

CV. Dr. Damien Delvaux de Fenffe

Contact:

Musée Royal d'Afrique Centrale –
Royal Museum for Central Africa
13, Leuvensesteenweg
3080 Tervuren BELGIUM

Tel +32 (0)2 769 54 26
Mobile: +32 (0)486 98 37 52
Email: damien.delvaux@africamuseum.be
damien.delvaux@skynet.be
web: www.damiendelvaux.be

Dr. Damien Delvaux is Structural Geologist and Consultant at the Royal Museum for central Africa in Belgium, working on geodynamics of intracontinental rift systems, sedimentary basins and orogens, with emphasis on brittle structural evolution, active tectonics, sismotectonics and petroleum systems, currently in East and Central Africa.

Professional skills

- Structural geology, neotectonics, paleoseismology, remote sensing, digital terrain modelling, GIS, GPS geodesy, petroleum geology...
- Field experience in Cenozoic rift zones and sedimentary basins (East African, Dead Sea, Baikal), Precambrian mobile belts (East Africa, Baikal areas), fold-and-thrust belts (North Variscan front, Lufilian Arc in Katanga), active mountain belts (Altai and Tien-Shan mountains), passive margins (West-Congo) and intracratonic basins (Congo Basin)
- Project management in Central & East Africa (DRC, Tanzania...), Central Asia (Russia, Kyrgyzstan, Kazakhstan, W-China), and Middle East (Jordan)
- Geological advising in mining and petroleum exploration
- Language (by order of knowledge): French English, Netherlands, Russian, Kiswahili

Professional experience

01/2004 - **Senior geologist** – Royal Museum for central Africa **and Consultant**

From 04/2002 to 12/2003 **Consultant:**

08/2001 - 03/2002 **IT Project Manager** - Atos Origin S.A. (software company)
03/2001 - 07/2001 **Invited Research Fellow** – University of Amsterdam
08/1989 - 02/2001 **Senior geologist** – Royal Museum for central Africa
08/1987 – 07/1989 **Assistant geologist** - Université Catholique de Louvain
06/1986 – 07/1987 **Military service** (as reserve officer)
06/1982 – 05/1986 **Petroleum geochemist** - Petrofina research center (4 years contract)
04/1981 – 05/1982 **Field geologist** - Ministry of National Education of Belgium

Knowledge and education

10/1988 **Ph.D. in Geology – Mineralogy** – UCL, Belgium / Petrofina,S.A.)

1976-1980 **Ms.C. in Geology - Mineralogy** – UCL, Belgium

Awards

- FNR Award for Outstanding Scientific Publication (Luxemburg, 2009)
- 50th anniversary award of the Belgian Petroleum Institute (Brussels, 1991)
- Travel Grant of the Belgian Ministry of National Education (1982)
- Paul Fourmarier Award (Liège, 1981),

Professional activities

- Member of the editorial board of the Journal of African Earth Sciences since 2001
- Invited editor for several special issues of international scientific journals
- Leader of UNESCO/IUGS IGCP 400 project “Geodynamics of Continental rifting” (1996-2000)
- Coordinator for various research projects in Central Asia and Africa.
- Organisation of scientific conferences
- Co-Promotor of Ph.D projects
- Organisation of international summer field courses on structural geology and neotectonics

Most relevant publications

- Glorie, S., De Grave, J. **Delvaux, D.**, Buslov, M.M., Zhimulev, F.I., Elburg, M.A., Van den haute, P. (2012). Tectonic history of the Irtysh shear zone (NE Kazakhstan): new constraints from zircon U/Pb dating, apatite fission track dating and palaeostress analysis. *Journal of Asian Earth Sciences*, 45, 138-149.
- Kadima, E., **Delvaux, D.**, Sebagenzi, S.N., Tack, L., Kabeya, M. (2011). Structure and geological history of the Congo Basin: An integrated interpretation of gravity, magnetic and reflection seismic data. *Basin Research*, 23(5), 499-527.
- Sachse, V.F, **Delvaux, D.** and Littke, R. (2011). Petrological and geochemical investigations of potential source rocks of the Central Congo Basin, DRC. *AAPG bulletin* (in press for 2012).
- Delvaux D.**, Barth, A., (2010). African Stress Pattern from formal inversion of focal mechanism data. Implications for rifting dynamics. *Tectonophysics*, 482, 105-128.
- Fontijn, K., **Delvaux, D.**, Ernst, G.G.J., Mbende, E., Jacobs, P. (2009). Tectonic control over active volcanism at a range of scales: Case of the Rungwe Volcanic Province, SW Tanzania; and hazard implications. *Journal of African Earth Sciences*. *Journal of African Earth Sciences*, 58, 764-777.
- Calais, E., d'Oreye, N., Albaric, J., Deschamps, A., **Delvaux, D.**, Déverchère, J., Ebinger, C., Wambura R.F., Kervyn, F., Macheyeky, A.S., Oyen, A., Saria, E., Smets, B., Stamps D.S., Wauthier, C. (2008), Aseismic strain accommodation by dyking in a youthful continental rift, East Africa. *Nature* 456, 7223, 11 December 2008, 783-787.
- Macheyeky, A.S., **Delvaux, D.**, De Batist, M., Mruma, A. (2008). Fault kinematics and tectonic stress in the seismically active Manyara-Dodoma Rift segment in Central Tanzania - Implications for the East African Rift, *Journal of African Earth Sciences*, 51(4), 163-188.
- Branchu, P., Bergonzini, L., **Delvaux, D.**, De Batist, M., Golubev, V., Benedetti, M. and J. Klerkx. (2005). Tectonic, climatic and hydrothermal control on sedimentation and water chemistry of northern Lake Malawi (Nyasa), Tanzania. *Journal of African Earth Sciences*, 43: 433-446.
- Havenith, H.-B., Strom, A., Jongmans, D., Abdrakhmatov, K., **Delvaux, D.** and Trefois, P. (2003). Seismic triggering of landslides, Part A: Field evidence from the Northern Tien Shan. *Natural Hazards and Earth System Sciences*, 3: 135-149.
- Delvaux, D.** and Sperner, B. (2003). Stress tensor inversion from fault kinematic indicators and focal mechanism data: the TENSOR program. In: New Insights into Structural Interpretation and Modelling (D. Nieuwland Ed.). *Geological Society, London, Special Publications*, 212: 75-100.
- Sperner, B., Müller, B., Heidbach, O., **Delvaux, D.**, Reinecker, J. and Fuchs, K. (2003). Tectonic Stress in the Earth's Crust: Advances in the World Stress Map Project. In: New Insights into Structural Interpretation and Modelling (D. Nieuwland Ed.). *Geological Society, London, Special Publications*, 212: 101-116.
- Zain Eldeen, U., **Delvaux, D.** and Jacobs, P. (2002). Tectonic evolution in the Wadi Araba segment of the Dead Sea Rift, SW Jordan. *EGU Stephan Mueller Special Publication Series*, 2: 63-81.
- Dehandschutter, B., Vysotsky, E., **Delvaux, D.**, Klerkx, J., Buslov, M.M., Seleznev, V.S. and De Batist, M. (2002). Kinematic evolution of the Teletsk Graben. *Tectonophysics*, 351: 139-168.
- Thomas, J.C., Lanza, R., Kazansky, A., Zykin, V., Semakov, N., Mitrokhin, D. and **Delvaux, D.** (2002). Paleomagnetic study of Cenozoic sediments from the Zaisan basin (SE Kazakhstan) and the Chuya depression (Siberian Altai): Tectonic implications for central Asia. *Tectonophysics*, 351: 119-138.
- Delvaux, D.** (2001). Tectonic and palaeostress evolution of the Tanganyika-Rukwa-Malawi rift segment, East African Rift System. In: P.A. Ziegler, W. Cavazza and A.H.F. Robertson and S. Crasquin-Soleau, Eds. Peri-Tethys Memoir 6: Peri-Tethyan Rift/Wrench Basins and Passive Margins. *Mém. Mus. Natn. Hist. nat.*, 186 : 545-567. Paris.
- Delvaux, D.**, Abdrakhmatov, K.E. and Strom, A. L., (2001). Landslides and surface breaks of the 1911 Ms 8.2 Kemin earthquake, Kyrgyzstan. *Russian Geology and Geophysics (Geologiya i Geophysika)*, 42(10): 1167-1177.
- Klerkx, J., Theunissen, K. and **Delvaux, D.** (1998). Persistent fault controlled basin formation since the Proterozoic along the western branch of the East African Rift. *Journal of African Earth Sciences*, 26(3): 347-361.
- van der Beeck, P., Mbende, E., Andriessen, P. and **Delvaux, D.** (1998). Denudation history of the Malawi (Nyasa) and Rukwa rift flanks (East African Rift System) from fission track thermochronology. *Journal of African Earth Sciences*, 26(3): 363-385.

- Damblon, F.D., Gerrienne, Ph., D'Outrelepoint, H., **Delvaux, D.**, Beeckman, H., and Back, S. (1998). Identification of a fossil wood in the Red Sandstone Group of Southwestern Tanzania: stratigraphic and tectonic implications. *Journal of African Earth Sciences.*, 26(3): 387-396.
- Delvaux, D.**, Kervyn, R., Vittori, E., Kajara, R.S.A. and Kilembe, E. (1998). Late Quaternary tectonic activity and lake level fluctuation in the Rukwa rift basin, East Africa. *Journal of African Earth Sciences*, 26(3): 397-421.
- Vittori, E., **Delvaux, D.** and Kervyn, F. (1997). Kanda Fault: a major seismogenic element west of the Rukwa rift (East Africa, Tanzania). In: Hancock P.L. and Michetti A.L. eds. "Paleoseismology: using Quaternary geology to understand past earthquakes", *Journal of Geodynamics*, 24(1-4): 139-153.
- Delvaux, D.**, Moeys, R., Stapel, G., Petit, C., Levi, K., Miroshnichenko, A., Ruzhich, V. and Sankov, V. (1997). Paleostress reconstructions and geodynamics of the Baikal region, Central Asia. Part II: Cenozoic rifting. *Tectonophysics*, 282: 1-38.
- Petit, C., Déverchère, J., Houdry-Lémont, F., Sankov, V.A., Melnikova, V.I. and **Delvaux, D.** (1996). Present-day stress field changes along the Baikal rift and tectonic implications. *Tectonics*, 15(6): 1171-1191.
- Van der Beek, P.A., **Delvaux, D.**, Andriessen, P.A.M. and Levi, K.G. (1996). Early Cretaceous denudation related to convergent tectonics in the Baikal region, SE Siberia. *Geol. Soc. London*, 153: 515-523.
- Dobretsov, N. L., Buslov, M.M., **Delvaux, D.**, Berzin, N.A. and Ermikov, V.D. (1996). Meso-Cenozoic tectonics of the Central Asian orogenic belt: collision of lithospheric plates and mantle plume. *International Geology Review*, 38: 430-466.
- Delvaux, D.**, Moeys, R., Stapel, G., Melnikov, A. and Ermikov, V. (1995). Paleostress reconstruction and geodynamics of the Baikal region, Central Asia. Part I. Pre-rift evolution: Paleozoic and Mesozoic. *Tectonophysics*, 252: 61-101
- Delvaux, D.** (1992) Rifting in the western branch of the East African rift system (a review). *Geotectonica*, 3: 79-89 (in Russian, also published in English).
- Ring, U., Betzler, C. and **Delvaux, D.** (1992) Normal vs. strike-slip faulting during rift development in East Africa: the Malawi rift. *Geology*, 20: 1015-1018.
- Theunissen, K., Lenoir, J.-L., Liegeois, J.-P., **Delvaux, D.** and Mruma, A. (1992). Empreinte mozambiquienne majeure dans la chaîne ubendienne de Tanzanie sud-occidentale : géochronologie U-Pb sur zircon et contexte structural, *C.R. Acad. Sci., Paris.*, 314, Série II: 1355-1362.
- Delvaux de Fenffe, D.** and Laduron, D. (1991). Caledonian and variscan structures in the Rocroi-Ardenne basement (Belgium and adjacent countries). *Ann. Soc. géol. Belg.*, Liège, 114: 141-162.
- Delvaux, D.**, H. Martin and Leplat, P. (1990). Geochemical Characterization of Sedimentary Organic Matter by Means of Pyrolysis Kinetic Parameters. In: "Advances in Organic Geochemistry 1989" (B. Durand & F. Behar Eds), *Organic Geochemistry*, 16: 175-187.
- Delvaux, D.**, H. Martin and Leplat, P. (1990). Comparative Rock-Eval Pyrolysis as an Improved Tool for Sedimentary Organic Matter Analysis. In: "Advances in Organic Geochemistry 1989" (B. Durand & F. Behar Eds), *Organic Geochemistry*, 16: 1221-1229.