

Curriculum Vitae

Nikolay S. Panikov

Education/degrees

- 1972 BSc in Soil Biology, Biology School, Moscow State University (MSU)
1976 PhD in Microbiology, Biology School, MSU. *Microbial Transformation of Nucleic Acids in Soils*.
1976-77 Postdoctoral research, Microbiology Dept, Queen Elizabeth College, London University
1979 MSc in Biomathematics, School of Mechanics & Mathematics, Moscow State University, 1979
1989 DSci (habilitation degree) in Microbiology, MSU. *Cell Growth Kinetics: Fundamental Principles And Applications*

Professional Appointments

- 2009 – present. **Northeastern University**, Boston, MA
2009-2011 Biology Dept, Research Professor
2011-2012 Chemistry & Chemical Biology Dept, Research Professor
2015-2018 Biotechnology Program, Part-time lecturer
2018-present Chemistry & Chemical Biology Dept, Temp Academic Support
2015 – 2020 San-Diego State University, CA, adjunct professor.
2016 –2017 Massachusetts Institute of Technology, Department of Chemical Engineering. Visiting researcher.
2015 – 2016 **Epiva Bioscience Inc** (Flagship Venture, Cambridge, MA), Principal Scientist.
2012 - 2014 **Seres Therapeutics** (Cambridge, MA), Consultant
2015 - 2016 **Evelo Bioscience** (Cambridge, MA), Consultant
2012 - 2015 **Harvard School of Public Health**, Dept Immunology & Inf Diseases. Visiting Scientist
2013. **Tufts University** (Medford, MA), Biology Department, Senior Lecturer in Microbiology
2007 - 2009. **Dartmouth College, School of Engineering**, Hanover, NH. Senior Res. Scientist, Group Leader
1999 - 2007. **Stevens Institute of Technology** Dept of Chemistry & Chem Biol, NJ. Professor in Chemical Biology,
1989 – 1999. **Winogradsky Institute of Microbiology, Russian Academy of Sciences**, Moscow, Russia
1991-1999 Chair of Department
1994-1997 Deputy/Associated Director of the Institute
1976 – 1989. Moscow State University, Soil Biology Dept, junior and senior research scientist.

Teaching Experience

- **Bioprocess Fundamentals BIOT5560**, on-site and on-line courses at Northeastern University (2015-2017).
- **Microbiology**, lectures and wet lab: Tufts Univ (2013) and Stevens Institute of Technology (SIT), NJ (2001-2006)
- **Metabolic Engineering**: lectures at Dartmouth College, Thayer School of Engineering (2007-2009)
- **Introductory Biology**, lectures, recitation and lab: SIT (2001-2006)
- **Cell Biology**, lectures & wet lab, SIT (2001-2006)
- **Biochemistry**, lectures & recitation: SIT (2002-2006)
- **Environmental Microbiology**, lectures, Lund Univ, Sweden (1998), Michigan State Univ, East Lansing, MI (1995-96)
- **Biostatistics and Planning of Experiments**, lectures and recitations for grad students, MSU (1990-1995)

Awards and distinctions

- Gold Medal, High School, Tula, Russia
- Pryanishnikov Undergraduate Stipend (Moscow State University, 1971)
- Lenin's Graduate Stipend (Moscow State University, 1974).
- Rem Khokhlov Award. The winner of the 1983 Young Scientists' Contest, Moscow State University.
- Outstanding Visiting Professor (Michigan State University, East Lansing, 1996)
- Gold Medals of the Moscow Government for outstanding achievements in applied and basic research (Moscow, 1997)
- Honor title of Professor, Russian Academy of Sciences (Moscow, 1995).

Research grants (PI or co-PI)

'Technogenesis Fund', SIT	Nanobacteria in Biomedicine and Environmental Science: the development of basic technique for detection, isolation and cultivation. 2002-2003.
NASA	Contract NAS3-01068. Use of Non-Thermal Plasma for Sterilization of Material Handling Devices. PI: R. Crow, 'PlasmaSol' company affiliated with the Stevens Institute

NSF	Biodiversity of Microorganisms at International Tundra Experiment Sites, 1998-2000 Microbial Observatory: Metabolic Activity of Microorganisms in Alaskan Tundra and Permafrost. MCB-0348681, 2004-2006 Supplementary grant to MCB-0348681, 2004-2006 for instrument acquisition Collaborative Research: Microbial Subzero Activity and its Impact on Biogeochemical Processes in Frozen Tundra and Permafrost". Award #0732966 (2008-2012).
NIH	Rapid detection of food borne pathogenic bacteria. Grant # R43 AI60274-01. 2004-2006
EC/Dimension 4	Environmental control on greenhouse gases emission from Northern wetlands to atmosphere (CONGAS). 1998-2002. 2,000,000 ECU.
Russian Fund of Basic Research (RFBR)	1993-1995. Growth Kinetics and Stoichiometry of Natural Microbial Populations 1996-1998. Environmental Factors on Soil Organisms: Analysis of Emergency Phenomena 1998. Field Studies of Methane Cycle in West Siberian Wetlands 1999-2001. Cryobiology of Northern Wetlands
NATO, Long-term Research Grant	Kinetics of Microbial Growth in relation to Ecology and Development of Agricultural Biotechnology. In cooperation with King's College, London University, 1993
Int. Science Foundation (George Soroc Fund)	1. Survival under starvation: kinetic studies and mathematical simulations. 1993-1995 2. Biogeochemistry of C-Cycle in Relation to Green House Gases Emission, 1993-1995
RFBR-DFG (Germany)	Molecular Ecology of a Novel Methanotrophic Bacteria. In cooperation with Max Plank Institute, Marburg University, 2000-2001
US Army	Project W911NF-07-C-0080, 2010- 2013, "Real-time detection of biological warfare agents Project W911NF-08-C-0118, 2008-2011, "Fluctuation-Enhanced Chemical & Biological Sensor Systems". SBIR Phase-I (2006-2007), Phase-II (2008-2010) Project W911NF-09-C-0096, 2009- 2011, "Fast-scan IR spectrometer", SBIR Phase-II Small Business Technology Transfer (STTR) Program "DIPAIN based assay for the T-2 Toxin". Phase-I (2010-2012)

Synergistic activity

- Editorial Board member (*Microorganisms*, MDPI; *Fermentation*, MDPI, *Eur J. Soil Science*)
- Library committee and the Technogenesis committee (Stevens Inst. Technol., 2000-2008)
- Member of professional societies - ASM, AGU, ISME, EGU, IASC (Int. Arctic Science Com.)

Publications

Totally ~300 publications including three books. Click [Google Scholar](#) and [PubMed](#) for complete list

Selected titles

- Panikov, N.S. *Microbial Growth Kinetics*. Chapman & Hall, L. 1995. [Amazon](#), [Springer](#)
- Panikov, N.S. *Cell Growth Kinetics: Fundamental Principles and Applications*. [Rus] Nauka Publisher 1992
- Panikov, N.S., Sadovnikova L.I, and Fridman, E. *Bioorganic chemistry of soil humus*. [Rus] MSU Press, 1976
- Panikov, N.S., Sizova, M.V. and Lynd, L.R. Selection of cellulolytic microbes with high growth rate. US Patent WO 2010/037018 A2 (2010)
- Panikov, N.S., M. Mandalakis, S. Dai, L.R. Mulcahy, W. Fowle, W.S. Garrett and B.L. Karger (2015). Near-zero growth kinetics of *Pseudomonas putida* deduced from proteomic analysis. *Environ Microbiol* **17**(1): 215-228.
- Smith, P.M., M.R. Howitt, N. Panikov, M. Michaud, C.A. Gallini, Y.M. Bohlooly, . . . W.S. Garrett (2013). The microbial metabolites, short-chain fatty acids, regulate colonic Treg cell homeostasis. *Science* **341**(6145): 569-573.
- Panikov, N. S. and M. V. Sizova (2007). Growth kinetics of microorganisms isolated from Alaskan soil and permafrost in solid media frozen down to -35°C. *FEMS Microbiology Ecology* **59**(2): 500-512.
- Tuorto, S. J., P. Darias, L. R. McGuinness, N. Panikov, T. Zhang, M. M. Haggblom and L. J. Kerkhof (2014). Bacterial genome replication at subzero temperatures in permafrost. *ISME J* **8**(1): 139-149.
- Panikov, N. S. (2005). Contribution of Nanosized Bacteria to the Total Biomass and Activity of Soil Microbial Community. *Adv. Appl Microbiol* **57**: 243-293.
- Dedysh S.N.; Panikov N.S.; Liesak W.; Groskopf R., and Tiedje J.M. 1998 Isolation of the elusive acidophilic methanotrophs from northern peat wetlands. *Science* **282**(5387): 281-284.