CURRICULUM VITAE

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Citizenships: Russian, Canadian

Languages: English, Russian

Academic degrees:

Ph.D. in Geology, 1998, Uppsala University, Dept. of Earth Sciences
M.Sc. in Mechanics, 1986, Moscow State University, Dept. of Aeromechanics and Gas Dynamics

Education:

1981. Completed **high school** education. The last years attended the Boarding School for Physics and Mathematical Sciences affiliated with the Moscow University (enrolment on competitive basis).
1981-86. **Student** at the Dept. of Aeromechanics and Gas Dynamics, Faculty of Mechanics and Mathematics, Moscow State University, Russia. Diploma: "Thermal Convection in Round Pipes with Non-uniform External Heating"; supervisor Prof. V.P. Myasnikov
1994-1998. **Ph.D. Candidate**, Tectonics and Geodynamics Programme, Dept. of Earth Sciences, Uppsala University, Sweden. PhD thesis “Thin sheet approximations for geodynamic applications”; supervisor Prof. C. J. Talbot; external examiner Prof. D. McKenzie (UK)

Positions held:

1986-89. **Research Fellow**, Faculty of Mechanics and Mathematics, Moscow State University, Russia. Modeled sedimentary basins using thin sheet approximation: analytical and numerical approaches.
1989-93. **Research Fellow**, Science and Industrial Organization of "Oil Recovery", Ufa, Russia. Developed mathematical and mechanical support of high oil recovery technology based on vibration wave action: modelling of action, forecast of success, experiment design, computer support of development.
1998-2002. **Post-Doctoral Fellow**, Dept. of Oceanography, Dalhousie University , Halifax, Canada. Modelling of orogenesis: scaling analysis; simplified, averaged, and numerical approaches. Visualization (software visualization package “IDL_M-S” for the group).
2002-present. **Post-Doctoral Fellow**, Dept. of Geology, Free University Berlin, Germany. Modelling of Andes Altiplano and other plateaus by thin sheet approximation: theoretical, analytical and numerical approaches. Mathematical and mechanical applications to structural analysis (analysis of stresses and strains around faults, folds, and shear zones).

Recent international activity:

2005 EGU Meeting, Vienna, Austria
2004 Gelogical Society of London workshop, London, UK
Geo-modeling Forum, Oslo, Norway
2003 EGS-AGU-EUG Joint Assembly, Nice, France
Geo-modeling Forum, Oslo, Norway
2002 SFB267 Summer Workshop, Berlin, Germany
Visiting researcher, ETHZ Zurich, Switzerland
2001 AGU Fall Meeting, San Francisco, USA
Workshop “Modeling of mantle convection and lithospheric dynamics”, France

Publications:

1. **Medvedev, S. E**., 1993. Computer simulation of sedimentary cover evolution. In*: Computerized Basin Analysis: The Prognosis of energy and Mineral Resources*, eds Harff, J. & Merriam, D.F., Plenum Press, New York, pp. 1-10.
2. **Medvedev, S. E.**,1998. Thin Sheet Approximations for Geodynamic Applications. PhD Thesis, 118 pp. Uppsala.
3. **Medvedev, S. E**. & Y.Y. Podladchikov, 1999. New Extended Thin Sheet Approximation for Geodynamic Applications - I. Model formulation. *Geophys. J. Int.*, **136**, 567-585
4. **Medvedev, S. E**. & Y.Y. Podladchikov, 1999. New Extended Thin Sheet Approximation for Geodynamic Applications - II. 2D examples. *Geophys. J. Int.*, **136**, 586-608
5. Talbot, C.J., **S. E. Medvedev**, M. Alavi, H. Shahrivar, and E. Heidari, 2000. Salt extrusion rates at Kuh-e-Jahani, Iran: June 1994 to November 1996. In*: Salt, Shale and Igneous Diapirs in and around Europe*, eds B. C. Vendeville, Y. Mart & J. -L. Vigneresse, *Geological Scociety Special Publication*, **174**, 93-110.
6. Sokoutis, D., M. Bonini., **S. E. Medvedev**, M. Boccaletti, C. J. Talbot, and H. Koyi, 2000. Indentaion of a continent with a built-in thickness change: experiment and nature. *Tectonophysics*, **320**, 243-270.
7. **Medvedev, S**, 2002. Mechanics of viscous wedges: modelling by analytical and numerical approaches, *J. Geophys. Res.* **107**(B6), 10.1029/2001JB000145, pp. ETG 9 (1–15)
8. Vanderhaeghe O., **S. Medvedev**., C. Beaumont, P. Fullsack, and R. A. Jamieson, 2003. Evolution of orogenic wedges and continental plateaux: insights from crustal thermal-mechanical models overlying subducting mantle lithosphere. *Geophys. J. Int*., **153**, 27–51.
9. Beaumont, C., R. A. Jamieson, M. H. Nguyen, and **S. Medvedev**, 2004. Crustal Channel Flows: 1. Numerical models with applications to the tectonics of the Himalayan-Tibetan Orogen, *J. Geophys. Res*, **109**, *B06406, doi:10.1029/2003JB002809*.
10. Jamieson, R. A., Beaumont, C., **S. Medvedev**, and M. H. Nguyen, 2004. Crustal channel flows: 2. Numerical models with implications for metamorphism in the Himalayan-Tibetan Orogen, *J. Geophys. Res*, **109**, *B06407, doi:10.1029/2003JB002811*.
11. Gemmer L, S. Ings**, S. Medvedev**, and C. Beaumont, 2004. Salt tectonics driven by differential sediment loading: Stability analysis and finite element experiments, *Basin Research*, **16**, 199–218.
12. **Medvedev, S**. and C. Beaumont, Growth of Continental Plateaux by Channel Injection: Constraints and Thermo-Mechanical Consistency. *Geological Society Special Publications*, accepted for publication in September 2005.
13. **Medvedev, S.**, Y. Y. Podladchikov, M. Handy, and E. Scheuber. Controls on the deformation of the Central Andes (10–35°S): insight from thin-sheet numerical modelling. Submitted to: eds O. Oncken, G. Chong, G. Franz, P. Giese, H.-J. Götze, V. Ramos, M. Strecker, P. Wigger, Monography series Frontiers in Earth Sciences, Vol. 1, Springer Verlag, accepted for publication in October 2005.
14. Rosenberg, C. L., **S. Medvedev**, and M Handy. On the effects of melting on continental deformation and faulting. In: *The Dynamics of Fault Zones*, edited by M.R. Handy, G. Hirth, N. Hovius, Dahlem Workshop Report 95, The MIT Press, Cambridge, Mass., USA, resubmitted after minor revision in December 2005.

In final stage of preparation

Medvedev, S. and C. Beaumont. Evolution of continental plateaus driven by mantle subduction: Insights from thermal-mechanical modeling (in preparation for EPSL).

Reports and other unrefereed publications

Vanderhaeghe O., Beaumont C., Fullsack P., **Medvedev S.,** and Jamieson R. A.,1998.Thermal-mechanical modelling of convergent orogens: the role of rheology, isostasy and temperature. In: Wardle, R., and Hall, J., (eds.), ECSOOT Transect Meeting, UBC, Lithoprobe Secretariat, Report No. 73, 44-85.

Medvedev, S. and M. Nguyen, 2002. User's guide for IDL post-processing of Microfem and Sopale outputs and the creation of animations ("IDL_M-S" developed by S. Medvedev), manual for internal use in Geodynamic Group of Dalhousie Univestity, Canada, 55 pages.

Huismans, R., Beaumont, C., and **Medvedev, S**. Animations for Huismans and Beaumont, JGR, 108, 2003. In: URL: http://myweb.dal.ca/huismans/jgr-animations.html.