

Curriculum Vitae of G. Randy Keller, Jr.

Education:

B.S. Mathematics (with Honors); Texas Tech University (1968)

M.S. Geosciences (Geophysics); Texas Tech University (1969)

Ph.D. Geosciences (Geophysics); Texas Tech University (1973)

Professional Record:

July 2006-Present-Professor and Edward Lamb McCollough Chair in Geophysics, The University of Oklahoma

October 2007-Present-Director, Oklahoma Geological Survey

Sept. 1993-July 2006-L.A. Nelson Professor, University of Texas at El Paso (UTEP)

Sept. 1982-July 2006-Professor of Geophysics, Dept. of Geological Sciences (UTEP)

Oct. 1981-Sept. 1998-Chairman, Department of Geological Sciences (UTEP)

Oct. 1980-April 1989-Director, J. W. Miller Memorial Geophysical Laboratory

July 1976-Oct. 1991-Consultant, Los Alamos Scientific Laboratory

Sept. 1978-Aug. 1982-Associate Professor, University of Texas at El Paso

Sept. 1976-May 1987-Director, Seismological Observatory (UTEP)

July 1976-Aug. 1978-Assistant Professor, University of Texas at El Paso

Aug. 1973-July 1976-Assistant Professor, University of Kentucky

July 1972-Aug. 1973-Research Assoc./Research Assistant Professor, Univ. of Utah

Sept. 1970-May 1971-Instructor, Texas Tech University

June 1970-Aug. 1970-Research Assistant, Mobil Research and Development

Professional Societies:

American Geophysical Union, Royal Astronomical Society (Fellow), Geological Society of America (Fellow), Seismological Society of America, Society of Exploration Geophysicists, American Association of Petroleum Geologists, American Association for the Advancement of Science, El Paso Geological Society (Life Member), European Geoscience Union, Society for the Advancement of Chicanos and Native Americans in Science, Oklahoma City Geological Society, Geophysical Society of Oklahoma City

Selected Professional Activities:

Founding Editor-Geosphere-Geological Society of America (2004-09)

Associate Editor-GEOPHYSICS-Journal of the Society of Exploration Geophysicists (1982-83;

1987-)

Associate Editor-Geophysical Journal International (2004-)

Associate Editor-Studia Geophysica & Geodetica (2005-)

Associate Editor-Journal of Geophysical Research (1994-1997)

Associate Editor-Geological Society of America Bulletin (1983-1989)

Associate Editor-Tectonophysics Special Volume on Rifting (1981-1982)

Guest Associate Editor-Journal of Geophysical Research, Rio Grande Rift Special Issue (1984-1985)

Program Committee-International Rift Conference (Santa Fe, 1978), included editorial work on a special volume published by the American Geophysical Union in 1979

Incorporated Research Institutions for Seismology: Board of Directors (1984-2000); PASSCAL Science Planning and Coordination Comm.-PASSCAL (1984-91); Executive Committee (1996-98) and Vice-Chair (1997-98); Chair Program Coordination and Finance Committees (1997-98); Science Task Force (1999-2000), Planning Committee (2006-)

Society of Exploration Geophysicists: Gravity Anomaly Map Com. (1979-83); District 3 Representative to the Council (1996-97)

Geological Society of America: Chair South Central Section (1991-92); Secretary/Treasurer-Geophysics Division (1990-2003); Nominations Committee (1997-98); Annual Meeting Program Committee (1996-98); External Awards Committee (2000); Day Award Committee (2003-2006); Woollard Award Committee (2003-2005); Publications Committee (2004-); Geoinformatics Division-First Vice Chair (2006-2007); Chair (2007-08); Councilor (2007-11)

American Association of Petroleum Geologists: President SW Section (1987); Academic Liaison Committee (1998-); House of Delegates (2000-2006); Vice President SW Section (2005-06)

American Geological Institute-Human Resource Committee (1999-2004); Geoscience Workforce Committee (2005-)

National Academy of Sciences-Continental Tectonics Panel (1979-80); Rio Grande/Baikal Rifts Panel (1988-89), Sedimentary Basins and Basin Analysis Panel (1988-90)

National Science Foundation-Geoinformatics steering group (2000-2002)

National Science Foundation-Steering Committee for Earth Sciences-Cyberinfrastructure (2003)

National Science Foundation-EarthScope Steering Committee (2007-)

Honorary Societies:

Sigma Xi, Sigma Gamma Epsilon, Phi Kappa Phi, Kappa Mu Epsilon

Awards:

A.I. Levorsen Memorial Award-American Association of Petroleum Geologists (1976)

Paper presented at AAPG meeting picked for "Best of AAPG" session at SEG convention (1980)

Directed Theses (by R.L. Coultrip and Federico Moreno) that were chosen as "Most Outstanding Thesis" within the University (1983, 1995 respectively)

MAGSAT Scientific Investigation Team, Group Achievement Award, NASA (1984)

Distinguished Achievement Award in Research, U. T. El Paso (1985)

Elected Fellow: Geological Soc. of America (1991), Royal Astronomical Society (1980)

Southwest Section AAPG-Distinguished Educator Award (1998); West Texas Geological Soc.-Service Award (1998)

Geological Society of America (Geophysics Division)-G. P. Woollard Award (2002)

Elected to Foreign Membership in the Polish Academy of Sciences (2005)

American Association of Petroleum Geologists-Grover E. Murray Memorial Distinguished Educator Award (2006)

Honorary Life Membership-El Paso Geological Society (2006)

Outstanding Achievement in Research-University of Texas at El Paso (2006)

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Married, 2 children Birth date: April 17, 1946 Birthplace: Muskogee, OK

Books and Volumes Edited

Keller, G. R. and S. M. Cather, 1994, **Basins of the Rio Grande Rift: Structure Stratigraphy, and Tectonic Setting**: Geological Society of America, Special Paper 291, 304 p.

Prodehl, C., G. R. Keller, and M. A. Khan, 1994, **Crustal and Upper Mantle Structure of the Kenya Rift: Tectonophysics**, v. 236, 483 pp.

Karlstrom, K. E. and G. R. Keller, 2005, **The Rocky Mountain Region -- An Evolving Lithosphere: Tectonics, Geochemistry, and Geophysics**: American Geophysical Union, Geophysical Monograph 154, 434p.

Selected publications since 2005 (student authors are shown in *italics*)

Rumpel, H.-M., C. M. Snelson, C. Prodehl, C. and G. R. Keller, 2005, Results of the CD-ROM project seismic refraction / wide-angle reflection experiment: The upper and middle crust: American Geophysical Union, Geophysical Monograph 154, p. 257-270.

- Snelson, C. M.*, H.-M. Rumpel, G. R. Keller, K. C. Miller, and C. Prodehl, 2005, Regional crustal structure derived from the CD-ROM seismic refraction/wide-angle reflection experiment: The lower crustal and upper mantle: American Geophysical Union, Geophysical Monograph 154, p. 271-292.
- Keller, G. R., K. E. Karlstrom, M. L. Williams, K. C. Miller, C. Andronicos, A. R. Levander, *C. M. Snelson*, C. and C. Prodehl, 2005, The dynamic nature of the continental crust-mantle boundary: American Geophysical Union, Geophysical Monograph 154, p. 403-420.
- Karlstrom, K. E., Whitmeyer, S. J., Dueker, K., Williams, M. L., Levander, A. R., Humphreys, E. D., Keller, G. R., and the CD-ROM Working Group, 2005, Synthesis of results from the CD-ROM experiment: 4-D image of the lithosphere beneath the Rocky Mountains and implications for understanding the evolution of continental lithosphere: American Geophysical Union, Geophys. Mono. 154, p. 421-434.
- Hinze, W. J., Carlos Aiken, John Brozena, Bernard Coakley, David Dater, Guy Flanagan, René Forsberg, Thomas Hildenbrand, G. Randy Keller, James Kellogg, Robert Kucks, Xiong Li, Andre Mainville, Robert Morin, Mark Pilkington, Donald Plouff, Dhananjay Ravat, Daniel Roman, Jamie Urrutia-Fucugauchi, Marc Véronneau, Michael Webring, and Daniel Winester, 2005, New standards for reducing gravity data: The North American gravity database: GEOPHYSICS, v. 70, p. 325-332.
- Hrubcova, P., P. Sroda, A. Spicak, A. Guterch, M. Grad, G. R. Keller, E. Brueckl, and H. Thybo, 2005, Crustal and uppermost mantle structure of the Bohemian Massif based on CELEBRATION 2000 data: Journal of Geophysical Research, v. 110, B11305, doi:10.1029/2004JB003080.
- Janik, T., M. Grad, A. Guterch, R. Dadlez, J. Yliniemi, T. Tiira, G. R. Keller, E. Gaczyński and CELEBRATION 2000 Working Group, 2005, Lithospheric structure of the Trans-European Suture Zone along the TTZ & CEL03 seismic transect (from NE to SW Poland): Tectonophysics, v. 411, p. 129-156
- Keller, G. R., T. G. Hildenbrand, R. Kucks, M. Webring, Allen Briesacher, Kristine Rujawitz, A. M. Hittelman, Dan Roman, Dan Winester, R. Aldouri, *Roberto Torres*, W. J. Hinze, Ann Gates, and John Seeley, 2006, A community effort to construct a gravity database for the United States and an associated web portal, *in*, Sinha, A. K. (ed.), Geoinformatics: Data to Knowledge: Geological Society of America, Special Paper 397, p. 21-34.
- Xie, Hongjie*, and G. Randy Keller, 2006, Fusion of Landsat and Radar data, *in*, Sinha, A. K. (ed.), Geoinformatics: Data to Knowledge: Geological Society of America, Special Paper 397, p. 141-151.
- Averill, Matthew G.*, G. Randy Keller, Kate C. Miller, Piotr Sroda, *Tiffni Bond*, and Aaron Velasco, 2006, Data fusion in Geophysics: Seismic tomography and crustal structure in Poland as an example, *in*, Sinha, A. K. (ed.), Geoinformatics: Data to Knowledge: GSA, Special Paper 397, p. 153-168.

- Grad, M., A. Guterch, G. R. Keller, T. Janik, E. Hegedűs, J. Vozár, A. Ślączka, T. Tiira, and J. Yliniemi, 2006, Lithospheric structure beneath trans-Carpathian transect from Precambrian platform to Pannonian basin: CELEBRATION 2000 seismic profile CEL05: Journal of Geophysical Research, v.111, B03301, doi:10.1029/2005JB003647.
- Maguire, P. K. H., G. R. Keller, S. L. Klemperer, G. D. Mackenzie, K. Keranen, S. Harder, B. O'Reilly, H. Thybo, L. Asfaw and M. Amha, 2006, Crustal structure of the northern Main Ethiopian rift from the EAGLE controlled-source survey; A snapshot of incipient lithospheric break-up, in G. Yirgu, C. Ebinger, and P. Maguire (eds), Structure and evolution of the East African Rift System in the Afar: Volcanic Province: Geological Society of London, Special Publication, 259, 269-291.
- Środa, P., W. Czuba, M. Grad, A. Guterch, A. K. Tokarski, T. Janik, M. Rauch, G. R. Keller, E. Hegedűs, J. Vozár and CELEBRATION 2000 Working Group, 2007, Crustal and upper mantle structure of the Western Carpathians from CELEBRATION 2000 profiles CEL01 and CEL04: seismic models and geological implications, Geophysical Journal International, v. 167, p. 737-760.
- Mariita, N. O.* and G. R. Keller, 2007, An integrated geophysical study of the northern Kenya rift: Journal of African Earth Sciences, v. 48, p. 80-94.
- Malinowski, M. Grad, A. Guterch, E. Takács, Z. Śliwiński, L. Antonowicz, E. Iwanowska, G. R. Keller and E. Hegedűs, 2007, Effective sub-Zechstein salt imaging using low-frequency seismics- results of the GRUNDY 2003 experiment across the Variscan front in the Polish Basin: Tectonophysics, v. 439, p. 89-106, doi:10.1016/j.tecto.2007.03.006.
- Brückl, E., F. Bleibinhaus, A. Gosar, M. Grad, A. Guterch, P. Hrubcova, G. R. Keller, M. Majdanski, F. Sumanovac, T. Tiira, J. Yliniemi, E. Hegedűs, H. Thybo, 2007, Crustal structure due to collisional and escape tectonics in the Eastern Alps region based on profiles Alp01 and Alp02 from the ALP 2002 seismic experiment: Journal of Geophysical Res., v.112, B06308, doi:10.1029/2006JB004687.
- Keller, G. R. and R. A. Stephenson, 2007, The southern Oklahoma and Dniepr-Donets aulacogens: a comparative analysis, in Hatcher, R. D., Jr., Carlson, M. P., McBride, J. H., and Martínez Catalán, J. R. (eds.), The 4D Framework of Continental Crust: GSA, Memoir 200, p. 127-143.
- Grad, M., A. Guterch, G. R. Keller, and POLONAISE 97 and CELEBRATION 2000 Working Groups, 2007, Variations in lithospheric structure across the margin of Baltica in Central Europe and the role of the Variscan and Carpathian orogenies, in Hatcher, R. D., Jr., Carlson, M. P., McBride, J. H., and Martínez Catalán, J. R. (eds.), The 4D Framework of Continental Crust: GSA, Memoir 200, 341-356.
- Khatun, S., D. I. Doser, E. C. Imana,* and G. R. Keller, 2007, Locating faults in the southern Mesilla bolson west Texas and southern New Mexico using 3-D modeling of precision gravity data: Journal of Environmental and Engineering Geophysics, v. 12, p. 149-161.

- Guterch, A., M. Grad and G. R. Keller, 2007, Long range controlled source seismic experiments in Europe, *in*, Treatise on Geophysics; v. 1, Seismology and the Structure of the Earth, B. Romanowicz and A. Dziewonski (eds.), Crust and Lithospheric Structure: Elsevier, p. 533-558.
- Brückl, E., F. Bleibinhaus, A. Gosar, M. Grad, A. Guterch, P. Hrubcova, G. R. Keller, M. Majdanski, F. Sumanovac, T. Tiira, J. Yliniemi, E. Hegedüs, H. Thybo, 2007, Crustal structure due to collisional and escape tectonics in the Eastern Alps region based on profiles Alp01 and Alp02 from the ALP 2002 seismic experiment: Journal of Geophysical Res., v.112, B06308, doi:10.1029/2006JB004687.
- Gao, S. S., K. H. Liu, R. J. Stern, G. R. Keller, J. P. Hogan, J. Pulliam, and E. Y. Anthony, 2008, Characteristics of mantle fabrics beneath the south-central United States: Constraints from shear-wave splitting measurements: Geosphere, v. 4, p. 411-417.
- Grad, M., A. Guterch, Stanisław Mazur, G. R. Keller, Aleš Špičák, Pavla Hrubcová, Wolfram H. Geissler, and SUDETES 2003 Working Group, 2008, Lithospheric structure of the Bohemian Massif and adjacent Variscan belt in central Europe based on Profile S01 from the SUDETES 2003 experiment: Journal of Geophysical Research, v. 113, B10304, doi:10.1029/2007JB005497.
- Mickus, K. L., Stern, R. J., Keller, G. R., and Anthony, E. Y., 2009, Potential field evidence for a volcanic rifted margin along the Texas Gulf coast: GEOLOGY, v. 37, p.387-390.
- Rumpfhuber, Eva-Maria, Keller, G. R., Sandvol, Eric, Velasco, A. A. and Wilson, Dave, 2009, Rocky Mountain Evolution: Tying CD-ROM and Deep Probe seismic experiments with receiver functions: Journal of Geophysical Research, v. 114, B08301, doi:10.1029/2008JB005726..
- Rumpfhuber, Eva-Maria, Keller, G. R., 2009, An integrated analysis of controlled- and passive source seismic data across an Archean-Proterozoic suture zone in the Rocky Mountains, USA: Journal of Geophysical Research, v. 114, B08301, doi:10.1029/2008JB005726.

Teaching and Student Advisement

Professor Keller has played a key role in establishing or revitalizing geophysics programs at the University of Kentucky, University of Texas at El Paso (UTEP), and the University of Oklahoma. He also established the GIS and remote sensing program at UTEP. He led the development of the Department of Geological Sciences at UTEP during a period of expansion and through the acquisition, design, and move to a renovated building. He has taught a broad range of courses in geophysics, geology, tectonics, remote sensing, and GIS. A total of 94 graduate students (65 MS, 29 PhD) have finished their degrees under his direction. Most of these students have been supported by the almost \$26 million in research funds he has obtained often as part of large collaborative efforts.