CURRICULUM VITAE

Leonid Hanin

Department of Mathematics and Statistics, Idaho State University,
921 S. 8th Avenue, Stop 8085, Pocatello, ID 83209-8085, USA
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ACADEMIC DEGREES:

June 1985 - Ph.D. in Mathematics (Function Theory and Functional Analysis), Steklov Mathematical Institute, St.Petersburg, Russia.

July 1978 - M.S. in Mathematics and **M.S. in Mathematics Education**, Faculty of Mathematics and Mechanics, St.Petersburg State University, Russia.

AREAS OF CURRENT RESEARCH:

- Mathematical oncology
- Mathematical models in radiation biology
- Optimization of cancer radiotherapy
- Optimal schedules of cancer screening
- Probability, stochastic processes and statistics
- Identifiability of stochastic models
- Replicability and reproducibility of scientific findings
- Statistical analysis of clinical trials
- Stochastic models in genomics
- Synergy theories
- Mathematical models in molecular biology and biochemistry
- Mathematical methods in heat transfer engineering

AWARDS:

2001: The Distinguished Researcher of the Year Award, Idaho State University

POSITIONS HELD:

1. **Idaho State University, Department of Mathematics and Statistics, Pocatello, ID**
   - **August 2005 - present:** Professor (emeritus since August 2023)
   - **August 1999 - July 2005:** Associate Professor (tenure-track, tenured since 2002)
   - **August 1997 - July 1999:** Assistant Professor (tenure-track)

2. **Peter the Great St. Petersburg Polytechnic University, Institute of Applied Mathematics and Mechanics, Department of Applied Mathematics, St. Petersburg, Russia**
   - **June - December 2016 and December 2017 - June 2018:** Visiting Professor

3. **Georgia Institute of Technology, Department of Biomedical Engineering, Center for Bioinformatics and Computational Genomics, Atlanta, GA**
   - **August 2011 - June 2012:** Visiting Research Professor

4. **University of Rochester Medical Center, Department of Biostatistics and Computational Biology, Rochester, NY**
   - **August 2003 - July 2004:** Visiting Associate Professor

5. **University of Utah, Huntsman Cancer Institute, Division of Biostatistics, Salt Lake City, UT**
   - **June - August 2001:** Visiting Scientist

6. **Wayne State University, Department of Mathematics, Detroit, MI**
   - **August 1995 - May 1997:** Visiting Associate Professor

7. **Michigan Technological University, Department of Mathematical Sciences, Houghton, MI**
   - **August 1994 - May 1995:** Visiting Associate Professor

8. **Technion - Israel Institute of Technology, Faculty of Mathematics, Haifa, Israel**
   - **May 1993 - August 1994:** Research Fellow and Adjunct Associate Professor
   - **October 1992 - April 1993:** Research Fellow and Adjunct Assistant Professor
   - **October 1991 - September 1992:** Research Fellow

9. **Institute of Railroad Engineering, Department of Mathematics, Leningrad, Russia**
   - **October 1985 - December 1990**: Assistant Professor and Senior Research Fellow
   - **September 1989 - May 1991**: Senior Specialist in Teaching Methods

COURSES TAUGHT AT IDAHO STATE UNIVERSITY (1997-2023)*

* If the course title or number has changed since the last course delivery their current version is used. All courses at the 5000-7000 level are graduate courses.

1. MATH 1108 Intermediate Algebra
2. MATH 1123 Mathematics in Modern Society
3. MATH 1130 Finite Mathematics
4. MATH 1143 College Algebra
5. MATH 1144 Trigonometry
6. MATH 1147 College Algebra and Trigonometry
7. MATH 1153 Statistical Reasoning
8. MATH 1170 Calculus I
9. MATH 1187 Applied Discrete Structures
10. MATH 1175 Calculus II
11. MATH 2240 Linear Algebra
12. MATH 2275 Calculus III
13. MATH 2287 Foundations of Mathematics
14. MATH 3326 Elementary Analysis
15. MATH 3352/5552 Introduction to Probability
16. MATH 3360 Ordinary Differential Equations
17. MATH 3399 Differential Equations and Laws of Nature (Honors course)
18. MATH 4421/5521-4422/5522 Advanced Engineering Mathematics
19. MATH 4441-4442 Introductory Numerical Analysis
20. MATH 4491 Mathematical Methods in Radiation Risk Assessment
21. MATH 4499/5599 Mathematical Methods in Radiation Biology
22. MATH 4450/5550-4451/5551 Mathematical Statistics
23. MATH 6625-6626 Real Analysis
24. MATH 6627-6628 Complex Analysis
25. MATH 6652 Stochastic Processes
26. MATH 6667-6668 Functional Analysis
27. MATH 6692 DA Seminar
28. MATH 6694 Advanced Probability
29. MATH 6650/7750 DA Thesis
30. MATH 7770 Supervised Teaching Internship

LIST OF PUBLICATIONS

BOOKS

1. **Leonid Hanin**, *Modeling Cancer Progression and the Effects of Treatment. Mathematical, Statistical and Computational Methodologies with Clinical Perspectives.* Series in Mathematics and Life Sciences, v. 15. De Gruyter, Berlin, 2026.

2. *Handbook of Cancer Models with Applications* (Wai-Yuan Tan and **L.G. Hanin**, Editors), Series in Mathematical Biology and Medicine, v. 9, World Scientific, Singapore, 2008.

3. **L.G. Hanin**, L.V. Pavlova and A.Y. Yakovlev, *Biomathematical Problems in Optimization of Cancer Radiotherapy*, CRC Press, Boca Raton, FL, 1994.

PAPERS IN REFEREED JOURNALS AND BOOK CHAPTERS

105. **L. Hanin** and L. Pavlova (2023), A Rényi-type limit theorem on random sums and the accuracy of likelihood-based classification of random sequences with application to genomics, **Mathematics** (journal of MDPI family, Basel, Switzerland), v. 11, No. 20, article 4254.

104. R.K. Sachs, E.G. Huang and **L.G. Hanin** (2023), Mathematical aspects of a new synergy theory applicable to malstressor-dominated mixtures which include damage-ameliorating counter-measures, **Radiation Research**, v. 200, No. 3, pp. 232-241.

103. **L. Hanin**, L. Xie and R. Sachs (2023), Mathematical properties of Hand Incremental Effect Additivity and other synergy theories, **Mathematical Methods in the Applied Sciences**, v. 46, No. 14, pp. 15426-15457.

102. **L. G. Hanin** (2023), The circulation stage of the metastatic cascade: A mathematical description and its clinical implications, **Journal of Theoretical Biology**, v. 572, article 111582.

101. **L. G. Hanin** and C. Monoran (2022), Exact one-dimensional temperature distribution for a new family of radial fins without the "length-of-arc" approximation, **Journal of Engineering Mathematics**, v. 132, article 2.

100. A. Chvetsov, **L. Hanin**, R. Stewart, J. Zeng, R. Rengan and S. Lo (2021), Tumor control probability in hypofractionated radiotherapy as a function of total and hypoxic tumor volumes, **Physics in Medicine and Biology**, v. 66, No. 12, article 125010.

99. **L. Hanin** (2021), Cavalier use of inferential statistics is a major source of false and irreproducible scientific findings, **Mathematics** (journal of MDPI family, Basel, Switzerland), v. 9, No. 6, article 603.

98. V. Glazunov , M. Chuvatov, L. Kurochkin, M. Kurochkin, A. Chernyshev and **L. Hanin** (2021), Application of the hybrid model to numerical modeling of the urban

transport network topology. In: N. Voinov, T. Schreck and S. Khan (editors), *Proceedings of International Scientific Conference on Telecommunications, Computing and Control.* Smart Innovation, Systems and Technologies, v. 220, Springer, Singapore, pp. 185-194.

97. **L. Hanin** (2020), A tour of discrete probability guided by a problem in genomics, **The College Mathematics Journal**, v. 51, No. 4, pp. 284-294.

96. **L. Hanin** (2020), Estimation of population prevalence of COVID-19 using imperfect tests, **Mathematics** (journal of MDPI family, Basel, Switzerland), v. 8, No. 11, article 1900.

95. **L. Hanin** (2020), Paradoxical effects of tumor shrinkage on long-term survival of cancer patients, **Frontiers in Applied Mathematics and Statistics - Systems Biology**, v. 6, article 27.

94. **L.G. Hanin** (2020), Principles of mathematical modeling in biomedical sciences: An unwritten gospel of Andrei Yakovlev, in: *Statistical Modeling for Biological Systems: In Memory of Andrei Yakovlev* (Anthony Almudevar, David Oakes and Jack Hall, Editors), Springer Nature, pp. 321-331.

93. **L. G. Hanin** and D.E. Brown (2019), Heat transfer by new families of straight and pin fins: exact solutions, **Journal of Engineering Mathematics**, v. 119, No. 1, pp. 93-114.

92. **L. Hanin**, B. Jandrig, L. Pavlova and K. Seidel (2019), The natural history of renal cell carcinoma with pulmonary metastases illuminated through mathematical modeling, **Mathematical Biosciences**, v. 309, pp. 118-130.

91. **L. Hanin** and J. Rose (2018), Suppression of metastasis by primary tumor and acceleration of metastasis following primary tumor resection: A natural law?, **Bulletin of Mathematical Biology**, v. 80, No. 3, pp. 519-539.

90. **L. Hanin** (2017), Why statistical inference from clinical trials is likely to generate false and irreproducible results, **BMC Medical Research Methodology**, v. 17, article 127.

89. **L. Hanin** (2017), Do breast cancer patients benefit from surgery? Hypotheses, mathematical models and false beliefs, in: *Perioperative Inflammation as a Triggering Origin of Metastasis Development* (Michael Retsky and Romano Demicheli, Editors), Springer Nature, pp. 161-182.

88. **L. Hanin** and L. Pavlova (2016), A quantitative insight into metastatic relapse of breast cancer, **Journal of Theoretical Biology**, v. 394, pp. 172-181.

87. **L. Hanin**, K. Seidel and D. Stoevesandt (2016), A "universal" model of metastatic cancer, its parametric forms and their identification: What can be learned from site-specific volumes of metastases, **Journal of Mathematical Biology**, v. 72, No. 6, pp. 1633-1662.

86. **L. Hanin** and J. Rose (2016), Uncovering the natural history of cancer from post mortem cross-sectional diameters of hepatic metastases, **Mathematical Medicine and Biology**, v. 33, No. 4, pp. 397-416.

85. **L. Hanin** and M. Zaider (2014), Optimal schedules of fractionated radiation therapy by way of the *greedy* principle: biologically-based adaptive boosting, **Physics in Medicine and Biology**, v. 59, pp. 4085-4098.

84. **L. Hanin** and Li-Shan Huang (2014), Identifiability of cure models revisited, **Journal of Multivariate Analysis**, v. 130, pp. 261-274.

83. **L. Hanin** and M. Zaider (2014), On the probability of cure for heavy-ion radiotherapy, **Physics in Medicine and Biology**, v. 59, pp. 3829-3842.

82. **L. Hanin** and S. Bunimovich-Mendrazitsky (2014), Reconstruction of the natural history of metastatic cancer and assessment of the effects of surgery: Gompertzian growth of the primary tumor, **Mathematical Biosciences**, v. 247, pp. 47-58.

81. E.A. Shavlyugin, **L.G. Hanin** and M.A. Khanin (2014), Dynamics of pathologic clot formation: a mathematical model, **Journal of Theoretical Biology**, v. 340, pp. 96-104.

80. **L. Hanin** and M. Zaider (2013), A mechanistic description of radiation-induced damage to normal tissue and its healing kinetics, **Physics in Medicine and Biology**, v. 58, pp. 825-839.

79. **L. Hanin** and L. Pavlova (2013), Optimal screening schedules for prevention of metastatic cancer, **Statistics in Medicine**, v. 32, pp. 206-219.

78. **L.G. Hanin** (2013), Seeing the invisible: How mathematical models uncover tumor dormancy, reconstruct the natural history of cancer and assess the effects of treatment, in: *Systems Biology of Tumor Dormancy* (Nava Almog, Heiko Enderling, Lynn Hlatky, Editors), Advances in Experimental Medicine and Biology, v. 734, Springer, New York, pp. 261-282.

77. **L. Hanin** and M. Zaider (2011), Effects of surgery and chemotherapy on metastatic progression of prostate cancer: Evidence from the natural history of the disease reconstructed through mathematical modeling, **Cancers**, v. 3, pp. 3632-3660.

76. M. Zaider and **L. Hanin** (2011), Tumor Control Probability in radiation treatment, **Medical Physics**, v. 38, No. 2, pp. 574-583.

75. **L.G. Hanin** (2011), Why victory in the war on cancer remains elusive: Biomedical hypotheses and mathematical models, **Cancers**, v. 3, pp. 340-367.

74. **L. Hanin** and O. Korosteleva (2010), Does extirpation of the primary breast tumor give boost to growth of metastases? Evidence revealed by mathematical modeling, **Mathematical Biosciences**, v. 223, pp. 133-141.

73. **L. Hanin** and M. Zaider (2010), Cell-survival probability at large doses: an alternative to the linear-quadratic model, **Physics in Medicine and Biology**, v. 55, pp. 4687-4702.

72. A. A. Korotaevsky, **L.G. Hanin** and M.A. Khanin (2009), A mathematical model for the dynamics of the complement system activation: determination of the kinetic constants of biochemical reactions, **Mathematical Biosciences**, v. 222, pp. 127-143.

71. **L. Hanin**, S. Awadalla, P. Cox, G. Glazko and A. Yakovlev (2009), Chromosome-specific spatial periodicities in gene expression revealed by spectral analysis, **Journal of Theoretical Biology**, v. 256, pp. 333-342.

70. Y. Gusev, **L. Hanin**, L. Klebanov, A. Tsodikov, N. Yanev, A. Zorin (2008), Dr. Andrei Yakovlev: Visionary, Leader, Iconoclast, **BMC-Biology Direct**, v. 3, Article 10.

69. E.N. Golovchenko, **L.G. Hanin**, S.H. Kaufmann, K.V. Tyurin and M.A. Khanin (2008), Dynamics of granzyme B-induced apoptosis: Mathematical modeling, **Mathematical Biosciences**, v. 212, pp. 54-68.

68. **L.G. Hanin** (2008), Distribution of the sizes of metastases: Mathematical and biomedical considerations, in: *Handbook of Cancer Models with Applications* (Wai-Yuan Tan and **L.G. Hanin**, Editors), Series in Mathematical Biology and Medicine, v. 9, World Scientific, Singapore, pp. 149-172.

67. **L.G. Hanin** (2008), A new optimum pin fin beyond the "length-of-arc" assumption, **Heat Transfer Engineering**, v. 29, No.7, pp. 608-614.

66. M. Zaider and **L.G. Hanin** (2007), Biologically-equivalent dose and long-term cause-specific survival time in radiation treatments, **Physics in Medicine and Biology**, v. 52, pp. 6355-6362.

65. **L.G. Hanin**, R.J. Fisher and B.L. Hanin (2007), An intriguing property of the center of mass for points on quadratic curves and surfaces, **Mathematics Magazine**, v. 80, No. 5, pp. 353-362.

64. **L.G. Hanin** and A.Y. Yakovlev (2007), Identifiability of the joint distribution of age and tumor size at detection in the presence of screening, **Mathematical Biosciences**, v. 208, No. 2, pp. 644-657.

63. **L.G. Hanin**, J. Rose and M. Zaider (2006), A stochastic model for the sizes of detectable metastases, **Journal of Theoretical Biology**, v. 243, No. 3, pp. 407-417.

62. **L.G. Hanin**, A.B. Miller, A.V. Zorin and A.Y. Yakovlev (2006), The University of Rochester model of breast cancer detection and survival, in: *The Impact of Mammography and Adjuvant Therapy on U.S. Breast Cancer Mortality (1975-2000): Collective Results from the Cancer Intervention and Surveillance Modeling Network*, **Journal of the National Cancer Institute**, Monograph 36, pp. 66-78.

61. **L.G. Hanin**, O. Hyrien, J. Bedford and A.Y. Yakovlev (2006), A comprehensive stochastic model of irradiated cell populations in culture, **Journal of Theoretical Biology**, v. 239, No. 4, pp. 401-416.

60. A.V. Zorin, L.Edler, **L.G. Hanin** and A.Y. Yakovlev (2005), Estimating the natural history of breast cancer from bivariate data on age and tumor size at diagnosis, in: *Quantitative Methods for Cancer and Human Health Risk Assessment* (L. Edler and C.P. Kitsos, editors), John Wiley & Sons, Chichester, pp. 317-327.

59. **L.G. Hanin** and L.V. Pavlova (2005), Optimal regimens of cancer screening, in: *Quantitative Methods for Cancer and Human Health Risk Assessment* (L. Edler and C.P. Kitsos, editors), John Wiley & Sons, Chichester, pp. 177-191.

58. **L.G. Hanin** and A.Y. Yakovlev (2004), Multivariate distributions of clinical covariates at the time of cancer detection, **Statistical Methods in Medical Research**, v. 13, No. 6, pp. 457-489.

57. **L.G. Hanin** (2004), A stochastic model of tumor response to fractionated radiation: Limit theorems and rate of convergence, **Mathematical Biosciences**, v. 191, No. 1, pp. 1-17.

56. **L.G. Hanin**, B.N. Green, F. Zal and S.N. Vinogradov (2003), Variations in the molecular masses of hexagonal bilayer hemoglobins: A multi-angle laser light scattering study and comparison with other biophysical methods, **Journal of Biosciences**, v. 28, No. 5, pp. 101-112.

55. **L.G. Hanin** and A. Campo (2003), A new minimum volume straight cooling fin taking into account the "length of arc", **International Journal of Heat and Mass Transfer**, v. 46, No. 26, pp. 5145-5152.

54. **L.G. Hanin** and K. Bessey (2003), The deepening crisis in mathematics education, **Rendezvous**, v. 38, No. 1, pp. 25-49.

53. G. Gregori, **L.G. Hanin**, E.G. Luebeck, S.H. Moolgavkar and A.Y. Yakovlev (2002), Testing goodness of fit for stochastic models of carcinogenesis, **Mathematical Biosciences**, v. 175, pp. 13-29.

52. **L.G. Hanin** (2002), Identification problem for stochastic models with application to carcinogenesis, cancer detection and radiation biology, **Discrete Dynamics in Nature and Society**, v. 7, No. 3, pp. 177-189.

51. M. Zaider, M.J. Zelefsky, **L.G. Hanin**, A.D. Tsodikov, A.Y. Yakovlev and S.A. Leibel (2001), A survival model for fractionated radiotherapy with an application to prostate cancer, **Physics in Medicine and Biology**, v. 46, No. 10, pp. 2745-2758.

50. **L.G. Hanin**, M. Zaider and A. Y. Yakovlev (2001), Distribution of the number of clonogens surviving fractionated radiotherapy: A long-standing problem revisited, **International Journal of Radiation Biology**, v. 77, pp. 205-213.

49. **L.G. Hanin** (2001), Iterated birth and death process as a model of radiation cell survival, **Mathematical Biosciences**, v. 169, No. 1, pp. 89-107.

48. **L.G. Hanin**, A.D. Tsodikov and A.Y. Yakovlev (2001), Optimal schedules of cancer surveillance and tumor size at detection, **Mathematical and Computer Modelling**, v. 33, pp. 1419-1430.

47. R. Bartoszyński, L. Edler, **L.G. Hanin**, A. Kopp-Schneider, L.V. Pavlova, A.D. Tsodikov, A.V. Zorin and A.Y. Yakovlev (2001), Modeling cancer detection: tumor size as a source of information on unobservable stages of carcinogenesis, **Mathematical**

Biosciences, v. 171, pp. 113-142.

46. A.V. Zorin, A.D. Tsodikov, **L.G. Hanin**, G.M. Zharinov, G.V. Zaikin and A.Y. Yakovlev (2001), Parametric analysis of survival of patients treated for cervical cancer by fractionated radiotherapy. A new method and its applications, **Problems in Oncology**, v. 47, No. 3, pp. 307-311 (in Russian).

45. **L.G. Hanin** (2001), Probability metrics and extremal problems with an application to differential response of homogeneous systems to external exposure, in: *Fundamental Problems of Precision Theory*, Nauka, St. Petersburg, pp. 135-145 (in Russian).

44. **L.G. Hanin** and S. N. Vinogradov (2000), Combinatorics of giant hexagonal bilayer hemoglobins, **Mathematical Biosciences**, v. 163, pp. 59-73.

43. B.N. Green, R.S. Bordoli, **L.G. Hanin**, F.H. Lallier, A. Toulmond and S.N. Vinogradov (1999), Electrospray ionization mass spectrometric determination of the molecular mass of the ∼200-kDa globin dodecamer subassemblies in hexagonal bilayer hemoglobins, **Journal of Biological Chemistry**, v. 274, No. 40, pp. 28206-28212.

42. **L.G. Hanin** and K. Boucher (1999), Identification of parameters in the Yakovlev-Polig model of carcinogenesis, **Mathematical Biosciences**, v. 160, pp. 1-24.

41. **L.G. Hanin** (1999), An extension of the Kantorovich norm, in: *Monge-Ampère Equation: Applications to Geometry and Optimization*, **Contemporary Mathematics**, v. 226, pp. 113-130.

40. **L.G. Hanin** (1999), Which tanks empty faster?, **The American Mathematical Monthly**, v. 106, No. 10, pp. 935-939.

39. **L.G. Hanin** and B.M. Schreiber (1998), Discrete spectrum of nonstationary stochastic processes on groups, **Journal of Theoretical Probability**, v. 11, No. 4, pp. 1111-1133.

38. **L.G. Hanin** (1998), Closed ideals in algebras of smooth functions, **Dissertationes Mathematicae**, v. 371, 67 p.

37. **L.G. Hanin**, S.T. Rachev, A.D. Tsodikov and A.Y. Yakovlev (1997), A stochastic model of carcinogenesis and tumor size at detection, **Advances in Applied Probability**, v. 29, pp. 607-628.

36. **L.G. Hanin** (1997), Duality for general Lipschitz classes and applications, **Proceedings of the London Mathematical Society**, v. 75, pp. 134-156.

35. A.Y. Yakovlev, **L.G. Hanin**, S.T. Rachev and A.D. Tsodikov (1996), Distribution of tumor size at detection and its limiting form, **Proceedings of the National Academy of Sciences USA (PNAS)**, v. 93, pp. 6671-6675.

34. **L.G. Hanin** and A.Y. Yakovlev (1996), A nonidentifiability aspect of the two-stage model of carcinogenesis, **Risk Analysis**, v. 16, pp. 711-715.

33. **L.G. Hanin**, L.B. Klebanov and A.Y. Yakovlev (1996), Randomized multihit models and their identification, **Journal of Applied Probability**, v. 33, pp. 458-471.

32. E.M. Dyn'kin and **L.G. Hanin** (1996), Spectral synthesis of ideals in Zygmund algebras. The asymptotic Cauchy problem approach, **Michigan Mathematical Journal**, v. 43, No. 3, pp. 539-557.

31. **L.G. Hanin** and S.T. Rachev (1995), An extention of the Kantorovich-Rubinstein mass-transshipment problem, **Numerical Functional Analysis and Optimization**, v. 16, No. 5-6, pp. 701-735.

30. **L.G. Hanin** (1995), Spectral synthesis of ideals in classical algebras of smooth functions, in: **Lecture Notes in Pure and Applied Mathematics**, v. 172, Marcel Dekker, pp. 167-182.

29. **L.G. Hanin** and S.T. Rachev (1994), Mass-transshipment problems and ideal metrics, **Journal of Computational and Applied Mathematics**, v. 56, pp. 183-196.

28. **L.G. Hanin** (1994), On isometric isomorphism between the second dual to the "small" Lipschitz space and the "big" Lipschitz space, in: **Operator Theory: Advances and Applications**, v. 73, Birkhäuser, Basel, Switzerland, pp. 316-324.

27. G.A. Hanin and **L.G. Hanin** (1994), Design optimization for spherical bearing seats, **Tyazholoye Mashinostroyeniye**, No.7, pp. 10-15 (in Russian); English translation in: **Russian Journal of Heavy Machinery**, No. 7, 1994, pp. 15-26.

26. **L.G. Hanin**, S.T. Rachev and A.Y. Yakovlev (1993), On the optimal control of cancer treatment for nonhomogeneous cell populations, **Advances in Applied Probability**, v. 25, pp. 1-23.

25. **L.G. Hanin** (1993), Optimization of radiation cancer treatment: Looking for general regularities, **Comments on Theoretical Biology**, v. 3, No. 1, pp. 43-74.

24. **L.G. Hanin** (1992), Kantorovich-Rubinstein norm and its application in the theory of Lipschitz spaces, **Proceedings of the American Mathematical Society**, v. 115, No. 2, pp. 345-352.

23. **L.G. Hanin** and M.A. Schwarz (1992), Consistent statistical estimate of spectral measure discrete component for a class of random processes, **Nonparametric Statistics**, v. 2, pp. 81-87.

22. **L.G. Hanin**, L.B. Klebanov, L.V. Pavlova and A.Y. Yakovlev (1992), A randomized multihit model of irradiated cell survival and its identification, **Proceedings of the Seminar "Statistique des Processus en Milieu Medical"**, University Paris-V, pp. 71-96.

21. **L.G. Hanin**, A.Y. Yakovlev and L.V. Pavlova (1992), Identification of a multihit model for nonhomogeneous cell populations, **Radiobiology**, v. 32, No. 6, pp. 785-787 (in Russian).

20. **L.G. Hanin** (1991), Kantorovich - Rubinstein duality for Lipschitz spaces defined by differences of arbitrary order, **Soviet Mathematics Doklady**, v. 42, No. 1, pp. 220-224.

19. L.V. Pavlova, **L.G. Hanin** and A.Y. Yakovlev (1991), Optimal fractionation of radiation dose by the criterion of differential survival probabilities of normal and tumor cells, **Automation and Remote Control**, v. 52, No. 2, part 2, pp. 257-265.

18. L.V. Pavlova and **L.G. Hanin** (1991), Optimization of multifractional tumor radiotherapy regimens, in: *Problems in Experimental and Clinical Roentgenology and Radiology*, Central Institute for Roentgenology and Radiology, St.-Petersburg, pp. 40-45 (in Russian).

17. G.A. Hanin and **L.G. Hanin** (1991), Thrust calculation for spherical turbine bearing seats, **Tyazholoye Mashinostroyeniye**, No. 9, pp. 12-13 (in Russian); English translation in: **Soviet Journal of Heavy Machinery**, No. 9, 1991, pp. 18-20.

16. L.V. Pavlova, **L.G. Hanin** and A.Y. Yakovlev (1990), Accurate upper limits for the functional of effectiveness of tumor radiation therapy, **Automation and Remote Control**, v. 51, No. 7, part 2, pp. 973-982.

15. **L.G. Hanin** (1990), Generalization of the Kantorovich-Rubinstein duality theorem to spaces of functions defined by moduli of continuity of arbitrary order, **Studies in the Theory of Functions of Several Real Variables**, Yaroslavl', Yaroslavl' State University, pp. 140-151 (in Russian).

14. **L.G. Hanin**, R.E. Goot, S.T. Rachev and A.Y. Yakovlev (1989), Precise upper bounds for the functionals describing the tumor treatment efficiency, in: *Stability Problems for Stochastic Models*, **Lecture Notes in Mathematics**, v. 1412, Springer, pp. 50-67.

13. **L.G. Hanin** (1989), Closed ideals in algebras of functions satisfying generalized Zygmund condition, **Geometrical Problems in the Theory of Functions and Sets**, Kalinin, Kalinin State University, pp. 74-83 (in Russian).

12. **L.G. Hanin** (1988), Description of traces of functions with higher order derivatives satisfying generalized Zygmund condition to an arbitrary closed set, **Studies in the Theory of Functions of Several Real Variables**, Yaroslavl', Yaroslavl' State University, pp. 128-144 (in Russian).

11. E.V. Ostashova and **L.G. Hanin** (1988), Confidence bounds for the mean population risk of remote effects of radiation exposure, in: **Problems of Experimental and Clinical Roentgenology and Radiology**, Central Institute for Roentgenology and Radiology, Leningrad, pp. 272-274 (in Russian).

10. **L.G. Hanin** (1987), A theorem on spectral synthesis of ideals for a class of Banach algebras, **Soviet Mathematics Doklady**, v. 35, No. 1, pp. 108-112.

9. **L.G. Hanin** (1986), The structure of closed ideals in some algebras of smooth functions, **Studies in the Theory of Functions of Several Real Variables**, Yaroslavl', Yaroslavl' State University, pp. 97-114 (in Russian); English translation in **AMS Translations**, v. 149, 1991, pp. 97-113.

8. **L.G. Hanin** (1984), Spectral synthesis of ideals in algebras of functions having generalized derivatives, **Russian Mathematical Surveys**, v. 39, No. 2, pp. 167-168.

7. **L.G. Hanin** (1984), Sobolev spaces as Banach algebras, **Studies in the Theory of Functions of Several Real Variables**, Yaroslavl', Yaroslavl' State University, pp. 127-146 (in Russian).

6. **L.G. Hanin** (1984), Closed primary ideals and point derivations in Zygmund algebras, in: *Constructive Theory of Functions*, Sofia, Publishing House of the Bulgarian Academy of Sciences, pp. 397-402.

5. G.A. Hanin and **L.G. Hanin** (1984), Friction calculation for turbine spherical bearing seats, **Teploenergetika**, No. 10, pp. 61-63 (in Russian); English translation in: **Thermal Engineering**, v. 31, No. 10, 1984, pp. 570-572.

4. **L.G. Hanin** (1982), A geometric classification of ideals in algebras of differentiable functions of two variables, **Studies in the Theory of Functions of Several Real Variables**, Yaroslavl', Yaroslavl' State University, pp. 122-144 (in Russian).

3. **L.G. Hanin** (1982), Mathematical modeling of short-term planning of the supply of ferroconcrete structures to building project sites, in: *Improvement of Management, Planning and Control in Civil Engineering*, Leningrad, Institute for Civil Engineering, pp. 118-123 (in Russian).

2. M.I. Revyakov and **L.G. Hanin** (1981), Linear approximation of the efficiency function of a system in reliability problems, *Proceedings of the National Research Institute for Electric Devices*, Leningrad, pp. 97-103 (in Russian).

1. **L.G. Hanin** (1980), A geometric classification of ideals in algebras of differentiable functions, **Soviet Mathematics Doklady**, v. 22, No. 2, pp. 370-375.

INVENTIONS

1. Heat Exchange Device (with A. Campo), US patent # 7,290,598 awarded on November 6, 2007.

2. Turbine Rotor Bearing Seat (with G.A. Hanin, N.A. Sorokin, N.N. Gudkov and I.A. Kovalyov), certificate # 1390379 of July 27, 1984, Russian National Committee for Inventions and Discoveries.

GRANTS

December 1991 - November 1993: Grant from the Ministry of Science and Technology of Israel "Duality for Lipschitz spaces and applications" (with Y. Benyamini).

December 1993 - August 1994: Grant from the Ministry of Absorption of Israel.

December 1993 - August 1994: $3,000 Grant from the Research and Development Foundation of the Technion - Israel Institute of Technology.

July 1998 - June 1999: $3,500 grant from ISU Faculty Research Committee "Monge-Kantorovich Mass Transfer Problem: Generalization and Applications."

January 2000 - December 2002: Co-PI of $18,000 Collaborative Linkage Grant LST CLG 976042 "Optimal Schedules of Cancer Screening" from the NATO Science Programme.

August 2000 - July 2001: $4,164 grant from ISU Research Coordinating Council "Mathematical Modeling of Fractionated Radiation Cancer Treatment."

September 2001 - August 2005: PI of $132,000 grant DMS-0109895 "Quantitative Insight into Responses of Cell Populations to Radiation Exposure" from the NSF Division of Applied Mathematics.

August 2002 - August 2006: Co-PI of $30,000 Collaborative Linkage Grant PST CLG 979045 "Stochastic Modeling of Cancer Detection and Survival" from the NATO Science Programme.

July 2004 - June 2005: $6,027 Release Time Support for Pursuit of External Funding grant from ISU University Research Committee.

July 2006 - June 2007: $3,170 Travel Support grant from ISU Faculty Research Committee.

August 2006 - May 2007: $5,718 Release Time Support for Pursuit of External Funding grant from ISU Research Coordinating Council.

February 2013 - May 2023: Received 14 awards from ISU College of Science and Engineering, Office of Research and Graduate School to support research and travel and cover publication costs in the total amount of $19,347.

May 2013: Travel grant from the Institute of Mathematics and Its Applications (IMA), University of Minnesota.

July 2020: $3,000 ISU undergraduate research mentorship grant from the Career Path Internship (CPI) program

CONSULTING EXPERIENCE

February 1998 - November 1999: Consultant to Biostatistics Shared Resource of Huntsman Cancer Institute, University of Utah, Salt Lake City.

January 1999 - June 2002: Consultant to US Army grant DAMD 17-98-1-8256 "Individualized Strategies for Breast Cancer Surveillance Based on Aggregated Familial Information," Huntsman Cancer Institute, University of Utah, Salt Lake City.

July 1999 - June 2004: Consultant to NIH/NIA grant 1R01 AG14650-01 "Survival and Age at Diagnosis of Breast Cancer," Huntsman Cancer Institute, University of Utah, Salt Lake City and University of Rochester Medical Center, Rochester, NY.

September 2000 - August 2004: Consultant to NIH/NCI grant 1U01 CA88177-01 "Mechanistic Modeling of Breast Cancer Surveillance," Huntsman Cancer Institute, University of Utah, Salt Lake City and University of Rochester Medical Center, Rochester, NY.

August 2002 - July 2006: Consultant to NIH/NCI grant 1U01 CA97414-01 "Survival Effects of Prostate Cancer Surveillance" Huntsman Cancer Institute, University of Utah, Salt Lake City and University of California - Davis.

January 2003 - December 2004: Consultant to US Army grant DAMD 17-03-1-0034 "Short- and Long-term Effects in Prostate Cancer Survival: Analysis of Treatment Efficacy and Risk Prediction," Huntsman Cancer Institute, University of Utah, Salt Lake City and University of California - Davis.

June - August 2007: Consultant to the Department of Biostatistics and Computational Biology, University of Rochester Medical Center, Rochester, NY.

March 2008 - April 2012: Consultant to NIH grant 1R21CA131603-01 "Integrating Biological Mechanisms into Statistical Model Building for Analyzing Prostate Cancer Survival," University of Rochester Medical Center, Rochester, NY.

May 2009 - May 2016: Mathematical and statistical consultant to Melaleuca Corporation.

August-September 2019: Consultant to Columbia Management.

September 2023 - August 2024: Consultant to Lawrence Berkeley National Laboratory on the DoE project "Domain-Aware Advanced Gaussian Process Driven UQ for Complex Stochastic Systems" through subcontract to Idaho State University.

PRESENTATIONS

INVITED KEYNOTE AND PLENARY TALKS

1. Invited keynote talk at the 3rd International Conference "Discrete Chaotic Dynamics in Nature and Society", Chuo University, Tokyo, Japan, September 9-13, 2002.

2. Invited plenary talk at the 7th Workshop on Computational Data Analysis and Numerical Methods, Center for Mathematics and its Applications, Department of Mathematics, Universidade da Beira Interior, June 27-29, 2019, Covilhã, Portugal.

INVITED TALKS AT CONFERENCES/WORKSHOPS

1. 15-th National School in Theory of Operators in Function Spaces, Ul'yanovsk, Russia - September 10, 1990.

2. International Conference/Workshop "Interpolation Spaces", Technion - I.I.T, Haifa, Israel - June 30, 1990.

3. International Workshop "Mathematical Models in Physiology", Technion - I.I.T., Haifa, Israel - December 9, 1991.

4. U.S. - Israel Binational Workshop in Operator Theory, February 27, 1992, Ben Gurion University of the Negev, Ber-Sheva, Israel.

5. Joint AMS - IMU Meeting, Special Session in Functional Analysis, May 24, 1995, Hebrew University, Jerusalem, Israel.

6. Joint AMS - IMU Meeting, Special Session in Probability, May 26, 1995, Hebrew University, Jerusalem, Israel.

7. International Conference/Workshop "Function Spaces, Interpolation Spaces and Related Topics", Technion - I.I.T., Haifa, Israel - June 13, 1995.

8. Wabash Seminar in Modern Analysis, Crawfordsville, IN - November 23, 1996.

9. Annual Joint AMS-MAA Meeting, Special Session in Banach Algebras, January 9, 1997, San Diego, CA.

10. International Conference on Mathematical Models in Medical and Health Sciences, May 28-31, 1997, Vanderbilt University, Nashville, TN.

11. International Conference "Carcinogenegis Modeling and Risk Assessment", July 8-13, 1998, Park City, UT.

12. International Workshop for Biostatisticians "Cure Rate Estimation", Moffitt Cancer Center and Research Institute, University of South Florida, February 19-21, 1999, Tampa, FL.

13. AMS Meeting, Special Session in Ergodic Theory of Stochastic Processes, September 26-26, 1999, University of Utah, Salt Lake City, UT.

14. 4th and 5th Sessions of the International Research School for Modern Fundamental Problems and Application Tasks of the Theory of Precision and Quality of Machines, Devices and Systems "Precision and Quality, Third Millennium Imperatives", June 3-7, 2000 and June 27- July 2, 2002, Institute for the Problems of Mechanical Engineering and Technological Processes, St. Petersburg, Russia.

15. International Conference on Mathematics in Biology and Annual Meeting of the Society for Mathematical Biology, August 3-5, 2000, University of Utah, Salt Lake City, UT.

16. Annual Joint AMS-MAA Meeting, Special Session on Applications of Mathematics to Human Physiology and Medicine, January 10-13, 2001, New Orleans, LA.

17. Symposium on Mathematical, Statistical and Computational Methods for Cancer Surveillance and Cancer Screening, July 27, 2001, German Cancer Research Center, Heidelberg, Germany.

18. AMS Meeting, Special Session in Biomolecular Mathematics, October 11-12, 2003, SUNY - Binghamton, Binghamton, NY.

19. International Workshop "Mathematical Models of Cell Proliferation and Cancer Chemotherapy," November 10-14, 2003, Mathematical Biosciences Institute, The Ohio State University, Columbus, OH.

20. AMS Meeting, Special Session in Biomathematics, October 16-17, 2004, Vanderbilt University, Nashville, TN.

21. Conference on Differential and Difference Equations and Applications, August 1-5, 2005, Florida Institute of Technology, Melbourne, FL.

22. 13th Summer Conference in Probability and Statistics, June 21-28, 2008, Sozopol, Bulgaria.

23. Statistical Modeling for Biological Systems. A Conference in Memory of Andrei Yakovlev, The University of Rochester Medical Center, June 8-9, 2009, Rochester, NY.

24. International Seminar "Endobiogeny: The Science Behind Wellness," University of Utah, March 17, 2011, Salt Lake City, UT.

25. 8th European Conference on Mathematical and Theoretical Biology, Yagellonian University, June 28-July 2, 2011, Krakow, Poland.

26. Workshop on Biostatistics and Bioinformatics, Georgia State University, May 4-6, 2012, Atlanta, GA.

27. Special session on Mathematical Models in Biology and Medicine, 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, July 1-5, 2012, Orlando, FL.

28. Minisymposium "Modeling with Branching Processes: Applications in Biology," SIAM Conference on Applications of Dynamical Systems, May 19-23, 2013, Snowbird, UT.

29. Minisymposium "Understanding metastatic cascade in cancer: insights from mathematical models," 9th European Conference on Mathematical and Theoretical Biology, June 15-19, 2014, Gothenburg, Sweden.

30. International workshop "Stem cells, Development, and Cancer," Mathematical Biosciences Institute, Ohio State University, April 13-17, 2015, Columbus, OH.

31. International Conference "Micro and Macro Systems in Life Sciences," June 8-13, 2015, Stefan Banach International Mathematical Center of the Institute of Mathematics of the Polish Academy of Sciences, Bedlewo, Poland.

32. Annual meeting of the Society for Mathematical Biology, July 17-20, 2017, Salt Lake City, UT.

33. Special Session "Biomathematics - Progress and Future Directions" at the AMS Spring Western Sectional Meeting, April 14-15, 2018, Portland, OR.

34. International Conference "Frontiers of Mathematical Biology: Modeling, Computation and Analysis," May 2-4, 2018, University of Central Florida, Orlando, FL.

35. International Conference "Biology and Medicine through Mathematics (BAMM!)," May 30-June 1, 2018, Virginia Commonwealth University, Richmond, VA.

36. SIAM mini-symposium "Mathematical Models in Cancer," Joint Mathematics Meeting of the AMS/MAA/SIAM, January 16-19, 2019, Baltimore, MD.

37. Special Session "Confirmability and Replicability of Phased or Staged Approach of Clinical Trials in Drug Development" at the Joint Statistical Meeting, August 5-10, 2023, Toronto, Canada.

38. Ray Sachs Commemoration/Celebration, University of California-Berkeley, October 10-11, 2024, Berkeley, CA.

CONTRIBUTED TALKS AT CONFERENCES/WORKSHOPS

1. International Conference "Function Spaces", August 27-September 2, 1989, Adam Mickiewicz University, Poznan, Poland.

2. 8th Summer Conference in General Topology and Applications, June 18-20, 1992, Queens College of the CUNY, New York, NY.

3. International Colloquium in Honour of J.-P. Kahane, June 28 - July 3, 1993, Université de Paris Sud, Orsay, France.

4. 2nd Conference on Function Spaces, May 25-28, 1994, Southern Illinois University at Edwardsville, IL.

5. International Conference "The Interaction Between Functional Analysis, Harmonic Analysis, and Probability", May 30 - June 3, 1994, University of Missouri at Columbia, MO.

6. 1st Meeting of the Cell Proliferation Society, March 28-31, 1996, Medical College of Ohio at Toledo, OH.

7. 20th Summer Symposium in Real Analysis, June 18-23, 1996, University of Windsor, Windsor, Canada.

8. International Conference "Modern Banach Space Theory," December 17-21, 1996, Kent State University, Kent, OH.

9. Annual Joint AMS-MAA Meeting, special session in Stochastic Modelling, January 8, 1997, San Diego, CA.

10. NSF-CBMS Conference on the Monge-Ampère Equation: Applications to Geometry and Optimization, July 9-13, 1997, Florida Atlantic University, Boca Raton, FL.

11. 3rd Conference on Function Spaces, May 19-23, 1998, Southern Illinois University at Edwardsville, IL.

12. 8th Summer Meeting in Mathematical Analysis, June 21-25, 1999, Euler International Mathematical Institute, St. Petersburg, Russia.

13. Annual Joint AMS-MAA Meeting, special session in Finite Differences and Functional Equations, January 19-22, 2000, Washington, DC.

14. 2005 ASME Summer Heat Transfer Conference, July 17-22, 2005, San Francisco, CA.

15. 4th Annual Workshop "The Symposium On Evolutionary Bioinformatics," October 3-5, 2008, Lava Hot Springs, ID.

16. International Conference "Mathematical Methods in Systems Biology," January 4-7, 2010, Tel Aviv University, Tel Aviv, Israel.

17. 8th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, May 25-28, 2010, Dresden Technical University, Dresden, Germany.

18. International Conference "Functional Differential Equations and Applications," August 30 - September 2, 2010, Ariel University Center of Samaria, Ariel, Israel.

19. 8th International Conference on Risk Analysis and Design of Experiments, April 23-26, 2019, University of Natural Resources and Life Sciences (BOKU), Vienna, Austria.

20. 2nd SIAM Northern States Section Conference, Mathematical Biology Workshop, Utah State University, Logan, UT – April 15-16, 2023.

INVITED COLLOQUIUM AND SEMINAR TALKS (since 1991)

Colloquium Talks

1. Department of Mathematics, Technion - I.I.T., Haifa, Israel - November 11, 1991.

2. Department of Mathematics, Ben-Gurion University of the Negev, Ber-Sheva, Israel - April 26, 1994.

3. Department of Statistics, Haifa University, Haifa, Israel - May 11, 1994.

4. Department of Mathematics and Computer Science, Bar-Ilan University, Ramat Gan, Israel - July 3, 1994, June 8, 1997 and January 2, 2000.

5. Department of Mathematical Sciences, Michigan Technological University, Houghton, MI - October 7, 1994.

6. Department of Mathematics, Central Michigan University, Mt. Pleasant, MI - November 17, 1994.

7. Department of Mathematics, Wayne State University, Detroit, MI - February 27, 1995 and April 19, 2004.

8. Department of Statistics, The Ohio State University, Columbus, OH - April 20, 1995.

9. Department of Mathematics, Florida Atlantic University, Boca Raton, FL - March 18, 1996.

10. Department of Mathematical Sciences, Indiana University - Purdue University at Indianapolis, Indianapolis, IN - November 22, 1996.

11. Department of Mathematics, Idaho State University, Pocatello - March 28, 1997.

12. Department of Mathematics, University of Louisville, Louisville, KY - April 8, 1997.

13. Department of Mathematics, University of Wyoming, Laramie, WY - October 30, 1998.

14. Department of Mathematics, University of Montana, Missoula, MT - October 12, 2000 and September 27, 2021.

15. Department of Mathematics, University of Rochester, Rochester, NY - November 25, 2002.

16. Department of Mathematics, University of Missouri - Rolla, Rolla, MO - November 12, 2004.

17. Department of Mathematics, University of North Texas, Denton, TX - February 9, 2007.

18. Joint Statistics Colloquium of the National Tsing Hua University and National Chiao Tung University, Hsinchu, Taiwan - March 2, 2012.

19. Department of Mathematical Sciences, Georgia State University, Atlanta, GA - March 30, 2012.

20. Department of Mathematical Sciences, University of North Carolina at Charlotte, Charlotte, NC - November 9, 2012.

21. Department of Urology, V.A. Yevdokimov Moscow State University of Medicine and Dentistry, Moscow, Russia - February 15, 2013.

22. College of Science and Mathematics, University of Massachusetts - Boston, Boston, MA - November 26, 2013.

23. Heidelberg Medical Biometrics, Informatics and Epidemiology Colloquium, German Cancer Research Center (DKFZ), Heidelberg, Germany - June 23, 2014.

24. Department of Mathematical Sciences, University of Montana, Missoula – September 27, 2021

Seminar Talks

1. Department of Mathematics, Weizmann Institute of Science, Rechovot, Israel - January 27, 1992, February 10, 1994 and June 17, 1997.

2. Department of Mathematics, Technion - I.I.T., Haifa, Israel - May 20, 1992, April 12 and 19, 1993 and December 22, 1999.

3. Department of Statistics, University of North Carolina at Chapel Hill, NC - June 29, 1992.

4. Department of Mathematics, Haifa University, Haifa, Israel - November 9, 1993.

5. Department of Electrical Engineering, Technion - I.I.T., Haifa, Israel - February 13, 1993.

6. Department of Mathematics, Central Michigan University, Mt. Pleasant, MI - November 18, 1994.

7. Department of Mathematics, Wayne State University, Detroit, MI - February 28, 1995 and February 14, 1996.

8. Department of Mathematics, Brown University, Providence, RI - March 22, 1995.

9. Department of Mathematics, The Ohio State University, Columbus, OH - April 21, 1995 and February 25, 1997.

10. Department of Mathematics, University of Toronto, Toronto, Canada - November 30, 1995.

11. Department of Mathematics, Ben-Gurion University of the Negev, Ber-Sheva, Israel - June 9, 1997 and December 26, 1999.

12. Department of Mathematics, Idaho State University, Pocatello, ID - November 6 and November 13, 1997.

13. Department of Mathematics, College of Judea and Samaria, Ariel, Israel - December 27, 1999.

14. Division of Biostatistics, German Cancer Research Center, Heidelberg, Germany - June 26, 2000 and May 6, 2004.

15. Department of Mathematics, University of Montana, Missoula, MT - October 13, 2000.

16. Department of Mathematics, ORT Braude College, Karmiel, Israel - January 7, 2003 and December 26, 2005.

17. Department of Mathematics, University of Rochester, Rochester, NY - March 19, 2004.

18. Department of Biostatistics and Computational Biology, University of Rochester Medical Center, Rochester, NY - June 3, 2004 and March 27, 2009.

19. Centre for Mathematical Biology, Department of Mathematical and Statistical Sciences, University of Alberta, Edmonton, Canada - November 15, 2010.

20. Radiation Epidemiology Branch of the National Cancer Institute, Washington, DC - July 11, 2011.

21. National Center for Theoretical Sciences, Mathematics Division, National Tsing Hua University, Hsinchu, Taiwan - February 29, 2012.

22. Seminar in Mathematical Biology, Department of Mathematics, Georgia Institute of Technology - April 25, 2012.

23. Centre for Mathematical Biology, Department of Mathematical Sciences, University of Alberta, Edmonton, Canada, October 26, 2020 (online).

24. Mathematical and Computational Biology Seminar, Department of Mathematics and Statistics, University of Massachusetts-Amherst, November 30, 2020 (online).

25. Mathematical Medicine Seminar, Fields Institute, Toronto, Canada – March 21, 2025

ADVISING DOCTORAL STUDENTS

1. **Kent Bessey**, DA student of the Mathematics Department, ISU (graduated in 2002).

2. **Paul Cox**, DA student of the Mathematics Department, ISU (graduated in 2009).

3. **Jason Rose**, DA student of the Mathematics Department, ISU (graduated in 2014).

MENTORING

September - December 2002: Hosted Dr. Lyudmila Pavlova, Associate Professor at the Department of Applied Mathematics, St. Petersburg State Polytechnic University (St. Petersburg, Russia), who received a Yamagiwa-Yoshida Memorial International Study Fellowship from the International Union Against Cancer (UICC). Project: Optimization of Radiotherapy Based on Cure Rates.

January - May 2013: Hosted Karen Seidel, medical student at Martin Luther University Medical School, Halle/Wittenberg, Germany

July 2020 - May 2021: Supervising Career Path Internship (CPI) of Caleb Monoran, an undergraduate student of ISU Department of Mathematics and Statistics

MEMBER OF EDITORIAL BOARDS

1. **BioMed Central - Biology Direct** (November 2007 - December 2019)

2. **Scientific Reports**, a journal of the Nature family (since April 2015)

3. **Mathematics**, an MDPI journal (Basel, Switzerland) (since July 2020)

REFEREEING

- Nature Communications
- Scientific Reports (journal of the *Nature* family)
- PLoS ONE
- Comptes Rendus Mathématique
- Pacific Journal of Mathematics
- Mathematica Scandinavica
- Annales Academiae Scientiarum Fennicae - Mathematica
- Results in Mathematics
- Mathematics (MDPI journal, Basel, Switzerland)
- Functional Differential Equations

- College Mathematics Journal
- Journal of Theoretical Probability
- Statistics and Probability Letters
- Statistica Sinica
- Mathematical and Computer Modelling
- Applied Mathematical Modelling
- Studies in Applied Mathematics
- Mathematical Biosciences
- Journal of Mathematical Biology
- Mathematical Medicine and Biology
- Computational and Mathematical Methods in Medicine
- Mathematical Biosciences and Engineering
- Journal of Theoretical Biology
- Theoretical Biology and Medical Modelling
- International Journal of Biomathematics
- Biometrics
- Biometrical Journal
- Statistics in Medicine
- Journal of Bioinformatics and Computational Biology
- Institute of Mathematical Statistics Book Series
- British Medical Journal (BMJ) Evidence-Based Medicine
- BioMed Central - Cancer
- BioMed Central - Biology Direct
- BioMed Central - Bioinformatics
- PLoS Computational Biology
- Frontiers in Physiology
- Cancer Research
- Cancers (MDPI journal, Basel, Switzerland)
- Current Pharmaceutical Design
- Current Medicinal Chemistry
- OncoTargets and Therapy
- Breast Cancer: Targets and Therapy
- Medical Physics
- European Journal of Nuclear Medicine and Medical Imaging Research
- International Journal of Radiation Oncology, Biology, Physics
- International Journal of Radiation Biology
- Radiation Research
- Brachytherapy
- Journal of Engineering Mathematics
- International Journal of Heat and Mass Transfer
- Heat Transfer Engineering
- Applied Thermal Engineering

OTHER PROFESSIONAL ACTIVITIES

1. **Member of the Review Panel** for NSF program in *Quantitative Systems Biotechnology* (2004).

2. **Reviewer** of NSF grant proposals in Mathematical Biology (2002 and 2004).

3. **Reviewed** a grant proposal to the Dutch National Science Foundation (2004).

4. **Reviewed** a book for *John Wiley & Sons* (2001).

5. **Reviewed** a monograph "Principal Medical and Statistical Data on Oncological Health Care in St. Petersburg in 2009-2014" published in St. Petersburg, Russia in 2014 (in Russian).

6. **Translated** mathematics papers from Russian into English for the American Mathematical Society (1991-1993).

7. **Member of the Organizing Committee** of the Israel National High School Mathematics Competition (1993).

8. **Co-editor** of the Fall 2003 issue of the *Rendezvous* journal published by ISU.

9. **Evaluated and consulted** the undergraduate program in Biomathematics at the ORT Braude College, Karmiel, Israel (2003).

10. **Guest lecturer** on genetic regulatory networks in the course *Topics in Bioinformatics* at the Department of Biostatistics and Computational Biology of the University of Rochester Medical Center (2004).

11. **Guest lecturer** in Sociology (2000 and 2002) and Holistic Health Care (2007 and 2016) classes at Idaho State University.

12. **Co-organized** a mini-symposium "Metastasis: Mathematical Modeling and Clinical Applications" within the annual meeting of the Society for Mathematical Biology, July 17-20, 2017, Salt Lake City, UT.

13. **Evaluated** a Ph.D. thesis "Predicting Prostate Cancer Recurrence: Mathematical Models Based on PSA Monitoring and Pathological Findings" by Ilaria Stura, a student at the Graduate School of Life and Health Sciences, Università Degli Studi di Torino, Italy (2017).

14. **Evaluated** a workshop proposal for the 2020 scientific meetings program at Banff International Research Station for Mathematical Innovation and Discovery (Banff, Canada) (2018).

15. **Evaluated** a Master's thesis "A Probabilistic Model of Colon Cancer Metastases Growing According to the Gompertz Law" by Tchia Heymann, MS student at the Department of Mathematics, Ariel University, Israel (2018-2019)

16. **Member of the Scientific Committee:**
• 7th Workshop on Computational Data Analysis and Numerical Methods, June 27-29, 2019, Center for Mathematics and its Applications, Department of Mathematics, Universidade da Beira Interior, Covilhã, Portugal

• 8th Workshop on Computational Data Analysis and Numerical Methods, September 10-12, 2020, Polytechnic Institute of Tomar, Tomar, Portugal.

Revised: June 11, 2026