budget Council sub-committee for Mohrig promotion, 2010
Ad hoc Committee for Faculty Salary Review, 2010
Undergraduate Committee, 2009 - 2012
Ad hoc Committee for Post-Tenure Review, 2008

Faculty Search Committee, 2007 - 2008
Jackson School Appointments Committee, 2007 - 2009
Jackson School Endowment Committee, 2006 - 2009
Chair, Teaching Evaluation Committee, 2006 - 2007
Committee on Faculty Compensation, 2006 - 2007
Research & Graduate Education Strategic Planning Committee, 2006
Teaching Evaluation Committee, 2006
Faculty Search Committee, 2005 - 2006
Faculty Search Committee, 2003 - 2004
Faculty Search Committee, 2002 - 2003
Building Dedication Organizing Committee, 2002
Environmental Science Institute Cluster-Hire Committee, 2002
University Vehicle Fleet Committee, 2002
Department Chairman, 2000 - 2004
Jackson School Steering Committee, 2001 - 2004
Geology Foundation Executive Committee, 2001 - 2004
Ad Hoc Committee on Formation of Jackson School, 2001
Hall of Honor Award Committee, 2000
Chairman, Faculty Search Committee, 1999 - 2000
Post-Tenure Review Committee, 1999 - 2000
Chairman, Promotion and Tenure Committee, College of Natural Sciences, 1997 - 1998
Promotion and Tenure Committee, College of Natural Sciences, 1996 - 1998
Faculty Search Committee, 1998
Strategic Planning Implementation Committee, 1996 - 2000
Faculty Review Committee, 1996 - 2001
Chairman, Departmental Teaching Evaluation Committee, 1996 - 1997
Chairman, Research Programs Task Force, 1996 - 1997
Departmental Teaching Evaluation Committee, 1996 - 1997
Departmental Strategic Planning Committee, 1995 - 1996
Associate Chairman, 1992 - 1994
Ad Hoc Committee on Geology–Petroleum Engineering Curriculum, 1993 - 94
Chairman, Ph.D. Graduate Standards Committee, 1990 - 96
Undergraduate Program Revision Committee, 1990
Chairman, Ph.D. Exam Revision Committee, 1988 - 1989
Faculty Search Committee, 1992 - 93, 1988 - 1989, 1987 - 90
Visiting Speakers Committee, 1986 - 1991, 1982 - 1984
Chair-criteria Committee, 1987 - 1988
Agenda Committee, 1987 - 1988
Postdoc, Sabbatical and Lectureship Committee, 1987 - 1991
Thin-Section Committee, 1982 - 1986
Ph.D. Procedures Committee, 1985 - 1986
Graduate Revision Committee, 1983 - 1984
Chairman, Admissions and Support Committee, 1983 - 1984
B.S. Revision Committee, 1983 - 1984
Admissions and Support Committee, 1981 - 1983

THESIS SUPERVISION:

Post-Doctoral

- Benan, Cheikh Ould Ahmed, Quaternary aeolian systems of Mauritania. 1996 - 1998
Chang, Tom, Airflow over dunes--modeling and simulation, co-supervision with Larry Lake (P.E.), 1989 - 1990

Ph.D. Students

- McKenzie Day, 2012 – present
Sagar Parajuli, 2012 – present (co-supervision with Liang Yang)
Sarah Christian, 2011 – present.
Travis Swanson, 2010 – present (co-supervision with David Mohrig)
Eastwood, Erin. 2011. Methodology for determination of wind speed and direction from aeolian cross-strata, and pattern modeling from cellular automaton models.
Ewing, Ryan, 2009. Role of bedform interactions and boundary conditions in dune-field pattern development on Earth and Mars.
Feseha, Mulugeta, 2002. Sequence stratigraphy, petrography and geochronology of the Chilga Rift basin sediments, NW Ethiopia (co-supervision with John Kappelman, UT-Anthropology).
Broquet, Charl, 1994 – 1996. Modeling and field experimentation of dune formation (incomplete).
Swezey, Christopher, 1997. Climatic and tectonic controls on Tunisian basin sequences.
Verlander, Jon, 1996. Sequence modeling of Mesozoic eolian section, Colorado Plateau (co-supervision with Philip Allen, Oxford, UK).
Frank, Andy, 1994. Models for airflow velocity profiles in natural settings: accounting for atmospheric conditions and secondary flow over eolian dunes.
Crabaugh, Mary, 1994. Controls on accumulation in modern and ancient wet eolian systems.
Havholm, Karen, 1989. Eolian event stratigraphy: theory and application to the Middle Jurassic Page Sandstone, Colorado Plateau, U.S.A.
Sweet, Michael, 1989. Eolian dune airflow dynamics: implications for dune migration, deposits and spacing.
Nielson, Jamie, 1986. The surfaces processes, internal structure, and net deposits of eolian dunes and sand sheets.
Lehman, Thomas, 1985. Stratigraphy, sedimentology, and paleontology of Upper Cretaceous (Campanian-Maastrichtian) sedimentary rocks in Trans-Pecos Texas.

M.S. Students

- Anine Pedersen, 2014. Dune behavior in a multidirectional wind regime: white Sands Dune Field, New Mexico.
Elke Baitis, 2011. Statistic characterization of the White Sands Dune Field from LiDAR.
Glenn Makechnie, 2010 – Sequence stratigraphic analysis of marginal marine sabkha facies: Entrada Sandstone, Four Corners Region
Derickson, Dana, 2005. Origin of a complex dune pattern, Algodones, SE California.
Beveridge, Carrie, 2004. Age and evolution of the Gran Desierto dune field, Mexico.
Ewing, Ryan, 2004. Pattern variability in natural dune fields.

Gulh, Meredith, 2004. Origin and evolution of the Todilto Formation, northern New Mexico: stratigraphic and geochemical evidence.

Valentine, Shane, 2004. Formation and organization of aeolian bedforms.

John, Jason, 2000. Stratigraphic correlation of the Entrada Formation in NE Arizona with emphasis on relative timing of Todilto Formation deposition (co-supervise with B.K. George).

Wilson, Sarah, Characterization of airflow over dunes, 1993-1997 (incomplete).

Murphy, Keith, 1994. Analysis of near surface velocity gradients to predict sand transport, (co-supervise with Larry Lake, Petrol. Eng.).

Bowling, Doug, 1994. Accumulation in a dry eolian system; an example from the Jurassic Page Sandstone, southern Utah.

Swezey, Christopher, 1991. Description and interpretation of the Jurassic J-2 unconformity of the Western Interior (U.S.A.).

Yeh, Edna, 1990. Early development of dunes on North Padre Island, Texas.

Andreason, Mark, 1990. Coastal evaporative environments of the Permian Yates inner shelf and the effects of penecontemporaneous sulfate dissolution, Central Basin Platform, Ward County, Texas.

Chandler, Mark, 1986. Depositional controls on permeability in an eolian sandstone sequence, Page Sandstone, northern Arizona.

Knight, Julia, 1986. Eolian bedform reconstruction--a case study from the Page Sandstone (Jurassic), northern Arizona.

Havholm, Karen, 1986. Dynamics of a modern dune field, Algodones dune field, California.

Oakes, Chandler, 1984. Environmental significance of variations in first-order bounding surfaces in eolian deposits: Entrada Sandstone, southeastern Utah.

Eschner, Terry, 1983. Marine destruction of eolian sand seas: an example in the Jurassic Entrada and Curtis Formations, northeastern Utah.

Hummel, Gary, 1982. Interdune areas of the back-island dune field, North Padre Island, Texas.

B.S. Theses

Anine Pedersen, 2012. Determination of impact of seasonal wind direction at White Sand Dune Field from LiDAR.

Townsley, Maggie, 1987. Development and dynamics of incipient eolian sand dunes, north Padre Island, Texas.

Farrelley, John, 1986. Grain size variation across the Algodones dune field, southeastern California.

GRANTS:

Aeolian Systems Source-to-Sink Analysis for MSL Landing Site and Basin. 2012 -2014. NASA (\$317,300).

Development of the next generation of aeolian dune stratigraphic model with application to the Jurassic Norphlet Sandstone. 2011 – 2016. Shell (\$907,899).

Refinement of dust entrainment and transport dynamics for input into the next generation coupled land-atmosphere models. 2011 – 2014. KAUST (\$540,000) (Liang Yang, PI; Kocurek, Co-PI).

Dune dynamics monitoring protocol development. 2011 – 2012. National Park Service (\$40,000).

Role of bedform interactions and boundary conditions in pattern development. 2009 - 2012. National Science Foundation (\$275,000) (Kocurek, PI; David Mohrig, Co-PI).

Blue Highways: Evaluating Middle Stone Age riverine-based foraging mobility and technology along trunk tributaries of the Blue Nile. 2009 - 2012. National Science Foundation (\$329,999) (John Kappelman, PI, UT-Anthropology; Kocurek Co-I).

The geomorphology and evolution of the North Polar Sand Sea on Mars. 2008 - 2011. NASA - Mars Fundamental Research (\$253,285) (Mary Bourke, PI, Planetary Science Institute; Kocurek Co-I subcontract \$15,000).

LIDAR survey of gypsum dune fields in White Sands, New Mexico. 2008 - 2010. National Park Service (\$117,500).

Natural and anthropogenic forcing in erosion processes in the Straznicke Pomoravi area: Holocene history and future prospects. 2008 - 2011. Czech Academy of Sciences (Jaroslav Kadlec, PI; Czech Academy of Sciences: grant covers transport and per diem for Kocurek).

LIDAR survey of gypsum dune fields in White Sands National Monument, New Mexico – pilot study for assessing dune dynamics. 2007. National Park Service (\$19,400).

Complexity and paleodynamics of natural sand dune fields. 2001 - 2005. National Science Foundation (\$194,688).

Mechanics of eolian sand dune development: computer simulations and field experiments. 1996 - 2000. National Science Foundation (\$180,897).

Eolian research program. 1996. Mobil Corporation (\$7,500).

Eolian research program. 1995. Mobil Corporation (\$10,000).

Climatic influence upon sands of the Grand Erg Oriental, Tunisia. 1995. National Geographic Society (\$17,750).

Eolian research program. 1994. Mobil Corporation (\$5,000).

Responses of eolian and associated depositional systems to climatic and dynamic external factors. 1993 - 1994. National Science Foundation (\$98,000).

Response of eolian systems to climate and dynamic external factors. 1993 - 1994. France CNRS, with M. Deynoux (\$10,000).

Dune and water-table behavior and interaction, White Sands National Monument, 1991 - 1993. Southwest Parks and Monuments Association (\$11,200).

Eolian facies architecture using event stratigraphy: Akchar Erg, Mauritania, 1991. NATO (\$6,480).

Reservoir geometries/controls on the erg/sabkha transition zone, 1991. British Petroleum (\$36,000).

Reservoir characteristic predictions for eolian systems, 1991 - 1993. Texas Higher Education Coordinating Board (\$200,000).

Eolian facies architecture using event stratigraphy: Akchar Erg, Mauritania, 1990. NATO (\$6,000).

Reservoir geometries/controls in the erg/sabkha transition zone, 1990. British Petroleum (\$36,000).

Erg/sabkha transition zone, 1989. UNOCAL (\$2,000).

Depositional and diagenetic facies of the Yates Formation in Ward County, Texas, 1989. Chevron (\$2,000).

Eolian processes and depositional products, 1989. British Petroleum - Standard (\$8,000).

Reservoir geometries/controls in the erg/sabkha transition zone, 1989. British Petroleum (\$36,000).

Permeability patterns in eolian sandstones, 1988. Mobil Res. (\$5,000).
Correlation and significance of super bounding surfaces in eolian sandstones: Jurassic Page Sandstone, Colorado Plateau, 1988 - 1990. National Science Foundation (\$50,000).
A systematic procedure for reservoir characterization, 1988 - 1989. Department of Energy, research associate with PI L. Lake (Petroleum Engineering) (\$200,000).
Formation of a modern super bounding surface by erg migration: Akchâr Erg, Mauritania, 1988. National Science Foundation (\$10,150).
Draa lee-face dynamic processes, 1988. UNOCAL (\$1,400).
Eolian processes and depositional products, 1988. Standard (\$7,000).
Eolian compound crescentic dune (draa) dynamics, 1987 - 1989. National Science Foundation (\$102,697).
Eolian processes as related to surface airflow, 1986. Mobil Res. (\$5,000).
A systematic procedure for reservoir characterization, 1985 - 1988. Department of Energy, research associate with PI L. Lake (Petroleum Engineering) (\$629,125).
Study of Jurassic Page Sandstone for reservoir characterization, 1985. AMOCO (\$75,000).
A systematic procedure for reservoir characterization, 1985. Center for Enhanced Oil and Gas Recovery Research research associate with PI L. Lake (Petroleum Engineering) (\$35,000).
Reservoir characterization for numerical simulation, 1984. Department of Energy, research associate with PI L. Lake (Petroleum Engineering) (\$99,967).
Schlumberger reservoir characterization, 1984. Schlumberger Research Lab, research associate with PI L. Lake (Petroleum Engineering) (\$15,000).
Reservoir properties of eolian sand bodies, 1984. Mobil Res. (\$5,000).
Systematic procedures for reservoir characterization, 1984. Center for Enhanced Oil and Gas Recovery Research, research associate with PI L. Lake (Petroleum Engineering)
Flume (equipment), 1984. Union Lab. (\$20,000).
Structure and dynamics of star dunes, Dumont dune field, southeastern California, 1983. AMOCO (\$2,000).
Preliminary study of wind ripple mechanics, 1982. University Research Institute (\$500).
Origin of first-order bounding surfaces in eolian sandstones, 1981. AMOCO (\$2,500).
Eolian-marine interactions during a transgression over an eolian sand sea, Curtis Formation, Utah, 1981. ARCO (\$2,000).
Eolian sand trap (equipment), 1981. GBC JWC, Denver (\$3,000).

PATENTS:

Electronic Field Permeameter, U.S. patent #S/N 102,555, M. A. Chandler, D. J. Goggin, P. J. Horne, G. Kocurek, L. Lake, 1987.

PUBLICATIONS:

Editor

Late Paleozoic and Mesozoic Eolian Systems of the Western Interior of the United States, 1988, *Sedimentary Geology* 56, 413 p.

Chapters

Desert Aeolian Systems in H.G. Reading (ed.) *Sedimentary Environments: Processes, Facies and Stratigraphy*, 3rd edition, 1996. Blackwell, Oxford, 125-153.

Papers

Google Scholar h-Index: 40, 4,872 citations, i10-index: 80

- Pedersen A., Kocurek G., Mohrig D. & Smith V. 2014. Dune behavior in a multidirectional wind regime: White Sands Dune Field, New Mexico. *Earth Surface Processes and Landforms* (in review).
- Shaw J., You Y., Mohrig D. & Kocurek G. 2014. Reconstructing the formation history of a hurricane-generated washover fan on the Texas coast using stratigraphy and storm surge records. *Geology* (in review).
- Kadlec J., Kocurek G., Mohrig D., Shinde D.P., Murari M.K., Varma V., Stehlik F., Benes V. & Singhvi A.K. 2014. Response of fluvial, aeolian and lacustrine systems to Late Pleistocene to Holocene climate change, Lower Moravian Basin, Czech Republic. *Geomorphology* (in review).
- Bridges N., Calef F., Hallet F., Herkenhoff K., Lanza N., Le Mouelic S., Newman C., Blaney D., de Pablo M., Kocurek G., Langevin Y., Lewis K., Mangold N., Maurice S., Meslin P., Pinet P., Renno N., Rice M., Richardson M., Sautter V., Sletten R., Wiens R. & Yingst R. 2014. The rock abrasion record at Gale Crater: MSL results from Bradbury Landing to Rocknest. *Journal of Geophysical Research – Planet* (in press).
- *Parajuli S.P., Zong-Liang Y. & Kocurek G. 2014. Mapping land-surface erodibility in dust-source regions based on geomorphology, meteorology, and remote sensing. *Journal of Geophysical Research* (in review)
- *Baitis E., Kocurek G., Smith V., Mohrig D., Ewing R.C., Peyret A.-P. B., 2014. Definition and origin of the dune-field pattern at White Sands, New Mexico. *Aeolian Research*. (in press)
- Kappelman J., Tewabe D., Todd L., Feseha M., Kay M., Kocurek G., Nachman B., Tabor N. & Yadeta M., 2014. Another unique river: a consideration of some of the characteristics of the trunk tributaries of the Nile River in northwestern Ethiopia in relationship to their aquatic food resources. *Journal of Human Evolution*. (in press)
- *Smith V., Kocurek G., Mohrig D., Christian S., Rhinehart E. & Pedersen A. 2013. Dune dynamics monitoring protocol for gypsum dune fields in White Sands National Monument, New Mexico. *Natural Resource Technical Report NPS/CHDN/NRTR* – (in press)
- *Piliouras A., Kim W., Kocurek G., Mohrig D., & Kopp J. 2014. Sand on salt: Controls on dune subsidence and determining salt substrate thickness. *Lithosphere* 6, 195-199.
- Blake D.F., Morris R.V., Kocurek G., Morrison S.M., Downs R.T., Bish D., Ming D.W., Edgett K.S., Rubin D.M., Goetz W., Madsen M.B., Sullivan R., Gellert R., Campbell I., Treiman A.H., McLennan S.M., Yen A.S., Grotzinger J., Vaniman D.T., Chipera S.J., Achilles C.N., Rampe E.B., Sumner D., Meslin P.Y., Maurice S., Forni O., Gasnault O., Fisk M., Schmidt M., Mahaffy P., Leshin L.A., Glavin D., Steele A., Freissinet C., Navarro-Gonzales R., Yingst R.A., Kah L.C., Bridges N., Lewis K., Bristow T.F., Farmer J.D., Crisp J.A., Stolper E.M., DesMarais J.D., Sarrazin P. 2013. Curiosity at Gale Crater, Mars: Characterization and analysis of the Rocknest sand shadow. *Science* 341, DOI:10.1126/science.1239505
- Grotzinger J.P., Sumner D.Y., Kah L.C., Stack K., Gupta S., Edgar L., Rubin D.M., Lewis K., Schieber J., Mangold N., Milliken R., Conrad P., DesMarais D., Farmer J., Siebach K.,

- Calef F., Hurowitz J., McLennan S.M., Ming D., Vaniman D., Crisp J., Vasavada A., Edgett K.S., Malin M., Blake D., Gellert R., Mahaffy P., Wiens R., Maurice S., Grant J.A., Wilson S., Anderson R., Beegle L., Arvidson R., Hallet B., Sletten R., Rice M., Bell J., Griies J., Ehlmann B., Bristow T., Palucis M., Dietrich, W., Dromart G., Eigenbrode J., Fraeman A., Hardgrove C., Herkenhoff K., Janura L., Kocurek G., Lee S., Leshin L.A., Leveille R., Limonadi D., Maki J., McCloskey S., Meyer M., Minitti M., Oehler D., Okon A., Newsom H., Parker T., Rowland S., Squyres S., Steele A., Stolper E., Summons R., Treiman A., Williams R. & Yingst A. 2014. A habitable fluvio-lacustrine environment at Yellowknife Bay, Gale Crater, Mars. *Science*. *Science* 343, DOI:10.1126/science.1242777.
- Minitti M.E., Kah L.C., Yingst R.A., Edgett K.S., Anderson R.C., Beegle L.W., Carsten J.L., Deen R.G., Goetz W., Hardgrove C., Harker D.E., Herkenhoff K.E., Hurowitz J.A., Jandura, L., Kennedy M.R., Kocurek G., Kresoski G.M., Kuhn S.R., Limonadi D., Lipkaman L., Madsen M.B., Olson T.S., Robinson M.L., Rowland S.K., Rubin D.M., Seybold C., Schieber J., Schmidt M., Sumner D.Y., Tompkins V.V., Van Beek J.K., Van Beek T. V. 2013. MAHLI (Mars Hand Lens Imager) at the Rocknest sand shadow: Science and science-enabling activities. *Journal of Geophysical Research – Planets* 118: 2338-2360.
- *Eastwood E., Kocurek G., Mohrig D. & Swanson T. 2012. Methodology for reconstructing wind direction, wind speed and duration of wind events from aeolian cross-strata. *Journal of Geophysical Research – Earth Surface* 117, F03035, doi:10.1029/2012JF002368.
- Kocurek G., Mohrig D., Baitis E., Ewing R.C., Smith V. & Peyret A. 2012. LiDAR surveys of gypsum dune fields in White Sands National Monument, New Mexico. *Natural Resource Technical Report NPS/CHDN/NRTR – 2012/558*. 32 p.
- Kocurek G. & Ewing R.C. 2012. Source-to-sink: an Earth/Mars comparison of boundary conditions for aeolian dune systems. IN: *The Sedimentary Record of Mars*. J. Grotzinger (ed.), SEPM Special Publication 102: 151-168.
- Grotzinger J., Beaty D., Dromart G., Gupta S., Harris M., Hurowitz J., Kocurek, G., McLennan S., Milliken R., Ori G.G. & Sumner D. 2011. The Sedimentary Record of Mars. *The Sedimentary Record* 9: 4-7.
- Grotzinger J., Beaty D., Dromart G., Gupta S., Harris M., Hurowitz J., Kocurek, G., McLennan S., Milliken R., Ori G.G. & Sumner D. 2011. Mars sedimentary geology: Key concepts and outstanding questions. *Astrobiology* 11: 77-87.
- Nagar Y.C., Sastry M.D., Bhushan B., Kumar A., Mishra K.P., Sastry A., Deo M.N., Kocurek G., Magee J.W., Wadhawan S.K., Juyal N., Pandian M.S., Shukla A.D. & Singhvi A.K. 2010. Chronometry and formation pathways of gypsum using Electron Spin Resonance and Fourier Transform-Infrared Spectroscopy. *Quaternary Geochronology* 5: 691-704.
- *Eastwood E., Nield J., Baas A. & Kocurek G. 2011. Quantifying controls on aeolian dune-field pattern evolution using a source-to-sink cellular automaton model. *Sedimentology* 58: 1391-1406.
- *Ewing R., Peyret A., Kocurek G. & Bourke M. 2010. Dune field pattern formation and recent transporting winds in the Olympia Undae Dune Field, Mars. *Journal of Geophysical Research – Planets* 115, E08005, doi:10.1029/2009JE003526.
- *Ewing R. & Kocurek G. 2010. Role of dune interactions in dune-field pattern development, White Sands, New Mexico, USA. *Sedimentology* 57: 1199-1219.

- Kocurek G., Ewing R. & Mohrig D. 2010. How do bedform patterns arise? New Views on the role of bedform interactions within a set of boundary conditions. *Earth Surface Process & Landforms* 35: 51-63.
- *Ewing R. & Kocurek G. 2010. Aeolian dune-field pattern boundary conditions. *Geomorphology* 114: 175-187.
- Kocurek G. 2008. Boundary-condition controls on pattern development in aeolian and fluvial dune fields. IN: *Marine and River Dune Dynamics* (D. Parsons, T. Garlan & J. Best, eds.), Third MARID Workshop, 193-196.
- *Derickson D., Kocurek G., Ewing R.C. & Bristow C. 2008. Origin of a complex and spatially diverse dune-field pattern, Algodones, southeastern California. *Geomorphology* 99: 186-204.
- Kocurek G., Carr M., Ewing R., Havholm K.G., Nagar Y.C. & Singhvi A.K. 2007. White Sands Dune Field, New Mexico: Age, dune dynamics and recent accumulations. *Sedimentary Geology* 197: 313-331.
- Chan M., Netoff D., Blakey R., Kocurek G. & Alvarez W. 2007. Clastic injection pipes and syndepositional deformational structures in Jurassic eolian deposits; examples from the Colorado Plateau. In: *Sand Injectites: Implications for Hydrocarbon Exploration and Production* (A. Hurst & J. Cartwright, eds.), American Association Petroleum Geologists Memoir 87: 233-244.
- *Beveridge C., Kocurek G., Ewing R.C., Lancaster N., Mortheikai P., Singhvi A.K., & Mahan S.A. 2006. Development of Spatially Diverse and complex dune-field patterns: Gran Desierto Dune Field, Sonora, Mexico. *Sedimentology* 53: 1391-1409.
- *Ewing R.C., Kocurek G. & Lake L. 2006. Pattern analysis of dune-field parameters. *Earth Surface Processes and Landforms* 31: 1176-1191.
- Kocurek G. & Ewing R. 2005. Aeolian dune field self-organization – Implications for the formation of simple versus complex dune-field patterns. *Geomorphology* 72: 94-105.
- Lancaster N., Kocurek G., Singhvi A., Pandey V., Deynoux M. & Ghienne J.-F. June, 2003. REPLY: Late Pleistocene and Holocene dune activity and wind regimes in the western Sahara of Mauritania. *Geology OnLine Forum*, e.19.
- Kocurek G. 2003. Limits on extreme Eolian systems: Sahara of Mauritania and Jurassic Navajo Sandstone examples. In: *Extreme Depositional Environments: Mega End Members in Geologic Time* (M. Chan & A. Archer, eds.), Geological Society of America Special Paper 370: 43-52.
- Kocurek G. 2003. Adhesion. In: *Encyclopedia of Geomorphology* (A. Goudie, ed.), Blackwell, Oxford.
- Kocurek G. 2003. Bounding Surfaces. In: *Encyclopedia of Geomorphology* (A. Goudie, ed.), Blackwell, Oxford.
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- Swanson T., Mohrig D., Kocurek G., Wolinsky M. & Hern, C. 2014. Aeolian stratigraphy from a bedform dynamics model. American Geophysical Union (San Francisco).
- Anderson W., Chamecki M., Kocurek G. & Mohrig D. 2014. A numerical study of turbulent flow over Aeolian dune fields at the White Sands National Monument. Geological Society America Annual Conference (Vancouver).
- Hamed A.H., Day M.D., Anderson W.E., Kocurek G.A. & Christensen K.T. 2014. Flow over Gale Crater: Insights into aeolian erosion of filled Martian craters. American Physical Society – Division of Fluid Dynamics Annual Meeting (San Francisco).
- Day M., Kocurek G., Bridges N., Ewing R., Anderson, Newman C. & MSL Team. 2014. Temporal and spatial differences in wind indicators in Gale Crater. Geological Society America Annual Conference (Vancouver).
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- Parajuli S., Kocurek G., Zobeck T., Yang Z.-L. 2014. New insights on wind-dust relationship from wind-tunnel experiments. DUST 2014 (Castellaneta Marina, Italy).
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