

## CURRICULUM VITAE

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### **Education:**

1989 Ph.D., Hydrology and Water Resources, Water Problems Institute of RAS,  
Dissertation: *Dynamic-stochastic models of river runoff generation*, Advisor: Prof. L.  
Kuchment  
1982 M.S., Hydrology, Geographical Department, Moscow State University, Moscow,  
Russia

### **Degree**

2006 Doctor of Science, Physics and Mathematics, Water Problems Institute of RAS,  
Moscow, Russia

### **Areas of Specialization:**

Watershed hydrology  
Cold region hydrology  
Hydrological modeling  
Flood risk assessment  
Hydrological forecasting

### **Experience:**

2008-present, Deputy Director, Water Problems Institute of RAS  
1985-2008, Young to Leading Scientist, Lab. Hydrological Cycle, Water Problems Institute  
1995-1996, Visiting scientist at the Marquette University, Milwaukee, WI, USA

### **Activities:**

2010-present – Member of the National Committee on System Analysis of Russian Academy  
of Sciences  
2009-present Vice-Chairman of the National Academician Council on Water Resources  
2009-present, Editor, Water Resources (in Russ.)  
2009-present, Topical Editor, Earth System Science Data (ESSD)  
2007-present Vice-President of International Commission on Snow and Ice Hydrology  
(ICSIH) of the International Association of Hydrological Sciences (IAHS)

2004-present, Editor, Hydrology and Earth System Sciences (HESS).  
Member of the American Geophysical Union (AGU)  
Member of the European Geosciences Union (EGU)  
Member of the International Association of Hydrological Sciences (IAHS)

**Most Recent/Cited Publications (from a total of 71 refereed)**

- Kuchment, L.S., **A.N. Gelfan** (2011) Assessment of extreme flood characteristics based on a dynamic-stochastic model of runoff generation and the probable maximum discharge. *Journal of Flood Risk Management* 4, 115–127
- Kuchment, L.S., **A.N. Gelfan** and V. N. Demidov (2011) Modeling of the Hydrological Cycle of a Forest River Basin and Hydrological Consequences of Forest Cutting *The Open Hydrology Journal*, 5, 9-18
- Gelfan A.N.** (2010) Extreme snowmelt floods: frequency assessment and analysis of genesis on the basis of the dynamic-stochastic approach. *J. Hydrology*, 388, 85-99
- Kuchment L.S., P.Romanov, **A.N.Gelfan**, V.N.Demidov (2010) Use of satellite-derived data for characterization of snow cover and simulation of snowmelt runoff through a distributed physically based model of runoff generation *Hydrol. Earth Syst. Sci.*, 14, 339–350.
- Gelfan A.N.** (2009) Dynamic-stochastic models of river runoff generation. In: (Kuchment L.S., Singh V.P., Eds.) *Hydrological Systems Modelling*. EOLSS Publ., Vol. 2, 49-69.
- Kuchment LS, **Gelfan AN.** (2009). Assessing parameters of physically-based models for poorly gauged basins. In *Symposium on the New Approaches to Hydrological Prediction in Data Sparse Regions*. Yilmaz K, Yucel I, Gupta VH, Wagener T, Yang D, Savenije H, Neale C, Kunstman H, Pomeroy J (eds) *IAHS Publications 333*, Hyderabad; 3-10
- Rutter N. et al. (2009), Evaluation of forest snow processes models (SnowMIP2), *J. Geophys. Res.*, 114, D06111, doi:10.1029/2008JD011063
- Kuchment L.S., **Gelfan A.N.** (2007) Statistical self-similarity of spatial variations of snow cover and its application for modelling snowmelt runoff generation in basins with a sparse snow measurement network In: D. Schertzer et al., (Eds.) *Predictions in Ungauged Basins: PUB Kick-off (Proceedings of the PUB Kick-off meeting held in Brasilia, 20–22 November 2002)*. *IAHS Publ.* 309, 2007. 156-163
- Kuchment L.S., **Gelfan A.N.** (2007) Long-term probabilistic forecasting of snowmelt flood characteristics and the forecast uncertainty In: E. Boegh et al., (Eds.) *Quantification and Reduction of Predictive Uncertainty for Sustainable Water Resources Management (Proceedings of Symposium HS2004 at IUGG2007, Perugia, July 2007)*. *IAHS Publ.* 313, 2007 213-221
- Gelfan A. N.** (2006) Physically based model of heat and water transfer in frozen soil and its parametrization by basic soil data. In: M. Sivapalan et al. (Eds) *Predictions in Ungauged Basins: Promises and Progress*. *Proceedings of symposium S7 held during the Seventh IAHS Scientific Assembly at Foz do Iguazu, Brazil, April 2005*. *IAHS Publ.*, 303, pp. 293-304.
- Gelfan A. N.**, Pomeroy J. W., Kuchment L. S. 2004. Modelling Forest Cover Influences on Snow Accumulation, Sublimation, and Melt. *J. Hydrometeorology*. Vol. 5, No. 5, pp. 785–803.
- Kuchment, L.S., **A.N. Gelfan.** 2002. Estimation of extreme flood characteristics using physically based models of runoff generation and stochastic meteorological inputs. *Water International*, 27(1), 77-86.
- Kuchment, L.S., **A.N. Gelfan.** 2001. Statistical self-similarity of spatial variations of snow cover: verification of the hypothesis and application in the snowmelt runoff generation models. *Hydrol. Processes*, 15(18), 3343-3355.
- Kuchment, L.S., **A.N. Gelfan** and V. N. Demidov. 2000. A distributed model of runoff generation in the permafrost regions. *J. Hydrol.*, 240(1-2), p. 1-22
- Gelfan A.**, Hajda P., Novotny V. Recursive system identification for real-time sewer flow forecasting. *ASCE J. Hydrol. Eng.* 1999. V.4. N3. P. 280-287.

Kuchment L. S., **Gelfan A.N.** The determination of the snowmelt rate and the meltwater outflow from a snowpack for modeling river runoff generation. *Journal of Hydrology*. 1996. vol.179. P. 23-36.

**Gelfan A.N.** (2007) Dynamic-stochastic modeling of snowmelt runoff generation. Moscow. Nauka Publ. 294 p. (In Russian)