

CURRICULUM VITAE: Valery J. Terwilliger

CONTACT INFORMATION:

GéEAC EA 2100 (visiting professor)
Bâtiment E - Faculté des Sciences et Techniques
Université François Rabelais de Tours
Parc Grandmont
F-37200 TOURS
Telephone: 33-2-47-36-70-05

Department of Geography (on leave of absence)
University of Kansas
Lawrence, Kansas 66045 USA
Telephone: Off: (785) 864-5547
E-mail: terwilli@ku.edu
FAX: 785-864-5378

EDUCATION:

- 1983-88 Ph.D. Geography. University of California, Los Angeles (subconcentration in geotechnical engineering)
1980-82 M.S. Forest ecology. University of Florida, Gainesville (subconcentration in botany)
1977 B.A. Biology. Western Maryland College, Westminster

PERTINENT EMPLOYMENT:

- 2007 Visiting Professor. Université François Rabelais de Tours, France
2002-04 Senior Research Fellow, Smithsonian Environmental Research Center and Visiting Investigator, Carnegie Institution of Washington D.C.
1999-2000 Visiting Scholar (Sabbatical). Columbia University, Biosphere 2 Center. Oracle, AZ.
1998-now Associate Professor. Department of Geography. Courtesy Professor, Department of Ecology and Evolutionary Biology, Affiliate member, Environmental Studies Program, Latin American Area Studies, Member Quaternary Science Program, University of Kansas, Lawrence.
1991-98 Assistant Professor. Department of Geography. Courtesy Professor. Department of Botany. University of Kansas, Lawrence, KS. (Leave of absence in 1995)
1989-1991 Postdoctoral Research Associate. Department of Geological Sciences, University of California, Santa Barbara, CA. Sponsor: Dr. Michael J. DeNiro
1988-89 Lady Davis Postdoctoral Fellow. Institute of Earth Sciences, Hebrew University, Jerusalem, Israel. Sponsor: Dr. Asher P. Schick
1984-88 Research Assistant, University of California, Los Angeles.
Teaching Assistant, Department of Geography, University of California, Los Angeles
1981-82 Research Assistant. University of Florida, Gainesville, FL

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1977-80 Agricultural Extensionist, Banco Nacional de Nicaragua, Rama, Zelaya, Nicaragua;
 Conservation Biologist, Smithsonian Tropical Research Institute, Ancon, Panamá;
 Conservation Biologist, Asociación Costarricense para la Conservación de la
 Naturaleza, San José, Costa Rica

RESEARCH INTERESTS:

1989-present I am interested in how plasticity of photosynthetic and water use characters may affect the responses of tree species to environmental changes and also in how terrestrial organic and biogenic materials can be used to reconstruct changes in past environments. Some of the techniques that I employ include analyses of isotope ratios of stable carbon, nitrogen, hydrogen, and oxygen as well as instantaneous measures of gas exchange, fluorescence, and sapflow. I analyze both plants and soils.

SITES OF FIELD RESEARCH EXPERIENCE:

Foreign: Ethiopia, Panama, Israel, Costa Rica, Nicaragua. USA: California, Florida, Kansas, Maryland, Utah

TEACHING EXPERIENCE:

University of Kansas, Lawrence

1991- Global Environment and Civilization (EVRN 420/Geog 531)

 Human Biogeography (Honors)(Biol/Geog 410)

 Field Ecology (EVRN 460)

 Introductory Physical Geography (Honors) (Geog 107)

 Stable Isotopes in the Natural Sciences (Geog/Biol 749)

 Applications of Stable Isotopes in the Natural Sciences (Geog 980).

 Plant Geography (Geog 537/Biol 634).

 Intermediate Physical Geography (Geog 331).

 Environmental Conservation (Geography 304).

 Vegetation Geography Seminar (on Tropical forest ecology)(Geog 937/Biol 968)

University of California, Santa Barbara

1990 Stable Isotope Methods Laboratory (Graduate course in Geological Sciences)

Hebrew University, Givat Ram, Jerusalem, Israel.

1989 Portion of a field course in Physical Geography.

University of California, Los Angeles (as Teaching Assistant)

1983-87 People and the Earth's Ecosystems

1985-87 Ecology of Vegetation Laboratory

1985-87 Soils Laboratory

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PROFESSIONAL SOCIETIES:

American Association for the Advancement of Science
American Geophysical Union
American Quaternary Association
Association of American Geographers
Ecological Society of America
International Biogeography Society
Société Française des Isotopes Stables

HONORARY SOCIETIES:

Sigma Xi, Full member

COMMITTEES AND SERVICE:

National:

- 2005 Board Member nominee, Biogeography Specialty Group, Association of American Geographers.
Judge, Biogeography Specialty Group, award for best graduate student research proposal
Reviewed tenure dossier for University of San Francisco.
- 2004 Board Member nominee, Biogeography Specialty Group, Association of American Geographers.
- 2003 Review panelist for NSF, Science and Technology Centers Program
- 2002 Review panelist for EPA, STAR Environmental Studies Fellowships
- 1999-now Reviewed manuscripts for Plant, Cell and Environment, Geochimica et Cosmochimica Acta, Landscape Ecology, Journal of Geophysical Research, Tree Physiology, Professional Geographer, Journal of Arid Environments
- 1998 Reviewed tenure-track appointment renewal dossier (from University of Colorado at Colorado Springs)
- 1997 Judge, Biogeography Specialty Group, award for best graduate student research proposal
- 1996-now Proposal reviews for National Science Foundation Earth Sciences Division (various programs), Geography and Regional Science, and Major Research Instrumentation Programs
- 1995 Judge, Buell Award for best graduate student presentation at Ecological Society of America meetings, Utah
- 1995 Textbook reviewer for Wm. C. Brown Publishers
- 1994 Nominee for Board member of Biogeography Specialty Group, Association of American Geographers
- 1994 Judge, Biogeography Specialty Group, award for best graduate student presentation at Association of American Geographers meetings, San Francisco

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State University System:

1996 Ad Hoc Reviewer of NSF EPSCoR First Award proposals

College and University:

2001 Chaired panel of judges for graduate student research presentations for the Kansas Chapter of Sigma XI.

1996-99 Committee on Undergraduate Studies and Advising (CUSA), Subcommittee on Academic Standards, and Chair of Subcommittee on Advising

1996-now Member, University Quaternary science Program

1994-95 Science Faculty Teaching Introductory Courses Group

1994 Participant in Undergraduate Affairs Committee of Chemistry Department to develop Environmental Chemistry major

1994 Ad Hoc Reviewer of General Research Fund Proposals for Biology entity

1993-now Member, Faculty Committee on Latin American Studies

1993 Campus-wide freshman advising during orientation

1992-95 Member, Graduate Council and Committee for Evaluation of New Programs and Program Changes

Departmental:

2005-06 Member, Faculty Affairs (Promotion and Tenure) Committee

2004-05 Member, Curriculum committee, Space Committee

2000-02 Member, Faculty Affairs Committee

1999 Member, Awards Committee

1998 Member, Faculty Affairs Committee

1996-99 Colloquium coordinator or co-coordinator

1993-96 Grade Appeal Committee

1992-95 Member, Faculty Affairs Committee

1992 Member, research committee for University review

1991-92 Member, Student Affairs Committee, graduate student recruitment

Kansas Ecological Reserve System:

1992-now Member

1992-94 Presentations for Kansas Ecological Reserves Field Day

Outreach:

2003 Invited informal discussions and field demonstrations for students at historically black colleges as part of NSF funded program (PI: Kelton Clarke). Smithsonian Environmental Research Center.

1995 Invited laboratory workshop leader for Summer Career Horizons Program. (U.S. Department of Education funded program for sixth grade students from at risk

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- neighborhoods in Kansas City, Kansas
- 1995 Invited laboratory workshop leader for Expanding Your Horizons in Science and Mathematics Conference
- 1994 Invited Discussion leader for the Expanding Your Horizons in Science and Mathematics Conference

GRADUATE STUDENTS

Chair of Graduate Student Committee:

- Joseph Daniel Terry (Masters in Geography Completed Fall 1996)
- John Livingston (Masters in Geography Completed Fall 1995)
- Eunmi Chang Park (Ph.D. in Geography Completed Fall 1997, presently co-CEO of a GIS/Remote Sensing educational company in Seoul Korea)
- Debbie Jeanette LeRoux, (Ph. D in Ecology and Evolutionary Biology Completed Summer 1999, presently assistant professor at Hope College, Holland, MI)
- Zhang Xue, Doctoral Student, Ecology and Evolutionary Biology (Degree not completed).

Member of Graduate Student committee:

Masters Degree Completed:

- Jon Shultz, Geography, Degree Completed Fall 1995
- Elizabeth Hane, Ecology and Systematics, Degree Completed Fall 1995
- Dana Peterson, Geography, Degree Completed Summer 1999

Doctoral Degree Pending:

Karen Willey

Doctoral Degree Completed:

- Kyeong Park (Ph.D. in Geography Completed Fall 1997)
- Marcia Schulmeister, (Ph. D. in Geology Fall 2000)

Research Supervision (at University of Kansas unless otherwise stated):

- 2007- Cyrielle Gomes-Leal, Université Tours, France
- 2006- Nikki Strong, Postdoctoral researcher
- 2006- Tsige Gebru, Masters student, University of Addis Ababa University (Ethiopia)
- 2005-06 Andrew Hodgson, Kathryn McKinley, undergraduates
- 2002-04 Lauren Urgenson (now grad student at Univ. of Washington), Brianna Smith Miles (now at Univ. Florida), Kati Dawson, Andrea Krystan (undergrad at Eckerd College, FL), all at Smithsonian Environmental Research Center.
- 2001-02 Thomas Rolf, undergraduate; Catherine Wiegand, visiting NSF-REU student
- 2000 Bryce Lawrence, Kellis Bayliss, undergraduates
- 1999 Tom Buller, undergraduate
- 1997-00 Chandra Jones, non-degree special
- 1996-98 Fanny Stein, undergraduate, then non-degree special; Ari Langston, undergraduate

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- 1996 Ill Son, Visiting scholar from Catholic Women's University, Korea
- 1995-96 Reiko Makabe, undergraduate
- 1995 Lisa Peltier, visiting undergraduate Howard Hughes research fellow
- 1994-96 Jun Huang, Postdoctoral researcher
- 1994 Yan Qui Huang, undergraduate
- 1993-94 Brent Helliker, Heather Milton, undergraduates
- 1992-93 Luke Gard, Jennifer Powers, undergraduates

PROFESSIONAL MEETINGS:

American Geophysical Union (Oral presentations):

- 2004 San Francisco, CA
- 1988 Baltimore, MD

Annual Meeting of the Association of American Geographers (Oral presentations):

- 2005 Denver, CO
- 2004 Philadelphia, PA
- 2002 Los Angeles, CA
- 2001 New York City, NY
- 1999 Honolulu, HI
- 1998 Annual Meeting of the Great Plains/Rocky Mountain Division of the Association of American Geographers. Lawrence, KS (Second author for student poster and oral research presentations)
- 1997 Fort Worth, TX
- 1996 Charlotte, NC
- 1994 San Francisco, CA
- 1993 Atlanta, GA
- 1992 San Diego, CA
- 1988 Phoenix, AZ

International Conference on Applications of Stable Isotope Techniques to Ecological Studies:

- 2004 Wellington, New Zealand
- 2000 Braunschweig, Germany (Oral presentation, chaired session)

International Congress on Geochronology, Cosmochronology, and Isotope Geology (Oral presentations):

- 1998 Beijing, China
- 1994 Berkeley, CA

Ecological Society of America Meetings:

- 2005 Montreal, Canada (co-author on oral presentation by Cavender-Bares)
- 1997 Albuquerque, NM (oral)

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- 1995 Snowbird, UT (oral)
- 1993 Madison, WI (oral)
- 1991 San Antonio, TX (Poster)
- 1988 Davis, CA (oral)

Gordon Conference, Stable Isotopes Session (Posters)

- 1995 Ventura, CA
- 1994 Oxnard, CA

Others:

- 2006 Isotopes as tracers of ecological change, BASIN and SIBAE Stable Isotope Meeting, 13-15 March. Tomar, Portugal (poster) .
- 2005 Applied Isotope Geochemistry. Paleoenvironment session. (Second author on oral presentation by Z. Eshetu.) Prague, Czechoslovakia.
- 2002 Harvard workshop on long distance transport processes in plants (Poster first authored by J. Cavender-Bares). Harvard Forest.
- 2002 Netcarb summer school on stable isotopic methods in ecosystem research. Carcavelos, Portugal (participant).
- 2000 International Conference on Dendrochronology for the Third Millennium. Mendoza, Argentina (Oral presentation)
- 1996 Stable Isotopes and the Integration of Biological, Ecological and Geochemical Processes, Association of Applied Biologists Conference, Newcastle upon Tyne, United Kingdom (Poster)
- 1994 VI International Congress of Ecology, Manchester, England (Oral presentation)

INVITED RESEARCH PRESENTATIONS:

- 2007 Smithsonian Environmental Research Center, Edgewater, MD, (upcoming in 2007)
- 2007 Session F. American Society for Environmental History. Baton Rouge, Louisiana.
- 2007 Université François Rabelais de Tours. Laboratoire de géologie des environnements aquatiques continentaux. Tours, France.
- 2006 Ethiopian Institute for Agricultural Research, Forestry Research Center, Addis Ababa, Ethiopia.
- 2006 University of Mekelle, Department of dryland agriculture and natural resources. Mekelle, L'Ethiopie.
- 2006 University of Minnesota, National Center for Earth Surface Dynamics, Minneapolis, MN
- 2005 Ujamaa Brownbag Series. University of Kansas
- 2004 Ethiopian Agricultural Research Organization, Addis Ababa
- 2000 Biology Department Research Seminar, Southwest Missouri State University, Springfield, MO

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- 1997 Geography Department Research Seminar, Texas A&M University, College Station
- 1997 Office of International Programs Worldview Seminar, University of Kansas
- 1997 Quaternary Science interdisciplinary group lunch, University of Kansas
- 1997 Presentation at Statewide K*STAR NSF EPSCoR Conference, Topeka, KS
- 1996 Presentation at Latin American Studies Merienda lunch, University of Kansas
- 1996 Poster for Gordon Conference: Isotopes in the Physical and Life Sciences, Ventura, CA
- 1995 K*STAR NSF EPSCoR Conference, Manhattan, KS
- 1994 Botany Department Research Seminar, University of Kansas
- 1994 Poster at the Statewide K*STAR NSF EPSCoR Conference, Topeka, KS. (For National Science Foundation program)
- 1993 Poster presentation at the Statewide K*STAR NSF EPSCoR Conference, Topeka, KS. (For National Science Foundation program)
- 1989 Research presentation at Session S6 (in Probach): Mediterranean erosion of the International Congress on Geomorphology, Frankfurt, Germany
- 1988 Research seminar. Institute of Earth Sciences, Hebrew University of Jerusalem, Israel
- 1988 Doctoral research seminar. Department of Geography, University of California, Los Angeles
- 1983 Master's research seminar. Department of Forestry. University of Florida
- 1980 Research seminar. Departamento de Biología. Universidad Nacional de Costa Rica
- 1980 Invited field course and lecture series for biology teachers. Universidad Estatal a Distancia, Costa Rica
- 1975 Research presentation at the Smithsonian Tropical Research Institute, Panama

FOREIGN LANGUAGES:

- Spanish; fluent reading, writing, speaking, and comprehension
- French; fair reading, writing, speaking, and comprehension
- German, Hebrew; some reading, writing, speaking, and comprehension
- Amharic; some speaking and comprehension

GRANT AWARDS AND FELLOWSHIPS:

Extra-mural

Funded:

- 2006-08 National Science Foundation, Geography and Regional Science Program. Climate, land use, and the rise and fall of powerful Sub-Saharan African societies: collaborative research. PI: Terwilliger. Co-PI: Yongsong Huang. Sum \$286,000.
- 2003-04 Stable isotopic analyses of biological proxy to reconstruct paleoenvironments of the Middle Awash Basin, Ethiopia. Principal investigator. American Association for the Advancement of Science and National Science Foundation, Women's International Science Collaboration Program. \$5000.

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- 2003-2004 Smithsonian Senior Fellowships. Principle Investigator. Variation in photosynthetic and water use characters in relation to the distribution of oaks in eastern North American deciduous forest. \$32,000.
- 2002- National Science Foundation, Long-Term Ecological Research Program. Konza Prairie LTER V: Long Term Research on Grassland Dynamics and Global Change. Co-PI (there are 22). Start date-11/01/02, runs for 72 months, \$4,680,000.
- 1999-2002 National Science Foundation, Major Research Instrumentation Program Acquisition. of an Isotope Ratio Mass Spectrometer in the Kansas State University-University of Kansas-Creighton University Consortium. Principal Investigator: Loretta Johnson. Co-PIs: John Blair, Walter Dodds, Gwendolyn Macpherson, and Valery Terwilliger. \$150,000.
- 1998 National Science Foundation supplemental award, Geography and Regional Science Program, Principal Investigator. \$6000.
- 1998 National Geographic Society. Principal Investigator. Resource use variations of fast-growing trees in Panama. \$20,000.
- 1996-99 National Science Foundation, Geography and Regional Science Program. Principal Investigator. Reconstruction of Quaternary climates using stable isotopic analyses of packrat middens \$205,250.
- 1996 NSF-EPSCoR-SEM-RSI. Principal Investigator. Plasticity in resource use of fast-growing evergreen and deciduous trees in tropical moist forest. \$6000.
- 1995-96 National Science Foundation, Principal Investigator, (E. C. Park, Co-PI) Geography and Regional Science Program. Exposure of riparian trees to coal emissions: does it produce geographic variation in water use efficiency? \$9600.
- 1994 NSF-EPSCoR Travel Award. \$600.
- 1992-96 National Science Foundation EPSCoR proposal KU-I-15. Principal Investigator, Comparative Resource Use of Trees in Riparian Forests. \$150,000.
- 1988 Lady Davis Postdoctoral Fellowship to conduct research at the Hebrew University, Jerusalem, Israel. \$20,000
- 1987 Outstanding Woman Graduate Student in Geography Award. Society of Women Geographers. \$4000
- 1986 Sigma Xi Grant in Aid for Research. \$200
- 1981 Institute of Food and Agricultural Sciences, University of Florida travel grant for the Organization for Tropical Studies Tropical Ecology field course in Costa Rica. \$1800.
- 1975 Smithsonian Institution Nobel Fund Fellowship to study Baird's tapirs in Panama. \$3000

Intra-mural

- 2006 CLAS Faculty Travel Award for conference presentation in Tomar, Portugal
- 2004 International travel grant for academic interchange and to speak at conference in Wellington, New Zealand.

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- 2002 International travel grant to learn new research methods at Weizman Institute, Israel. University of Kansas. \$1500.
- 2001 Effect of atmospheric CO₂ concentrations on carbon source-sink relations during the development of cottonwood (*Populus deltoides*) leaves. University of Kansas General Research Fund. \$8600.
- 1999 Effects of El Niño Related Drought on Water and Carbon Use of Neotropical trees. University of Kansas General Research Fund. \$10,000.
- 1995-96 University of Kansas General Research Fund. Stable isotopic analyses of packrat middens. \$6666
- 1994-95 University of Kansas General Research Fund. \$8500
- 1993-94 University of Kansas General Research Fund. \$1500
- 1992 University of Kansas General Research Fund. \$7000
- 1991 Univ. of Kansas New Faculty Research Fund. \$5000

PUBLICATIONS:

Articles:

- Terwilliger, V. J. 2003. Influence of phenotypic plasticity in photosynthetic functions on the spatial distributions of tropical trees. *Physical Geography* 24:433-446.
- Terwilliger, V. J., J. L. Betancourt, S. W. Leavitt, P. K. Van de Water. 2002. Leaf cellulose δD and $\delta^{18}O$ trends with elevation differ in direction among co-occurring, semi-arid plant species. *Geochimica et Cosmochimica Acta* 66:3887-3900.
- Terwilliger, V. J. 2002. Comment on "A mechanistic model for interpretation of hydrogen and oxygen isotope ratios in tree-ring cellulose," by J. S. Roden, G. Lin, and J. R. Ehleringer. *Geochimica et Cosmochimica Acta* 66:729-731.
- Terwilliger, V. J., K. Kitajima, D. J. Le Roux-Swarthout, S. Mulkey, and S. J. Wright. 2001. Influences of heterotrophic and autotrophic resource use on carbon and hydrogen isotopic compositions of tropical tree leaves. *Isotopes in Environmental and Health Studies* 37:133-160.
- Terwilliger, V. J., K. Kitajima, D. J. Le Roux-Swarthout, S. S. Mulkey, and S. J. Wright. 2001. Intrinsic water-use efficiency and heterotrophic investment in tropical leaf growth of two Neotropical pioneer tree species as estimated from $\delta^{13}C$ values. *New Phytologist* 152:267-281.
- Le Roux-Swarthout, D. J., V. J. Terwilliger, and C. E. Martin. 2001. Deviation between $\delta^{13}C$ and leaf intercellular CO₂ in *Salix interior* cuttings developing under low light. *International*

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Journal of Plant Sciences 162:1017-1024.

Le Roux-Swarthout, D. J., V. J. Terwilliger, M. Christianson, C. E. Martin, and S. Madhavan. 2001. Carbon isotopic ratios of atmospheric CO₂ affect the $\delta^{13}\text{C}$ values of heterotrophic growth in *Nicotiana tabacum*. *Plant Science* 160:563-570.

Le Roux-Swarthout, D., V. J. Terwilliger, M. Christianson, C. Martin, and S. Madhavan. 2000. Carbon isotope discrimination correlates with a range of ratios of phosphoenolpyruvate to total carboxylase activities found in two C₃ species. *Journal of Plant Physiology* 157:489-493.

Chang, E. and V. J. Terwilliger. 2000. Studying the effects of air pollution on vegetation from a geographic perspective. *Progress in Physical Geography* 24:53-74.

Terwilliger, V. J. 1997. Developments in $\delta^{13}\text{C}$ of trees during a tropical rainy season: some effects after carboxylation? *American Journal of Botany* 84:(12)1693-1700.

Terwilliger, V. J. and J. Huang. 1996. Heterotrophic whole plant tissues show more enrichment in ¹³C than their carbon sources. *Phytochemistry* 43:1183-1188.

Terwilliger, V. J. and M. J. DeNiro. 1995. Hydrogen isotope fractionation in wood-producing avocado seedlings: Biological constraints to paleoclimatic interpretations of δD values in tree ring cellulose nitrate. *Geochimica et Cosmochimica Acta* 59:5199-5207.

Terwilliger, V. J. and M. Zeroni. 1994. Gas exchange of a desert shrub (*Zygophyllum dumosum* Boiss.) under different soil moisture regimes during summer drought. *Vegetatio* 115:133-144.

Terwilliger, V. J. and L. J. Waldron. 1991. Effects of root reinforcement on soil slip patterns in the Transverse Ranges of southern California. *Geological Society of America Bulletin* 103:775-785.

Terwilliger, V. J. and L. J. Waldron. 1990. Assessing the contribution of roots to the strength of undisturbed, slip-prone soils. *Catena* 17:151-162.

Terwilliger, V. J. 1990. Influences of chaparral vegetation on soil slips through pore pressure modification. *Earth Surface Processes and Landforms* 15:553-570.

Terwilliger, V. J. and K. C. Ewel 1986. Regeneration and growth after logging Florida pondcypress domes. *Forest Science* 32:493-505.

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Terwilliger, V. J. 1979. El biogas. *ASCONA Boletín* 6:4.

Terwilliger, V. J. 1978. Natural history of Baird's tapir on Barro Colorado Island, Panama. *Biotropica* 10:211-220.

Commissioned Book Review:

Terwilliger, V. J. 2007 (in press). Review of Foundations of Biogeography: Classic Papers with Commentaries, Mark Lomolino, Dov Sax, and James Brown, eds. *Annals of the Association of American Geographers*.

Terwilliger, V. J. 2000. Review of Physiological Ecology of Tropical Plants, by Ulrich Lüttge. *Journal of Vegetation Science* 11:155-158.

Refereed Abstracts:

Terwilliger, V. J. 2006. Aspects of climate and land use in Ethiopia that can be interpreted from $\delta^{13}\text{C}$, $\delta^{15}\text{N}$, and δD analyses of soil organic matter: calibrations along wet and dry elevation gradients. BASIN and SIBAE Stable Isotope Meeting, 13-15 March. Tomar, Portugal.

Eshetu, Z., V. J. Terwilliger, A. S. Colman, and M. Fogel. 2005. Insights into patterns of Past Vegetation and Human Settlement in Ethiopia from Stable Isotopic Analyses of Soil Organic Matter. *Applied Isotope Geochemistry* 6. Prague, Czechoslovakia.

Cavender-Bares, J., B. Miles, V. Terwilliger, L. Urgenson, G. Parker and C. Lovelock. Intraspecific variation in hydraulic conductance and water use efficiency of oak trees and seedlings across natural and experimental hydrologic gradients, Ecological Society of America, Montreal, 8/2005.

Terwilliger, V.J., Z. Eshetu, A. S. Colman, and M. Fogel. 2004. $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ Values of Soil Organic Matter Over Drought and Non-drought Affected Elevation Gradients in Ethiopia: Calibrating for Environmental Reconstruction. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract pp42a-06.

Terwilliger, V. J., C. J. Dunbar, M. L. Fogel. 2004. How does the stage of development of a mouse affect its carbon and nitrogen isotopic composition following a change in diet? Applications of Stable Isotope Techniques to Ecological Studies. Wellington, New Zealand.

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- Terwilliger, V. J., J. L. Betancourt, S. W. Leavitt, and P. K. Van de Water. 2000. How well can hydrogen and oxygen isotopes record climate? International Congress on Dendrochronology for the third millenium, Mendoza, Argentina. p. 71. IANIGLA-CONICET. Mendoza.
- Terwilliger, V. J., K. Kitajima, D. J. Le Roux-Swarthout, S. S. Mulkey, and S. J. Wright. 2000. Information about allocation of stored organic carbon to leaf growth and autotrophic resource use in tropical trees from natural abundances of stable isotopes. Applications of Stable Isotope Techniques to Ecological Studies. p. 60 , Federal Agricultural Research Centre. Braunschweig.
- Le Roux, D. J., V. J. Terwilliger, and C. E. Martin. 1998. Carbon isotope ratios of translocated carbon do not reflect C_i/C_a during previous environments in *Salix interior*. *Bulletin of The Ecological Society of America* 79:4
- Terwilliger, V. J., J. L. Betancourt, S. W. Leavitt, P. K. Van de Water. 1998. What do δD values of leaves reveal about environment? *Chinese Science Bulletin* 43:129.
- Terwilliger, V. J., D. J. LeRoux, K. Kitajima, S. S. Mulkey, and S. J. Wright. 1997. Carbon translocation and WUE during the development of short-lived leaves of tropical trees. *Bulletin of The Ecological Society of America* 78:195.
- Terwilliger, V. J. and J. Huang. 1996. Effects of translocation on $\delta^{13}C$ during leaf development. *Stable isotopes and the integration of biological, ecological and geochemical processes Conference*. University of Newcastle upon Tyne.
- Huang, J. and V. J. Terwilliger. 1995. Do carbon isotopic fractionations of whole leaves end with RuBisCo? *Bulletin of the Ecological Society of America* 76:262.
- Park, E. C. and V. J. Terwilliger. 1995. Effect of oxalic acid in the atmosphere on water use efficiency and the growth rate of trees. *Bulletin of the Ecological Society of America* 76:206.
- Terwilliger, V. J. and J. Huang. 1995. Separating leaf age from environmental effects on the $\delta^{13}C$ of leaves: a field approach, *Bulletin of the Ecological Society of America* 76:123.
- Terwilliger, V. J. 1994. Plasticity in carbon use of deciduous and evergreen Neotropical fast-growing trees. *Proceedings of the VI International Congress of Ecology*, Manchester, United Kingdom. p. 61.
- Terwilliger, V. J. and M. J. DeNiro. 1994. Wood is not a leaf: biological considerations when

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interpreting climate from δD of cellulose nitrate. Eighth International Conference on Geochronology, Cosmochronology and Isotope Geology, 1994. *U.S. Geological Survey Circular 1107*, p. 319.

Terwilliger, V. J. and M. J. DeNiro. 1993. A cell is not a pan of water: problems with using δD composition in wood cellulose to interpret climate. *Bulletin of the Ecological Society of America* 74:453.

Terwilliger, V. J. and M. Zeroni. 1991. Mechanisms in *Zygophyllum dumosum* BOISS. for surviving summers of the Negev Desert. *Bulletin of the Ecological Society of America* 72:265.

Terwilliger, V. J. 1989. Root reinforcement effects on soil slip processes in natural and altered chaparral, California, USA. *Geoöko-PLUS* 2:25.

Terwilliger, V. J. 1988. Effects of roots on soil slip patterns in disturbed and natural chaparral of the Transverse Ranges. *Bulletin of the Ecological Society of America* 69:316.

Terwilliger, V. J. 1988. Effects of initial moisture on soil saturation rates during storms: implications for the stability of mountainous terrain. *EOS* 69:363.

Ewel K. C., K. C. Marois, V. J. Terwilliger, and S. M. Upchurch. 1984. The effects of management practices on cypress swamps. *2nd International Wetlands Conference*, Trebon, Czechoslovakia.

Manuscripts Submitted and in review:

Huang, Y., B. Shuman, T. Webb, Y. Wang, G. L. Jacobson, E.C. Grimm, V. Terwilliger, and T. Boutton. A 70,000 year record of environmental and climatic change inferred from carbon and hydrogen isotope stratigraphy of higher plant biomarkers at Lake Tulane, Florida. *Earth Science and Planetary Letters*. (Recently rejected and in revision).

Manuscripts in Preparation:

Terwilliger, V. J., Z. Eshetu, M. L. Fogel, and A. Colman. Changes in stable isotopic composition of soil organic matter with respect to climate and land use along dry and wet elevation gradients in Ethiopia. (in review for *Chemical Geology*)

Cavender-Bares, J., B. Miles, V. Terwilliger, L. Urgenson, G. Parker, and C. Lovelock, Intraspecific variation in hydraulic conductance and water use efficiency of oak trees and

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seedlings across natural and experimental hydrologic gradients (in prep. for *Tree Physiology*).

Cavender-Bares, J., V. Terwilliger, B. Wisknosky, C. Lovelock, Plasticity of plant function in relation to ecological distribution in eastern North American oaks (in prep. for *Oecologia*).