

Biographical Sketch

Alexander A. Prusevich (AKA Proussevitch)

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EDUCATION

- Ph. D. (modeling of natural processes), Institute of Geology and Geophysics SD AS USSR, Novosibirsk, 1986
- M. S. (geology and geochemistry), Institute of Geology and Geophysics, SD AS USSR, Novosibirsk, 1982
- B. S. (physics, mathematics, and computer sciences), Novosibirsk State University (USSR), 1980

PRESENT POSITION

- Research Scientist III/Information Technologist - Institute for the Study of Earth, Oceans and Space, University of New Hampshire.

RESEARCH EXPERIENCE

- Visiting Assistant Professor, Complex Systems Research Center, University of New Hampshire, 1994-1996 (invited by Prof. D.L. Sahagian)
- Visiting Research Scientist, Dept. of Geological Sciences, The University of Chicago, 1992 (invited by Prof. A.T. Anderson)
- Visiting Research Scientist, Dept. of Geological Sciences, University of California, Santa Barbara CA, 1991-1992 (invited by Prof. F. Spera)
- Research Scientist, Institute of Geology and Geophysics, SD AS USSR, Novosibirsk, 1986-1990

FIELD OF RESEARCH

- MapServer and OGC compliant programming (GIS to Web systems and software).
- Web Map Server: Programming for Earth System Observatory.
- Hydrology: Runoff, water transportation modeling; hydrological data mining; web interfaces to datasets and maps on demand.
- Remote Sensing: Processing NASA satellite imagery for vegetation and crop proxies.
- Volcanology and geochemistry: Numerical models of magma vesiculation, conduit flow and volcanic eruptions; statistical analysis of bubble size distributions; 3D image analysis of computed X-Ray tomography, etc.
- Tectonics: Paleoelevation proxies based on vesicular basalts; uplift of Colorado Plateau.

FIVE RECENT RELATED PUBLICATIONS

- Proussevitch, A.A., Sahagian, D.L. and Carlson, W., 2007. Statistical analysis of bubble and crystal size distributions: Application to Colorado Plateau Basalts. *J. Volc. Geotherm. Res.*, 164: 112-126.
- Proussevitch, A.A., Sahagian, D.L. and Tsentalovich, E.P., 2007. Statistical analysis of bubble and crystal size distributions: Formulations and procedures. *J. Volc. Geotherm. Res.*, 164: 95-111.
- Proussevitch, A.A. and Sahagian, D.L., 2005. Bubbledrive-1: A numerical model of volcanic eruption mechanisms driven by disequilibrium magma degassing. *J. Volc. Geotherm. Res.*, 143: 89-111.
- Sahagian, D. and Proussevitch, A., 2005. Standardized model runs and sensitivity analysis using the "Bubbledrive" volcanic conduit flow model. *J. Volc. Geotherm. Res.*, 143: 173-185.
- Proussevitch, A.A. and Sahagian, D.L., 2001. Recognition and separation of discrete objects within complex 3D voxelized structures. *Comp. Geosci.*, 27: 441-454.

COMPUTER PROFICIENCY

Operating Systems: UNIX, Linux, DOS/Windows9x and later, MacOS (X).

Languages: Perl, PHP, C++ MFC, Fortran, IDL, PV-Wave, Pascal, Basic, Javascript, HTML, XML.

GIS Software: Desktop ArcGIS, ArcMAP, UM WMS, Google API 2, KML.

Synergistic activities

- NSF panel member for the Collaboration in Mathematical Geosciences.
- Outreach coordination for Volcanic Eruption Modeling Group and creator of supporting web site (<http://volcanomodels.sr.unh.edu>). This site enables coordination between modelers, shares modeling protocols and results, computer codes, list of recent publications, research news, mailing lists, etc.
- Co-Organizer, Volcanic Conduit Flow and Eruption Modeling workshop, 2002.
- Lead developer of information technologies to access, visualize, explore, and operate GIS data over web interfaces (Hydrology, Oceanography, and GIS labs at UNH). Two recent web projects: <http://rims.unh.edu> ; <http://rbis.sr.unh.edu> .
- Lead technical developer of prototype for Earth System Atlas on the Web (IGBP initiative).

Recent Collaborators:

Dork Sahagian, Jeff Johnson, Bill Carlson, Evgeni Tsentalovich, Robert Ketcham, Bill Carlson, Frank Spera, Dave Yuen, Alfred Anderson, Charles Vorosmarty.