

# Curriculum Vitae

## 1 Personal Information

**Victor M. Yakovenko**

Department of Physics, University of Maryland, College Park, MD 20742-4111, USA

Associate Professor, promoted July 1, 1999

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### Education

1984 – 1987 : Landau Institute for Theoretical Physics, Moscow  
Ph. D. in theoretical physics, advisor: L. P. Gor'kov

1978 – 1984 : Moscow Physical-Technical Institute  
M. S. in physics, advisor: S. A. Brazovskii

### Employment

7/1/1999 – present : Associate Professor, Department of Physics, University of Maryland  
8/17/1993 – 6/30/1999 : Assistant Professor, Department of Physics, University of Maryland  
1991 – 1993 : Research Associate, Department of Physics and Astronomy,  
Rutgers University, advisor: E. Abrahams  
1987 – 1991 : Research Scientist, Landau Institute for Theoretical Physics, Moscow,  
department of I. E. Dzyaloshinskii

### Visiting Positions

8/1991 : Interdisciplinary Research Center in Superconductivity, Cambridge University, Britain  
4–8/1990 : Institute for Scientific Interchange, Turin, Italy  
5–7/1989 : Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France

## 2 Research, Scholarly, and Creative Activities

### 2.b Articles in Refereed Journals

The name of **V. M. Yakovenko** is printed in bold in the articles where he is the senior author.

1. S. A. Brazovskii, N. N. Kirova, and V. M. Yakovenko, “Electronic excitations in quasi-one-dimensional conductors”, *Journal de Physique Colloque C3* **44**, 1525–1530 (1983).
2. S. A. Brazovskii, N. N. Kirova, and V. M. Yakovenko, “On the possible superfluidity of bipolarons on the junction surface”, *Solid State Communications* **55**, 187–191 (1985).

3. S. A. Brazovskii and V. M. Yakovenko, “On the theory of phase transitions in organic superconductors”, *Journal de Physique Lettres* **46**, L111–L116 (1985).
4. S. A. Brazovskii and V. M. Yakovenko, “On the theory of organic superconducting materials”, *Soviet Physics-JETP* **62**, 1340–1352 (1985).
5. S. A. Brazovskii and V. M. Yakovenko, “On the theory of superconducting phase in organic conductors”, *Journal de Physique* **47**, 175–180 (1986).
6. S. A. Brazovskii and V. M. Yakovenko, “Magnetic oscillations in organic superconductors (theory)”, *JETP Letters* **43**, 134–137 (1986).
7. **V. M. Yakovenko**, “A theory of magnetic-field-induced phase transitions in quasi-one-dimensional conductors”, *Europhysics Letters* **3**, 1041–1047 (1987).
8. **V. M. Yakovenko**, “A theory of magnetic-field-induced phase transitions in quasi-one-dimensional conductors”, *Soviet Physics-JETP* **66**, 355–365 (1987).
9. I. E. Dzyaloshinskii and V. M. Yakovenko, “A weak coupling theory for  $\text{La}_2\text{CuO}_4$ ”, *Soviet Physics-JETP* **67**, 844–849 (1988).
10. I. E. Dzyaloshinskii and V. M. Yakovenko, “A weak coupling theory for  $\text{La}_2\text{CuO}_4$ :  $\ln^2$ -parquet approach”, *Journal of Molecular Electronics* **4**, 193–198 (1988).
11. I. E. Dzyaloshinskii and V. M. Yakovenko, “A weak coupling theory for  $\text{La}_2\text{CuO}_4$ :  $\ln^2$ -parquet approach”, *International Journal of Modern Physics B* **2**, 667–677 (1988).
12. S. A. Brazovskii and V. M. Yakovenko, “Possible superconductivity at the surface of a contact of insulating  $\text{La}_2\text{CuO}_4$ ”, *JETP Letters* **48**, 172–175 (1988).
13. S. A. Brazovskii and V. M. Yakovenko, “Possible superconductivity on the junction surface of dielectric  $\text{La}_2\text{CuO}_4$ ”, *Physics Letters A* **132**, 290–292 (1988).
14. S. A. Brazovskii and V. M. Yakovenko, “Possible superconductivity on the junction surface of dielectric  $\text{La}_2\text{CuO}_4$ ”, *International Journal of Modern Physics B* **2**, 1073–1077 (1988).
15. **V. M. Yakovenko**, Comment on “Extreme quantum limit in a quasi-two-dimensional organic conductor”, *Physical Review Letters* **61**, 2276 (1988).
16. G. E. Volovik, A. Soloviyov, and V. M. Yakovenko, “Spin and statistics of soliton in a superfluid  $^3\text{He-A}$  film”, *JETP Letters* **49**, 65–67 (1989).
17. G. E. Volovik and V. M. Yakovenko, “Fractional charge, spin and statistics of solitons in superfluid  $^3\text{He-A}$  film”, *Journal of Physics: Condensed Matter* **1**, 5263–5274 (1989).
18. **V. M. Yakovenko**, “Spin, statistics and charge of solitons in (2+1)-dimensional theories”, *Fizika (Zagreb)* **21**, suppl. 3, 231–233 (1989).
19. **V. M. Yakovenko**, “Quasi-one-dimensional conductors in magnetic field: Physical consequences of “non-standard” theoretical approach”, *Fizika (Zagreb)* **21**, suppl. 3, 44–47 (1989).
20. **V. M. Yakovenko**, “Chern–Simons terms and  $\mathbf{n}$ -field in Haldane’s model for quantum Hall effect without Landau levels”, *Physical Review Letters* **65**, 251–254 (1990).
21. **V. M. Yakovenko**, “Quantum Hall effect in quasi-one-dimensional conductors”, *Physical Review B* **43**, 11353–11366 (1991).
22. **V. M. Yakovenko**, “Theory of the quantum Hall effect in quasi-one-dimensional conductors”, *Synthetic Metals* **43**, 3389–3390 (1991).
23. M. V. Kartsovnik, V. N. Laukhin, S. I. Pesotskii, I. F. Schegolev, and V. M. Yakovenko, “Angu-

- lar magnetoresistance oscillations and the shape of the Fermi surface in  $\beta$ -(ET)<sub>2</sub>IBr<sub>2</sub>”, *Journal de Physique I* **2**, 89–99 (1992).
24. **V. M. Yakovenko**, “Theory of thermodynamic magnetic oscillations in quasi-one-dimensional conductors”, *Physical Review Letters* **68**, 3607–3610 (1992); Erratum **70**, 519 (1993).
  25. **V. M. Yakovenko**, “Once again about interchain hopping”, *JETP Letters* **56**, 510–513 (1992).
  26. **V. M. Yakovenko**, “Metals in a high magnetic field: A universality class of marginal Fermi liquids”, *Physical Review B* **47**, 8851–8857 (1993).
  27. **V. M. Yakovenko**, “Magnetic oscillations and crystal superstructure”, *Physical Review Letters* **70**, 2657 (1993).
  28. **V. M. Yakovenko**, “Hall conductivity of the moving FISDW”, *Journal de Physique IV, Colloque C2*, **3**, 307–310 (1993).
  29. **V. M. Yakovenko**, “Hall conductivity of a moving magnetic-field-induced spin-density-wave”, *Journal of Superconductivity* **7**, 683–685 (1994).
  30. Y. Hasegawa, K. Machida, M. Kohmoto, and V. M. Yakovenko, “Quantum Hall effect in the field-induced spin density wave states”, *Journal of Superconductivity* **7**, 757–762 (1994).
  31. K. Machida, Y. Hasegawa, M. Kohmoto, V. M. Yakovenko, Y. Hori, and K. Kishigi, “Quantized Hall conductance and its sign reversal in field-induced spin-density waves”, *Physical Review B* **50**, 921–931 (1994).
  32. A. T. Zheleznyak and **V. M. Yakovenko**, “‘Hot spots’ in quasi-one-dimensional organic conductors”, *Synthetic Metals* **70**, 1005–1008 (1995).
  33. I. I. Mazin and V. M. Yakovenko, “Neutron scattering and superconducting order parameter in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub>”, *Physical Review Letters* **75**, 4134–4137 (1995); Erratum **76**, 1984 (1996).
  34. V. M. Yakovenko and I. I. Mazin, “On the interpretation of neutron scattering in superconducting YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub>”, *Journal of Physics and Chemistry of Solids* **56**, 1777–1778 (1995).
  35. R. J. Radtke, A. I. Liechtenstein, V. M. Yakovenko, and S. Das Sarma, “Antiferromagnetic interactions and the superconducting gap function: Where are the nodes?”, *Physical Review B* **53**, 5137–5140 (1996).
  36. **V. M. Yakovenko** and H.-S. Goan, “Quantum Hall effect in quasi-one-dimensional conductors: The roles of moving FISDW, finite temperature, and edge states”, *Journal de Physique I (France)* **6**, 1917–1937 (1996). **Invited review** for the I. F. Schegolev Memorial Volume *Common Trends in Synthetic Metals and High-T<sub>c</sub> Superconductors*.
  37. A. T. Zheleznyak, V. M. Yakovenko, and I. E. Dzyaloshinskii, “Parquet solution for a flat Fermi surface”, *Physical Review B* **55**, 3200–3215 (1997).
  38. H.-S. Goan and **V. M. Yakovenko**, “Temperature evolution of the quantum Hall effect in quasi-one-dimensional organic conductors”, *Synthetic Metals* **85**, 1609–1612 (1997).
  39. G. E. Volovik and V. M. Yakovenko, “Hopf term for a two-dimensional electron gas”, *Physical Review Letters* **79**, 3791 (1997).
  40. A. T. Zheleznyak, V. M. Yakovenko, H. D. Drew, and I. I. Mazin, “Phenomenological interpretations of the ac Hall effect in the normal state of YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub>”, *Physical Review B* **57**, 3089–3098 (1998).
  41. N. Dupuis and **V. M. Yakovenko**, “Sign reversals of the quantum Hall effect and helicoidal magnetic-field-induced spin-density waves in quasi-one-dimensional organic conductors”, *Phys-*

- ical Review Letters **80**, 3618–3621 (1998).
42. **V. M. Yakovenko** and H.-S. Goan, “Edge and bulk electron states in a quasi-one-dimensional metal in a magnetic field: Semi-infinite Wannier-Stark ladder”, *Physical Review B* **58**, 8002–8008 (1998).
  43. N. Dupuis and **V. M. Yakovenko**, “Effect of umklapp scattering on the magnetic-field-induced spin-density waves in quasi-one-dimensional organic conductors”, *Physical Review B* **58**, 8773–8792 (1998).
  44. **V. M. Yakovenko** and H.-S. Goan, “The influence of magnetic-field-induced spin-density-wave motion and finite temperature on the quantum Hall effect in quasi-one-dimensional conductors: A quantum field theory”, *Physical Review B* **58**, 10648–10664 (1998).
  45. A. T. Zheleznyak, V. M. Yakovenko, and H. D. Drew, “Magnetoresistance of  $\text{YBa}_2\text{Cu}_3\text{O}_7$  in the ‘cold spots’ model”, *Physical Review B* **59**, 207–210 (1999).
  46. N. Dupuis and **V. M. Yakovenko**, “Quantum Hall effect anomaly and collective modes in the magnetic-field-induced spin-density-wave phases of quasi-one-dimensional conductors”, *Europhysics Letters* **45**, 361–367 (1999).
  47. N. Dupuis and **V. M. Yakovenko**, “Sign reversals of the quantum Hall effect and helicoidal magnetic-field-induced spin-density waves in organic conductors”, *Physica B*, **259–261**, 1013–1014 (1999).
  48. **V. M. Yakovenko** and A. T. Zheleznyak, “Temperature dependence of the normal-state Hall coefficient of a quasi-one-dimensional metal”, *Synthetic Metals* **103**, 2202–2205 (1999).
  49. **V. M. Yakovenko** and A. T. Zheleznyak, “Magnetic-field-induced Luttinger insulator state in quasi-one-dimensional conductors”, *Synthetic Metals* **103**, 2028–2029 (1999).
  50. A. T. Zheleznyak and **V. M. Yakovenko**, “Temperature dependence of resistivity in quasi-one-dimensional conductors in a strong magnetic field”, *European Physical Journal B* **11**, 385–399 (1999).
  51. A. Drăgulescu, V. M. Yakovenko, and D. J. Singh, “Theory of angular magnetoresistance oscillations in  $\text{Tl}_2\text{Ba}_2\text{CuO}_6$ ”, *Physical Review B* **60**, 6312–6315 (1999).
  52. **V. M. Yakovenko**, H.-S. Goan, J. Eom, and W. Kang, “Temperature evolution of the quantum Hall effect in the FISDW state: Theory vs. experiment”, *Journal de Physique IV (France)* **9**, Pr10-195 (1999).
  53. N. Dupuis and **V. M. Yakovenko**, “Sign reversal of the quantum Hall effect and helicoidal magnetic-field-induced spin-density waves in organic conductors”, *Journal de Physique IV (France)* **9**, Pr10-199 (1999).
  54. N. Dupuis and **V. M. Yakovenko**, “Collective modes in a system with two spin-density waves: The Ribault phase of quasi-one-dimensional organic conductors”, *Physical Review B* **61**, 12888–12908 (2000).
  55. K. Sengupta and **V. M. Yakovenko**, “Hopf invariant for long-wavelength Skyrmions in quantum Hall systems for integer and fractional fillings”, *Physical Review B* **62**, 4586–4604 (2000).
  56. A. Drăgulescu and **V. M. Yakovenko**, “Statistical mechanics of money”, *European Physical Journal B* **17**, 723–729 (2000).
  57. **V. M. Yakovenko** and A. T. Zheleznyak, “Comparison of experimental data and theoretical calculations for electrical resistivity and Hall coefficient in quasi-one-dimensional organic

- conductor  $(\text{TMTSF})_2\text{PF}_6$ ”, *Synthetic Metals* **120**, 1083–1084 (2001).
58. K. Sengupta, H.-J. Kwon, and **V. M. Yakovenko**, “Edge electron states for quasi-one-dimensional organic conductors in the magnetic-field-induced spin-density-wave phases”, *Physical Review Letters* **86**, 1094–1097 (2001).
  59. K. Sengupta, I. Žutić, H.-J. Kwon, V. M. Yakovenko, and S. Das Sarma, “Midgap edge states and pairing symmetry of quasi-one-dimensional organic superconductors”, *Physical Review B* **63**, 144531 (2001) [6 pages].
  60. A. Drăgulescu and **V. M. Yakovenko**, “Evidence for the exponential distribution of income in the USA”, *European Physical Journal B* **20**, 585–589 (2001).
  61. A. Drăgulescu and **V. M. Yakovenko**, “Exponential and power-law probability distributions of wealth and income in the United Kingdom and the United States”, *Physica A* **299**, 213–221 (2001).
  62. K. Sengupta, H.-J. Kwon, and **V. M. Yakovenko**, “Edge states and determination of pairing symmetry in superconducting  $\text{Sr}_2\text{RuO}_4$ ”, *Physical Review B* **65**, 104504 (2002) [6 pages].
  63. H.-J. Kwon and **V. M. Yakovenko**, “Spontaneous formation of a  $\pi$  soliton in a superconducting wire with an odd number of electrons”, *Physical Review Letters* **89**, 017002 (2002) [4 pages]. Also included in the *Virtual Journal of Quantum Information*, the *Virtual Journal of Nanoscale Science & Technology*, and the *Virtual Journal of Applications of Superconductivity* compiled by the American Institute of Physics.
  64. A. A. Dragulescu and **V. M. Yakovenko**, “Probability distribution of returns in the Heston model with stochastic volatility”, *Quantitative Finance* **2**, 443–453 (2002); Erratum **3**, C15 (2003).
  65. H.-J. Kwon, **V. M. Yakovenko**, and K. Sengupta, “How to detect edge electron states in  $(\text{TMTSF})_2\text{X}$  and  $\text{Sr}_2\text{RuO}_4$  experimentally”, *Synthetic Metals* **133–134**, 27–31 (2003).
  66. A. C. Silva and **V. M. Yakovenko**, “Comparison between the probability distribution of returns in the Heston model and empirical data for stock indexes”, *Physica A* **324**, 303–310 (2003).
  67. V. A. Khodel and V. M. Yakovenko, “Unconventional superconductivity in two-dimensional electron systems with long-range correlations”, *JETP Lett.* **77**, 420–423 (2003).
  68. H.-J. Kwon, K. Sengupta, and **V. M. Yakovenko**, “Fractional ac Josephson effect in  $p$ - and  $d$ -wave superconductors”, submitted to *Physical Review B*.
  69. V. A. Khodel, V. M. Yakovenko, M. V. Zverev, and H. Kang, “The hot spots and transition from  $d$ -wave to another pairing symmetry in the electron-doped cuprate superconductors”, submitted to *Physical Review Letters*.

## 2.c Monographs, Reports, and Extension Publications

1. **V. M. Yakovenko**, “Research in Econophysics”, *The Photon*, Issue 24, January-February 2003 (a review of econophysics research in the group of Victor Yakovenko, written for the online newspaper published by the Department of Physics, University of Maryland).

## 2.e Talks, Abstracts, and Other Professional Papers Presented

### 2.e.i Invited talks

#### Invited seminars and colloquia

I did not keep track of precise titles and dates of my seminars prior to coming to the University of Maryland in 1993. Thus, only years and places are indicated for the period of 1985–1992. I gave numerous seminars at various research institutes of the Soviet Academy of Sciences starting from 1985.

1. Landau Institute for Theoretical Physics, Moscow
2. Kapitza Institute for Physical Problems, Moscow
3. Lebedev Physical Institute, Moscow
4. Institute for Solid State Physics, Chernogolovka
5. Institute for Chemical Physics, Moscow
6. Ioffe Physical–Technical Institute, Leningrad
7. Institute for Nuclear Physics, Gatchina
8. Laboratoire de Physique des Solides, Orsay, France (1989)
9. Laue-Langevin Institute, Grenoble, France (1989)
10. Laboratoire de Physique des Solides, Orsay, France (1990)
11. Institute for Scientific Interchange, Turin, Italy (1990)
12. Princeton University (1991)
13. Rutgers University (1991)
14. Massachusetts Institute of Technology (1991)
15. Boston University (1991)
16. State University of New York, Buffalo, colloquium (1991)
17. Cambridge University, Britain (1991)
18. Harvard University (1992)
19. Massachusetts Institute of Technology (1992)
20. Boston University (1992)
21. Bell Laboratories, Murray Hill, New Jersey (1992)
22. State University of New York, Buffalo (1992)
23. University of Illinois, Urbana-Champaign (1992)
24. Johns Hopkins University (1992)
25. Rutgers University (1992)
26. Los Alamos National Laboratory (1992)
27. University of California, Irvine (1992)
28. University of Florida, Gainesville (1992)
29. Aspen Center for Physics, Colorado (1992)

30. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", Princeton University (January 1993)
31. "Quasi-one-dimensional conductors in high magnetic field", University of Maryland, condensed matter seminar (February 1993)
32. "Quasi-one-dimensional conductors in high magnetic field", Boston University (February 1993)
33. "Quasi-one-dimensional conductors in high magnetic field", State University of New York at Stony Brook (February 1993)
34. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", Laboratoire de Physique des Solides, Orsay, France (May 1993)
35. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", Laue-Langevin Institute, Grenoble, France (May 1993)
36. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", Service des Champs Magnetiques Intenses, Toulouse, France (May 1993)
37. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", Oxford University, Britain (June 1993)
38. "Angular magnetic oscillations in layered organic conductors", Oxford University, Britain (June 1993)
39. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", Cambridge University, Britain (June 1993)
40. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", University of British Columbia, Vancouver, Canada (July 1993)
41. "Metals in a high magnetic field: A new universality class of marginal Fermi liquids", University of Maryland, condensed matter seminar (November 1993)
42. "Parquet solution for a flat Fermi surface", Aspen Center for Physics, Colorado (August 1994)
43. "Quantum Hall effect in quasi-one-dimensional organic conductors", University of Wisconsin at Madison (August 1994)
44. "Metals in a strong magnetic field: A new universality class of marginal Fermi liquids", Argonne National Laboratory, Illinois (August 1994)
45. "Quantum Hall effect and moving density wave in quasi-one-dimensional conductors", Bell Laboratories, Murray Hill, New Jersey (May 1995)
46. "Neutron scattering and superconducting order parameter in  $\text{YBa}_2\text{Cu}_3\text{O}_7$ ", Rutgers University, New Jersey (May 1995)
47. "Quantum Hall effect and magnetic-field-induced spin-density wave in quasi-one-dimensional organic conductors", Institute for Advanced Study, Princeton, New Jersey (January 1996)
48. "Quantum Hall effect in quasi-one-dimensional conductors", Indiana University, Bloomington (October 1996)
49. "Marginal Fermi-liquid in a strong magnetic field", University of Maryland, statistical physics seminar (November 1996)
50. "Quantum Hall effect in quasi-one-dimensional conductors", National High Magnetic Field Laboratory, Tallahassee, Florida (February 1997)

51. “Quantum Hall effect in quasi-one-dimensional organic conductors”, University of Virginia, Charlottesville (September 1997)
52. “Angular magnetoresistance oscillations in layered metals: Applications to organic conductors, high- $T_c$  superconductors, and ruthenates”, Naval Research Laboratory, Washington DC (October 1997)
53. “Theory of the quantum Hall effect in quasi-one-dimensional organic conductors”, University of Chicago (January 1998)
54. “Normal-state transport in high- $T_c$  superconductors and organic metals: ‘Cold spots’ vs ‘hot spots’”, University of Maryland, condensed matter seminar (February 1998)
55. “Renormalization group for a flat Fermi surface”, University of Maryland, statistical physics seminar (April 1998)
56. “Quasi-one-dimensional conductors in strong magnetic fields”, University of Maryland, physics colloquium (September 1998)
57. “Statistical mechanics of money”, University of Maryland, condensed matter physics seminar (September 1999)
58. “Temperature evolution of the quantum Hall effect in quasi-one-dimensional conductors”, Oxford University, theoretical condensed matter seminar (September 1999)
59. “Statistical mechanics of money”, Oxford University, theoretical condensed matter seminar (September 1999)
60. “Electrons on the edge”, Rutgers University, condensed matter physics seminar (April 2000)
61. “Electrons on the edge”, NEC Research Institute, Princeton, condensed matter physics seminar (April 2000)
62. “Statistical mechanics of money”, Princeton University, condensed matter seminar (April 2000)
63. “Electrons on the edge”, University of Maryland, condensed matter physics seminar (April 2000)
64. “Electrons on the edge”, Utrecht University, The Netherlands, condensed matter physics seminar (June 2000)
65. “Electrons on the edge”, Helsinki University of Technology, Finland, condensed matter physics seminar (June 2000)
66. “Statistical mechanics of money and income”, seminar on interdisciplinary problems in chemistry and physics, University of Maryland (October 2000)
67. “Electron edge states in triplet superconductors  $(\text{TMTSF})_2\text{X}$  and  $\text{Sr}_2\text{RuO}_4$ ”, University of Geneva, Switzerland, condensed matter physics seminar (29 January 2001)
68. “Electrons on the edge”, ETH, Zurich, Switzerland, condensed matter physics seminar (30 January 2001)
69. “Electrons on the edge”, University of Fribourg, Switzerland, condensed matter physics seminar (31 January 2001)
70. “Electrons on the edge”, Laboratoire de Physique des Solides, Orsay, France, condensed matter physics seminar (1 February 2001)
71. “Statistical mechanics of money and income”, Laboratoire de Physique Theorique et Modeles Statistiques, Orsay, France, statistical physics seminar (1 February 2001)



72. “Theory of the electron edge states in the quasi-one-dimensional organic conductors of the  $(\text{TMTSF})_2\text{X}$  family”, Delft Technical University, The Netherlands, condensed matter physics seminar (5 February 2001)
73. “Electron edge states in quasi-one-dimensional organic conductors”, Massachusetts Institute of Technology, condensed matter physics seminar (20 March 2001)
74. “Electrons on the edge”, Boston College, physics colloquium (21 March 2001)
75. “Electron edge states in quasi-one-dimensional organic conductors”, Harvard University, condensed matter physics seminar (22 March 2001)
76. “Statistical mechanics of money and income”, Boston University, condensed matter physics seminar (23 March 2001)
77. “Electron edge states in quasi-one-dimensional organic conductors”, University of Chicago, condensed matter physics seminar (16 April 2001)
78. “Statistical mechanics of money, wealth, and income”, University of Maryland, “Foundations and Frontiers of Physics” seminar for graduate students (30 April 2001)
79. “Edge states and determination of pairing symmetry in superconducting  $\text{Sr}_2\text{RuO}_4$ ”, Yukawa Institute for Theoretical Physics, Kyoto University, Japan, condensed matter physics seminar (5 September 2001)
80. “Electron edge states in quasi-one-dimensional organic conductors”, Department of Physics, Kyoto University, Japan, condensed matter physics seminar (6 September 2001)
81. “Statistical mechanics of money, wealth, and income”, University of Maryland, Mathematics Department, statistics seminar (20 September 2001)
82. “Andreev edge states and determination of pairing symmetry in superconducting  $\text{Sr}_2\text{RuO}_4$ ”, Department of Physics, Pennsylvania State University, University Park, condensed matter physics seminar (25 September 2001)
83. “Statistical mechanics of money, wealth, and income”, Santa Fe Institute, SFI seminar (17 October 2001)
84. “Statistical mechanics of money, income and wealth”, University of Maryland, physics colloquium (29 January 2002)
85. “Quantum computation with ultimate nano-SQUIDS”, Laboratory for Physical Sciences of the University of Maryland, quantum computing seminar (21 May 2002)
86. “Andreev bound states in superconductors: Fractional Josephson effect and spontaneous soliton formation”, University of California at Santa Barbara, condensed matter theory seminar (7 November 2002)
87. “Fractional ac Josephson effect in  $p$ - and  $d$ -wave superconductors”, University of Southern California, condensed matter physics seminar (15 November 2002)
88. “Andreev bound states in superconductors: Fractional Josephson effect and spontaneous soliton formation”, University of California at Santa Barbara, condensed matter/applied physics seminar (21 November 2002)
89. “Andreev bound states in superconductors: Fractional Josephson effect and spontaneous soliton formation”, University of California at Los Angeles, condensed matter physics seminar (4 December 2002)
90. “Statistical mechanics of money, income and wealth”, Applied Physics Laboratory of the Johns

Hopkins University, colloquium (10 January 2003)

91. “Andreev bound states in superconductors: Spontaneous soliton formation and fractional Josephson effect”, University of Maryland, condensed matter physics seminar (27 February 2003)
92. “Andreev bound states in superconductors: Spontaneous soliton formation and fractional Josephson effect”, Johns Hopkins University, condensed matter physics seminar (19 March 2003)
93. “Andreev bound states in superconductors: Spontaneous soliton formation and fractional Josephson effect”, State University of New York at Stony Brook, solid state seminar (28 March 2003)
94. “Andreev bound states in superconductors: Spontaneous soliton formation and fractional Josephson effect”, Massachusetts Institute of Technology, condensed matter physics seminar (10 June 2003)
95. “Andreev bound states in superconductors: Spontaneous soliton formation and fractional Josephson effect”, Harvard University, condensed matter physics seminar (10 June 2003)

#### Invited talks at conferences

1. “Quasi-one-dimensional conductors in magnetic field: Physical consequences of ‘non-standard’ theoretical approach”, *Third European Conference on Low Dimensional Conductors and Superconductors*, Dubrovnik, Croatia (September 1989)
2. “Theory of the quantum Hall effect in quasi-one-dimensional conductors”, *Gordon Research Conference on Organic Superconductors*, Irsee, Germany (September 1991)
3. “Hall conductivity of the moving magnetic-field-induced spin-density wave”, *International Workshop on Electronic Crystals*, Carry-le-Rouet, France (June 1993)
4. “Quantum Hall effect in quasi-one-dimensional organic conductors”, *Workshop on the Quantum Hall Effect*, Turin, Italy (June 1994)
5. “Parquet approach to abnormal Fermi liquids”, two lectures, *Workshop on Strong Correlations and Quantum Critical Phenomena*, Trieste, Italy (June 1994)
6. “Are there any ‘hot spots’ in quasi-one-dimensional metals?”, *International Conference on Synthetic Metals*, Seoul, Korea (July 1994)
7. “Are there any ‘hot spots’ in quasi-one-dimensional metals?”, *International Symposium on Molecular Conductors*, Tokyo, Japan (August 1994)
8. “Magnetic-field-induced Luttinger liquid in quasi-one-dimensional organic conductors”, *Correlated Fermions and Transport in Mesoscopic Systems*, Les Arcs, France (January 1996)
9. “Quantum Hall effect in the Bechgaard salts”, *Electronic and Structural Properties of Low-Dimensional Conductors*, Sherbrooke, Canada (May 1996)
10. “Temperature dependence of the umklapp resistivity of a quasi-one-dimensional metal in a strong magnetic field”, *International Conference on Synthetic Metals*, Montpellier, France (July 1998)
11. “Integer quantum Hall effect in quasi-1D organics”. *Disorder and Interactions in Quantum Hall and Mesoscopic Systems*, Institute for Theoretical Physics, Santa Barbara, California (August 1998)

12. "Temperature evolution of the quantum Hall effect in the FISDW state: Theory vs Experiment", *International Workshop on Electronic Crystals — ECRYS-99*, La Colle sur Loup, France (June 1999).
13. "Fermiology in cuprates", *XI Workshop on Strongly Correlated Electron Systems*, Abdus Salam International Center for Theoretical Physics, Trieste, Italy (July 1999)
14. "Theory of the edge electron states in the FISDW and superconducting states of  $(\text{TMTSF})_2\text{X}$ ", *Third International Symposium on Crystalline Organic Metals, Superconductors, and Ferromagnets*, Oxford, England (September 1999)
15. "Coherence of electron tunneling between one-dimensional Luttinger liquids", *Conference on Mechanisms of Decoherence*, Spinoza Institute, Utrecht University, The Netherlands (June 2000)
16. "Electrons on the edge", *International Conference on Mesoscopic and Strongly Correlated Electron Systems*, Chernogolovka, Russia (July 2000)
17. "Overview of transport models in cuprates", *XII Workshop on Strongly Correlated Electron Systems*, Abdus Salam International Center for Theoretical Physics, Trieste, Italy (July 2000)
18. "Electron edge states in quasi-1D and quasi-2D systems", *XII Workshop on Strongly Correlated Electron Systems*, Abdus Salam International Center for Theoretical Physics, Trieste, Italy (July 2000)
19. "Statistical mechanics of money", *Packard Fellows Meeting*, Monterey, California (September 2000)
20. "Electron edge states in quasi-one-dimensional conductors", *Summer School on Low-Dimensional Quantum Systems: Theory and Experiment*, Abdus Salam International Center for Theoretical Physics, Trieste, Italy (23 July 2001)
21. "Theory of electron edge states in and determination of pairing symmetry in superconducting  $(\text{TMTTF})_2\text{X}$  and and determination of pairing symmetry in superconducting  $(\text{TMTSF})_2\text{X}$ ", *4th International Symposium on Crystalline Organic Metals, Superconductors, and Ferromagnets (ISCOM-2001)*, Rusutsu, Hokkaido, Japan (12 September 2001)
22. "The quantum Hall effect in quasi-one-dimensional organic conductors", *Conference on Physical Phenomena in High Magnetic Fields-IV (PPHMF-IV)*, Santa Fe (25 October 2001)
23. "Statistical mechanics of money, wealth, and income", *Horizons in Complex Systems*, Messina, Italy (8 December 2001)
24. "Theoretical overview of transport in cuprates", *Workshop on Emergent Materials and Highly Correlated Electrons*, Abdus Salam International Center for Theoretical Physics, Trieste, Italy (14 August 2002)
25. "Probability distribution of returns for a model with stochastic volatility", *International Economics Conference*, Bali, Indonesia (31 August 2002)
26. "Hot and cold spots of the electron relaxation time in Q1D organic conductors and in curates", *Realistic Theories of Correlated Electron Materials*, Kavli Institute for Theoretical Physics, University of California at Santa Barbara (19 November 2002)
27. "Spontaneous formation of a  $\pi$  soliton in a superconducting wire with an odd number of electrons", *March Meeting of the American Physical Society*, Austin (5 March 2003)

## 2.e.ii Refereed conference proceedings

1. **V. M. Yakovenko** and H.-S. Goan, “What happens to the quantum Hall effect when magnetic-field-induced spin-density wave moves”, *Proceedings of the Physical Phenomena at High Magnetic Fields – II Conference*, World Scientific Publishing Co., pp. 116–121 (1996).
2. A. Drăgulescu, V. M. Yakovenko, and D. J. Singh, “Angular oscillations of the  $c$ -axis magnetoresistance in  $Tl_2Ba_2CuO_6$ ”, *Proceedings of the Physical Phenomena at High Magnetic Fields – III Conference*, World Scientific Publishing Co., pp. 365–368 (1999).
3. A. A. Dragulescu and **V. M. Yakovenko**, “Statistical mechanics of money, income, and wealth: A short survey”, *Modeling of Complex Systems: Seventh Granada Lectures*, AIP Conference Proceedings **661**, pp. 180–183 (2003).

## 2.e.iv Contributed talks and posters at conferences

1. “A weak coupling theory for  $La_2CuO_4$ :  $\ln^2$ -parquet approach”, *Electronics of Organic Materials*, Tashkent, USSR (1987), talk
2. “A weak coupling theory for  $La_2CuO_4$ :  $\ln^2$ -parquet approach” and “Possible superconductivity on the junction surface of dielectric  $La_2CuO_4$ ”, *Toward Theoretical Understanding of High- $T_c$  Superconductivity*, Trieste, Italy (1988), talk
3. “A weak coupling theory for  $La_2CuO_4$  :  $\ln^2$ -parquet approach”, *US-SU Symposium in Physics*, Tbilisi, USSR (1988), talk
4. “Spin, statistics and charge of solitons in (2+1)-dimensional theories”, *NORDITA–USSR Workshop in Physics*, Zvenigorod, USSR (1989), talk
5. “Spin, statistics and charge of solitons in (2+1)-dimensional theories”, *NATO School on Strongly Correlated Electron Systems*, Cargese, France (1990), talk
6. “Theory of the quantum Hall effect in quasi-one-dimensional conductors”, *International Conference on Synthetic Metals*, Tubingen, Germany (1990), poster
7. “Hall conductivity of the moving magnetic-field-induced spin-density wave”, *Gordon Research Conference on Organic Superconductors*, Il Ciocco, Italy, (May 1993), talk
8. “Hall conductivity of the moving magnetic-field-induced spin-density wave”, *Physics and Chemistry of Molecular and Oxide Superconductors*, Eugene, Oregon (July 1993), poster
9. “‘Hot spots’ in quasi-one-dimensional organic conductors”, March Meeting of the American Physical Society, Pittsburgh, Pennsylvania (1994), talk
10. “On the interpretation of neutron scattering in superconducting  $YBa_2Cu_3O_7$ ”, *Stanford Conference on Spectroscopies in Novel Superconductors* (March 1995), poster
11. “Magnetic-field-induced Luttinger liquid in quasi-one-dimensional conductors”, *Workshop on Non-Fermi Liquid in one dimension*, University of California at Los Angeles (March 1995), talk
12. “Hall conductivity of the moving magnetic-field-induced spin-density wave”, *Physical Phenomena at High Magnetic Fields – II*, National High Magnetic Field Laboratory, Tallahassee, Florida (May 1995), poster
13. “Metals in a strong magnetic field: A new universality class of marginal Fermi liquids”, *Modern Trends in Theoretical Physics*, Landau Institute, Moscow, Russia (June 1995), talk

14. “Magnetic-field-induced Luttinger liquid in quasi-one-dimensional conductors: Temperature dependence of impurity scattering”, *Workshop on Strongly Interacting Electronic Materials*, Princeton University (November 1995), poster
15. “Magnetic-field-induced Luttinger liquid in quasi-one-dimensional organic conductors”, *Non-Fermi-Liquid Physics*, Institute for Theoretical Physics, Santa Barbara, California (June 1996), talk
16. “Magnetic-field-induced Luttinger liquid in quasi-one-dimensional organic conductors”, NATO Advanced Study Institute on *Mesoscopic Electron Transport*, Curaçao (June/July 1996), poster
17. “Recent developments in the theory of the quantum Hall effect in quasi-one-dimensional organic conductors  $(\text{TMTSF})_2\text{X}$ ”, *International Conference on Synthetic Metals*, Snowbird, Utah (July/August 1996), talk
18. “Angular oscillations of magnetoresistance in layered metals: A tool for measuring the inter-plane coherence and the intraplane Fermi surface”, *Spectroscopies in Novel Superconductors*, Cape Cod, Massachusetts (September 1997), talk
19. “Temperature dependence of the Hall resistivity in the metallic state of  $(\text{TMTSF})_2\text{X}$ ”, “Edge electron states in a Q1D metal in a magnetic field”, and “Helicoidal FISDWs in  $(\text{TMTSF})_2\text{X}$ ”, *International Conference on Synthetic Metals*, Montpellier, France (July 1998), posters
20. “Parquet solution for a flat Fermi surface”, *Statistical Physics 20*, Paris, France (July 1998), talk
21. “Coherence of tunneling between Luttinger liquids” and “Parquet solution for a flat Fermi surface”, *X Trieste Workshop on Open Problems in Strongly Correlated Electron Systems*, Italy (July 1998), talks
22. “Temperature dependence of the Hall resistivity in the metallic state of  $(\text{TMTSF})_2\text{X}$ ”, “Edge electron states in a Q1D metal in a magnetic field”, “Helicoidal FISDWs and sign reversals of the quantum Hall effect in  $(\text{TMTSF})_2\text{X}$ ”, “Temperature dependence of the umklapp resistivity of a Q1D metal in a strong magnetic field”, “Theory of angular magnetoresistance oscillations in  $\text{Tl}_2\text{Ba}_2\text{CuO}_6$ ”, and “Magnetoresistance and the ac Hall effect in the ‘cold spots’ model of the normal-state transport in  $\text{YBa}_2\text{Cu}_3\text{O}_7$ ” *Physical Phenomena at High Magnetic Fields – III*, National High Magnetic Field Laboratory, Tallahassee, Florida (October 1998), posters
23. “Gibbs distribution of money: A computer simulation”, *Europhysics Conference on Applications of Physics in Financial Analysis*, Dublin, Ireland (July 1999), poster
24. “Coherence of tunneling between one-dimensional Luttinger liquids”, *Electron Transport in Mesoscopic Systems*, Göteborg, Sweden (August 1999), poster
25. “Theory of electron edge states in the triplet quasi-one-dimensional organic superconductor  $(\text{TMTSF})_2\text{PF}_6$  (and inorganic  $\text{Sr}_2\text{RuO}_4$ )”, *Gordon Research Conference on Superconductivity*, Ventura, California (February 2000), poster
26. “Statistical mechanics of money”, *Europhysics conference on Applications of Physics in Financial Analysis*, Liège, Belgium (July 2000), poster
27. “Edge electron states in Q1D systems: theory”, *International Conference on Synthetic Metals*, Bad Gastein, Austria (July 2000), talk
28. “Electrons on edge”, *Electronic Correlations: From Meso- to Nano-Physics*, Les Arcs, France (21 January 2001), talk
29. “Statistical mechanics of money and income”, *NATO Advanced Research Workshop on Appli-*

- cation of Physics in Economic Modeling*, Prague, Czech Republic (10 February 2001), talk
30. “Exponential and power-law scaling in the income distribution”, *Scaling Concepts and Complex Systems*, Merida, Mexico (12 July 2001), talk
  31. “Statistical mechanics of money and income”, *21st International Conference on Statistical Physics*, Cancun, Mexico (19 July 2001), poster
  32. “Andreev edge states and determination of pairing symmetry in superconducting  $\text{Sr}_2\text{RuO}_4$ ”, *Workshop on Excitations in Unconventionally Ordered Metals*, Santa Fe (27 October 2001), talk
  33. “How to detect edge midgap states in superconducting  $(\text{TMTSF})_2\text{X}$  experimentally”, *March Meeting of the American Physical Society*, Indianapolis (19 March 2002), talk
  34. “Probability distribution of returns in a model with stochastic volatility”, *Workshop on Economics with Heterogeneous Interacting Agents (WEHIA 2002)*, Abdus Salam International Center for Theoretical Physics, Trieste, Italy (31 May 2002), talk
  35. “Exponential and power-law probability distributions of wealth and income in the United Kingdom and the United States”, *Computing in Economics and Finance*, Aix-en-Provence, France (29 June 2002), talk
  36. “Probability distribution of returns in the Heston model with stochastic volatility”, *Computing in Economics and Finance*, Aix-en-Provence, France (29 June 2002), talk
  37. “Spontaneous formation of a  $\pi$  soliton in a superconducting wire with an odd number of electrons”, *International Workshop on Electronic crystals (ECRYS-2002)*, St. Flour, France (3 September 2003), talk
  38. “Statistical mechanics of money, income, and wealth”, *7th Granada Seminar on Computational and Statistical Physics*, Granada, Spain (7 September 2002), talk
  39. “Andreev bound states in superconductors: Spontaneous soliton formation and fractional Josephson effect”, *4th International Conference on New Theories, Discoveries, and Applications of Superconductors and Related Materials (New<sup>3</sup>SC-4)*, San Diego (17 January 2003), talk
  40. “Fractional ac Josephson effect in  $p$ - and  $d$ -wave superconductors”, *March Meeting of the American Physical Society*, Austin (4 March 2003), talk
  41. “Fractional ac Josephson effect in  $p$ - and  $d$ -wave superconductors”, *International Workshop on Unconventional Superconductors*, State University of Campinas, Brazil (21 May 2003), talk
  42. “Fractional ac Josephson effect in  $p$ - and  $d$ -wave superconductors”, *7th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors*, Rio de Janeiro, Brazil (26 May 2003), poster

## 2.i Contracts and Grants

Role Principal Investigator  
Project Title Theory of Quasi-One-Dimensional Organic Conductors  
Source of Support National Science Foundation, DMR-0137726  
Total Award Amount \$275,000  
Total Award Period June 15, 2002 – May 31, 2005

Role Principal Investigator  
Project Title Organic Conductors in High Magnetic Fields: A Theoretical Study  
Source of Support National Science Foundation, DMR-9815094  
Total Award Amount \$203,000  
Total Award Period January 1, 1999 – January 31, 2002

Role Principal Investigator  
Project Title Organic Conductors in High Magnetic Fields: A Theoretical Study  
Source of Support National Science Foundation, DMR-9417451  
Total Award Amount \$143,000  
Total Award Period January 1, 1995 – December 31, 1998

## 2.j Fellowships, Prizes, and Awards

Since 1998 : Listed in *Who is Who in Science and Engineering*  
Since 1996 : Associated Member of the Landau Institute for Theoretical Physics, Moscow  
Since 1995 : Listed in *American Men and Women of Science*  
1995–2001 : David and Lucile Packard Fellowship in Science and Engineering  
Total award amount: \$550,000  
1994–1996 : Alfred P. Sloan Research Fellowship  
Total award amount: \$30,000  
1990 : Soviet Youth League Prize in Physics

## 2.k Editorships, Editorial Boards, and Reviewing Activities for Journals and Other Learned Publications

Refereed more than 93 articles for the following journals: *Nature*, *Physical Review Letters*, *Physical Review B*, *Europhysics Letters*, *European Physical Journal B*, *Journal de Physique*, *Soviet Physics-JETP*, *Physica A*, *Physica B*, *Journal of Physics A*, *Synthetic Metals*, *Journal of Economic Dynamics and Control*, *International Journal of Theoretical and Applied Finance*, and *Quantitative Finance*.

## 2.l Other

Professional Associations: member of the American Physical Society, Division of Condensed Matter Physics

## 3 Teaching and Advising

### 3.a Courses taught in the last five years

#### 3.a.i General

2003 Fall	: Phys142 “Principles of Physics”,	4 credits,	22 student
2003 Spring	: Phys420 “Principles of Modern Physics”,	3 credits,	21 student
2002 Spring	: Phys625 “Nonrelativistic Quantum Mechanics”,	3 credits,	13 student
2000 Fall	: Phys832 “Theory of Solids I”,	3 credits,	13 student
2000 Spring	: Phys625 “Nonrelativistic Quantum Mechanics”,	3 credits,	10 student
1999 Spring	: Phys623 “Introduction to Quantum Mechanics II”,	3 credits,	31 student
1998 Fall	: Phys622 “Introduction to Quantum Mechanics I”,	4 credits,	50 students
1998 Spring	: Phys623 “Introduction to Quantum Mechanics II”,	3 credits,	20 students
1997 Fall	: Phys622 “Introduction to Quantum Mechanics I”,	4 credits,	16 students
1997 Spring	: Phys623 “Introduction to Quantum Mechanics II”,	3 credits,	25 students
1996 Fall	: Phys623 “Introduction to Quantum Mechanics II”,	3 credits,	14 students
1996 Spring	: Phys622 “Introduction to Quantum Mechanics I”,	4 credits,	13 students
1995 Fall	: Phys623 “Introduction to Quantum Mechanics II”,	3 credits,	10 students
1994 Spring	: Phys832 “Theory of Solids I”,	3 credits,	7 students

#### 3.a.ii Specialized

2001 Spring	: Phys739 “Seminar in Theoretical Solid State Physics”,	1 credit,	5 students
2000 Fall	: Phys739 “Seminar in Theoretical Solid State Physics”,	1 credit,	3 students
2000 Spring	: Phys739 “Seminar in Theoretical Solid State Physics”,	1 credit,	5 students
1999 Fall	: Phys739 “Seminar in Theoretical Solid State Physics”,	1 credit,	5 students
1999 Spring	: Phys739 “Seminar in Theoretical Solid State Physics”,	1 credit,	4 students
1998 Fall	: Phys739 “Seminar in Theoretical Solid State Physics”,	1 credit,	4 students

#### 3.a.iv Independent Study, Tutorial, Internship Supervision

1996 Summer : Phys798 “Special Problems in Advanced Physics”, 1 student

### 3.c Manuals, Notes, Software, Webpages, and Other Contributions to Teaching

Created and progressively updated a Web site for the Phys622/3 course “Introduction to Quantum Mechanics” at <http://www2.physics.umd.edu/~yakovenk/teaching/>. The main part of the site is a carefully selected set of qualifier-level problems in graduate quantum mechanics, which I compiled and typeset in L<sup>A</sup>T<sub>E</sub>X for online availability. The problems are grouped by topics into sets of homework assignments, which guide a student through the course and prepare for qualifying examination. My online materials are also utilized by other professors who teach this course.

### 3.e Advising: Other Than Research Direction

#### 3.e.i Undergraduate

1997–1999	: Ekaterina Leistner, B.S. 5/1999
2000–2001	: Joshua Warfield
1998–present	: Alexey Toptygin



2001–present : Brian Ross

### **3.f Advising: Research Direction**

#### **3.f.iii Doctoral**

- 1993–1997 : Anatoley T. Zheleznyak, Ph. D. 1997  
Thesis: “Theoretical Studies of Phase Transitions and Transport Properties in High- $T_c$  Superconductors and Quasi-One-Dimensional Organic Metals”  
Staff Scientist at the System Planning Inc., Northern Virginia
- 1994–1999 : Hsi-Sheng Goan, Ph. D. 1999  
Thesis: “Theoretical Studies in Quasi-One-Dimensional Conductors”  
Research Associate at the Centre for Quantum Computer Technology,  
University of Queensland, Australia
- 1996–2001 : Krishnendu Sengupta, Ph. D. 2001  
Thesis: “Electronic Properties of Low-Dimensional Systems with Broken Symmetries: A Theoretical Study”  
Research Associate at the Department of Physics, Yale University
- 1997–2002 : Adrian Drăgulescu, Ph. D. 2002  
Thesis: “Applications of Physics to Economics and Finance: Money, Income, Wealth, and the Stock Market”  
Risk Analyst at Constellation Energy Group, Baltimore
- 2002–present : A. Christian Silva
- 6–11/2003 : Haeyong Kang, a visiting student from Ewha Womans University, Seoul, South Korea

#### **3.f.iv Postdoctoral**

- 1996–1998 : Nicolas Dupuis (Staff Scientist at Laboratoire de Physique des Solides, Orsay, France)
- 1999–2003 : Hyok-Jon Kwon (student at the Anderson School of Management, UCLA)
- 2000–2001 : Andrei Lopatin (Research Associate at the Argonne National Laboratory)

## **4 Service**

### **4.a Professional**

#### **4.a.i Offices and committee memberships held in professional organizations**

Member of the organizing committee for the International Workshop on Electronic Crystals (ECRYS-2002), France (2002)

#### **4.a.ii Reviewing activities for agencies**

- 43 proposals for the National Science Foundation
- 3 proposals for the American Chemical Society
- 1 proposal for the Science-Centers-in-the-Former-Soviet-Union program of the U.S. Department of State (2001)
- Evaluator for the Latsis Prize given to junior scientists of ETH, Zurich, Switzerland (2001)
- Evaluator for a research promotion at the University of Queensland, Australia (2001)

#### **4.a.iv Other non-University committees, commissions, panels, etc.**

Sorted abstracts for a March Meeting of the American Physical Society (1993)

#### **4.a.v International activities not listed above**

Served as an external member of the Ph. D. dissertation committees of Guennadi Chitov, University of Sherbrooke, Canada (1998) and Perez Moses, University of New South Wales, Australia (2001)

### **4.b University**

#### **4.b.i Departmental**

- Served on Physics Council (1995–1997, 1998–1999)
- Served on Physics Library Committee (2000–present)
- Served on Faculty Salary Advisory Committee (2002–2004)
- Served on the Qualifying Examination Committee: contributed, reviewed, and graded problems, as well as proctored at qualifying examinations (1993, 1996–present)
- Served on 15 Ph. D. dissertation committees and 2 oral qualifying examinations
- Reviewed applications for graduate admission from Eastern Europe (1993–present)
- Participated in the open house for perspective graduate students (1994–present)
- Coordinated the condensed matter physics seminar and maintained its Web page <http://www2.physics.umd.edu/~yakovenk/seminar/> (1998–2001)

#### **4.b.ii College**

Served on the CMPS library committee (2000–present)

#### **4.b.iii University**

- Served on the campus committee to select nominations for the David and Lucile Packard Fellowship in Science and Engineering (1998–present)
- Served as Dean’s Representative at Ph. D. dissertation committees at the Department of Computer Science and the School of Music

### **4.c Community, State, National**

- Answered questions of high-school students at Physics Olympics organized by the Department of Physics (1998)
- Maintained a Web page of Russian-language cultural events in the Washington, DC area <http://www.RussianDC.com/event.asp?lang=en> (1997–2003)