WONSUCK KIM

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EDUCATION

2007 **Ph.D. in Geology**, University of Minnesota, Minneapolis, USA.
- Dissertation title: "Coupled fluvial and shoreline dynamics: Experiments and Theory."
- Advisor: Chris Paola

2000 **M.S. in Applied Geology**, Yonsei University, Seoul, Korea.
- Dissertation title:
"Numerical analysis for fluid flow and sediment transport process on an artificial lake."
- Advisor: Yong-hoon Lee

1998 **B.S. in Geology**, Yonsei University, Seoul, Korea.

PROFESSIONAL POSITIONS

2009– **Assistant Professor,** Department of Geological Sciences
University of Texas, Austin

2010 **NU Invited Associate Professor,** Graduate School of Science and Technology
Nagasaki University, Japan

2007–2008 **Post-Doctoral Research Associate,** Department of Civil and Environmental Engineering
University of Illinois, Urbana-Champaign
- Advisor: Gary Parker

2005–2007 **Experimental EarthScape (XES) Facility Manager,** St. Anthony Falls Laboratory, University of Minnesota
- 2006 Interactions between transversal and axial drainages in an asymmetric subsiding basin
- 2005 Steering of experimental channels by an active relay ramp

2002–2007 **Research Assistant**, National Center for Earth-surface Dynamics, University of Minnesota
- Effect of active tectonics on timescale of fluvial autogenic processes
- Shoreline responses to autogenic processes in the fluvial system
- Roles of stratigraphic controls on shoreline migration

2004 **Teaching Assistant**, Department of Geology & Geophysics, University of Minnesota
- Lab for introduction of Geology (GEO 1001)

2000–2001 **Research Associate**, Department of Geology, Kangwon National University, Korea
- Environmental and geological studies on sediment deposit in the artificial lake Soyang
- Basin analysis on sequence development in the late Tertiary Ulleung Basin, offshore Korea

1998–2000 **Research Assistant**, Earth System Sciences, Yonsei University, Korea
- A study of numerical analysis for sediment transport in an artificial lake

1998 **Teaching Assistant**, Earth System Sciences, Yonsei University, Korea
- Lab for Computer and Geosciences

1998–2000 **Manager of Database and Web Services**, Info-Center for Environmental Geology, Korea
- http://ieg.or.kr/

AWARDS

2013	**Faculty Science Performance Award**
	▪ Department of Geological Sciences, University of Texas
2012–2013	**Total E&P USA Petroleum Faculty Fellowship in Geological Sciences**
	▪ Jackson School of Geosciences, University of Texas
2011–2012	**John E. "Brick" Elliott Centennial Teaching Fellowship**
	▪ Jackson School of Geosciences, University of Texas
2010–2011	**John E. "Brick" Elliott Centennial Professorship in Geological Sciences**
	▪ Jackson School of Geosciences, University of Texas
2010	**2010 JSPS Postdoctoral Fellowship for North American and European Researchers**
	▪ Japan Society for the Promotion of Science, Japan
2009	**2009-2010 Big XII Faculty Fellowship**
	▪ University of Texas, Austin
2007	**Alvin G. Anderson Award**
	▪ St. Anthony Falls Laboratory, University of Minnesota
2004	**Outstanding Student Paper Award (Hydrology Section)**
	▪ American Geophysical Union, 2004 Annual Fall Meeting, San Francisco
2004	**Frank and Julie Tsai Travel Award**
	▪ St. Anthony Falls Laboratory, University of Minnesota
2004–2005	**Richard Clarence Dennis Graduate Fellowship**
	▪ Department of Geology & Geophysics, University of Minnesota
1997	**Best Academic Award (Senior)**
	▪ Earth System Sciences, Yonsei University, Korea
1996	**Best Academic Award (Junior)**
	▪ Earth System Sciences, Yonsei University, Korea

INVITED TALKS

2013

- **CSDMS 2013 Annual Meeting**, Boulder, CO (Mar 23 – 25, 2013)
  "Building a network for sediment experimentalists and modelers (keynote)"

2012

- **AGU 2012 Annual Fall Meeting**, San Francisco, CA (Dec 7, 2012)
  "Effects of imposed variable rates of lateral subsidence on a deltaic system (invited)"
- **AGU 2012 Annual Fall Meeting**, San Francisco, CA (Dec 7, 2012)
  "River bifurcation: Learning from non-bifurcating experimental channels (invited)"
- **Yonsei University**, Seoul, Korea (Aug 3, 2012)
  "Decoupling allogenic forcing from autogenic processes: Experimental geomorphology and stratigraphy"
- **Korea National Oil Corporation**, Seoul, Korea (July 31, 2012)
  "Sediment Transport and Earth-surface Processes (STEP) basin experiments in 2011-2012"
- **Kangwon National University**, Chuncheon, Kangwon-do, Korea (July 25 – 27, 2012)
  "Sediment transport and delta evolution"
- **UT Honor's Colloquium**, Austin, TX (July 20, 2012)
  "Morphodynamics: Shaping Earth surface"
- **Shell Corp.**, Houston, TX (Apr 20, 2012)
  "Sediment Transport and Earth-surface Processes (STEP) basin experiments in 2011-2012"

2011

- **National Center for Earth-surface Dynamics**, Minneapolis, MN (Nov 2, 2011)
  "Decoupling allogenic forcing from autogenic processes: Experimental geomorphology and stratigraphy"
- **Kangwon National University**, Chuncheon, Kangwon-do, Korea (July 4 – 8, 2011)
  "Delta Simulation"

- **University of Texas Institute for Geophysics**, Austin, TX (Apr 22, 2011)
  "Decoupling allogenic forcing from autogenic processes: Experimental geomorphology and stratigraphy"

2010

- **NSF GeoPRISMS Rift Initiation and Evolution workshop**, Santa Fe, NM (Nov 4 – 6, 2010)
  "Decoupling allogenic forcing from autogenic processes: Experimental stratigraphy"
- **Kangwon National University**, Chuncheon, Kangwon-do, Korea (Aug 16 – 18, 2010)
  "Shoreline Dynamics"
- **Norwegian Petroleum Society 2010 Conference**, Stavanger, Norway (May 4 – 6, 2010)
  "Decoupling allogenic forcing from autogenic processes: Experimental stratigraphy"
- **AAPG 2010 Annual Convention and Exhibit**, New Orleans, LA (Apr 11 – 14, 2010)
  "Decoupling allogenic forcing from autogenic processes: Clastic and carbonate experimental stratigraphy"
- **Dept. of Earth and Environmental Sciences, Tulane University**, New Orleans, LA (Jan 15, 2010)
  "Land building in the delta of the Mississippi River: Is it feasible?"
- **LCA Science Board Meeting**, New Orleans, LA (Jan 14, 2010)
  "Numerical modeling of the Mississippi River Delta"

2009

- **KIGAM (Korea Institute of Geoscience and Mineral Resources)**, Daejeon, Korea (Aug 7, 2009)
  "Decoupling allogenic forcing from autogenic processes: Experimental stratigraphy"
- **Kangwon National University**, Chuncheon, Kangwon-do, Korea (Aug 3 – 5, 2009)
  "Shoreline Dynamics"
- **Yonsei University**, Seoul, Korea (July 28, 2009)
  "Decoupling allogenic forcing from autogenic processes: Experimental stratigraphy"
- **SEPM Research Group**, AAPG Annual Convention, Denver, CO (Jun 8, 2009)
  "Coupling of physical and numerical models and decoupling of external forcing and internal processes"
- **Oceanography and Coastal Sciences, Louisiana State University**, Baton Rouge, LA (Apr 2, 2009)
  "Land building in the delta of the Mississippi River: Is it feasible?"

2008

- Department of Earth, Atmospheric & Planetary Sciences, MIT
- Department of Geosciences, Princeton University
- Jackson School of Geosciences, University of Texas, Austin
- Department of Geology and Geophysics, Texas A&M University

2007

- Oceanography and Coastal Sciences, Louisiana State University
- Department of Geology and Geophysics, University of Wisconsin, Madison
- Department of Geology and Geophysics, Louisiana State University
- St. Anthony Falls Laboratory, University of Minnesota, Minneapolis

SUMMARY OF RESEARCH

Kim' research seeks to advance our understanding of stratigraphic responses to sediment transport processes and imposed boundary conditions in depositional basins. Both depositional mechanics and environmental forcing strongly influence the morphodynamics of the sediment-fluid interface. Subsurface architecture is a record of the "fossilized" dynamics of this morphodynamic-moving boundary. The research interest lies in improving tools for predicting subsurface spatial architecture across a range of scales using an understanding of sediment transport and surface flow dynamics and their time-integrated preservation in depositional systems. Kim's research group conducts laboratory experiments to study sedimentation over space and time scales that are inaccessible in the field, and use the experimental data to motivate and constrain theoretical models of morphodynamics and depositional patterns. Kim's group also applies insight gained from physical and mathematical models to field data in order to improve interpretation of paleoenvironments using the stratigraphic record.

LABORATORY FACILITY

Kim designed and built three flume faculties for scientific research and educational purposes: 1) Sediment Transport and Earth-surface Processes (STEP) basin in the Morphodynamics Laboratory located in building 120, J.J. Pickle

Research Campus, 2) Bio-Geo Flume in EPS 2.108 on the main campus, and 3) a twin Total E&P teaching flumes in EPS 2.108 on the main campus.

- STEP Basin: One of only three flume facilities in the world that provides a computer-controlled basement motion.
  - Period of design and construction: January 2009 – March 2011
  - Total cost: ~$350,000
  - Dimension: 5-m long, 4-m wide, and 1.5-m tall
  - Physically model morphodynamic and stratigraphic evolution of the fluviodeltaic system in response to sea level, sediment supply, and tectonic variations.
- Bio-Geo Flume:
  - Period of design and setup: September 2011 – February 2012
  - Total cost: ~$10,000
  - Total footprint: 3-m long and 1.5-m wide
  - Model for chemically precipitated carbonates using artificial spring water. The system examines the morphodynamic evolution of cascading travertine step structures.
- Total E&P Teaching Flumes:
  - Period of design and setup: September 2012
  - Total cost: ~$2,000
  - Total footprint: 1-m long, 0.5-m tall, and 0.05-m wide
  - Teaching flumes for the GEO391 Morphodynamics course. The system can build deltaic strata under variable sea-level cycles.

PUBLICATIONS (PEER REVIEWED)

Research ID: Total citations = 184, H–index = 9 (http://www.researcherid.com/rid/A-6751-2010)
Google Scholar: Total citations = 343, H–index = 11 (http://scholar.google.com/citations?user=5MYIjHEAAAAJ)

* Student author

UNDER REVIEW

Kopp, J.* and **Kim, W.**, The effect of lateral tectonic tilting on fluviodeltaic planform and stratal asymmetries: Experiment and theory: *Basin Research* (under review)

Johnson, J., Aronovitz, A.*, **Kim, W.**, and Viparelli, E., Can short-term gravel augmentation lead to long-term bed coarsening?: *Geology* (under review)

Anastasia, P.*, **Kim, W.**, Kocurek, G.A., Mohrig, D., and Kopp, J., Sand on salt: Control on dune subsidence and determining salt substrate thickness: *Lithosphere* (under review)

Kopriva, B.T.*, and **Kim, W.**, Coevolution of minibasin subsidence and sedimentation: Experiments: *Journal of Sedimentary Research* (under revision)

Hsu, L., McElroy, B., Martin, R., and **Kim, W.**, Sediment experimentalists: Building a network for experimental Earth-surface science: *Sedimentary Records* (under review)

Straub, K., Paola, C., **Kim, W.**, and Sheets, B.A., Experimental investigation of sediment-dominated vs. tectonic-dominated sediment transport systems in subsiding basins: *Journal of Sedimentary Research* (under revision)

Hajek, E., Paola, C., Petter, A., AlAbbad, A., and **Kim, W.**, Amplified shoreline response to base-level change by back-tilted subsidence: *Journal of Sedimentary Research* (under review)

Kim, Y.*, **Kim, W.**, Cheong, D., Muto, T., and Pyles, D., Piping coarse-grained sediment to a deep-water fan through a graded river: Tank experiments: *Journal of Geophysical Research – Earth Surface* (under revision)

Kim, W., Petter, A.L., Straub, K., and Mohrig, D., Decoupling allogenic forcing from autogenic processes: Experimental geomorphology and stratigraphy: *IAS Special Publication*, v. 47 (under review)

2013

Leva López, J.*, **Kim, W.**, and Steel, R.J., Autoacceleration of clinoform progradation in foreland basins: Theory and experiments: *Basin Research* (in press)

Dai, H-H., Fernandez, R.L., Parker, G., Garcia, M.H., and **Kim, W.**, 2013, Modeling deltaic progradation constrained by a moving sediment source: *Journal of Hydraulic Research*, v. 51, no. 3, p. 284-292, DOI: 10.1080/00221686.2012.762554

Kenney, M.A., Hobbs, B.F., Mohrig, D., Huang, H., Nittrouer, J.A., **Kim, W.**, and Parker, G., Cost analysis of water and sediment diversions to optimize land building in the Mississippi River Delta: *Water Resources Research* (in press), DOI: 10.1002/wrcr.20139

Wickert, A.*, Martin, J., Tal, M., **Kim, W.**, Sheets, B., and Paola, C., 2013, River channel lateral mobility: metrics, time scales, and controls: *Journal of Geophysical Research – Earth Surface*, v. 118, DOI: 10.1029/2012JF002386

Petter, A.L.*, Steel, R., Mohrig, D., **Kim, W.**, and Carvajal, C., 2013, Estimation of the paleo-flux of terrestrial-derived solids across ancient basin margins using the stratigraphic record: *GSA Bulletin*, v. 125, no. 3-4, p. 578-593, DOI: 10.1130/B30603.1

2012

Kim, W., 2012, Flood-built land: *Nature Geoscience*, v. 5, no. 8, p. 521-522, DOI: 10.1038/ngeo1535

Tal, M., Frey, P., **Kim, W.**, Lajeunesse, E., Limare, A., and Métivier, F., 2012, The use of imagery in laboratory experiments: *Fluvial Remote Sensing for Science and Management*, edited by Carbonneau, P. and Piégay, H., p. 299-321, John Wiley & Sons Ltd 2012. DOI: 10.1002/9781119940791.ch13

Kim, W., Fouke, B.W., Petter, A.L.*, Quinn, T.M., Kerans, C., and Taylor, F., 2012, Sea-level rise, depth-dependent carbonate sedimentation and the paradox of drowned platforms: *Sedimentology*, v. 59, no. 6, p. 1677-1694, DOI: 10.1111/j.1365-3091.2012.01321.x

Connell, S.D., **Kim, W.**, Paola, C., and Smith, G.A., 2012, Fluvial morphology and sediment-flux steering of axial-transverse boundaries in an experimental basin: *Journal of Sedimentary Research*, v. 82, no. 5, p. 310-325, DOI: 10.2110/jsr.2012.27

Connell, S.D., **Kim, W.**, Paola, C., and Smith, G.A., 2012, Stratigraphic architecture of an experimental basin with interacting drainages: *Journal of Sedimentary Research*, v. 82, no. 5, p. 326-344, DOI: 10.2110/jsr.2012.28

Powell, E.*, **Kim, W.**, and Muto, T., 2012, Varying discharge controls on timescales of autogenic storage and release processes in fluvio-deltaic environments: Tank experiments: *Journal of Geophysical Research – Earth Surface*, v. 117, F02011, DOI: 10.1029/2011JF002097

2011

Kim, W., Connell, S.D., Steel, E.*, Smith, G.A., and Paola, C., 2011, Mass-balance control on the interaction of axial and transverse channel systems: *Geology*, v. 39, no. 7, p. 611-614, DOI: 10.1130/G31896.1

Tomer, A.*, Muto, T., and **Kim, W.**, 2011, Autogenic hiatus in fluviodeltaic successions: Geometrical modeling and physical experiments: *Journal of Sedimentary Research*, v. 81, no. 3, p. 207-217, DOI: 10.2110/jsr.2011.19

Petter, A.L.*, **Kim, W.**, Muto, T., and, Steel, R., 2011, Comment on "Clinoform quantification for assessing the effects of external forcing on continental margin development": *Basin Research*, v. 23, no. 1, p. 118-121, DOI: 10.1111/j.1365-2117.2010.00472.x

Paola, C., Twilley, R.R., Edmonds, D.A., **Kim, W.**, Mohrig, D., Parker, G., Viparelli, E., and Voller, V.R., 2011, Natural Processes in Delta Restoration: *Annual Review of Marine Science*, v. 3, no. 1, p. 67-91, DOI: 10.1146/annurev-marine-120709-142856

2010

Kim, W., Sheets, B.A., and, Paola, C., 2010, Steering of experimental channels by lateral basin tilting: *Basin Research*, v. 22, p. 286-301, DOI: 10.1111/j.1365-2117.2009.000419.x

2009

Kim, W., Paola, C., Martin, J., Perlmutter, M.A., and Tapaha, F., 2009, Net pumping of sediment into deep water due to base-level cycling: Experimental and theoretical results: in Kneller, B., Martinsen, O.J., and McCaffrey, B., eds., External Controls on Deep-Water Depositional Systems: *SEPM Special Publication,* v. 92, p. 41-56.

Kim, W., Mohrig, D., Twilley, R., Paola, C., and Parker, G., 2009, Is it feasible to build new land in the Mississippi River Delta?: *EOS*, v. 90, no. 42, p. 373-374.

Kim, W., Dai, A., Muto, T., and Parker, G., 2009, Delta progradation driven by an advancing sediment source: Coupled theory and experiment describing the evolution of elongated deltas: *Water Resources Research*, v. 45, W06428, DOI: 10.1029/2008WR007382

Lorenzo-Trueba, J.L., Voller, V.R., Muto, T., **Kim, W.**, Paola, C., and Swenson, J.B., 2009, A similarity solution of a duel moving boundary problem associated with a coastal-plain depositional system: *Journal of Fluid Mechanics*, v. 628, p. 427-443, DOI: 10.1017/S0022112009006715

2008

Kim, W., and Jerolmack, D.J., 2008, The pulse of calm fan deltas: *Journal of Geology*, v. 116, no. 4, p. 315-330, DOI: 10.1086/588830

Kang, M-G., Choi, J-K., Jeong, H-S., and **Kim, W.**, 2008, Construction of water-friendly space and ecosystems networks through linking environmental elements in urban and rural areas: *KSCE Journal of Civil Engineering*, v. 56, no. 2, p. 88-98.

2007

Kim, W., and Muto, T., 2007, Autogenic response of alluvial-bedrock transition to base-level variation: Experiment and theory: *Journal of Geophysical Research - Earth Surface,* v. 112, F03S14, DOI: 10.1029/2006JF000561

Kim, W., and Paola, C., 2007, Long-period cyclic sedimentation with constant tectonic forcing in an experimental relay ramp: *Geology*, v. 35, no. 4, p. 331-334, DOI: 10.1130/G23194A.1

Kim, W., Cheong, D.K., and Kendall, C.G.St.C., 2007, Effects of in-phase and out-of-phase sediment supply responses to tectonic movement on sequence development in the late Tertiary southern Ulleung Basin, East (Japan) Sea: *Computers & Geosciences,* v. 33, no. 3, p. 299-310, DOI: 10.1016/j.cageo.2006.08.001

2006

Kim, W., Paola, C., Swenson, J.B., and Voller, V.R., 2006, Shoreline response to autogenic processes of sediment storage and release in the fluvial system: *Journal of Geophysical Research - Earth Surface,* v. 111, F04013, DOI: 10.1029/2006JF000470

Voller, V.R., Swenson, J.B., **Kim, W.**, and Paola, C., 2006, An enthalpy method for moving boundary problems on the earths surface: *International Journal of Numerical Methods for Heat and Fluid Flow,* v. 16, no. 5, p. 641-654, DOI: 10.1108/09615530610669157

Kim, W., Paola, C., Voller, V.R., and Swenson, J.B., 2006, Experimental measurement of the relative importance of controls on shoreline migration: *Journal of Sedimentary Research*, v. 76, no. 2, p. 270-283, DOI: 10.2110/jsr.2006.019

2005–AND OLDER

Kim, W., Min, K.D. and Cheong, D.K., 2001, Simulation of the fluvial sedimentation changes by construction of a dam: *Journal of the Geological Society of Korea*, v. 37, no. 2, p. 203-216.

CONFERENCE ABSTRACTS

2013

Piliouras, A., **Kim, W.**, and Carlson, B., 2013, Effects of riparian vegetation on river delta morphodynamics and shoreline variability, in G. Coco, B. Blanco, M. Olabarrieta, and R. Tinoco, River, Coastal, and Estuarine Morphodynamics: RCEM 2013, Santander, Spain, June 2013.

2012

Piliouras, A., **Kim, W.**, Kocurek, G., Mohrig, D., and Kopp, J., 2012, Examining variability in preserved topography of linear dunes on a salt substrate: Abstract EP41B-0785 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3 – 8 Dec.

Straub, K.M., Paola, C., **Kim, W.**, and Sheets, B., 2012, Experimental investigation of sediment-dominated vs. tectonic-dominated sediment transport systems in aseismically and coseismically extensional basins (invited): Abstract T52B-06 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3 – 8 Dec.

Kim, W., and Kopp, J., 2012, Effects of imposed variable rates of lateral subsidence on a deltaic system (invited): Abstract EP54B-07 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3 – 8 Dec.

Kim, W., 2012, River bifurcation: Learning from non-bifurcating experimental channels (invited): Abstract EP53H-04 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3 – 8 Dec.

Kopp, J., and **Kim, W.**, 2012, The effects of varying tectonic subsidence in a fluvial-deltaic system: *GSA Abstracts with Programs. V. 44, no. 7, p. 632,* Charlotte, NC*, November 4 – 7 2012*

Kopriva, B., **Kim, W.**, and Buttles, J., 2012, Stratigraphic response of variable mini-basin subsidence patterns due to autogenic effects: Abstract SP17 presented at *AAPG 2012 Annual Convention and Exhibit, Long Beach, CA April 22 – 25 2012*

2011

Aronovitz, A.C., Johnson, J.P., and **Kim, W.**, 2011, The formation of experimental step-pools in relation to sediment size distribution and transport slope: Abstract EP21C-0713 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

Leva Lopez, J., **Kim, W.**, and Steel, R.J., 2011, Experimental analysis of autostratigraphic controls in foreland basins: Abstract EP23A-0725 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

Delbecq, K.L., Boesch, S., Johnson, J.P., and **Kim, W.**, 2011, Evaluating paleotsunami deposit models using flume experiments: Abstract EP51D-06 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

Kim, W., 2011, Reversal in migration of gravel-sand transition: Abstract EP21B-0685 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

Kopriva, B. and **Kim, W.**, 2011, Control of internal dynamics of salt deformation due to stratigraphic architecture: Experimental modeling: Abstract presented at 2011 GSA Annual Meeting, Minneapolis, MN, 9-12 Oct.

Kim, W., Connell, S.D., Smith, G.A., Paola, C., and Steel, E., 2011, Sediment interactions in axial and transverse alluvial systems: Abstract presented at 2011 GSA Annual Meeting, Minneapolis, MN, 9-12 Oct.

Kim, W., Petter, A., Fouke, B.W., Quinn, T.M., and Kerans, C., 2011, Sea-level rise, depth-dependent carbonate growth, and the paradox of drowned platforms: Abstract presented at 2011 GSA Annual Meeting, Minneapolis, MN, 9-12 Oct.

2010

Powell, E. and **Kim, W.**, 2010, Quantifying the fluvial autogenic processes: Tank Experiments: Abstract EP43F-03 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Leva Lopez, J., Kim, W., and Steel, R.J., 2010, Autostratigraphic response of clinoform evolution to back-tilting subsidence: A Numerical Model: *18th International Sedimentological Congress, Mendoza, Argentina, September 26 – October 1*

Kim, W., Petter, A., Straub, K., Mohrig, D., and Paola, C., 2010, Decoupling allogenic forcing from autogenic processes: Experimental stratigraphy: *Norwegian Petroleum Society 2010 Conference, Stavanger, Norway May 4 – 6 2010*

Kim, W., Petter, A., Fouke, B.W., Quinn, T.M., Kerans, C., Taylor, F., Mohrig, D., and Paola, C., 2010, Decoupling allogenic forcing from autogenic processes: Clastic and carbonate experimental stratigraphy: *AAPG 2010 Annual Convention and Exhibit, New Orleans, LA April 11 – 14 2010*

2009

Kim, W. and Powell, E., 2009, Decoupling allogenic and autogenic processes: Experimental stratigraphy: *Eos Trans. AGU,* v. 90, no. 52, Fall meet. suppl., Abstract EP53A-0609

Straub, K.M., Paola, C., **Kim, W.**, and Sheets, B.A., 2009, Controls on steering of channels in laterally tilting basins: an experimental study: *Eos Trans. AGU,* v. 90, no. 52, Fall meet. suppl., Abstract EP53A-0612

Petter, A.L., Mohrig, D., Carvajal, C., Steel, R.J., and **Kim, W.**, 2009, A simple method for estimating the sediment-flux histories of ancient shelf-margin successions: *Eos Trans. AGU,* v. 90, no. 52, Fall meet. suppl., Abstract EP53A-0615

Muto, T., Furubayashi, R., **Kim, W.**, and Parker, G., 2009, Seaward protrusion of a graded channel-lobe system: 2D model experiments: *Eos Trans. AGU,* v. 90, no. 52, Fall meet. suppl., Abstract EP41A-0589

Matin, J.M., Wickert, A.D., Sheets, B.A., Kelberer, M., **Kim, W.**, Tal, M., and Paola, C., 2009, A method to translate between short-term fluvial processes on deltas and bulk volumes of channel and overbank deposits in the stratigraphic record: *Eos Trans. AGU,* v. 90, no. 52, Fall meet. suppl., Abstract EP41A-0890

2007

Kim, W. and Jerolmack, D.J., 2007, The pulse of calm deltas: *Eos Trans. AGU,* v. 88, no. 52, Fall meet. suppl., Abstract H54B-01

Kim, W., Paola, C., Martine, J., Perlmutter, M., and Tapaha, F., 2007, Net pumping of sediment into deep water due to base-level cycling: *Annual AAPG Meeting*

2006

Kim, W. and Paola, C., 2006, Cyclic sedimentation by linear tectonic forcing in an experimental relay ramp: *Eos Trans. AGU,* v. 87, no. 52, Fall meet. suppl., Abstract NG53A-04

Kim, W., Paola, C., and Sheets, B.A., 2006, Steering of experimental channels in an active relay ramp: *17th International Sedimentological Congress,* Fukuoka, Japan, Abstract O-219

2005

Kim, W., Paola, C., Swenson, J., and Voller, V., 2005, Shoreline response to autogenic processes of sediment storage and release in the fluvial system: *Eos Trans. AGU,* v. 86, no. 52, Fall meet. suppl., Abstract H31A-1285

2004

Kim, W., Strong, N., Sheets, B., Kelberer, M., Martin, J., Paola, C., Voller, V., and Swenson, J., 2004, Autogenic Shoreline Responses to Fluvial Change: *Eos Trans. AGU,* v. 85, no. 47, Fall meet. suppl., Abstract H34C-01

Kim, W., Paola, C., Voller, V., and Swenson, J., 2004, A Quantitative A/S ratio for predicting shoreline migration during eustatic base-level cycles: *Eos Trans. AGU,* v. 85, no. 47, Fall Meet. suppl., Abstract OS23C-1335

Voller, V.R., Swenson, J.B., **Kim, W.**, Paola, C., 2004, A fixed-grip method for moving boundary problems on the earths surface: *European Congress on Computational Methods in Applied Sciences and Engineering 2004, In: Neittaanmaki, P. et al, (Eds.)*

2003

Strong, N., Sheets, B., **Kim, W.**, Kelberer, M., and Paola, C., 2003, Efficacy of two measures of relative sea level in predicting stratal geometry and surface morphology in an experiment with varying base level: *Eos Trans. AGU,* v. 84, no. 46

Swenson, J., Paola, C., Sheets, B., Strong, B., **Kim, W.**, and Pratson, L., 2003, Continental-margin response to sea level: Theory and experiment: *Eos Trans. AGU,* v. 84, no. 46

2002

Strong, N., Sheets, B., Kelberer, M., **Kim, W.**, and Paola, C., 2002, Evolution of valley depth and width during base-level fluctuations: *Eos Trans. AGU*, v. 83, no. 47

SERVICES

DEPARTMENT/SCHOOL:

- Advisor for a campus student organization, AWAKE (Anointed Worship Awakes Koreans and Everyone) since 2012
- Invited speaker: University of Texas 2012 Honor's Colloquium (July, 2012)
- Sedimentary Geology and Stratigraphy Discipline Leader at the Department of Geological Sciences since Fall 2011
- Tech Session Organizing Committee: Invited and host Dr. Doug Jerolmack, University of Pennsylvania (Oct, 2010) and Dr. Jim Best, University of Illinois, Urbana – Champaign (Dec, 2010)

RESEARCH COMMUNITY:

- Organizing a two-day NSF-funded workshop at the University of Texas at Austin "EarthCube Domain End-User Workshop to Address Community Needs for Sharing and Managing Experimental Data and Techniques: Year 1. Experimental Stratigraphy" Dec 11 – 12, 2012
- Organizing a Town Hall in 2012 AGU Annual Meeting "Surface Process Experiments – A Community Discussion"
- Organizing a session in 2012 AGU Annual Meeting "Advances in Experimental Earth Surface Processes"
- Organizing a session in 2011 GSA Annual Meeting "Sediment Transport in Modern and Ancient Environments"
- SEPM (Society for Sedimentary Geology) Research Committee member: Reviewing 2 – 4 conference proposals annually

- Invited member of World Delta Dialogues 2010, The America's WETLAND Foundation, New Orleans, LA Oct 16-19, 2010: Serving as a discussion panel to identify pilot projects for the Mississippi River Delta restoration and protection
- Organizing committee member for 2008 Meetings of Young Researchers in Earth Sciences funded by NSF, New Orleans, LA May 2008.

- Associate Editor: Journal of Geophysical Research – Earth Surface, August 2012 – current.
- Review panel for NSF (Sedimentary Geology and Paleobiology, April 2010)
- Reviewer for NSF proposals (Sedimentary Geology and Paleobiology, Paleoclimate, and Marine Geology and Geophysics) and LA Board of Regents RCS and ITRS proposal
- Referee for the following journals: Nature Geoscience, Geology, Sedimentology, Journal of Geophysical Research – Earth Surface, Basin Research, Journal of Hydraulic Research, Water Resources Research, Computers & Geosciences

OUT REACH:

- Instructor for a 1-week Austin and Florida field trip of the 9th grader GeoForce program: GeoFORCE is a selective outreach program of the Jackson School of Geosciences, designed to encourage students from minority-serving high schools in rural South Texas and inner-city Houston to take on the challenges of a rigorous math and science curriculum, to pursue higher education in these fields, and to enter the high-tech workforce.

TEACHING

2013

Summer: **Sedimentary Rocks (GEO f416M):** 10 students
- Overall Instructor Rating = 4.8, Overall Course Rating = 4.6

Summer: **Sedimentary Rocks (GEO f316P):** students
- Overall Instructor Rating = 4.3, Overall Course Rating = 3.6

2012

Fall: **Sedimentary Rocks (GEO 416M):** 95 students
- Overall Instructor Rating = 4.4, Overall Course Rating = 4.1

Fall: **Morphodynamics (GEO 391):** 13 students (2 Chinese scholars audit)
- Overall Instructor Rating = 4.2, Overall Course Rating = 4.0

Summer: **Sedimentary Rocks (GEO f416M):** 18 students
- Overall Instructor Rating = 4.8, Overall Course Rating = 3.9

Spring: **Sedimentary Rocks (GEO 316P):** 160 students, Co-taught with Fisher
- Overall Instructor Rating = 4.0, Overall Course Rating = 3.8

2011

Fall: **Morphodynamics (GEO 391):** 6 students (1 audit)
- Overall Instructor Rating = 4.2, Overall Course Rating = 4.2

Summer: **Sedimentary Rocks (GEO f416M):** 13 students
- Overall Instructor Rating = 4.0, Overall Course Rating = 3.9

Spring: **Geomorphology and Surface Processes Seminar (GEO 291/271C):** 8 students (1 audit)
- Overall Instructor Rating = 4.6, Overall Course Rating = 4.0, Co-taught with Johnson

Spring: **Sedimentary Rocks (GEO 416M):** 107 students
- Overall Instructor Rating = 3.2, Overall Course Rating = 3.2, Co-taught with Fisher

2010

Fall: **Morphodynamics (GEO 391):** 10 students
- Overall Instructor Rating = 4.1, Overall Course Rating = 3.5

Summer: **Sedimentary Rocks (GEO f416M):** 16 students
- Overall Instructor Rating = 4.4, Overall Course Rating = 4.3

Spring: **Sedimentary Rocks (GEO 416M):** 137 students
- Overall Instructor Rating = 3.4, Overall Course Rating = 3.3

2009

Fall: **Morphodynamics (GEO 391):** 11 students
- Overall Instructor Rating = 4.3, Overall Course Rating = 4.3, Co-taught with Mohrig

ADVISING AND RELATED STUDENT SERVICES

PHD STUDENTS:
- Valentina Rossi (3rd year PhD, Spring 2012 – current; Co-advised with Steel)
- Anastasia Piliouras (3rd year PhD, Fall 2011 – current)
- Julio Leva (5th year PhD, Fall 2010 – current; Co-advised with Steel)

MS STUDENTS:
- Woong-Mo Koo (1st year MS, Fall 2013 – current; Co-advised with Steel)

- Jessica Kopp (MS, Fall 2011 – Spring 2013: Now at Shell)
- Katie Delbecq (MS, Spring 2011 – Spring 2013; Co-advised with Mohrig; Medical leave of absence for Spring 2012, switched from PhD due to her Health issue in Spring 2013: Now at Earlham College as a Teaching Professor)
- Ellen Reid (MS, Fall 2010 – Summer 2012: Now at Apache Corporation)
- Bryant Kopriva (MS, Fall 2010 – Spring 2012: Now at ExxonMobil)
- Alexander Aronovitz (MS, Fall 2010 – Spring 2012; Now at Schlumberger, Co-advised with Johnson)
- Erica Powell (MS. Spring 2010 – Spring 2011: Now at Southwestern Energy)

UNDERGRADUATE STUDENTS:
- Agueda Matano (GEO 271C, Spring 2012 – current)
- Joey Cleveland (Independent Research, Spring 2012 – current)
- Carolina Baumanis (Independent Research, Fall 2012 – current)
- Greg Kline (Independent Research, Summer 2012 – current)
- Brandee Carlson (Honor's program, Spring 2012 – current)

- Eric Swenson (ESI undergraduate research program, Summer 2011 – Fall 2012, Now at Claude Laval Corp. - LAKOS)
- Abid Abdelaziz (Honor's program, Spring 2011 – Spring 2012, Now at Schlumberger)
- Elisabeth Steel (Independent study, Spring 2010 – Fall 2010, Now MS at University of California – Santa Barbara)

DISSERTATION COMMITTEE (PHD):

Ryan Ewing (10/15/09, Kocurek), Brandon McElroy (10/23/09, Mohrig), Darrin Burton (4/1/11, Wood), Chris Mirabito (8/2/11, Dawson, ICES), Aymeric Peyret (11/22/11, Mohrig), Anjali Fernandes (4/10/11, Steel/Mohrig), John Shaw (4/5/13, Mohrig), Brian Kiel (5/1/13, Wood), Isaac Smith (5/2/13, Holt), Lindsay Olinde (Johnson)

CANDIDACY EXAM COMMITTEE (PHD):

Darrin Burton (3/4/10, Wood), John Shaw (4/26/10, Mohrig), Ethan Lake (5/17/10, Cloos), Chris Mirabito (6/17/10, Dawson, ICES), Peter Polito (9/14/10, Johnson), Brian Kiel (11/30/10, Wood), Lindsay Olinde (12/1/10, Johnson), Kealie Goodwin (4/3/13, Johnson), Rattanaporn Fongngern (5/9/13, Steel)

THESIS COMMITTEE (MS):

Mike Fairbanks (6/30/12, Fisher), Michael Ramirez (Allison), Yuri Kim (11/9/11, Kangwon National U. Korea, Cheong), Giman Cha (11/9/11, Kangwon National U. Korea, Cheong)

UNDERGRAD HONOR'S THESIS COMMITTEE:

Elizabeth Rinehart (Mohrig), Elisabeth Steel (Holt)

INTERNATIONAL SCHOLARS:

Benzhong Xian (2012-2013, Associate Professor, China University of Petroleum, Beijing, China)

RESEARCH GRANTS

PENDING PROPOSALS:

▪ National Science Foundation (Project total = $664,459): Lead PI – Kevan Moffett (UT) and Co-PIs – **Wonsuck Kim** and Amber Hardison (UT): Kim's effort is 10% of project

- NSF 1349293 Quantifying the influence of nitrogen supply on coastal fluvial delta island sedimentation (submitted July 2013).

CURRENT AND FUNDED PROJECTS:

▪ National Science Foundation (Project total = $534,126/ UT = $321,283): Lead PI – **Wonsuck Kim** and Co-PI – Brad Murray (Duke)

- NSF 1324114 Collaborative Research: Sea-level rise and vegetation controls on delta landform evolution: A coupled experimental and numerical modeling study (Project period: September 2013 – August 2016).

▪ National Science Foundation (Project total = $440,559): Lead PI – **Wonsuck Kim** and Co-PIs – Leslie Hsu (Columbia) and Brandon McElroy (UWyoming)

- NSF 1324760 RCN: Building a sediment experimentalist network (SEN) (Project period: August 2013 – July 2016).

▪ RioMar Oil Consortium (Project annually to PI Kim = $33,000): Co-PI – **Wonsuck Kim**

- Experimental Stratigraphy (Project period: January 2013 – December 2015).

▪ Jackson School of Geosciences, Theme Seed Grant (Project total = $9,000): Lead PI – **Wonsuck Kim**

- Experimental Meanders on Mars (Project period: January 2013 – December 2013).

▪ National Science Foundation (Project total = $35,470): Lead PI – **Wonsuck Kim**

- NSF 1250525 Calling all experimentalists: A workshop to build a community network for sharing and managing experimental data and techniques – Year 1: Experimental stratigraphy (Project period: September 2012 – August 2013).

▪ National Science Foundation (Project total = $432,749/ UT = $51,836): PI – Zhixiong Shen (Tulane) and Co-PIs – **Wonsuck Kim** and Torbjorn Tornqvist (Tulane): Kim's effort is 15% of project

- NSF 1148247 Collaborative Research: Continuous vs. episodic fluviodeltaic sedimentation - Implications for carbon sequestration and coastal restoration (Project period: September 2012 – August 2015)

▪ Shell Exploration & Production Tech Co. (Project total = $516,162): PI – Gary Kocurek and Co-PIs – **Wonsuck Kim** and David Mohrig: Kim's effort is 25% of project

- Development of the Next Generation of Aeolian Dune Stratigraphic Model with Application to the Jurassic Norphlet Sandstone (Project period: September 2011 – August 2013)

▪ National Science Foundation (Project total = $5,000,000/ UT = $3,020,000): PI – David Mohrig and Co-PIs – **Wonsuck Kim** and Paola Passalacqua (UT Civil Eng): Kim's effort is 30% of the UT portion of project

- NSF 1135427 FESD Type II: A Delta Dynamics Collaboratory (Project period: December 2011 – November 2016)

▪ American Chemical Society, Petroleum Research Fund (Project total = $100,000): Lead PI – **Wonsuck Kim**

- PRF# 50793-DNI8 Decoupling tectonic and autogenic controls on the development of cyclic fluvial strata: Flume experiments (Project period: January 2011 – August 2013)

▪ University of Texas Faculty Development Program, Summer Research Assignment: Lead PI – **Wonsuck Kim**

- Decoupling allogenic forcing from autogenic processes in the sedimentary record: Flume experiment (2 Months of Summer Salary, 2011)