

Victor M. Buchstaber

Corresponding Member
of the Russian Academy of Sciences
Professor

PERSONAL

Born: 1 April 1943, Tashkent, *USSR*
Citizen of *Russian Federation*
Married with two children, born 1967 and 1972

EDUCATION

1960-1964 Tashkent State University, Mechanical Mathematical Department
1964-1966 Moscow State University, Mechanical Mathematical Department
1966-1969 Postgraduate study at Moscow State University.

QUALIFICATION

1967 Diploma in Mathematics, Moscow State University
Thesis: "On the J-functor of cell complexes"
Advisors: Professors S.P.Novikov and D.B.Fuks.

1970 Ph.D. in Mathematics
Thesis: "Cohomology operations in generalized cohomology theories"
Advisors: Professors S.P.Novikov and D.B.Fuks.

1984 Dr. Sc. in Mathematics.
Thesis: "Two-valued formal groups. Algebraic theory and topological applications."

2006 Corresponding Member of the Russian Academy of Sciences

APPOINTMENTS

1969-1979 VNIIFTRI (National Scientific and Research Institute for Physical-Technical and Radiotechnical Measurements), Research scientific positions

1979 - present VNIIFTRI, Head of the Mathematical Modeling Laboratory (now part-time position)

1993 - present The Chair of Higher Geometry and Topology, Department of Mathematics of Moscow State University, Professor (part-time position)

1996 - 2006 The Geometry and Topology Division of Steklov Mathematical Institute, Russian Academy of Sciences, Research Leader

2005 - 2010 The School of Mathematics, University of Manchester, Professor (part-time position)

2010 - present The School of Mathematics, University of Manchester, Emeritus Professor

2006 - present The Geometry and Topology Division of Steklov Mathematical Institute, Russian Academy of Sciences, Chief Scientific Researcher

2007 - present Dobrushin Mathematical Laboratory, Institute for Information Transmission Problems, Chief Scientific Researcher (part-time position)

SCIENTIFIC–ORGANIZATIONAL RESPONSIBILITIES

- 1994 - 2010 Member of the Manager Council of the Moscow Mathematical Society
- 2010 - present Vice-president of the Moscow Mathematical Society
- 1995 - present Deputy Editor-in-Chief of the Journal “Uspekhi Mat. Nauk” (= “Russia Math. Surveys”)
- 1995 - present Member of the Editorial Board of “Funktsional. Anal. i Prilozhen” (= “Functional Anal. and Appl.”)
- 1996 - 2004 Coordinator of the Expert Committee in Mathematics in the Russian Foundation for Basic Research
- 1997 – 2013 Member of the Editorial Council of “Theory of Probability and Applications”
- 1998 Chairman of the Organizing Committee of the International Conference “Solitons, Geometry and Topology: on the Crossroads”, in Honour of the 60th Anniversary of Academician S.P. Novikov.
- 2001 - 2008 Member of the Executive Committee of the European Mathematical Society
- 2001 - 2012 Member of the Editorial Board of “Moscow Mathematical Journal”
- 2013 - present Member of the Editorial Council of “Moscow Mathematical Journal”
- 2002 - present Member of the Scientific Council of the Russian-French Laboratory for Mathematics, Informatics and Mathematical Physics (Russian Academy of Sciences, Independent University of Moscow and Centre National de la Recherche Scientifique)
- 2002 Member of the Scientific Committee of the International Conference “Differential and Functional Differential Equations”, Moscow, August 11 – 17. Satellite Conference of the International Congress of Mathematics, Beijing, August 20 – 28.
- 2003 Member of the Organizing and Scientific Committee of the International Conference “Kolmogorov and Contemporary Mathematics”, Chairman of the section “Geometry and Topology”, Moscow, June 16 – 21.
- 2003 Member of the Prize Committee at the European Congress of Mathematics, of the 4th European Congress of Mathematics, Stockholm, 2004, June 27 – July 2.
- 2004 Member of the Grant Committee at the European Congress of Mathematics, of the 4th European Congress of Mathematics, Stockholm, 2004, June 27 – July 2.
- 2004 Coorganizer of the Satellite Conference “Geometry, Topology and Combinatorics”, Stockholm, July 3 – 6, of the 4th European Congress of Mathematics, Stockholm, June 27 – July 2.
- 2004 Coorganizer of the International Conference “Geometric Topology, Discrete Geometry and Set Theory”, dedicated to the 100-th anniversary of L.V. Keldysh, Chairman of the section “Combinatorial Geometry and Algebraic Topology”, Moscow, August 24 – 28.

- 2005 Member of the Organizing and Scientific Committee of the International Conference “Selected Problems of Modern Mathematics” dedicated to the 200-th anniversary of K.G.Jacobi, Kaliningrad (Konigsberg), April 4 – 8.
- 2005 Member of the Program Committee of the 4th International Conference “Differential and Functional Differential Equations”, Moscow, August 14 – 21.
- 2005 - 2009 Member of the Pierre Deligne Contest Jury
- 2006 - 2008 Coordinator of the Expert Committee in Mathematics in the Russian Foundation for Basic Research
- 2006 - present Member of the Editorial Board of “Tbilisi Mathematical Journal”
- 2007 Member of the Grant Committee at the European Congress of Mathematics, of the 5th European Congress of Mathematics, Amsterdam, July 14 – 18, 2008.
- 2008 - present Member of the Editorial Board of “Proceeding of the Moscow Mathematical Society”
- 2008 Coorganizer of the International Conference “New Horizons in Toric Topology”, Manchester, July 7 – 11. Satellite Conference of the 5th European Congress of Mathematics, Amsterdam, July 14 – 18, 2008.
- 2008 Head of the Organizing Committee of the LXXI Moscow Mathematical Olympiad, Moscow, March, 2008.
- 2008 Coorganizer of the Conference “Novikov’s Day”, dedicated to the 70-th anniversary of academician Sergey P.Novikov, Moscow, June 3, 2008.
- 2008 Member of the Organizing and Scientific Committee of the International Conference “Differential Equations and Topology” dedicated to the 100-th anniversary of L. S. Pontryagin, Chairman of the section “Geometry and Topology”, Moscow, June 17 – 22 , 2008.
- 2009 - present Vice-chairman of the Expert Committee in Mathematics, Mechanics and Informatics in the Russian Foundation for Basic Research.
- 2009 - 2010 Vice-chairman of the Expert Committee “Fundamental Problems of Theoretical Mathematics”, administrative department for interdisciplinary aligned basic research in the Russian Foundation for Basic Research.
- 2009 Member of the Organizing Committee of the International (jubilee) Conference “Contemporary Problems of Mathematics”, MIAN, Moscow, June 8 – 10, 2009; POMI, Saint-Petersburg, June 11 – 12 , 2009.
- 2009 Member of the Organizing Committee of the International Conference “Toric Topology”, Manchester, UK, November 2 – 3, 2009 (Joint Grant of Russian Foundation for Basic Research with The Royal Society).
- 2009 - 2010 Member of the Programme Committee of the International Conference “Topology, Geometry, and Dynamics: Rokhlin Memorial”, Dedicated to the 90th anniversary of the birthday of Vladimir Rokhlin (1919 – 1984), Saint-Petersburg, Russia, 11-16 January, 2010.
- 2010 – 2015 Member of the "Dynasty" Contest Jury.

- 2010 Vice-chairman of the Programme Committee of the International Conference “Geometry, Topology, Algebra and Applications”, Dedicated to the 120th anniversary of the birthday of Boris Delone (1890 - 1980), Chairman of the section “Topology”, MIAN, Russia, August 16 – 19, 2010.
- 2010 Member of the Programme Committee of the International Conference “Geometry, Dynamics, Integrable Systems – GDIS 2010”, Belgrade, 7 -12 September, 2010.
- 2010 Vice-chairman of the Programme Committee of the International Conference “Geometry and Integrable systems”, in Honour of the 60th Anniversary of professor Igor Krichever, MIAN, Russia, December 27 – 30, 2010.
- 2011- present Vice-chairman of the Expert Committee “Fundamental mathematics in the natural sciences, engineering and information technology”, administrative department for interdisciplinary aligned basic research in the Russian Foundation for Basic Research.
- 2011 Member of the Programme Committee of the International Conference DFDE-2011 “Sixth International Conference on Differential and Functional Differential Equations”, MIAN, Russia, August 14 – 21, 2011.
- 2011 Chairman of the Programme Committee of the International Conference TTAF “Toric Topology and Automorphic Functions”, IAM, Khabarovsk, Russia, September 05 – 10, 2011.
- 2011 Member of the Programme Committee of the International Conference Geometrical Methods in Mathematical Physics, Moscow (Russia), 12 – 17 December 2011.
- 2012 Member of the Programme Committee of the International Topological Conference “Alexandroff Readings”, Moscow, May 21 – 25, 2012.
- 2012 Member of the Programme Committee of the Yaroslavl International Conference “Discrete Geometry” dedicated to centenary of A.D.Alexandrov, Yaroslavl, Russia, August 13 – 18, 2012.
- 2012 Member of the Programme Committee of the International Conference "Geometry Days in Novosibirsk, 2012" Dedicated to 100th anniversary of A.D.Aleksandrov, Sobolev Institute of Mathematics, Novosibirsk, Russia, August 30 – September 1, 2012.
- 2012 Member of the Programme Committee of the Fourth Geometry Meeting dedicated to the centenary of A.D.Alexandrov, St. Petersburg, Russia, August 20 – 24, 2012.
- 2013 Vice-chairman of the Organizing Committee of the Conference “Novikov’s Day”, dedicated to the 75-th anniversary of academician Sergey P.Novikov, Moscow, MIAN, June 17, 2013.
- 2013 Chairman of the Programme Committee of the International Conference “Toric Actions: Topology, Geometry and Number Theory”, September 02 – 07, 2013, IAM, Khabarovsk, Russia.

- 2013 Vice-chairman of the Second international conference "Jacobi 2013" "High-Performance Computing: Mathematical Models and Algorithms", Immanuel Kant Baltic Federal University, Kaliningrad, Russia, October 01 – 05, 2013.
- 2014 Member of the Programme Committee of the International Conference “Topology of Torus Actions and Applications to Geometry and Combinatorics”, August 07 – 11, 2014, Daejeon, Korea, Satellite Conference of ICM 2014, August 12 – 21, Korea.
- 2014 Member of the Programme Committee of the International Conference DFDE-2014 “Seventh International Conference on Differential and Functional Differential Equations”, August 26 – 28, 2014, Moscow, Russia, Satellite Conference of ICM 2014, August 12 – 21, Korea.
- 2014 Coorganizer of the International Conference “Geometry, Topology and Integrability”, October 21 – 25, 2014, Skolkovo, Skoltech, Moscow, Russia.
- 2015 Coorganizer of the International Conference “Torus Actions in Geometry, Topology, and Applications”, February 16 – 21, 2015, Skolkovo, Skoltech, Moscow, Russia.
- 2015 Vice-chairman of the Programme Committee of the XIII International conference “Algebra, Number Theory and Discrete Geometry: Contemporary Issues and Applications” devoted to 85th birthday anniversary of Professor Sergey Sergeevich Ryshkov, May 25 – 30, 2015, Tula University, Tula, Russia.
- 2015 Chairman of the Programme Committee of the International Conference “Toric Topology. Number Theory and Applications”, September 06 – 12, 2015, IAM, Khabarovsk, Russia.
- 2015 Member of the Programm Committee of the 3rd Workshop on Analysis, Geometry and Probability, September 28 – October 02, 2015, Ulm University, Germany.

TEACHING

- 1968 - 1972 The courses in Algebraic Topology at the Department of Mechanics and Mathematics of Moscow State University.
- 1984 - 1990 The postgraduate courses in Applied Mathematics and Statistics at the National Scientific and Research Institute for Physical-Technical and Radiothechnical Measurements.
- 1992 The course of Applied Statistics at University of Vienna, Institute fur Statistic and Computer Science, Austria.
- 1993 - present The courses "Modern Methods of Algebraic Topology and its Applications" at the Department of Mechanics and Mathematics, Moscow State University.
- 2005 - 2010 The courses "Advanced Algebraic Topology" at the School of Mathematics, Manchester University, UK.
- 2008 The course of lectures on “Toric Topology”, Toric Topology Workshop, KAIST, 04 – 14 June 2008, Korea.
- 2009 The course of lectures on “Toric Topology”, The Serbian Academy of Science and Arts, Department of Mathematics, May 01 – 10, 2009, Belgrade, Serbia.

- 2010 The course of lectures on “Polytopes and differential equations”, School of Mathematical Sciences, May 2 – 5, 2010, Fudan University, Shanghai, China.
- 2010 The course of lectures on “Combinatorics of convex polytopes and toric topology”, Ecole Normale Supérieure de Lyon, 20 May – 01 June 2010, Lyon, France.
- 2012 The course of lectures on “The Heat equations”, the Group of Mathematical Physics of the University of Lisbon (GFMUL), February 22 – March 02, 2012, Portugal.
- 2015 The course of lectures on “Partition surfaces into polygons and problems from physics, chemistry and biology”, Summer School “Contemporary Mathematics”, July 22 – 26, 2015, Dubna, Russia.
- 2015 The course of lectures on “Toric Topology and Applications”, Program on “Combinatorial and Toric Homotopy”, National University of Singapore, Institute for Mathematical Sciences, August 01 – 31, 2015, Singapore.

FELLOWSHIPS AND PROFESSIONAL BODIES

- 1968 The Moscow Mathematical Society
- 1999 The American Mathematical Society
- 2001 The London Mathematical Society
- 2004 Corresponding Fellow of the Royal Society of Edinburgh

SOME SELECTED AWARDS

- 1970 Prize of the Moscow Mathematical Society for the contributions to K-theory and the theory of cobordism.
- 1994 - 2003 Russian State Scientific Scholarship
- 2000 The circle of the papers on the Abelian functions theory and its applications to mathematical physics was included in the list of the best papers of Russian Academy of Sciences for 1999 year.
- 2003 - present Russian State Scientific Scholarship for Scientific School.
- 2003 Viktor Matveevich Buchstaber (on his 60th birthday), Russian Mathematical Surveys, v. 58, № 3, 2003.
- 2003 Victor Matveevich Buchstaber (on his 60th birthday), Moscow Mathematical Journal, v. 3, № 1, 2003.
- 2004 Corresponding Fellow of the Royal Society of Edinburgh.
- 2004 Prize of the International Academic Publishing Company “Nauka/Interperiodika” for the best publications in its journals.
- 2007 The circle of the papers on the Toric Topology was included in the list of the best papers of Steklov Mathematical Institute, Russian Academy of Sciences for 2007 year.
- 2010 Emeritus Professor of the School of Mathematics, University of Manchester.
- 2013 The circle of the papers “Theory of 2-truncated Cubes and Applications” was included in the list of the best papers of Steklov Mathematical Institute, Russian Academy of Sciences for 2013 year.

- 2013 Victor Matveevich Buchstaber (on his 70th birthday), Russian Mathematical Surveys, v.68, № 3, 2013.
- 2013 Conference “Algebraic Topology and Abelian Functions” in honor of Victor Buchstaber on the occasion of his 70th birthday, 18 – 22 June 2013, MIAN, Moscow, Russia.
- 2013 Proceeding of the Moscow Mathematical Society, v. 74, N 2, Collected papers in honor of Victor Buchstaber on the occasion of his 70th birthday.
- 2014 Proceeding of the V.A.Steklov Inst. Math. “Algebraic Topology, Convex Polytopes, and Related Topics”, v. 286, Collected papers in honor of Victor Buchstaber on the occasion of his 70th birthday.
- 2015 The title of Honorary Doctor of Voronezh State University.

SOME SELECTED HONORABLE INVITED TALKS

- 1974 Invited speaker at the International Mathematical Congress, Vancouver, Canada, Section of Topology.
- 1995 Adams Memorial lecturer, Manchester, UK.
- 1999 Speaker at the programme "Topology", Oberwolfach, Germany.
- 2000 Speaker at the programme "Singularity Theory", Newton Institute for Mathematical Sciences, Cambridge, UK.
- 2001 Joint Brandeis-Harvard-MIT-Northeastern Mathematics Colloquium, Boston, USA.
- 2001 Speaker at the programme "Integrable Systems" Newton Institute for Mathematical Sciences, Cambridge, UK.
- 2002 Invited talk, Mathematics Colloquium, The Ohio State University, USA.
- 2003 Invited speaker at the International Mathematical Conference "Kolmogorov and Contemporary Mathematics", Moscow, Russia.
- 2003 Speaker at the programme " Singularity Theory ", Oberwolfach, Germany.
- 2005 Invited talk, Pure Mathematics Colloquium, The University of Leeds, UK.
- 2006 Invited speaker at the International Conference "Toric Topology", 29 May – 3 June, Osaka, Japan.
- 2007 Invited speaker at the International Conference “Analysis and Singularities” dedicated to the 70th anniversary of V.I.Arnold, 20 – 24 August , 2007, Moscow Russia.
- 2007 Invited speaker at the International Conference “Transformation Groups” dedicated to the 70th anniversary of Ernest B. Vinberg, 17 – 22 December , 2007, Moscow, Russia.
- 2008 Invited speaker at the Workshop “Integrable Systems”, 9 – 10 May 2008, Leeds, UK.
- 2008 Invited speaker at the Leicester Special Mathematics event: The World of Mathematics. 14 May 2008, Leicester, UK.
- 2009 Plenary talk, International conference “Toric Geometry”, Mathematical Research Institute of Oberwolfach, January 04 – 10, 2009, Oberwolfach, Germany.
- 2009 Invited talk, The Hausdorff Research Institute for Mathematics, June 15, 2009, Bonn, Germany.
- 2009 “Oberseminar talk”, Max-Plank-Institut fur Mathematik, June 18, 2009, Bonn, Germany
- 2009 Plenary talk, Workshop on “Geometric Methods in Physics”, June 28 – July 04, 2009, Bialowieza, Poland.
- 2009 Talk (joint with T.E.Panov), Dobrushin International Conference, July 15 – 20, 2009, Moscow, Russia.
- 2009 Invited talk, Seminar “Geometry and Mathematical Physics”, 25 November 2009, Loughborough, United Kingdom.
- 2010 Plenary talk, the International Conference “Topology, Geometry, and Dynamics: Rokhlin

- Memorial”, dedicated to the 90th anniversary of the birthday of Vladimir Rokhlin (1919 – 1984, Saint-Petersburg, Russia), January 11-16, 2010.
- 2010 Invited speaker at the Berlin Mathematical School Colloquium (BMS Friday Colloquium) 5 February 2010, Urania, Berlin, Germany.
- 2011 Plenary talk, the International Conference “Versatility of Integrability”, dedicated to the 60th anniversary of the birthday of Igor Krichever, Columbia University, New-York, May 03 – 07, 2011, USA.
- 2011 Invited talk, Algebraic Topology Seminar, Princeton, April 28, 2011, USA.
- 2011 Plenary talk, the International Conference DFDE-2011 “Sixth International Conference on Differential and Functional Differential Equations”, MIAN, August 14–21, 2011, Russia.
- 2011 Plenary talk, the Mini-Workshop: “New Developments in Newton-Okounkov Bodies”, Mathematical Research Institute of Oberwolfach, August 22 – 26, 2011, Oberwolfach, Germany.
- 2011 Invited talk, the 10th Pacific Rim Geometry Conference 2011, Osaka – Fukuoka, December 01 – 05, 2011, Japan.
- 2012 Invited talk, the Heilbronn Conference to Celebrate the 70th birthday of Elmer Rees, Bristol, April 21, 2012, United Kingdom.
- 2012 Invited talk, the Field Theory Group in the Department of Physics, University of Oldenburg, May 05, 2012, Germany.
- 2012 Invited talk, the XVII Geometrical Seminar, Zlatibor, September 3 – 8, 2012, Serbia.
- 2012 Invited talks, Topology Seminar and Geometry and Mathematical Physics Seminar, Manchester University, October 22 and 25, 2012, United Kingdom.
- 2012 Invited talk, Seminar “Geometry and Mathematical Physics”, Loughborough University, November 07, 2012, United Kingdom.
- 2012 Invited talk, Activity “Topological Dynamics in the Physical and Biological Sciences”, Isaac Newton Institute, Cambridge, November 14, 2012, United Kingdom.
- 2012 Invited talk, the International Conference “Algebraic Structures in Integrable Systems”, Moscow, December 4, 2012, Russia.
- 2012 Invited talk, the International Conference “Analysis and Singularities” dedicated to the 75th anniversary of V.I. Arnold, Steklov Mathematical Institute, Moscow, December 19, 2012, Russia.
- 2013 Plenary talk, the International Conference “Novikov’s Day”, dedicated to the 75th anniversary of the birthday of Sergey Novikov, Moscow, 17 June 2013, Russia.
- 2013 Plenary talk, the International Open Chinese–Russian Conference “Torus Actions: Topology, Geometry and Number Theory”, Khabarovsk, 02 – 07 September, Russia.
- 2013 Plenary talk, the International Conference to Celebrate Sam Gitler’s 80th Birthday, El Colegio Nacional, Mexico, 25 – 27 September 2013, Mexico.
- 2013 Bernoulli Lecture “Dynamical Systems and Heat Equation”, EPFL, Lausanne, 24 October 2013, Switzerland.
- 2013 Invited Lecture “Heat Equation and Polynomial Dynamical Systems”, Univ. J. Fourier, Grenoble, 7 November 2013, France.
- 2013 Invited talk, “Symmetric quadratic dynamical systems”, Ecole Normal Supérieure de Lyon, Université de Math. Pures et Appliquées, Séminaires à l’UMPA, 08 November 2013, France.
- 2014 Plenary talk, the International Conference “Toric Topology – 2014”, Osaka, 21 – 24 January, Japan.
- 2014 Plenary talk, the Mini-Workshop: “Okounkov Bodies and Applications”, Mathematical Research Institute of Oberwolfach, 25 – 31 May 2014, Oberwolfach, Germany.
- 2014 Plenary talk, the International Conference “Representations, Dynamics, Combinatorics: in the Limit and Beyond” in honor of the 80th birthday of Anatoly Vershik, St. Petersburg,

- 9 – 14 June 2014, Russia.
- 2014 Plenary talk, the International Conference DFDE-2011 “Seventh International Conference on Differential and Functional Differential Equations”, Moscow, 26 – 28 August 2014, Russia.
- 2014 Plenary talk, the International Conference “Applied and Geometrical Analysis”, A.Navoi Samarkand Univ., Samarkand, 22 – 25 September 2014, Uzbekistan.
- 2014 Plenary talk, the International Conference “Geometry Days in Novosibirsk – 2014”, dedicated to 85th anniversary of academician Yu.G.Reshetnyak, S.L.Sobolev Inst. of Math., Novosibirsk, 24 – 27 September 2014, Russia.
- 2015 Invited talk “Combinatorial 2-truncated cubes and applications”, Discrete Geometry Seminar, Freie University, January 08, 2015, Berlin, Germany.
- 2015 Invited talk (with Erokhovets N.), “Graph truncations of simple polytopes”, the International Conference “Torus Actions in Geometry, Topology, and Applications”, Skolkovo, Skoltech, February 16 – 21, 2015, Moscow, Russia.
- 2015 Plenary talk (with A.V.Ustinov), “Coefficients rings of formal groups and binomials coefficients”, the XIII International conference “Algebra, Number Theory and Discrete Geometry: Contemporary Issues and Applications” devoted to 85th birthday anniversary of Professor Sergey Sergeevich Ryshkov, May 25–30, 2015, Tula, Russia.
- 2015 Invited talk “Toric topology of fullerenes”, Geometry Seminar, Osaka City University, June 12, 2015, Osaka, Japan.
- 2015 Plenary talk (with A.Kustarev) “Embedding theorems of quasitoric manifolds”, the International conference “Toric Topology 2015 in Osaka”, June 16 – 19, 2015, Osaka, Japan.
- 2015 Plenary talk “Toric Topology and Combinatorics of Fullerenes”, the International Conference “Integrability in Algebra, Geometry and Physics: New Trends”, devoted to 60th birthday anniversary of Alexander Veselov, July 13 – 17, 2015, Congressi Stefano Franscini, Switzerland.
- 2015 Plenary talk “Embedding theorems for quasitoric manifolds”, the International Conference “Combinatorial and Toric Homotopy”, August 24 – 28, 2015, Singapore.

PROFESSIONAL VISITS

- 1989-1990 IIASA (International Institute for Applied Systems Analysis), Visiting Fellowship for three months, Vienna, *Austria*.
- 1990-2004 University of Manchester, talks on the Geometry Seminars. Long term visits: London Mathematical Society Visiting Lecture Grant (1991, September – October); TTT-1, Inaugural meeting and Adams Lectures (1995, June); Royal Society Joint Projects with Central/Eastern Europe and the Former Soviet Union (1997 – 1999 for two months). *United Kingdom*.
- 1991-1992 MPIM (Max Planck Institut fur Mathematik), Bonn, February – April (1991), April-July (1992), *Germany*.
- 1992 University of Vienna, Institute fur Statistic and Computer Science, Vienna, Visiting Professor, October – December, *Austria*.
- 1993-2003 University of Edinburgh, Royal Society Kapitza Fellowship, February – March (1993), EPSRC Visiting Fellowship for six months (1994 – 1996), Royal Society and EPSRC Grant, September – November (1997 – 1999), LMS Grant, September – October (2000), October – November (2001), November (2002), September (2003), *United Kingdom*.
- 1993-2004 University of Maryland at College Park, Maryland, *USA*, April – May (1993), February – March (1994 – 2002), March – April (2003), April – May (2004), *USA*.
- 1998 University of Geneva, Dept. of Econometrics, December, *Switzerland*.
- 1999 Mathematical Institute of Oberwolfach, The programme on Topology, September (1999), *Germany*.

- 2000 University of Tel-Aviv, 02 -13 January 2000, *Israel*.
- 2000-2002 Newton Institute for Mathematical Sciences, Cambridge:
The programme on *Singularity Theory*, November-December (2000),
The programme on *Integrable Systems*, November-December (2001),
The programme on *Topology*, December (2002) , *United Kingdom*.
- 2001 University of Milano-Bicocca, July 2001, *Italy*.
- 2001 Technical University of Berlin, September 2001, *Germany*.
- 2002 Max-Planck-Institut für Physik komplexer Systeme, Dresden, May 2002, *Germany*.
- 2002 The Ohio State University, March 2002, *USA*.
- 2002-2005 University of Bristol, Visiting research fellow, EPSRC Grant for nine months, *UK*.
- 2003 Mathematical Institute of Oberwolfach, The programme on *Singularity Theory*,
September, 2003, *Germany*.
- 2005 University of Barcelona, September 2005, *Spain*.
- 2006 Heilbronn Institute for Mathematical Research, Bristol, July 2006, *United Kingdom*.
- 2006 Scientific visits to Osaka, University of Osaka, May – June 2006, *Japan*.
- 2007 Scientific visits to University of Podgorica, May 2007, *Montenegro*.
- 2007- 2008 Scientific visits to Frie University, Amsterdam, 7 – 9 December 2007;
01 – 08 November 2008, *Holland*.
- 2008 Workshop: “Industrial Applications of Low Order models Based on Proper orthogonal
Decomposition (POD)” , Bordeaux, 31 March – 02 April 2008, *France*.
- 2008 Scientific visits: Leeds – Leicester – Manchester, 09 – 17 May 2008; Manchester
University, 03 – 11 July 2008 ; Loughborough, 25 – 26 November 2008, *Great Britain*.
- 2008 Scientific visits: Bordeaux 31 march – 02 April 2008; Toulouse, 13 – 16 November 2008,
France.
- 2008 Scientific visit to KAIST, Daejeon, 04 – 14 June, *South Korea*.
- 2009 Participation in International Conference “Toric Geometry”, Mathematical Research
Institute of Oberwolfach, 04 – 10 January 2009, Oberwolfach, *Germany*.
- 2009 Scientific visit to Belgrade, The Serbian Academy of Science and Arts,
Department of Mathematics, 01 – 10 May 2009, *Serbia*.
- 2009 Participation in International(jubilee) Conference “Contemporary Problems of
Mathematics”, MIAN, Moscow, June 8 – 10, 2009; POMI, Saint-Petersburg, June
11 – 12 , 2009, *Russia*.
- 2009 Scientific visits to Max-Plank-Institut für Mathematik and The Hausdorff Research
Institute for Mathematics, 14 – 19 June 2009, Bonn, *Germany*.
- 2009 Participation in Workshop “Geometric Methods in Physics”, Bialowieza, 28 June –
04 July, *Poland*.
- 2009 Participation in International conference “Convex and Discrete Geometry” , Vienna,
12 – 18 July 2009, *Austria*.
- 2009 Participation in the Transpennine Topology Triangle, Seventieth Meeting (Joint with
Moscow State University), November 02 – 03; and International conference “Toric
Topology”, Manchester, UK, November 02 – 06, 2009 (Joint Grant of Russian
Foundation for Basic Research with The Royal Society), *Great Britain*.
- 2009 Scientific visit to Loughborough, 24 – 26 November 2009, *Great Britain*.
- 2010 Technical University of Berlin, 04 – 07 February 2010, *Germany*.
- 2011 Scientific visit to the Manchester University, 21 February – 17 March, *Great Britain*.
- 2011 Scientific visit to the Columbia University, New York, 23 April – 14 May, *USA*.
- 2011 Scientific visit to the Mathematical Research Institute of Oberwolfach, August 22 –
26, *Germany*.
- 2011 Scientific visit to the Osaka University, December 01 – 10, *Japan*.

- 2012 Scientific visit to the University of Lisbon, February 22 – March 02, *Portugal*.
- 2012 Scientific visit to the University of Oldenburg, April 29 – May 09, *Germany*.
- 2012 Scientific visit to the University of Manchester, October 21 – 29, *Great Britain*.
- 2012 Scientific visit to the I.Newton Mathematical Institute, Cambridge, October 29 – November 24, *Great Britain*.
- 2013 Scientific visit to the Centre Interfacultaire, EPFL, Lausanne, October 14 – November 14, *Switzerland*.
- 2014 Scientific visit to the University of Manchester, March 10 – 19, *Great Britain*.
- 2014 Participation in the Mini-Workshop: “Okounkov Bodies and Applications”, Math. Research Institute of Oberwolfach, 25 – 31 May 2014, *Germany*.
- 2015 Participation in the Workshop: “Toric Topology in Osaka 2015”, June 01 – 27, Japan.
- 2015 Participation in the Program on Combinatorial and Toric Homotopy, August 05 – 29, 2015, Singapore.

INVITED LECTURES

- 1989-2015 Have spoken at the Universities and the Mathematical Institutes of:
- Vienna, Graz in *Austria*.
 - Berlin, Bremen, Bonn, Bohum, Dresden, Heidelberg, Oberwolfach, Oldenburg in *Germany*.
 - Tel-Aviv, Haifa in *Israel*.
 - Lyon, Paris, Grenoble, Bordeaux, Toulouse in *France*.
 - Milan in *Italy*.
 - Aberdeen, Bristol, Cambridge, Durham, Glasgow, Edinburgh, Leeds, Leicester, Liverpool, London, Loughborough, Manchester, Oxford, Sheffield, Swansea, Warwick in *United Kingdom*.
 - Geneva, Lauzanne in *Switzerland*.
 - MIT (Boston), North-Eastern Univ. (Boston), Alabama Univ. at Birmingham, Maryland Univ. at College Park, Columbia Univ. (New York), Ohio State Univ., Rutgers (New Brunswick), J.Hopkins Univ. (Baltimore), Princeton Univ. in *USA*.
 - Barcelona Mathematical Institute in *Spain*.
 - Frie University of Amsterdam in *Holland*.
 - University of Osaka in *Japan*.
 - University of Podgorica in *Montenegro*.
 - The Serbian Academy of Science and Arts, Department of Mathematics, Belgrade in *Serbia*.
 - The *Korea* Advanced Institute of Science and Technology, Daejeon in *South Korea*.
 - Fudan University, Shanghai in *China*.
 - The Group of Mathematical Physics of the University of Lisbon in *Portugal*.
 - El Colegio Nacional, Mexico in *Mexico*.
 - Tashkent Mathematical Institute; A.Navoi Samarkand University in *Uzbekistan*.
 - Institute for Mathematical Sciences, Singapore.

AREAS OF INTEREST

- Theoretical mathematics: algebraic topology; toric topology; formal group theory; multivalued group theory; functional equations; Abelian functions theory.
- Mathematical physics: integrable systems; solitons theory.
- Applied mathematics: numerical methods; mathematical modelling; physical tomography.
- Applied statistics: time-series analysis; classification theory and pattern recognition, multidimensional statistical analysis.

LIST OF THE MOST IMPORTANT SCIENTIFIC RESULTS

1. Development of K-theory on the category of infinite cell complexes; the solution of the problem of the infinite filtration elements, which is centrally important for this theory, calculation of the K-theory of Eilenberg-Mac Lane spaces (with A.S. Mishchenko). These results lay at the basis of the research of many authors in the K-theory and cobordism theory of infinite complexes and have received a number of important applications.
2. Construction of the representation spaces of $2(p-1)$ -periodic K-theories for all primes $p > 2$.
3. Calculations of the differentials in the Atiyah-Hirzebruch spectral sequence in K-theory and complex cobordism theory; obtaining the exact order in the well-known Steenrod problem of realizations of cycles by submanifolds.
4. Development of the theory of Chern-Dold characters in cobordism and of the universal Todd genus; an effective description of relations between the Chern characteristic numbers of closed stably complex manifolds and stably complex manifolds with a framing on the boundary.
5. Introduction of a new filtration in Hopf algebras and of the spectral sequence corresponding to it, becoming known as the Buchstaber spectral sequence.
6. Discovery of the close link between the Lie algebra of polynomial vector fields and the Landweber-Novikov algebra and the Novikov algebra of all cohomological operations in the theory of complex cobordisms. Application to the problem of stable homotopy groups of spheres based on the Buchstaber spectral sequence (with A.V.Shokurov).
7. Construction of universal characteristic classes of vector bundles based on the development of transfer theory for fibre bundles. Application of Pontryagin universal characteristic classes to the calculation of cobordism rings of stably symplectic and self-dual manifolds. Construction of representatives of these cobordism classes, which have come to be called Buchstaber manifolds.
8. Deduction of relations in the theory of fixed points of the action of a cyclic group on a manifold; the connection between the fundamental formulas of Atiyah- Bott and Conner-Floyd (with S.P.Novikov).
9. Development of the theory of two-valued groups and its applications (invited lecture at the 1974 ICM).
10. Development of the topological and algebraic theory of multivalued groups (with E.G.Rees); applications in topology, the theory of multivalued dynamical systems, and combinatorics.
11. Development of functional equations theory; applications in algebraic topology, the special functions theory, and the integrable systems theory. Solution of the well-known problem of Boas-Buck structures on sequences of polynomials (with A.N. Kholodov). Solution of functional equations which have come to be called Buchstaber-Perelomov, Buchstaber and Buchstaber-Krichever equations.
12. Solution of the well-known problem of relations between the signature of a manifold and the signatures of the submanifolds dual to its Pontryagin classes (with A.P. Veselov).
13. Development of the sigma-functions theory on universal spaces of Jacobian varieties of algebraic curves; the effective construction of solutions of several fundamental integrable systems (with D.V. Leykin and V.Z. Enol'skii), addition laws on Jacobian varieties (with D.V. Leykin).
14. Construction of algebraic-differential geometry of universal spaces of Jacobian varieties of algebraic curves; applications to the mathematical physics problems (with D.V. Leykin).
15. Additional theorem for hyperelliptic Jacobians (with D.V. Leykin).
16. Development of the algebraic functional theory of symmetric products of spaces; the solution of the classical problem of describing the algebraic varieties of polysymmetric polynomials, functional theory of branched coverings (with E.G. Rees).
17. Development of the deformation theory of groups of mappings into groups; the solution of S.P. Novikov's problem of multiplicative semigroups in operator doubles and the construction of the quantum group of complex cobordisms.

18. Construction of quasitoric manifolds and discovery that they are dominant objects in the complex cobordism theory (with N. Ray).
19. Development of the moment-angle complex theory as the theory of torus actions parameterized by simplicial subdivisions; a complete global description of the cohomology ring of a coordinate subspace arrangement complement (with T.E. Panov).
20. Combinatorial invariant of simple polytopes and simplicial complexes, which have come to be called Buchstaber numbers.
21. Development of Toric Topology as a new area of research with interdisciplinary links (with T.E. Panov and N. Ray).
22. Development of the 2-truncated cubes theory; applications in geometry of polytopes and toric topology (with V.Volodin).
23. Development of the mathematical fullerenes theory.
24. In applied mathematics: development of numerical optimisation methods on homogeneous spaces; in applied statistics: methods of automatic classification, the construction of efficient algorithms in pattern recognition.
25. Solution of several current problems in the tomography of inhomogeneous media and wave fields, and the metrology of complex measuring systems.
26. Development of effective methods of time series analysis, methods oriented toward the specifics of the data of physical and technical measurements.
27. Development of the theory of dynamical systems on torus associated to Josephson junction model.

THE SCIENTIFIC SCHOOL

Over 25 Buchstaber's students became PhD. Among them:

O. Mironov (1977),	N. Panov,	S. Oshanin (1978),	E. Antonovskiy (1982),
A. Peresetskii,	R. Nadiradze,	A. Shokurov,	E. Zelenyuk (1986),
M. Bakuradze (1989),	A. Kholodov,	F. Busato (1997),	I. Polterovich (1999),
T. Panov (1999),	K. Feldman (2000),	I. Izmistiev (2001),	P. Yagodovskii (2002),
N. Dobrinskaya (2003),	V. Kurlin (2003),	S. Shorina (2003),	A. Gaifullin (2008),
A. Kustarev (2010),	D. Guginin (2010),	A. Fenn (2010),	E. Bunkova (2011),
N. Erokhovets (2011),	A. Ayzenberg (2012)	V. Volodin (2013)	M. Gorsky (2014)
Yu. Ustinovsky (2014)			

From them professors are:

S. Oshanin, I. Polterovich, T. Panov, A. Gaifullin.

PUBLICATIONS

The author of more than 300 research papers and monographs in mathematics, applied mathematics, mathematical physics, and applied statistics.

See list of publications in

http://www.mathnet.ru/php/person.phtml?option_lang=eng&personid=9162