

CURRICULUM VITAE

Daehyun Kim, Ph.D.

Department of Geography
University of Kentucky
Lexington, KY 40506-0027
(tel.) 859-257-6057 / (fax) 859-323-1969
biogeokim@uky.edu

PROFESSIONAL APPOINTMENTS

- 08/2009 - **Assistant Professor**, Department of Geography, University of Kentucky
- 09/2008 - 05/2009 **Instructor and Head of Graduate Teaching Assistants**, Department of Geography, Texas A&M University
- 09/2007 - 05/2008 **Graduate Research Assistant**, Department of Geography, Texas A&M University
- 09/2006 - 05/2007 **Graduate Teaching Assistant**, Department of Geography, Texas A&M University
- 03/2000 - 02/2002 **Platoon Leader** (1st Lieut.), the 2nd Division, Republic of Korea Marine Corps

EDUCATION AND MAJOR

- 09/2005 - 08/2009 Ph.D., Texas A&M University (Geography)
Dissertation: “*Spatial and temporal dynamics of salt marsh vegetation across scales*”
Dissertation Adviser: Dr. David M. Cairns
- 03/2002 - 02/2004 M.A., Seoul National University, South Korea (Geography)
Thesis: “*Spatial distribution of plant species in relation to soil-topography-distance factors in a coastal dune ecosystem, South Korea*”
Thesis Adviser: Dr. Keun Bae Yu
- 03/1996 - 02/2000 B.A., Seoul National University, South Korea (Geography)
- 03/1993 - 02/1996 Daeil Foreign Language High School, South Korea (German)

AREAS OF SPECIALIZATION

- Biogeography
- Biogeomorphology
- Ecological simulation modeling
- Ecological multivariate analysis
- GIS-based spatial analysis
- Soil-landform modeling

RESEARCH INTERESTS

- Bio-geophysical complexity in vegetation-environment relationships
- Scale-dependence in vegetation-environment relationships
- Environmental stress models for characterizing spatial gradient of vegetation
- Transition probabilities in vegetation patterns over time under changing environmental conditions

PUBLICATIONS

Articles Submitted to Refereed Journals:

- Kim, D.**, Cairns, D.M. & Bartholdy, J., Fluvial-geomorphic processes of salt marsh creeks shape spatial trends in vegetation by complicating environmental stress gradients.
- Kim, D.**, Grant, W.E., Cairns, D.M. & Bartholdy, J., Effects of wind-driven sea-level variation and its implications for ecological succession: A modeling approach.

Articles Accepted or Published in Refereed Journals:

- Kim, D.**, Cairns, D.M., Bartholdy, J. & Morgan, C.L.S. (in press) Scale-dependent correspondence of floristic and edaphic gradients across salt marsh creeks. *Annals of the Association of American Geographers*.
- Kim, D.** & Zheng, Y. (2011) Scale-dependent predictability of DEM-based landform attributes for soil spatial variability in a coastal dune system. *Geoderma* 164: 181-194.
- Kim, D.**, Bartholdy, J., Jung, S. & Cairns, D.M. (2011) Salt marshes as potential indicators of global climate change. *Geography Compass* 5: 219-274.
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2011) Wind-driven sea-level variation influences dynamics of salt marsh vegetation. *Annals of the Association of American Geographers* 101: 231-248.
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2010) Environmental controls on multiscale spatial pattern of salt marsh vegetation. *Physical Geography* 31: 58-78.
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2009) Spatial heterogeneity and domain of scale on the Skallingen salt marsh, Denmark. *Danish Journal of Geography* 109: 95-104.
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2009) Scale-dependent interactions and community structure along environmental gradients on a coastal salt marsh. *Journal of Coastal Research* SI 56: 429-433.
- Kim, D.** & Yu, K.B. (2009) A conceptual model of coastal dune ecology synthesizing spatial gradients of vegetation, soil, and geomorphology. *Plant Ecology* 202: 135-148.
- Filippi, A.M., Brannstrom, C., Dobrev, I., Cairns, D.M. & **Kim, D.** (2009) Unsupervised fuzzy ARTMAP classification of hyperspectral Hyperion data for savanna and agriculture discrimination in the Brazilian Cerrado. *GIScience & Remote Sensing* 46: 1-23.
- Park, S.J., Ruecker, G.R., Agyare, W.A., Akramhanov, A., **Kim, D.** & Vlek, P.L.G. (2009) Influence of grid cell size and flow routing algorithm on soil-landform modeling. *Journal of the Korean Geographical Society* 44: 122-145.
- Kim, D.**, Yu, K.B. & Park, S.J. (2008) Identification and visualization of complex spatial pattern of coastal dune soil properties using GIS-based terrain analysis and geostatistics. *Journal of Coastal Research* 24(4C): 50-60.
- Kim, D.** (2004) Spatial distribution of nutrients from sea water and aeolian sands in a coastal dunefield, South Korea. *Journal of Geography* 43: 57-79 (in Korean with abstract in English).

Refereed Proceedings:

- Filippi, A.M., Brannstrom, C., Cairns, D.M. & **Kim, D.** (2007) Hyperion and CBERS satellite image classification intercomparison for Cerrado and agricultural mapping, In: Ehlers, M. & Michel, U. (eds.), *Remote Sensing for Environmental Monitoring, GIS Applications, and Geology VII*, (Proceedings of SPIE), vol. 6749, pp. 674913-1-674913-12.

Book Reviews:

Kim, D. (in press) *Comparative Biogeography: Discovering and Classifying Biogeographical Patterns of a Dynamic Earth* by Lynne R. Parenti and Malte C. Ebach & *Mapping Species Distributions: Spatial Inference and Prediction* by Janet Franklin. *Annals of the Association of American Geographers*.

Encyclopedia Contribution:

Kim, D. (2010) Complex systems models, In: Warf, B. (ed.), *Encyclopedia of Geography*, Vol. 2, SAGE Publications, London, pp. 561-567.

Technical Reports:

Kim, D. (2007) Spatial and temporal dynamics of salt marsh vegetation across scales. *European Union Center of Excellence Research 2006-2007* (<http://euce.tamu.edu>).

Park, K. & **Kim, D.** (2003) Analysis of physical and chemical properties of dune sediments, In: National Institute of Environmental Research and Ministry of Environment (eds.), *Nationwide Detailed Survey on Coastal Dune Ecosystems of South Korea*, pp. 165-178 (in Korean).

PRESENTATIONS**Oral:**

Kim, D., Cairns, D.M. & Bartholdy, J. (2011) Fluvial-geomorphic processes of salt marsh creeks shape spatial trends in vegetation across environmental stress gradients. *Symposium of the International Association for Vegetation Science*, Lyon, France, June 20-24.

Kim, D., Grant, W.E., Cairns, D.M. & Bartholdy, J. (2011) Effects of wind-driven sea-level variation and its implications for ecological succession: A modeling approach. *Annual Meeting of the Southeastern Estuarine Research Society*, Athens, GA, March 16-18.

Kim, D., Cairns, D.M. & Bartholdy, J. (2010) Species-centered perspective on stress-diversity relationships under stressful but non-lethal conditions. *Annual Meeting of the Southeastern Division of the Association of American Geographers*, Birmingham, AL, November 21-23.

Kim, D., Cairns, D.M. & Bartholdy, J. (2010) Spatial trends in vegetation diversity across environmental stress gradients on a salt marsh. *Symposium of the International Association for Vegetation Science*, Ensenada, Baja California, Mexico, April 18-23.

Kim, D., Cairns, D.M., Bartholdy, J. & Morgan, C.L.S. (2010) Scale-dependent correspondence of floristic and edaphic gradients across tidal creeks. *Annual Meeting of the Association of American Geographers*, Washington, D.C., April 14-18.

Kim, D., Cairns, D.M. & Bartholdy, J. (2009) Environmental controls on multiscale spatial pattern of salt marsh vegetation. *Annual Meeting of the Southeastern Division of the Association of American Geographers*, Knoxville, TN, November 21-24.

Kim, D., Cairns, D.M. & Bartholdy, J. (2009) Scale- and species-dependent interactions shape complex community structure along environmental gradients. *Society of Wetland Scientists International Conference*, Madison, WI, June 22-26.

Kim, D., Cairns, D.M. & Bartholdy, J. (2009) Scale-dependent interactions and community structure along environmental gradients on a coastal salt marsh. *International Coastal Symposium*, Lisbon, Portugal, April 13-18.

- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2009) Species-specific competition and facilitation across spatial scales and environmental gradients. *Annual Meeting of the Association of American Geographers*, Las Vegas, NV, March 22-27.
- Kim, D.**, Cairns, D.M., Bartholdy, J. & Morgan, C.L.S. (2008) Soil spatial variability associated with tidal creek meandering on a salt marsh. *ASA-CSSA-SSSA International Annual Meeting*, Houston, TX, October 5-9 (received *Best Presentation Award*).
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2008) Climate variability associated with the North Atlantic Oscillation influences dynamics of salt marsh vegetation. *Society of Wetland Scientists International Conference*, Washington, D.C., May 26-30.
- Millington, A.C., Lafon, C.W. & **Kim, D.** (2008) Rita's legacy: inter-specific and spatial patterns of tree damage in east Texas forests. *Annual Meeting of the Association of American Geographers*, Boston, MA, April 15-19.
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2008) Spatial zonation of salt marsh vegetation in response to edaphic and topographic gradients across tidal creeks. *Annual Meeting of the Association of American Geographers*, Boston, MA, April 15-19.
- Kim, D.**, Cairns, D.M., Yu, K.B. & Park, S.J. (2007) Scale dependence of environmental correlation of soil spatial variability: a comparison of three adaptive techniques. *ASA-CSSA-SSSA International Annual Meeting*, New Orleans, LA, November 4-8.
- Kim, D.**, Millington, A.C. & Lafon, C.W. (2007) Hurricane-induced tree damage in mixed hardwood-softwood forests in the Big Thicket National Preserve, Texas. *Annual Meeting of the Southwestern Division of the Association of American Geographers*, College Station, TX, November 1-3.
- Filippi, A.M., Brannstrom, C., Cairns, D.M. & **Kim, D.** (2007) Hyperion and CBERS satellite image classification intercomparison for Cerrado and agricultural mapping. *SPIE Europe Remote Sensing*, Florence, Italy, September 17-20.
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2007) Linking micro-scale spatial zonation of vegetation across tidal creeks with fluvial-geomorphic processes on a coastal salt marsh. *Society of Wetland Scientists International Conference*, Sacramento, CA, June 10-15 (received *Honorable Presentation Award*).
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2007) Spatial patterns and long-term dynamics of salt marsh vegetation on the Skallingen Peninsula, Denmark. *Annual Meeting of the Association of American Geographers*, San Francisco, CA, April 17-21.
- Yu, K.B., Kim, S.H., Rhew, H., Shin, Y.H., **Kim, D.** & Kwon, K.H. (2004) Geomorphic influence on the variations of incoming nutrients in a coastal dune ecosystem. *East Asian Federation of Ecological Societies International Congress*, Mokpo, South Korea, October 20-24.
- Kim, D.**, Yu, K.B. & Park, S.J. (2004) Topographic indicators of plant distribution in a coastal dunefield. *International Geographical Union*, Glasgow, U.K., August 15-20.
- Kim, D.**, Park, S.J. & Yu, K.B. (2004) Topography as an indicator of soil properties in a coastal dunefield. *Biannual Meeting of the Geomorphological Association of Korea*, Chungju, Korea, August 12-14.
- Kim, D.**, Park, S.J. & Yu, K.B. (2004) Spatial distribution of nutrients from sea water and aeolian sands in a coastal dunefield. *Biannual Meeting of the Korean Geographical Society*, Kongju, Korea, May 28-29.

Poster:

- Kim, D.** & Zheng, Y. (2010) Scale-dependent predictability of landform attributes for soil spatial variability: A spatial regression approach. *Annual Binghamton Geomorphology Symposium*, Columbia, SC, October 15-17.
- Kim, D.**, Cairns, D.M. & Bartholdy, J. (2009) A comparison of floristic and edaphic gradients responding to fluvial-geomorphic processes of tidal creeks. *Annual Binghamton Geomorphology Symposium*, Blacksburg, VA, October 2-4.
- Millington, A.C., Lafon, C.W. & **Kim, D.** (2009) Order or disorder: what is the effect of hurricanes on forest ecosystem structure? *International Congress of Ecology*, Brisbane, Australia, August 16-21.
- Srinath, I., Flatley, W.T., Graff, C., Hopf, F., **Kim, D.**, Krustchinsky, A.R., Redo, D. & Young, A.B. (2007) The urban expansion of Bryan and College Station, TX from 1867-2003. *Annual Meeting of the Southwestern Division of the Association of American Geographers*, College Station, TX, November 1-3.

MANUSCRIPT REVIEWER

- 2011 (2 reviews) *Geomorphology* (2)
- 2010 (6 reviews) *Geomorphology* (5)
 Scientia Agricola (1)
- 2009 (3 reviews) *Earth Surface Processes and Landforms*
 Sensors
 Soil Science Society of America Journal

CONFERENCE SESSIONS ORGANIZED

- 2010 Organizer and chair of “*Vegetation Dynamics II*” (sponsored by the Biogeography Specialty Group), Annual Meeting of the Association of American Geographers, Washington, D.C., April 14-18.
- 2009 Organizer of “*Vegetation Dynamics II*” (sponsored by the Biogeography Specialty Group), Annual Meeting of the Association of American Geographers, Las Vegas, NV, March 22-27.

INVITED TALKS

- 12/2010 Department of Geography, Seoul National University, South Korea
- 08/2010 Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina, SC
- 07/2010 Department of Geography, Seoul National University, South Korea
- 12/2009 Department of Plant and Soil Sciences, University of Kentucky, KY
- 02/2009 Department of Geography, University of Kentucky, KY

AWARDS

- 03/2010 *Visiting Scientist Award*, Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina, SC
- 10/2008 *Best Oral Presentation* at the International Meeting of ASA-CSSA-SSSA, Houston, TX

06/2007 *Honorable Oral Presentation* at the International Meeting of the Society of Wetland Scientists, Sacramento, CA

09/2005 Regents Fellowship, Texas A&M University, \$15,000

RESEARCH GRANTS

Pending Collaborative Research, National Science Foundation: *'Mechanisms of plant species coexistence under harsh environmental conditions: Is niche differentiation required? Or is the issue scale-dependent?'*

07/2008 - 07/2009 Doctoral Dissertation Research Improvement Grant, National Science Foundation: *'Spatial and temporal dynamics of salt marsh vegetation across scales,'* \$11,730

06/2008 Graduate Student Research Grant, Geography Department, Texas A&M University: *'Estimating the rate of sedimentation under different successional states,'* \$300

06/2007 Graduate Student Research Grant, the Society of Wetland Scientists: *'Linking micro-scale spatial zonation of vegetation across tidal creeks with fluvial-geomorphic processes on a coastal salt marsh,'* \$1,000

04/2007 Graduate Student Research Grant, Biogeography Specialty Group, the Association of American Geographers: *'Spatial zonation of vegetation on a salt marsh ecosystem: implications of micro-spatial scale processes and land use history,'* \$1,000

09/2006 Graduate Student Research Grant, European Union Center of Excellence: *'Long-term dynamics of vegetation on a salt marsh of the Wadden Sea: implications of climate change and land use history,'* \$2,065

07/2006 Graduate Student Research Grant, Geography Department, Texas A&M University: *'Long-term dynamics of vegetation on a Danish salt marsh,'* \$1,000

TRAVEL GRANTS

11/2009 Travel Grant, *'2009 Annual Meeting of the Southeastern Division of the Association of American Geographers,'* \$100

06/2009 Travel Grant, Geography Department, Texas A&M University: *'2009 Society of Wetland Scientists International Conference,'* \$600

05/2008 Travel Grant, Ecology and Evolutionary Biology Program, Texas A&M University: *'2008 Society of Wetland Scientists International Conference,'* \$490

06/2007 Travel Grant, Ecology and Evolutionary Biology Program, Texas A&M University: *'2007 Society of Wetland Scientists International Conference,'* \$820

SCHOLARSHIPS

09/2005 - 08/2006 Incentive Tuition Scholarship, Texas A&M University, \$2,000

03/2002 - 02/2004 Scholarship of LG Yonam Foundation, South Korea, \$3,000

09/1998 - 02/1999 Scholarship of Army R.O.T.C., Seoul National University, \$1,000

DEPARTMENTAL SERVICES

09/2009 - **Graduate Studies Committee**, UK Geography
Colloquium Organizing Committee, UK Geography
Laboratory Advisory Committee, UK Geography

COURSES TAUGHT

Department of Geography, University of Kentucky

GEO 705 Advanced Geographic Methods: Applications of Geospatial Techniques
GEO / BIO 530 Biogeography and Conservation
GEO 310 Quantitative Methods in Geography (scheduled in Fall 2011)
GEO 130 Earth's Physical Environment

Department of Geography, Texas A&M University

GEOG 213 Planet Earth Lab

GRADUATE STUDENT SUPERVISION

Ph.D. committee member (in progress)

2010 Sarah McCormack (Geography), "Living landforms: an investigation of the tributaries of the Kentucky River system", Chair: J.D. Phillips

 Christopher Stieha (Biology), "Mechanisms of the maintenance of the sexes", Chair: D.N. McLetchie; Co-Chair: P. H. Crowley

M.A. committee member (completed)

2010 Paul Bradway (Geography), "Pre-settlement forest composition of the inner Bluegrass region of Kentucky, USA", Chair: J.D. Phillips

M.A. committee member (in progress)

2010 Stephanie Houck (Geography), Chair: J.D. Phillips

MEMBERSHIPS

The Association of American Geographers (AAG)
The SouthEastern Division of the Association of American Geographers (SEDAAG)
The International Association for Vegetation Science (IAVS)
The SouthEastern Estuarine Research Society (SEERS)
The Society of Wetland Scientists (SWS)
The Soil Science Society of America (SSSA)
The Korean Geographical Society (KGS)
The Geomorphological Association of Korea (GAK)

RELEVANT SKILLS

Computing:

GIS (ArcView, ArcGIS) / Remote sensing (ENVI)
Spatial analysis (GeoDa, S-plus with Spatial Analyst, SURFER, ArcGIS)
Simulation modeling (STELLA, MATLAB)
Multivariate statistics (S-plus, SPSS, AMOS, CANOCO for Windows, R, PC-ORD, MS EXCEL)

Terrain analysis – familiar with various algorithms for extracting terrain parameters

Scientific Skills:

Experiences in soil, vegetation, and landscape survey (GPS and Total Station)

Proficiency in physical and chemical soil analyses

COMMUNITY SERVICES

University of Kentucky

01/2011 - **Primary Advisor**, UK Korean Student Association

09/2010 - **Treasurer**, Association of Korean University Professors in Central Kentucky

09/2010 - **President**, Korean Catholic Community in Lexington

Texas A&M University

01/2007 - 12/2007 **Captain**, AKOZ (formerly NANTA), Aggie Korean Basketball Team