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CURRICULUM VITAE

Alexey A. Voinov, Ph.D.

Chesapeake Community Modeling Program Manager,
Chesapeake Research Consortium, Edgewater,
MD 21037

I. EDUCATION

- 1973-78** M.S. Moscow State University (Applied Mathematics).
1979-82 Ph.D. Moscow State University and Laboratory of Mathematical Ecology, Computer Center, USSR Academy of Sciences (Biophysics, Ecosystem Modeling).

II. PROFESSIONAL BACKGROUND

- 2007-Present** Chesapeake Community Modeling Program Manager, Chesapeake Research Consortium, Edgewater, MD 21037
2008-Present Principal Research Scientist, Department of Geography and Environmental Engineering, Johns Hopkins University, Baltimore MD
2006-2007 AAAS Science and Technology Policy Fellow, Institute for Water Resources, Army Corp of Engineers, Alexandria, VA 22315
2002-2007 Associate Research Professor, Gund Institute for Ecological Economics, University of Vermont School of Natural Resources, Burlington, VT 05405.
2000-2002 Associate Research Scientist, Institute for Ecological Economics, University of Maryland Center for Environmental Science, Solomons, MD 20688.
1994-2000 Assistant Research Scientist, Institute for Ecological Economics, University of Maryland Center for Environmental Science, Solomons, MD 20688.
1992-1994 Research scholar, Center for Analysis of Environmental Change, Oregon State University, EPA Environmental Research Laboratory, Corvallis OR 97333.
1990-1995 Senior Research Scientist, Institute for Atmospheric Physics, Russian Academy of Sciences, Moscow.
1989-1992 Director, ECOLEX Laboratory Ltd., Moscow.
1988-1990 Senior Research Scientist, Computer Center, USSR Academy of Sciences, Moscow.
1986-1988 Research Scientist, Computer Center, USSR Academy of Sciences, Moscow.
1982-1986 Junior Research Scientist, Computer Center, USSR Academy of Sciences, Moscow.

III. RESEARCH

A. Areas of Professional Expertise:

Simulation modeling of ecosystems and sustainability science, In particular: spatial dynamic models, modeling of aquatic and watershed ecosystems, integrated assessment, systems analysis in ecology and economics, participatory modeling, sustainability and environmental policy, model integration and interoperability.

Synergistic Activities.

- A web-based course on Simulation Modeling in Ecology. The course is available at <http://www.likbez.com/AV/Simmod.html>.
- The Integrated Dynamic Environmental Assessment and Simulation workgroup - a group of fellows working to design innovative modeling tools for decision support and participatory studies (see <http://giee.uvm.edu/IDEAS>).

B. Publications (total 107, refereed 71)**1. Papers in Refereed Journals (40)**

1. **Voinov, A.**, R. Costanza, T. Maxwell, and H.Vladich. 2007. Patuxent Landscape Model: 4. Model Application. *Water Resources*, Vol. 34, No. 5, pp. 501–510.
2. Huntington, H.P., L. C. Hamilton, C. Nicolson, R. Brunner, A. Lynch, A. E. J. Ogilvie and **A. Voinov**. 2007. Toward understanding the human dimensions of the rapidly changing arctic system: insights and approaches from five HARC projects. *Regional Environmental Change*. Volume 7, No. 4, 173–186
3. **Voinov, A.**, R. Costanza, T. Maxwell, and H.Vladich. 2007. Patuxent Landscape Model: 3. Model Calibration. *Water Resources*, Vol. 34, No. 4, pp. 372–384.
4. **Voinov, A.** and J. Farley. 2007. Reconciling Sustainability, Systems Theory and Discounting. *Ecological Economics*, 63:104-113.
5. **Voinov, A.**, R. Costanza, C. Fitz, and T. Maxwell. 2007. Patuxent Landscape Model: 2. Model Development - Nutrients, Plants, and Detritus. *Water Resources*, Vol. 34, No. 3, pp. 268–276.
6. **A. Voinov**. 2007. Understanding and communicating sustainability: global versus regional perspectives. *Environ. Dev. and Sustain.* (<http://www.springerlink.com/content/e77377661p8j2786/>)
7. **Voinov, A.**, R. Costanza, C. Fitz, and T. Maxwell. 2007. Patuxent Landscape Model: 1. Hydrological Model Development. *Water Resources*, Vol. 34, No. 2, pp. 163–170
8. Gaddis, E., Vladich H., **Voinov A.** 2007. Participatory modeling and the dilemma of diffuse nitrogen management in a residential watershed. *Environmental Modelling & Software*: 22, Issue 5, p. 619-629.
9. Moiseenko T.I., **Voinov A.A**, Megorsky V.V., Gashkina N.A., Kudriavtseva L. P., Vandish O.I., Sharov, A.N., Sharova Y.N., Koroleva I.N., 2006. Ecosystem and Human Health Assessment to Define Environmental Management Strategies: the Case of Long-Term Human Impacts on an Arctic Lake. *Science of the Total Environment*, 369: 1-20.
10. D. Rizzo, P. Mouser, D. Whitney, C. Mark, **A. Voinov**, and R. Magarey, 2006. The comparison of four dynamic systems-based software packages: translation and sensitivity analysis. *Environmental Modelling & Software* 21, 10: 1491-1502.
11. R.M. Argent, **A. Voinov**, T. Maxwell, S. M. Cuddy, J. M. Rahman, S. Seaton, R. A. Vertessy, R. D. Braddock, 2006. Comparing Modelling Frameworks – A Workshop Approach. *Environmental Modelling & Software* 21, 7: 895-910.
12. Asriningtyas, V., C. Meesukko, N. Gajaseni, **A. Voinov**. 2006. Seasonal Water Flow Trends in Conjunction with Phytoplankton Biovolume in Petchburi River, Thailand. *J.Sci.Res.Chula.Univ.*
13. M. Kuhnert, **A. Voinov**, R. Seppelt, 2006. Comparing Raster Map Comparison Algorithms for Spatial Modeling and Analysis. *Photogrammetric Engineering & Remote Sensing*, Vol. 71, No. 8, August 2005, pp. 975–984.
14. **Voinov, A.**, L. Bromley, E. Kirk, A. Korchak, J. Farley, T. Moiseenko, T. Krasovskaya, Z. Makarova, V. Megorski, V. Selin, G. Kharitonova, R. Edson, 2004. Understanding Human and Ecosystem Dynamics in the Kola Arctic: a Participatory Integrated Study. *Arctic*. 57 (4) p 375-388.
15. **Voinov, A.**, C.Fitz, R. Boumans, R. Costanza. 2004. Modular ecosystem modeling. *Environmental Modelling and Software*.19, 3: p.285-304.
16. Rizzoli, A., **A. Voinov**, A. Jakeman, 2003. Introducing EMS ShortComs—presenting results, making a difference: is there a better way to publish in the 21st century? *Environmental Modelling & Software* 18: 595–596.
17. Seppelt R., **Voinov, A.**, 2003. Optimization Methodology for Land Use Patterns - Evaluation based on Multiscale Habitat Pattern Comparison. *Ecological Modeling*, vol 168(3)c
18. Parker, P., **A.Voinov**, & 45 others, 2002. Progress in integrated assessment and modelling. *Environmental Modelling & Software* 17 (2002) 209–217.
19. **Voinov, A.** 2002. Teaching and learning ecological modeling over the web: a collaborative approach. *Conservation Ecology* 6(1): 10. [online] URL: <http://www.consecol.org/vol6/iss1/art10>
20. Costanza, R., **A. Voinov**, R. Boumans, T. Maxwell, F. Villa, H. Voinov and Wainger, L. 2002. Integrated ecological economic modeling of the Patuxent river watershed, Maryland. *Ecological Monographs*, 72 (2), pp.203-231.
21. Seppelt R., **Voinov, A.**, 2002. Optimization Methodology for Land Use Patterns Using Spatial Explicit Landscape Models. *Ecological Modeling*, 151/2-3 p. 125-142
22. Costanza, R., **A. Voinov**, 2001. Modeling ecological and economic systems with STELLA: Part III" *Ecological Modelling*, 143 (1-2) pp. 1 - 7

23. Zharova N., Sfriso A., **Voinov A.**, Pavoni B., 2001. A simulation model for the annual fluctuation of *Zostera marina* biomass in the Venice lagoon *Aquatic Botany*, 70 (2): 135-150.
24. Boumans, R. M., F. Villa, R. Costanza, **A. Voinov**, H. Voinov and T. Maxwell. 2001. Non-spatial calibrations of a general unit model for ecosystem simulations. *Ecological Modelling* 146:17-32
25. **Voinov, A.**, H. Voinov, R. Costanza, 1999. Surface water flow in landscape models: 2. Patuxent watershed case study. *Ecological Modelling*: 119, 211-230.
26. **Voinov, A.**, R. Costanza, 1999. Watershed Management and the Web. *Journal of Environmental Management*: 56, 231-245
27. **Voinov, A.**, R. Costanza, L. Wainger, R. Boumans, F. Villa, T. Maxwell and H. Voinov. Patuxent landscape model: integrated ecological economic modeling of a watershed, 1999. *Environmental Modelling and Software*: 14, 473-491.
28. **Voinov, A.**, C. Fitz, R. Costanza, 1998. Surface water flow in landscape models: 1. Everglades case study. *Ecological Modelling*, 108, 131-144.
29. **Voinov, A.A.**, 1998. Paradoxes of Sustainability. *Journal of General Biology* , 59, 209-218.
30. **Voinov, A.**, C. Fitz, R. Costanza, 1997. Landscape Model Provides Everglades Management Tool. *GIS World*, N3, 48-51.
31. Smith, C., **A. Voinov**, 1996. Resource Management: Can it Sustain Pacific Northwest Fishery and Forest Systems? *Ecosystem Health* 2, 145-158.
32. **Voinov, A.A.**, N.A. Zharova, 1993. HYDRO - simulation of hydrodynamics and water pollution. *Environmental Software* 8, 209-218.
33. **Voinov, A.A.**, N.A. Zharova, 1991. System of automated simulation modeling for aquatic bodies: spatially distributed models. *Journal of General Biology*, 52, N6, p. 868-883. (In Russian).
34. **Voinov, A.A.**, A.A. Akhremenkov, 1990. Simulation modeling system for aquatic bodies. *Ecol.Modelling*, 52:181-205
35. **Voinov, A.A.**, A.P. Tonkikh, 1987. Qualitative model of eutrophication in macrophyte lakes. *Ecol. Modelling*, 35:211-226.
36. **Voinov, A.A.**, A.P. Tonkikh, 1986. A simple model of eutrophication for a macrophyte lake. *Hydrobiological Journal*, 4, V.22, p.17-22. (In Russian).
37. **Voinov, A.A.**, Yu.M. Svirezhev, 1984. A minimal model of eutrophication in freshwater ecosystems. *Ecol.Modelling*, 23: 277-292.
38. Svirezhev, Yu.M., V.P. Krysanova, **A.A. Voinov**, 1984. Mathematical modelling of a fish pond ecosystem. *Ecol.Modelling*, 21: 315-337.
39. **Voinov, A.A.**, F. Kamilov, 1984. Simulation model of Nurek reservoir. Notes of Tadjik Academy of Sciences, 3, Dushanbe, p.76-82. (In Russian).
40. **Voinov, A.A.**, Yu.M. Svirezhev, 1981. Stability in a simple model of an aquatic ecosystem. *Journal of General Biology*, 42, N6, p.936-940. (In Russian).

In Press:

1. **Voinov, A.A.**, Gaddis, E., 2008. Lessons for Successful Participatory Watershed Modeling: A Perspective from Modeling Practitioners. *Ecological Modelling*.

2. Books, Special Issues, Monographs, and Chapters (37)**Books (5)**

1. **Voinov A.** 2008. Systems Science and Modeling for Ecological Economics. Elsevier, 430p.
2. Costanza, R. and **A. Voinov** (eds). 2003. Spatially Explicit Landscape Simulation Modeling. Springer, New York.
3. Svirezhev, Yu.M., **Voinov A.A.**, et al. (15 authors), 1990. Ecological Consequences of Nuclear War (simulation approach). Academia Verlag, Berlin, 221 p.
4. Komilov, F., M.K. Yunusov, **A.A. Voinov**, 1989. Mathematical modeling of reservoir ecosystems. Znaniye Publication, Dushanbe, 55 p. (In Russian).
5. **Voinov, A.A.**, A.P. Tonkikh, 1988. Simulation model of Lake Plesheyevo. Publications of Computer Center of RAS, Moscow, 38 p. (In Russian).
6. **Voinov, A.A.**, F. Komilov, 1985. Modeling of reservoir ecosystems in the Vakhsh cascade. State-of-the-Art in Science. TadjikNIINTI, Dushanbe, 38 p. (In Russian).

In Press:

1. **Voinov A.**, Jorgensen, S. (ed.) Encyclopedia of Ecology. Ecological Modeling. Elsevier – to appear in 2008
2. Jakeman, A., Chen, S., A. Rizzoli, **A.A. Voinov**, (Eds.), 2008. State of the art and futures in Environmental Modelling and Software. Elsevier.

Special Issues of Journals (1)

1. Costanza, R. and **A. Voinov** (eds.) 2001. Modeling ecological and economic systems with STELLA: Part III. Special issue of *Ecological Modeling* Vol. 143: pp1-146.

Monographs (2)

1. **Voinov, A.**, 1982 Mathematical models of ecosystems of shallow water bodies. Ph.D. Dissertation. Moscow State University, 210 pp. (In Russian).
2. **Voinov, A.A.**, A.P. Tonkikh, 1984. Modeling of a shallow eutrophic water body. In: *Mathematical Models of Aquatic Ecosystems*. Publications of Computer Center of RAS, Moscow, p. 120-138. (In Russian).

Refereed Book Chapters (21)

1. Maxwell, T., R. Costanza, **A. Voinov** and M. Ruth, 2006. Developing Understanding of Ecological-Economic Systems. In: Ali A. Minai and Yaneer Bar-Yam (Eds.) *Unifying Themes in Complex Systems*. Springer, p. 315-324.
2. Maxwell, T., **Voinov, A.** 2005. Dynamic, Geospatial Landscape Modeling and Simulation. In: D.Maguire, M.Goodchild, M.Batty (Eds.) *GIS, Spatial Analysis and Modeling*. ESRI press. P.131-146.
3. **Voinov, A.**, R. Costanza, R. Boumans, T.Maxwell, H. Voinov, 2003. Patuxent Landscape Model: Integrated Modeling of a Watershed. In: *Spatially Explicit Landscape Modeling*. R. Costanza, A. Voinov (Eds.), Springer.
4. **Voinov, A.**, C. Fitz, R. Boumans, R. Costanza, 2003. Modular Ecosystem Modeling. In: *Spatially Explicit Landscape Modeling*. R. Costanza, A. Voinov (Eds.), Springer.
5. Villa, F., **A. Voinov**, C. Fitz, R. Costanza, 2003. Calibration of Large Spatial Models: a Multi-stage, Multi-objective Optimization Technique. In: *Spatially Explicit Landscape Modeling*. R. Costanza, A. Voinov (Eds.), Springer.
6. Maxwell, T., **A. Voinov**, R. Costanza, 2003. Spatial Simulation using the SME. In: *Spatially Explicit Landscape Modeling*. R. Costanza, A. Voinov (Eds.), Springer.
7. Seppelt, R., **A. Voinov**, 2003. Landscape Optimization: Applications of a Spatial Ecosystem Model. In: *Spatially Explicit Landscape Modeling*. R. Costanza, A. Voinov (Eds.), Springer.
8. Fitz, H.C., F.H. Sklar, T. Waring, **A. Voinov**, R. Costanza, and T. Maxwell, 2003. Development and Application of the Everglades Landscape Model. In: *Spatially Explicit Landscape Modeling*. R. Costanza, A. Voinov (Eds.), Springer.
9. R. Costanza, **A. Voinov**, R. Boumans, T. Maxwell, F. Villa, L. Wainger, and H. Voinov, 2001. Case Study: Patuxent river watershed, Maryland. In: R. Costanza, B. Low, E.Ostrom and J.Wilson (Eds.) *Institutions, Ecosystems, and Sustainability*. Lewis, Boca Raton. p.179-230.
10. Costanza, R., **A. Voinov**, 2000. Integrated Ecological Economic Regional Modeling: Linking Consensus Building and Analysis for Synthesis and Adaptive Management. In: John Hobbie (Ed.) *Estuarine Science: A Synthetic Approach to Research and Practice*. Island Press. p. 461-506.
11. **Voinov, A.**, I. Glazyrina, N. Zharova, B. Pavoni, 1999. Environmental management in uncertain economies. In: W. Wehremeyer, Y. Malugetta (Eds.) *Growing Pains. Environmental Management in Developing Countries*. Greenleaf Publishing. p. 148-159.
12. **Voinov, A.**, I. Glazyrina, N. Zharova, B. Pavoni, 1999. Environmental management, crime and information: Russian case study. In: W. Wehremeyer, Y. Malugetta (Eds.) *Growing Pains. Environmental Management in Developing Countries*. Greenleaf Publishing. p. 117-129.
13. Zharova, N., B. Pavoni, A. Sfriso, **A. Voinov**, 1996. Analysis of ecological data from the lagoon of Venice by means of simulation modeling. In: P.Zannetti (Ed.) *Environmental Modeling, V.3. Computer Methods and Software for Simulating Environmental Pollution and its Adverse Effects*. Computational Mechanics Publications. Southampton, Boston. p.371-392
14. Costanza, R., **A. Voinov**, 1995. Interaction Between Economics and the Environment from the Point of View of Sustainable Development. In: Koptuyug, V.A., Uppenbrink, M. (Ed.) *Sustainable Development of the Lake Baikal Region*. NATO ASI Series, Partnership Sub-Series 2. Environment, Vol.6, p.33-58, Springer, Heidelberg.
15. **Voinov, A.A.**, S.M. Uspenskii, K.V. Chevelyev, 1991. General methodology of ecological impact assessment for designed reservoirs. Hydroproject Publications, V.144 (Hydroenergy and Environment), Moscow, p.113-130. (In Russian).
16. **Voinov, A.A.**, 1990. Ecosystem modelling of Lake Plesheyevo. In: B.Henderson-Sellers (Ed.) *Water Quality Modelling. Vol.4. Applications to Lakes and Reservoirs*. CRC Press, p.115-151.

17. **Voinov, A.A.**, 1989. Simulation modeling in ecology: lakes, ponds, reservoirs. In: A.A. Samarsky, N.N. Moiseev, A.A. Petrov (Eds.) *Mathematical Modeling: Methods of Description and Investigation of Complex Systems*. Nauka, Moscow, p. 99-120. (In Russian).
18. Jolankai, G., **Voinov A.A.**, 1988. Eutrophication model of Lake Balaton (Hungary). In: B.Patten (Ed.) *Wetlands and Shallow Water Bodies, Vol.2*, Academic Publishing, The Hague.
19. **Voinov, A.A.**, Yu.M. Svirezhev, 1983. Models of freshwater ecosystems: present and future. In: *Problems of Interaction of Society and Nature*. Moscow University Press, Moscow, p.110-116. (In Russian).
20. **Voinov, A.A.**, O.V. Voronkova, N.K.Lukyanov, Yu.M. Svirezhev, 1981. Modeling of lake ecosystems. In: *Problems of Ecological Monitoring and Ecosystem Modeling*. - *Gidrometeoizdat*, Leningrad, V.4, p. 204-234. (In Russian).
21. **Voinov, A.A.**, 1981. Evaluation of forecast precision in simulation models. In: *Mathematical Models in Ecology and Genetics*. Nauka, Moscow, p. 89-103. (In Russian).

In Press:

1. B.S. McIntosh, C. Giupponi, **A.A. Voinov** & 24 others (2008). Bridging the gaps between design and use: developing tools to support environmental management and policy. In: Jakeman, A., A.A. Voinov, Chen, S., A. Rizzoli, (Eds.), 2008. *State of the art and futures in Environmental Modelling and Software*. Elsevier.
2. **A. Voinov**, R.R.Hood, J. D. Daues, H.Assaf, and R.Stewart (2008). Building a Community Modeling and Information Sharing Culture. In: Jakeman, A., A.A. Voinov, A. Rizzoli, Chen, S. (Eds.), 2008. *State of the art and futures in Environmental Modelling and Software*. Elsevier.
3. Gaddis, E., **Voinov, A.** (2008). Participatory Modeling. In: *Encyclopedia of Ecology. Ecological Modeling*. Eds. **Voinov A.**, Jorgensen, S., Elsevier.
4. **Voinov, A.**, Fishwick, P. (2008) Modules in Modeling. In: *Encyclopedia of Ecology. Ecological Modeling*. Eds. **Voinov A.**, Jorgensen, S., Elsevier.
5. **Voinov, A.** (2008) Conceptual diagrams and flow diagrams. In: *Encyclopedia of Ecology. Ecological Modeling*. Eds. **Voinov A.**, Jorgensen, S., Elsevier.
6. **Voinov, A.** (2008) Sensitivity, Calibration, Validation, Verification. In: *Encyclopedia of Ecology. Ecological Modeling*. Eds. **Voinov A.**, Jorgensen, S., Elsevier.
7. **Voinov, A.** (2008) Parameters. In: *Encyclopedia of Ecology. Ecological Modeling*. Eds. **Voinov A.**, Jorgensen, S., Elsevier.
8. **Voinov, A.** (2008) Modeling Software. In: *Encyclopedia of Ecology. Ecological Modeling*. Eds. **Voinov A.**, Jorgensen, S., Elsevier

Refereed Conference Proceedings (7)

1. **A. Voinov**, W.E. Cox, and H.E. Cardwell, 2007. Pilot Collaborative Modeling Study for Regulatory Issues on the James River. World Environmental and Water Resources Congress 2007: Restoring Our Natural Habitat. Tampa, ASCE.
2. **A. Voinov**, A. Jakeman and A. Rizzoli (eds). 2006. Proceedings of the iEMSS Third Biennial Meeting, "Summit on Environmental Modelling and Software". International Environmental Modelling and Software Society, Burlington, USA, July 2006.
3. Gaddis E., **A. Voinov** (2006). Landscape Modeling and Spatial Optimization of Management Practices to Restore Water Quality in the St. Albans Bay Watershed, Vermont. In: Voinov, A., Jakeman, A., Rizzoli, A. (eds). Proceedings of the iEMSS Third Biennial Meeting: "Summit on Environmental Modelling and Software". International Environmental Modelling and Software Society, Burlington, USA, July 2006. CD ROM. Internet: <http://www.iemss.org/iemss2006/sessions/all.html>
4. **A. Voinov**, E. J. Gaddis, and H. Vladich. 2004. Participatory Spatial Modeling and the Septic Dilemma. In Pahl, C., Schmidt, S. and Jakeman, T. (eds) iEMSS 2004 International Congress: "Complexity and Integrated Resources Management". International Environmental Modelling and Software Society, Osnabrueck, Germany, June 2004. On-line at <http://www.iemss.org/iemss2004/pdf/particip/voinpart.pdf>
5. **Voinov, A.**, C. Fitz, T. Maxwell, R. Boumans, R. Costanza, 2002. Modular Ecosystem Modelling. In: *Integrated Assessment and Decision Support*. Ed. A.Jakeman, A. Rizzoli. Proceedings of IEMSS 2002 Conference, 24-27 June 2002, Lugano, Switzerland. p. 263-268

6. **Voinov, A.**, R. Costanza, L. Wainger, R. Boumans, F. Villa, T. Maxwell and H. Voinov, 1998. Integrated ecological economic modeling of watersheds. In: A. Sydow, Jin-Yi Yu (eds.) Proceedings of the 1998 Conference on Mission Earth: Modeling and Simulation of the Earth System, San Diego, SCS, p.35-40.
7. **Voinov, A.**, Costanza, R., 1998. Watershed Management over the Web. In: P.Fishwick, D.Hill, R.Smith (eds.) Proceedings of the 1998 Conference on Web-based Modeling and Simulation, San Diego, SCS, p.167

Non-Refereed Book Chapters and Conference Proceedings (6)

1. **Voinov, A.**, Cibuzar A., Nawrocki T., 1994. Sustainable development on a watershed scale. Russian case study - Pronya River. Lake and Reservoir Management, 9(1): 115-118. Extended Abstract of a paper presented at the 13th Int. Symposium of the North American Lake Management Society, Nov.29-Dec.4, 1993, Seattle WA.
2. Akhremenkov, A.A., **Voinov A.A.** 1992. Interactive system for biogeochemical modeling of water bodies. p.263-273. Interaction of biogeochemical cycles in aquatic Ecosystems. Heft 72 Scope UNEP Fast 77 Hamburg.
3. **Voinov, A.A.**, 1991. Automation of simulation modeling for environmental impact analysis of hydropower construction. Proceedings of the conference "Problems of forecast of water quality in reservoirs", Cheboksary, Russia (In Russian).
4. Komilov, F., **Voinov A.A.**, 1986. On a method of sensitivity analysis for simulation models. In: Applied Mathematical Problems, Dushanbe, p.12-17. (In Russian).
5. Svirezhev, Yu.M., **A.A. Voinov**, A.P.Tonkikh, L.Lovas, 1986. Simulation modelling of Lake Balaton. In Papers on Mathematical Ecology, I ed. by A.Csetenyi. Dept.of Mathem. Karl Marks Univ. of Economics. Budapest, p.223-250.
6. **Voinov, A.A.** 1980. Simulation model of nitrogen cycle in freshwater ecosystems. In: Models and Equations. Publications of Computer Center of RAS, Moscow, p.46-51. (In Russian).

3. Book Reviews and Letters (3)

1. **Voinov, A. A.**, 1991. Review of: Coastal-offshore ecosystem interactions : Bengt-Owe Jansson (Editor). *Ecological Modelling*,: 53, p. 162-164
2. Svirezhev, Y.M. and **A. A. Voinov** 1989. Review of: Variability and management of large marine ecosystems : K. Sherman and L.M. Alexander (Editors). *Ecological Modelling*,: 45, 2, p. 153-154.
3. **Voinov, A.A.**, 1988. Review of: Variability in Large Marine Ecosystems and their Control. In: New Books Abroad, Mir publishers, Series B. (In Russian)

4. Published Abstracts (16)

1. **Voinov, A.**, T. Maxwell, 2003. The Watershed Modeling Framework: Why Modules and Why Open Source? In: Estuaries on the Edge. 17th Conference of the Estuarine Research Federation. Seattle, WA, Sept. 14-18, 2003.
2. Costanza, R., **A. Voinov**, R. Boumans, T. Maxwell, F. Villa, H. Voinov, L. A. Wainger, R. Gardner, S. Walters, 1999. Integrated Ecological Economic Modeling and Valuation of Watersheds. In: 1999 Water and Watersheds Program Review. NSF/EPA Partnership for Environmental Research. 19-21 April, 1999. Silver Spring, MD.
3. Costanza, R., R. Boumans, T. Maxwell, F. Villa, **A. Voinov**, L. A. Wainger, 1999. Whole Watershed Health and Restoration: Applying the Patuxent and Gwynns Falls Landscape Models to Design a Sustainable Balance Between Humans and Nature. In: 1999 Water and Watersheds Program Review. NSF/EPA Partnership for Environmental Research. 19-21 April, 1999. Silver Spring, MD.
4. **Voinov, A.**, L. Wainger, R. Costanza, R. Boumans, F. Villa, 1999. The Patuxent Landscape Model: A Dynamic, Spatially Explicit, Integrated Ecological Economic Landscape Model. In: 95th Annual Meeting of the Association of American Geographers, 23-27 March 1999, Honolulu, Hawaii. CD-ROM.
5. Voinov H., **Voinov A.**, Costanza R., 1998. GIS Applications for Scaling Experiments in Spatial Environmental Modeling. In: Towson GIS. 11th Annual Geographic Information Systems Conference. June 2-3, 1998, Towson, MD.
6. Costanza R., R. Boumans, T. Maxwell, F. Villa, **A. Voinov**, H. Voinov, L. Wainger, 1998. Integrated Ecological Economic Modeling and Valuation of Watersheds. In: 1998 Water and Watersheds Program Review. NSF/EPA Partnership for Environmental Research. 28-29 January 1998. Corvallis, OR.

7. Costanza R., R. Boumans, W. Boynton, T. Maxwell, F. Villa, **A. Voinov**, L. A. Wainger, T. Fisher, R. Gardner, N. Bockstael, J. Geoghegan, I. Strand, 1996. Integrated Ecological Economic Modeling: Progress in the Patuxent Watershed. In: 1996 Water and Watersheds Program Review. NSF/EPA Partnership for Environmental Research. 14-15 November 1996. Alexandria, VA.
8. Fitz, H. C., T. Maxwell, **A. Voinov**, H. Voinov, L. A. Wainger, R. Costanza, 1996. Policy Analysis Tool: Integrated Ecological Economic Modeling. In: Designing Sustainability, 4th Biennial Meeting of the International Society for Ecological Economics, August 4-7, 1996, Boston MA.
9. **Voinov, A.**, 1994. Two Avenues of Sustainability. In: Down to Earth, 3rd International Symposium on Ecological Economics, October 23-27, 1994, San Jose, Costa Rica.
10. **Voinov, A.**, Smith C., 1994. Dimensions of Sustainability. In: Ecosystem Health & Medicine, 1st International Symposium, June 19-23, 1994, Ottawa, Canada.
11. Zharova, N.A., **Voinov A.A.**, 1993. HYDRO - software for simulation of wind induced currents and propagation of non-conservative pollutant in the aquatic media. In the Materials of the 6th Interdisciplinary Conference on Natural Resource Modeling and Analysis. Sabaudia, Italy.
12. Zharova, N.A., **Voinov A.A.**, Starostin V.V., 1993. Decision support system for ecological expertise of aquatic bodies. In Materials of the international conference on Application of GIS in hydrology and water management. Vienna, Austria, April 19-22, 1993.
13. Zharova, N.A., **Voinov A.A.**, 1993. Computer based methodology of ecological expertise for aquatic environmental impacts. In: Materials of 5th International conference on the conservation and management of lakes "Strategies for ecosystems beyond 2000". Stresa, Italy.
14. Butorin, N.L., Yu.M. Svirezhev, **A.A. Voinov**, L.A. Kuchai, V.L. Sklyarenko, A.P. Tonkikh, 1984. Simulation model of Lake Plesheyevo ecosystem. "Theory, methodology and practice of system research". All Union Conference, Jan.1985, Section 9, Moscow. (In Russian).
15. **Voinov, A.A.**, A.P.Tonkikh, 1985. Minimal model of succession in macrophyte water bodies. "Mathematical modeling in biogeocenology. All Union Workshop. April 1985, Petrozavodsk, p.148-149. (In Russian).
16. Svirezhev, Yu.M., **A.A. Voinov**, 1980. Minimal model of eutrophication. VIII All-Union Symposium on Control Problems. Tallin, Book 3, p.705-707. (In Russian).

5. Papers and Books Submitted for Publication and in Preparation (5)

1. H. Vladich, **A. Voinov**, B.Bowden. Utilizing the Power of Spatial Analysis and High Resolution Remote Sensing Data to Facilitate Environmental Consensus Building: A Case Study of a Neighborhood in South Burlington, Chittenden County, Vermont.
2. H. Vladich, **A. Voinov**. W. B. Bowden, A. McIntosh, and L.Morrissey. Use of High resolution LiDAR Data to Target and Prioritize Residential Stormwater Best Management Practices. *In preparation*
3. E. J. Brown Gaddis, and **A. Voinov**. Participatory modeling of phosphorus reduction scenarios in a mixed-use watershed in Vermont. *Journal of Environmental Quality. In review*
4. **A. Voinov**, H. Cardwell. Energy–Water Nexus: Why Should We Care? *Journal of Contemporary Water Research & Education. In review*
5. H.Cardwell, **A.Voinov**. The Role of United States Corps of Engineers in Managing the Energy and Water Nexus. *Journal of Contemporary Water Research & Education. In review*

6. Technical Reports (10)

1. **A. Voinov**, 2007. Energy–Water nexus: Why should the Corps care? Outlook Paper for the Institute of Water Resources, US Army Corp of Engineers.
2. R. Costanza, M. Wilson, A. Troy, **A. Voinov**, S. Liu, J. D'Agostino, 2006. The Value of New Jersey's Ecosystem Services and Natural Capital. Project report for Contract # SR04-075, New Jersey Department of Environmental Protection, Division of Science, Research, and Technology.
3. **Voinov, A.**, H. V. Voinov, R. Boumans, R. Costanza, 1999. Environmental modeling of Calvert county buildout scenarios using Hunting creek as a case study. Report to Calvert County Board of Commissioners, Ref. No. [UMCES] CBL 98 – 166
4. Costanza, R., **A. Voinov**, R. Boumans, T. Maxwell, F. Villa, L. Wainger, and H. Voinov. 1999. Integrated ecological economic modeling of the Patuxent River watershed, Maryland. Final report to EPA. University of Maryland Institute for Ecological Economics, Center for Environmental and Estuarine Studies, University of Maryland, Box 38, Solomons, MD 20688-0038.
5. Costanza, R. N. Bockstael, C. Binder, R. Boumans, T. Maxwell, F. Villa, **A. Voinov**, H. Voinov, L. Wainger, and S. Walters. 1997. Integrated Ecological Economic Modeling and Valuation of Watersheds: Year 2 Progress Report to EPA. USEPA, Washington, DC.

6. Fitz, C., **A. A. Voinov**, and R. E. Ulanowicz, 1996. Modeling Water Column Attributes for ATLSS: WatAtt Implementation. Report to National Biological Survey, South Florida/Caribbean Research Center, Homestead, FL 33030-0279.
7. Fitz C., **A. Voinov**, R. Costanza, 1995. The Everglades Landscape Model: Task 3 Scenario Testing Report. Center for Environmental and Estuarine Studies, University of Maryland, Solomons, MD.
8. C. Fitz, **Voinov A.**, R. Costanza., 1995. The Everglades Landscape Model: Task 3 Multiscale Sensitivity Analysis. Center for Environmental and Estuarine Studies, University of Maryland, Solomons, MD.
9. Costanza, R., H. C. Fitz, T. Maxwell, **A. Voinov**, H. Voinov, L. A. Wainger, 1995. Patuxent Landscape Model: Sensitivity Analysis and Nutrient Management Scenarios. Interim Report for U.S. EPA Cooperative Agreement: #CR 821925010. Center for Environmental and Estuarine Studies, University of Maryland, Solomons, MD.
10. Fitz C., **A. Voinov**, R. Costanza, 1995. The Everglades Landscape Model: Final Report/Documentation. Center for Environmental and Estuarine Studies, University of Maryland, Solomons, MD.
11. **Voinov, A.A.**, F. Komilov, 1984. On Long-term Forecast of Nurek Reservoir Ecosystem Dynamics. Deposited in VINITI 30.10.84, N 6089-84. (In Russian)
12. **Voinov, A.A.**, Tonkikh, A.P., 1983. Simulation model of the Ecosystem of Lake Balaton (Hungary). Deposited in VINITI 28.06.84, N 4443-84. (In Russian)

C. Contracts and Grants

Active: 1 project as principal & co-principal investigator:
Completed: 16 projects as principal & co-principal investigator: \$1,741,972

1. Awarded

a. Active

1. 2007-2009 - A Prototype System for Multi-Disciplinary Shared Cyberinfrastructure – Chesapeake Bay Environmental Observatory (CBEO) – (NSF)
2. 2008 – Tools and Standards for James River and Future SVP Applications – (IWR Army Corps of Engineers Scientific Services Program (SSP) - \$25,000)

b. Completed

- 2004-06 PI (with J.Farley and C.Ginger): Applying Spatially Explicit Dynamic Landscape Modelling to Forest Watershed Planning and Adaptive Management in the Northern Forest – (NSRC - \$155,000)
- 2003-06 Co-PI (with T. Donovan, A. Troy): Land use change in Northern Forests: Assessments and recommendations for conserving biodiversity (NSRC, \$186,592).
- 2005-06 PI (with R.Costanza, B.Bowden, and J. Farley): “COLLABORATIVE RESEARCH: Applications of Interactive Integrated Assessment and Modelling to Design Sustainable Development Strategies for Arctic Watersheds - Phase 2” (NSF - \$62,000).
- 2003-04 PI: Onsite Sewage Disposal Systems (OSDS) in Calvert County; Management Implementation Strategy, Problem Identification and Monitoring” (Maryland DNR with Calvert County Board of Commissioners, \$64,231).
- 2001-03 Co-PI (with 4 others): "Whole watershed health and restoration: Applying the Patuxent and Gwynns Falls landscape models to designing a sustainable balance between humans and the rest of nature". (EPA, \$699,916)
- 2001-03 Co-PI (with E. Kirk and R. Costanza): "Applications of Interactive Integrated Assessment and Modeling to Design Sustainable Development Strategies for Arctic Watersheds" (NSF, \$273,829)
- 2001 Co-Principal Investigator (with R. Costanza): "Land Use and Water Quality in Hunting Creek: Research, Education and Outreach". (Calvert County Board of Commissioners, \$10,000)
- 1999 Co-Principal Investigator (with R. Costanza): Environmental Modeling of Calvert County Build-Out Scenarios Using Hunting Creek as a Case Study (Calvert County Board of Commissioners, \$5,135).
- 1997-99 Co-Principal Investigator (with 4 others): Ecological Analysis of Point and Nonpoint Pollution in Watersheds (Phase 2)", (INTAS/EC, ECU 45,000).
- 1995-96 Co-Principal Investigator (with 4 others): “Ecological Analysis of Point and Nonpoint Pollution in Watersheds (Phase 1)”, (INTAS/EC, ECU 50,000).
- 1993-94 Co-Principal Investigator (with D.Gale, UofO and C.Smith, OSU): "Developing measures of

- sustainability: ecological, perceptual and economic dimensions." (CAEC Oregon State University, \$30,500).
- 1991-92 Principal Investigator: "Developing the hierarchical indicators and the general structure of a data base for impact analysis of hydro power construction." ("Hydroproject" Institute, Moscow, Russia 300,000R ~ \$50,000)
- 1991-92 Co-Principal Investigator: "A system of ecological indicators for zones of ecological hazards" (Center of Ecological Studies "Ecodem", Almaty, Kazakhstan "Man and Biosphere" committee, 500,000R ~\$83,000)
- 1991 Principal Investigator: "Developing computer simulation games and models for student education" (Ecological Polytech, Lviv, Ukraine, 120,000R ~\$30,000)
- 1990-91 Principal Investigator: "Modeling pollution dispersion in aquatic environments" (Laboratory of Ecological Standards, Leningrad Paper and Pulp Industry Institute, Russia, 100,000R ~\$33,000)
- 1990 Principal Investigator: "Simulation Modeling System for Automated Modeling of Aquatic Ecosystems". ("Hydroproject" Institute, Moscow, Russia, 50,000R ~\$30,000)

2. Submitted

COLLABORATIVE RESEARCH: Sustainable Systems: A framework based on optimal control and options theory - NSF

D. Invited Seminars and Presentations

- Johns Hopkins Department of Geography and Environmental Engineering Seminar Series. "Environmental Engineering in a Complex World: How Models can Help?" January 2008.
- Near East University, Cyprus. International Conference "Environment: Survival and Sustainability". Plenary speaker: "Systems and Hierachies: What do we Really Want to Sustain and How?" February 2007.
- NSF, Workshop on Resilient and Sustainable Infrastructures. Keynote speaker: "The Role of the Natural Infrastructure", December 4, 2006.
- Lviv Forestry University, Ukraine, Invited lectures: "Ecological Economics and the Art of Systems Thinking", "Dynamic Landscape Modeling for Decision Support and Management", "Information in the 21st Century: Open Source Research and Education", May 22-24, 2006.
- NIWA, New Zealand, Invited presentation: "Applications of Dynamic Landscape Modeling for Decision Support and Management", Apr. 21, 2006.
- Eawag, Switzerland, Invited presentation: "Applications of Dynamic Landscape Modeling for Decision Support and Management", Dec. 12, 2005.
- University of Twente, Netherlands, Invited presentation: "Applications of Dynamic Landscape Modeling for Decision Support and Management", Dec. 24, 2005.
- ZALF, Germany, Invited presentation: "Applications of Dynamic Landscape Modeling for Decision Support and Management", Nov. 15, 2005.
- AIChE Annual Meeting, Cincinnati, Ohio. Invited Plenary Session talk: "Understanding and Communicating Sustainability: Global versus Regional Perspectives". , October 31, 2005.
- Cold and Arid Regions Environmental Engineering Research Institute (CAREERI), Lanzhou, China. Invited lecture series on Landscape Modeling. July 24-27, 2005.
- Workshop for Facilitating U.S. and Russian Research Collaborations in the Arctic. Virgin Islands. Invited presentation: "Studying Human and Ecological Dynamics in the Kola Peninsula". June 11-16, 2005
- International Conference on Multifunctional land use: Meeting Future Demands for Landscape Goods and Services. 26-28 May 2005, Tartu, Estonia. Invited keynote talk: "Optimization methodology for land use patterns"
- Workshop "Understanding Sustainable Development: Models, Data, and Policy", Graz, Austria. Invited talk: "Systems analysis of sustainable development: models and scales", October 2004.
- NOAA Model Comparison Workshop. SERC, Edgewater, Maryland. Invited presentation: "Patuxent Landscape Model", Oct. 7, 2004
- OSU Biocomplexity Meeting. Corvallis, OR. Invited advisor, Sept. 20-21, 2004
- EPA Lab, Corvallis, OR. Invited presentation: "Modular Ecosystem Modeling". Sept. 21, 2004
- Chesapeake Community Model Workshop, VIMS, Chesapeake Research Consortium. Invited key-note talk: Open Source Software Projects Paradigms of cooperative modeling projects in the Sciences and IT world, Nov. 19-20, 2003.
- SMART Research Program Workshop, Army Corps of Engineers, Alabama. Invited plenary talk "The

- landscape – what is it and what role does it plays”, 2 April 2003.
- National Institute of Nuclear Sciences and Technologies (INSTN), Cadarache, France. Invited presentation “Modeling of landscapes and watersheds: scales, applications and limitations“, 20 March 2003.
- Science Department, Chulalongkorn University, Bangkok, Thailand. Invited Lecture “Spatial Simulation Modeling of Landscapes and Watersheds”, 29 November 2002.
- Potsdam Climate Research Institute. Invited Lecture "Spatially explicit simulation modeling of watersheds: Scales, applications and limitations", 18 June 2002.
- Technical University Braunschweig, Institute of Geoecology. Invited Lecture "Spatially explicit simulation modeling of watersheds: Scales, applications and limitations", 19 June 2002.
- CRC Modeling Workshop, Invited Speaker “Modeling the Patuxent Watershed and Open Source”, 5-6 June, 2002.
- Institute for Water Problems, Russian Academy of Sciences, Moscow. Invited presentation “Spatial Modeling and Decision Making in Watershed Management”, 8 November 2001.
- Patuxent River Commission. Invited Presentation. “Landscape Modeling and Environmental Decision Making”, Benedict, MD, June 6, 2001
- NOAA Restoration Center Retreat. Invited Speaker. "Using watershed models to predict restoration outcomes" Georgetown, Washington DC, Oct.25 2000.
- Dialogue toward Collaborative Decision-making. Invited Speaker. “Simulation modeling and web-based decision making: can science and technology help us understand the environment and ourselves?” Montgomery County Council Building. May 3, 2000.
- AAAS annual meeting. Modular modeling of watersheds. Invited panel presentation. Washington, DC, Feb.21, 2000.
- EPA NRMRL Watershed Workshop. Invited Speaker. Cincinnati, OH, March 2-3, 1999.
- Tillamook Bay National Estuary Program. Invited Speaker “Integrated Landscape Modeling: Patuxent Watershed Case Study”. Tillamook, August 25, 1997.
- USDA Economic Research Service. Invited Speaker "Ecological modeling and how it can help integrate economics and ecology". Washington DC, June 10, 1996.
- NATO Advanced Research Workshop: Sustainable Development of the Lake Baikal Region as a Model Territory for the World. Invited plenary speaker: “Interaction Between Economics and the Environment from the Point of View of Sustainable Development”. Ulan-Ude, Russia, 9/11-17/1994.
- Beijer International Institute of Ecological Economics. Workshop on Property Rights and the Environment. Invited participant. Stockholm, Sweden, August 27-31, 1994.
- Environmental Sciences and Resources seminar series. Invited lecture. “Sustainability from a modeling perspective” Portland State University, OR, April 28, 1994.
- Natural Resources Seminars, NRRI and Chemistry Dept., Corvallis. Invited Speaker. “Mathematical Modeling of Aquatic Systems”, April 13, 1993.
- Symposium on Mathematical Ecology. Invited Speaker “Automated modeling for ecological simulations”, Trento, Italy, Dec. 9-13, 1991.
- 3rd Autumn Course on Mathematical Ecology. Invited lecture “Personal Computers in Ecosystem Modeling”. International Center for Theoretical Physics”, Trieste, Italy. Nov.1990

E. Symposia Organized/Chaired for Professional Meetings

- “Community modeling, data and model interoperability” – Workshop and Session at 4th Biennial meeting of the International Environmental Modelling and Software Society, July 7-10, 2008, Barcelona, Spain – Convenor
- “Chesapeake Modeling Symposium ‘08” – Communicating Models & Data. May 12-14, 2008, Annapolis, MD - Convenor
- “Summit on Environmental Modelling and Software” - 3rd Biennial meeting of the International Environmental Modelling and Software Society, July 9-12, 2006, Burlington, Vermont, USA – Convenor.
- “Economic Development and the Environment: Information, Modeling and Management” – 6th International Conference of the Russian Society for Ecological Economics, Baikal, Russia, 17-23 August, 2003 – Member of Scientific Organizing Committee.
- “Integrating Ecological Models” – Symposium at the Biannual Conference of the International Environmental Modeling and Software Society, Lugano, Switzerland, July 24-28, 2002.
- “Landscape Modeling” – Symposium at Annual Meeting of International Society for Ecological

- Modeling, AIBS, Baltimore, Maryland, August 5, 1998
- “Towards an Integrated Plan of Sustainable Development in Russia”- OTS Summit, Brainerd, MN, April 3-8, 1993
- “Workshop on Russian/American Environmental Cooperation”- Center for Analysis of Environmental Change, Corvallis, OR, June 9, 1993.

F. Active Memberships in Professional Societies

- International Society for Ecological Economics. Board Member for Russian Chapter
- International Environmental Modeling and Software Society. Vice President for US
- Union of Concerned Scientists

G. Other Professional Recognition

Editorships

Journal for Environmental Modeling and Software. Associate Editor - 11/02-11/07, Editor – 11/07-present

Awards and Other Recognition

AAAS Science and Technology Fellowship – 2006-07

Cynthia and George Mitchell prize on sustainable development for young scholars (\$1,000) 1991, The Woodlands, Texas.

1 Year scholarship from the Central European University’s Graduate Program in Environmental Sciences (\$16,000) 1992.

Peer Review Activities

a. Proposals Reviewed

National Science Foundation/U.S. Environmental Protection Agency (12)

U.S. Environmental Protection Agency (15)

National Sciences and Engineering Research Council of Canada (1)

DOE National Institute for Climatic Change Research – Coastal Center (2)

COST - Coopération européenne dans le domaine de la recherche scientifique et technique (1)

b. Articles Reviewed

Ecological Modeling (19), Ecological Economics (10), Landscape Ecology (3), Ecosystem Health (1), Environmental Modeling and Software (Editor), Journal of Soil and Water Conservation (2), Environmental Modeling and Assessment (4), Environmental Engineering Science (1), Frontiers in Ecology and the Environment (1), Environmental Science and Technology (1)

Boards, Committees and Panels:

Human Dimensions for the Arctic (HARC) Steering Committee member

IV. TEACHING AND TRAINING

A. University of Vermont Courses Taught:

2003 – Computer Simulation and Modeling (CS295 – 3 credits)

2003 – Integrating engineering, ecology, economics and regional planning (NR285 – 3 credits, 50%)

2004-07 – Simulation Modeling – on-line course (CS195/NR285 - 3 credits)

B. University of Maryland Courses Taught:

1997-2001 - Dynamic Modeling of Ecological and Economic Systems (MEES 698S/ZOOL 708U - 3 credits, approx. 30%)

C. Courses Taught elsewhere:

Moscow State University, Department of Mechanics and Mathematics

1982 - 1990 1 semester course - Simulation Modeling in Ecology

Oregon State University, Dept. of Anthropology

1994 Assistance in teaching: Natural Resources and Community Values (ANTH 481/581)

St. Mary’s College of Maryland, Dept. of Biology

1995 Simulation Modeling in Ecology (BIOL 329 - 2 credits)

Master’s Program in Ecological Economics, Chulalongkorn University, Bangkok, Thailand

1999 - 2006 - Principles of Ecology for Economists II – 2-3 week intensive course.
National Centre of Competence in Research (NCCR), Université de Neuchâtel
Dynamic Modelling with STELLA, November 12-14, 2003; on-line 2007.

D. Graduate Students Supervised

Degrees Conferred:

Chairman:

Apisom Intralawan, PhD, in preparation, University of Vermont

Erica Gaddis, PhD, 2006. University of Vermont

Nadia Zharova, PhD., 1992. Institute of Information Systems, S.Petersburg, Russian Acad.of Science
“Simulation Modeling of Spatially Distributed Aquatic Ecosystems

Dmitri Avdeev, M.S., 1992. Moscow State University, “Interactive system for calibration of simulation models”.

Tanya Lyoskina, M.S., 1990. Moscow State University, “Simulation of annual dynamics of the thermocline in lakes”.

Svetlana Zelenko, M.S., 1983. Moscow State University, “Aggregation strategies for Lake Balaton simulation model”.

Committee Member:

Alexander Tonkikh, Ph.D., 1984, Institute of Biophysics, Krasnoyarsk, Siberian Branch of Russian Acad of Sci.

Faizali Komilov, Ph.D., 1984 Moscow State University

Alexander Akhremenkov, Ph.D., 1989 Computer Center of Russian Academy of Sciences

Tabor Hand, Ph.D., 2002. MEES, University of Maryland

Carl Cappelletti, M.S., 2005. University of Vermont

Barton Kirk, M.S., 2006. University of Vermont

Hillary Harp, M.S., 2006. University of Vermont

Alexander Hackman, M.S., University of Vermont

Rebecca J. Pfeiffer, M.S., University of Vermont

V. SERVICE

A. Popular Articles

Voinov A., 1995. Difference Between Stable and Sustainable Development. Spaseniye (Salvation - ecological weekly), N4, Feb. 1995 (In Russian)

Voinov A., 1993. Let's Learn to Fish: The “Special Way of Development” from the Viewpoint of an Ecologist. Krestyanskiye Vedomosti, N2, Jan.19, 1993. (In Russian).

Voinov A., 1993. “Russian and American environmentalists working toward pollution control in Russia”, OSU International, 9:3.

Voinov A., 1993. “Workshop on Russian/American Environmental Cooperation”, CAEC Newsletter, Sept. 1993

Voinov A., 1993. “Is it a Twinkling or a Fading Star? “ Spaseniye (Salvation - ecological weekly), N38, Nov. 1993 (In Russian)

Voinov A., 2005. “Time for action on global warming.” Burlington Free Press, December 29, 2005

B. Interviews

“Scientists from two countries have one goal: clean Russia” by Dean Rebuffoni, St.Paul Metro, March 31, 1993.

Live interview on “Morning Edition”, Oregon Public Broadcasting NPR (KOAC, KOPB), June 10, 1993.

C. Public Service

State/Regional Service:

Basketball Coach, Colchester, 2003-2006 seasons
Presentation at Calverton School on Global Climate Change, 24 Feb., 2000
CBL PRAD exhibits, 10/12/1994, 10/9-10/1999 - volunteer work.
Presentation to Calvert County Environmental Commission, 25 January, 1999.
Presentation to Calvert County Planning and Zoning Commission, 20 November, 1998.
Calvert County Technology Fair. February 1998 - volunteer
Career Day at Southern Middle School. October 24, 1995 - volunteer work.
Organizing the Modeling exhibit at the CBL PRAD. Oct. 14, 1994.

VI. INTERNATIONAL EXPERIENCE

Tam Ky, Vietnam 03/15-30/2006 – Organizing and running an Atelier Workshop: an Introduction to Modeling and Systems Thinking: the Case Study of the Song Bung #4 Dam Project.
Lanzhou, China 08/2005 – Lectures, Meetings, Joint work on modeling and field trips to the Hei He river watershed.
Hanoi, Hue – Vietnam 05/2005 - Various talks and meetings in preparation for Atelier workshop.
Apatity, Moscow, Russia, 07/1-10/2002, 08/12-25/2003, 06/2005 - Imandra Watershed Project. Kola Science Center. Various talks and meetings.
Lugano, Switzerland, 06/24-27/2002. Biannual Conference of International Environmental Modeling and Software Society. Board Meeting. JEMS Editorial Board Meeting.
Potsdam, Germany, 06/18-21/2002. Potsdam Institute for Climate Research (PIK). Various talks and meetings.
Thailand, Laos, Cambodia, Vietnam, 01/03-15/2002. Mekong Educational Initiative, AAAS exploratory mission. Various talks and meetings.
Apatity, Russia, 10/27-11/3/2001. Stakeholder workshops. Imandra Watershed Project. Kola Science Center.
Dominica 6/14-29/2001. Sustainable Tourism in Small Islands of the Caribbean: Atelier Workshop.
Apatity, Russia, 5/14-18/2001. INEP – AAAS/IEE Workshop. Imandra Watershed Project. Kola Science Center.
Moscow, Apatity, Russia, 4/20-30/2000. Project planning visit to Geography Dept., MSU and Kola Science Center.
Bilthoven, The Netherlands, 5/23-24/1996. “Integrated Modeling of Sustainable Development”. Global Modeling Forum for Sustainable Development (UNEP, UN DPCSD, UNU).
Budapest, Hungary, 8/17-19/1995. “Sustainable Development Workshop”. The Central European University, Dept. of Environmental Sciences and Policy.
Venice, Italy, 3/27-30/1995 “Ecological Analysis of Point and Non-Point Pollution on Watersheds” INTAS 93-1918 coordination workshop.
San José, Costa Rica, October 24-28, 1994. Third International Conference of the International Society for Ecological Economics, “Down to Earth: Practical Applications of Ecological Economics”.
Ulan-Ude, Russia, 9/11-17/1994 “Sustainable Development of the Lake Baikal Region as a Model Territory for the World” NATO Advanced Research Workshop.
Stockholm, Sweden, 8/27-31/1994 “Property Rights and the Performance of Natural Systems”. Workshop at the Beijer International Institute of Ecological Economics, Royal Swedish Academy of Sciences.
Vienna, Austria, 12/16-18/1993 “Land Use and Global Change: Past, Present and Future” Project planning meeting. IIASA.
Moscow, Russia, 11/11-12/1993 “Operation Twinkling Star A Russian/US Integrated Plan for Sustainable Development in Russia”
Trento, Italy, 12/9-13/1991. Symposium on Mathematical Ecology.
Trieste, Italy. 11/1990. 3rd Autumn Course on Mathematical Ecology. International Center for Theoretical Physics.
Helsinki, Finland, 1984, Workshop on “Simulation modeling of ecosystems”.
SCOPE-ENUWar Project (Ecological Consequences of Nuclear War) 1983-89
SCOPE-UNEP Project on Ecosystem Dynamics in Wetlands and Shallow Water Bodies, 1981-84
Veszprem, Hungary, 1982, Symposium on “Ecosystem modeling for Lake Balaton”.

I certify that this is a current and accurate statement