CURRICULUM VITAE of
Domokos SZÁSZ

Personal: Born: August 18, 1941, Budapest. Married, 3 children

Position: Director
Mathematical Institute
Technical University, Budapest
H-1521 Budapest P.O.B. 91 Hungary
Phone: (361) 463 2762, Fax: (361) 463 2761

Record:

1964:	Diplom in Mathematics, Eötvös University, Budapest
1964-68:	Assistant Professor at the Probability Department of Eötvös University, Budapest
1967:	Ph.D., Eötvös University, Budapest
1969:	Grünwald Prize
1971:	Candidate's degree (with distinction), Lomonosov University, Moscow
1971-1999:	Mathematical Institute of Hungarian Academy of Sciences
1981:	Degree of the Doctor of Mathematical Sciences
1984:	1984 Research Prize of the Hungarian Academy of of Sciences
1990:	Corresponding Member of the Hungarian Academy of Sciences
1993-95:	Director of the Mathematical Institute of HAS
1995:	Ordinary Member of the Hungarian Academy of Sciences
1995:	Szele Prize
1995:	Mark Kac Memorial Lectures, Amsterdam and Utrecht
1997-2003:	Chairman, Committee of Mathematics of the Hung. Acad. Sci.
1999—:	Professor, Department of Stochastics, Budapest University of Technology
1999-2005:	Director of Institute of Mathematics, Budapest University of Technology
2000-2003:	Széchenyi Professorship
2005:	Széchenyi Prize (by the President of Hungary)
2005-:	Chair, Section of Mathematics, Hungarian Acad. Sci.
2005-:	Presiduum, Hungarian Acad. Sci.

Memberships: Ed. Boards: Studia Sci. Math. Hung. (1985-; Chief Editor, 1993-96), Acta Math. Acad. Sci Hung. (1990-), Bolyai Society Mathematical Studies, Springer (1998-), Annales Henri Poincaré (1999-); Central European J. of Mathematics (2002-); Journal of Statistical Physics (1989-1991), Ergodic Theory and Dynamical Systems (1995-2000), International Sci. Adv. Committee, Schrödinger Institute, Vienna (1992-99); Bernoulli Society, Supervisory Board, Institute for Advanced Study, Budapest (2004-) IAMP, ISI,

Bolyai János Mathematical Society

Research topics: stochastic processes, dynamical processes, nonequilibrium statistical physics.

Visiting professorships:

1. Dartmouth College, USA (Visiting Associate Professor), 6 months, 1977
2. Goethe Universität, Frankfurt (Visiting Full Professor) 6 months , 1977-78
3. Dartmouth College, USA (Visiting Full Professor), 6 months, 1985
4. Princeton University, USA (Visiting Full Professor), 1990-91.

Academic invitations:

1. IHES, Bures-sur-Yvette, (Visiting Member) 2 months, 1983
2. Università di Roma, Dipartimento di Matematica, 6 weeks, 1987 (CNR Visiting Scholar)
3. Rutgers University, Department of Mathematics, 6 weeks, 1988
4. Princeton University, Department of Mathematics, (Visiting Senior Research Mathematician) and Institute for Advanced Study, School of Mathematics (Visiting Member) 2 months, 1989
5. University of Arizona, Tucson, Department of Mathematics, 4 weeks, 1989
6. Institute for Advanced Study, School of Mathematics (Member), 1990 Fall Semester,
7. IHES, Bures-sur-Yvette, (Visiting Member) 1 month, 1993
8. Instituto de Matematica Pura et Aplicada, Rio de Janeiro, 1 month, April 1995
9. Erwin Schrödinger Institute, Vienna, 2 months, 1996 Fall
10. PennState University, State College PA, 4 weeks, 1998 Spring
11. Mittag-Leffler Institute, Stockholm, 2002 Spring
12. Theory Group, Microsoft Research Group, Redmond, Washington, June 2004
13. Institut H. Poincaré, Paris, 2005 Spring, 6 weeks.
14. Universit de Rennes 1, IRMAR, 2006 June, 2 weeks

Students:

1. Full Professors: N. Simányi (U. of Alabama, Birmingham, USA, earlier Szentgyörgyi University, Szeged), B. Tóth (Budapest Technical University, chairman of Dept. of Stochastics), *L. Erdős* (GeorgiaTech and Ludwig Maxmilian Universität, München), *A. Szenes* (Geneva University, earlier Budapest University of Technology, and MIT, Cambridge, MA)
2. Associate Professors: A. Telcs (Budapest University of Technology), A. Vetier (Budapest University of Technology),

3. Assistent Professors: P. Bálint, P. Tóth, T. Varjú (all Budapest University of Technology), *A. Járai* (Carleton University, Ottawa),
4. Chief Editor of Természet Világa (World of Nature): *Gy. Staar*
(MSc students in italics)

Invited papers (last years):

1. Memorial Conference on the 150th Birthday of L. Boltzmann, February 1994, Vienna
2. Dynamics Days International Conference, June 1994, Budapest
3. Symposium on Classical and Quantum Billiards, July 1994, Ascona, Switzerland
4. Workshop on Dynamical Systems, May 1995, Trieste, Italy
5. Symposium on Ergodic Theory and Dynamical Systems, July 1995, Warsaw
6. Conferences on Dynamical Systems, Oberwolfach, July 1995, 1997, 1999, 2001
7. Probability and Physics, Workshop, August 1995, Renkum, Netherlands
8. Mark Kac Lectures, Amsterdam, May, June, July 1996
9. Minicourse and Workshop on Hyperbolic Dynamics, 4 hours minicourse, ETH, Zürich, May 1997
10. International Symposium on Dynamical Systems, Rio de Janeiro, August 1997
11. Irreversibility and Chaos, workshop, Budapest, September 1997 (Opening Lecture)
12. Probability Theory in Physics and Biology, Conference, Oberwolfach, December 1997
13. Conference on Probabilistic and Thermodynamic Aspects of Nonlinear Dynamical Systems, Bruxelles, July 1998 (Opening Lecture)
14. Workshop on Dynamical Systems, Trieste, September 1998
15. Workshop on Dynamical Systems, Lisbon, March 1999
15. Conference on Dynamical Systems, Porto, May 2000
17. Conference on Dynamical Systems, Edinburgh, July 2000
18. Quadriennial Conference on Dynamical Systems, Rio de Janeiro, July 2000
19. "Regular and Unstable Motion in Hamiltonian Systems", September 2000, Rome
20. Semester on Random Walks, ESI, Vienna, Spring 2001
21. School and Workshop on Dynamical Systems, ICTP, Trieste, 2001
22. International Conference on Diff. Equ. and Math. Phys. Birmingham, Alabama, March 2002;
23. Lieb-Fest, ESI, Vienna, July 2002;
24. Joint Symposium on Fundamental Sciences between Hokkaido University an Budapest University of Technology, Sapporo, March 2003;
25. Recent Advances in Hyperbolic Dynamics, FIM-ETH, Zürich, June 2003;
26. Randomness in Space and in Time, Workshop, Budapest, June 2003;
27. International Conference on Dynamical Systems, Porto, July 2003
28. von Neumann Memorial Congress, Budapest, October 2003

29. Dynamics of Complex Systems, RIMS, Kyoto, January 2004
30. MULTIDIMENSIONAL NON-UNIFORMLY HYPERBOLIC DYNAMICAL SYSTEMS, Marseille, May 2004
31. MSRI Conference on Recent Progress in Dynamics, Berkeley, September 2004
32. Workshop on Recent and future developments in Hamiltonians systems: theory and applications, Institut H. Poincaré, Paris, May 2005
33. Workshop on Probabilistic Limit Laws for Dynamical Systems, ICMS Edinburgh, June 2005.
36. Workshop on Stochastic properties of dynamical systems. May 2005. Roscoff, France.
37. Dynamical Systems and Statistical Mechanics, LMS Symposium, Durham, July 2006
38. Conference on Nonuniformly Hyperbolic Dynamics and Smooth Ergodic Theory, Lisbon, June 2007.

Organizing activity:

1. Co-chairman of the OC, First and Second Colloquia on Random Fields, 1979 (Esztergom) and 1984 (Kőszeg)
2. Session Organizer, 7th International Congress on Mathematical Physics, 1983, Boulder, Colorado
3. Member the OC, Semester on Dynamical Systems, 1986, Banach Center, Warsaw
4. Member of Advisory Committee, 9-th (1988, Swansee), 10-th (1991, Leipzig), 11-th (1994, Paris) International Congresses on Mathematical Physics,
5. Co-chairman of the OC, Symposium on Classical and Quantum Billiards, 1994, Ascona, Switzerland.
6. Member of the Organizing Committee, Workshop on Statistical Physics, August 1995, Budapest, Hungary
7. Vice-chairman of the Scientific Committee, 2nd European Congress of Mathematicians, Budapest, 1996
8. Chairman of the Scientific Committee, Semester on Hyperbolic Systems with Singularities, Erwin Schrödinger Institute, Vienna, Fall of 1996
9. Co-chairman of the OC, Wokshop on Probability and Physics of Disordered Systems, Budapest, 1999
10. Member of the Scientific Committee, 3rd European Congress of Mathematicians, Barcelona, 2000
11. Member of the Prize Committee, 4th European Congress of Matheamticians, Stockholm, 2004

12. Co-chairman of the Scientific Committee, Semester on Hyperbolic Dynamical Systems, Erwin Schrödinger Institute, Vienna, Spring of 2008

List of publications:

1. On the general branching process with continuous time parameter. Studia Sci. Math. Hung. 2(1967), 227-246.
2. Spreading processes (in Hungarian). Graduate thesis. Budapest, 1967.
3. The applications of distribution functions in water resource management (in Hungarian). Hidrologiai közlöny, 1968, 433-446, (with M. Domokos)
4. Generation of fitting distribution functions of discharges by electronic computer. Publ. 81. IASH "The use of analogue and digital computers in hydrology" (Tuscon, Arizona, 1968), Vol. II, 535-545. (with M. Domokos)
5. Probability, Mathematical Statistics and their Applications. Lecture Notes. Ed.: Medgyessy and G. Tusnády, Math. Inst. of Hung. Acad. of Sciences, Budapest, 1968 (co-author)
6. Asymptotically uniform sequences of measures. Studia Sci. Math. Hung. 4(1969), 313-329.
7. The behaviour of power series in a boundary point of the circle of convergence (in Hungarian), Mat.Lapok, 20(1969) 347-350.
8. Matching problems. Colloquia Math. Soc. János Bolyai. 4. Combinatorial Theory and its Appl. (Balatonfüred, 1969), 695-703. (with G.O.H. Katona)
9. Poissonian random measures and linear processes with independent pieces. Bull. de l'Acad. Polonaise des Sci. Ser. Math. 18(1970) No. 8. 475-482. (with W. Woyczynski)
10. Once more on the Poisson process. Studia Sci. Math. Hung. 5(1970), 441-444.
11. The asymptotic behaviour of sums of a random number of independent random variables (in Russian). Thesis. Moscow. 1971. pp. 98.
12. Matching problems. J. of Combinatorial Theory. 10(1971), No. 1. 60-92. (with G.O.H. Katona)
13. On a problem of summation theory with random indices (in Russian). Litovski Mat. Sbornik, 11(1971), 181-187. (with B. Freyer)
14. Exercises and Problems in Probability Theory (in Hungarian) Budapest, 1971, pp. 331. (with K. Bognár, J. Mogyoródi, A. Prékopa and A. Rényi)
15. On the convergence of sums of point processes with integer marks (in Russian)., Litovski Mat. Sbornik. 11(1971), 867-874.
16. Limit theorems for stochastic processes stopped at random (in Russian). Theory of Probability and Appl. 16(1971), 557-569.
17. On the weak convergence of sequences of probability distributions (in Hungarian). Matematikai Lapok, 11(1971), 283-287.

18. On limiting classes of distributions for sums of a random number of independent, identically distributed random variables (in Russian). Theory of Probability and Appl. 17(1972), 424-439.
19. On the rate of convergence in Levy's metric for randomly indiced sums. Colloquia Math. Soc. János Bolyai, 9(1972), 781-787.
20. Limit theorems for the distribution of the sums of a random number of random variables. Ann. of Math. Statistics, 43(1972), 1902-1913.
21. Stability and the law of large numbers from sums of a random number of random variables. Acta Scientiarum Math. 33(1972), 269- 274.
22. On the convergence of sums of point processes with integer marks. Stochastic Point Processes, Ed. P.A.W. Lewis, Wiley, 1972, 607-615.
23. Determination of fitting discharge distribution functions (in Hungarian). Hidrologiai Közlöny, 1972, No. 1. 1-15. (with M. Domokos).
24. On rolling characteristic functions. Periodica Math. Hung. 3(1973), 13-17.
25. Limit theorems for sums of a random number of random variables. Transactions of the Sixth Prague Conf. Prague, 1973, 833-838.
26. A limit theorem for semi-Markov processes. J. of Applied Probability, 11(1974), 521-528.
27. A collision model on the two-dimensional square-lattice. Z. für Wahrscheinlichkeitstheorie, 31(1974), 75-77. (with Dao-Quang-Tuyen)
28. On a non-linear optimization problem (in Russian). Studia Sci. Math. Hung. 9(1974), 93-100.
29. On a metrization of the vague convergence. Studia Sci. Math. Hung. 9(1974), 219-222.
30. On a problem of Cox concerning controlled variability processes in R^k Ann. of Probability. 3(1975), 597-607. (with P. Gács)
31. Some results and problems in the limit theory of random sums. (Independent case). Colloquia Math. Soc. János Bolyai. 11(1975),
32. Shocks in a two-component paralleled system. Colloquia Math. Soc. János Bolyai. 11(1975), 347-349.
33. Particle systems with collisions. Preprint No. 26/1975 of the Math. Institute of HAS.
34. Letter to the editor: Counterexample to a theorem of D.S. Silvestrov. Theory of Probability and Appl. 20(1975), 218-219. (with P. Major)
35. Renewal theory and multicomponent reliability systems. Adv. in Applied probability. 8(1976), 239-240.
36. A problem of two lifts. Ann. of Probability. 5(1977), 550-559.
37. Uniformity in Stone's decomposition of the renewal measure. Ann. of Probability. 5(1977), 560-564.
38. Correlation inequalities for non-purely ferromagnetic systems. J. of Statistical Physics. 19(1980), 453-459.

39. Discussion to the paper by W. Warmuth: Kritische raumlich homogene Verzweigungsprozesse mit abzahlbarer Typenmenge. Math. Nachr. 84(1978).
40. Joint diffusion on the line. J. of Statistical Physics. 23(1980), 231-240.
41. On the effect of collisions on the motion of an atom in R^1 Ann. of Probability. 8(1980), 1968-1078. (with P. Major)
42. Random Fields. Rigorous Results in Statistical Mechanics and Quantum Field Theory. I-II. Colloquia Math. Soc. János Bolyai. Vol. 27. pp. 1111. (Co-Editors: J. Fritz and J.L. Lebowitz)
43. Dynamical theories of motion. Colloquia Math. Soc. János Bolyai, 27(1981), 1019-1031.
44. Random walk in an inhomogeneous medium with local impurities. J. of Statistical Physics. 2(1981), 527-537. (with A. Telcs)
45. Random point distributions and their applications in reliability theory and statistical physics (in Hungarian)

a) Doctor's thesis. pp. 141. Budapest, 1981.

b) Matematikai Lapok, 30(1982), 33-57.

c) ibidem. 30(1982).

46. Ergodic theory and chaos (in Hungarian). in Chaos. Eds.: P. Szépfalusy and T. Tél, Budapest, 1982. 437-478.
47. Convergence to equilibrium of the Lorentz gas. Colloquia Math. Soc. János Bolyai, 35(1983), 757-766. (with A. Krámli)
48. Random walks with internal degrees of freedom. I. Local limit theorems. Z. für Wahrscheinlichkeitstheorie. 63*1983), 85-95. (with A. Krámli)
49. Appendix to a paper by A. Telcs entitled "Random walks with internal states". Colloquia Math. Soc. János Bolyai. 36(1983), 1060-1068. (with A. Telcs)
50. How to prove the CLT for the Lorentz process by using perturbation theory? Proceedings of the 3rd PSMS (1982). Akadémiai Kiadó, 1983.
51. Central limit theorem for the Lorentz process wia perturbation theory. Communications in Math. Physics. 91(1983), 519-528. (with A. Krámli)
52. Random walks with internal degrees of freedom. II. First-hitting probabilities. Z. für Wahrscheinlichkeitstheorie 68(1984), 53-64, (with A. Krámli)
53. Persistent random walks in a one-dimensional random environment. J. of Statistical Physics. 37(1984), 27-38. (with B. Tóth)
54. Level-hitting probabilities for random walks with internal states. Proceedings of the IX-th IFAC World Congress Budapest, 1984. Vol. 5, 30-35. (with A. Krámli)
55. Random walks with internal states and the Fourier law of heat conduction. Proc. of the American-Hungarian Workshop on Multivariate Analysis, ... Stanford, 1984. 28-31. (with A. Krámli and N. Simányi)

56. The problem of recurrence for Lorentz processes. Communications in Math. Physics. 98(1985), 539-552. (with A. Krámli)
57. Statistical Physics an Dynamical Systems. Rigorous Results. Progress in Physics. Vol. 10. 1985. pp. 481. Birkhauser. (Co- Editors: J. Fritz and A. Jaffe)
58. Random walks with internal degrees of freedom. III. Stationary probabilities. Probab. Th. Rel. Fields. 72(1986), 603-617. (with A. Krámli and N. Simányi)
59. Bounds for the limiting variance of the heavy particle. Communications in Math. Physics. 104(1986), 445-455. (with B. Tóth)
60. Heat conduction in caricature models of the Lorentz gas. J. of Statistical Physics, 46(1987), 303-318. (with A. Krámli and N. Simányi)
61. Towards a unified dynamical theory of the Brownian particle in an ideal gas. Communications in Mathematical Physics. 111(1987), 41- 62. (with B. Tóth)
62. A dynamical theory of the Brownian motion in the Rayleigh gas. J. of Statistical Physics. 47(1987), 681-693. (with B. Tóth)
63. A non-Wiener random walk in a 2-D Bernoulli environment. J. of Statistical Physics. 50(1988), 599-609. (with A. Krámli and P. Lukács)
64. Dispersing billiards without focal points on surfaces are ergodic. Commun. in Math. Physics. 125(1989). 439-458 (with A. Krámli and N. Simányi)
65. Ergodic properties of semi-dispersing billiards. I. Two cylindric scatteres in the 3-D torus. Nonlinearity. 2(1989), 311-326. (with A. Krámli and N. Simányi)
66. Existence of slow manifold in low order spectral models. Meteorology (to appear, with D. Dévényi, A. Krámli, T. Tél and B. Tóth)
67. Asymmetric random walks on Thue-Morse lattices. Physica D, 38(1989), 141-153 (with S. Goldstein, K. Kelly and J. Lebowitz)
68. The K-Property of Three Billiard Balls. Annals of Mathematics. 133 (1991), 37-72 (with A. Krámli and N. Simányi)
69. A ‚Transversal' Fundamental Theorem for Semi-Dispersing Billiards. Communications in Math. Physics. 129 (1990) 535-560 (with A. Krámli and N. Simányi) Erratum: *ibidem* 129 (1991) 207-208
70. The K-Property of Four Billiard Balls. Communications in Math. Physics. 144 (1992), 107-148 (with A. Krámli and N. Simányi)
71. Dispersing, Focusing and the Ergodicity of Billiards. in From Phase Transitions to Chaos, World Sci. Publ. ed. G. Györgyi, I. Kondor, L. Sasvári, T. Tél. 1992, 512-520
72. The K-Property of Some Planar Hyperbolic Billiards. Communications in Math. Physics. 145 (1992), 595-604
73. Ergodicity of Classical Billiard Balls. Physica A. 194 (1993) 86-92.
74. The K-Property of 'Orthogonal' Cylindric Billiards. Commun. Math. Phys. 160 (1994), 581-597

75. The K-Property of 4-D Billiards with Non-Orthogonal Cylindric Scatterers. J. Stat. Phys. 76 (1994) 587-604 (with N. Simányi)
76. Boltzmann's Ergodic Hypothesis, a Conjecture for Centuries? a.) Erwin Schrödinger Institute, Vienna, Technical Report, May 1994 b.) Studia Sci. Math. Hung. 31 (1996), 299-322
77. The K-Property of Hamiltonian Systems with Restricted Hard Ball Interactions, Mathematical Research Letters, 2 (1995), 751-770 (with N. Simányi)
78. The Boltzmann-Sinai Ergodic Hypothesis for Hard Ball Systems. manuscript, 1995. (with N. Simányi)
79. Hard Ball Systems are Completely Hyperbolic, Annals of Mathematics 149 (1999), 35-96 (with N. Simányi)
80. European Congress of Mathematics I-II, Budapest, 1996, Proceedings, Progress in Mathematics, Birkhäuser (Co-Editors: A. Balog, G. O. H. Katona, A Recski)
81. Non-Integrability of Cylindric Billiards and Transitive Lie-group Actions, Ergodic Theory and Dynamical Systems, 20 (2000), 593-610 (with N. Simányi)
82. Ball-Avoiding Theorems, Ergodic Theory and Dynamical Systems (invited survey paper) 20 (2000), 1821-1849
83. Hard Ball Systems and the Lorentz Gas, Springer Verlag, Encyclopaedia of Mathematical Sciences, vol. 101, 2000, pp. 458 (Editor)
84. The Geometry of Multidimensional Dispersing Billiards, Astérisque, pp. 33 (to appear, with P. Bálint, N. Chernov and I. P. Tóth)
85. Multi-dimensional Semi-Dispersing Billiards: Singularities and the Fundamental Theorem, Annales Henri Poincaré, 3 (2002), 451-482 (with P. Bálint, N. Chernov, I. P. Tóth)
86. Ulam's Scheme Revisited: Digital Modeling of Chaotic Attractors via Micro-Perturbations. Discrete and Continuous Dyn. Systems, Ser. A 9(2003), 859-876 (with G. Domokos)
87. Local Limit Theorem and Recurrence for the Planar Lorentz Process, Ergodic Theory and Dynamical Systems, 24 (2004), 257-278 (with T. Varjú)
88. Markov Towers and Stochastic Properties of Billiards, Modern Dynamical Systems and Applications, Edited by M. Brin, B. Hasselblatt, Y. Pesin, Cambridge University Press, pp. 461–477, 2004 (with T. Varjú).
89. Limit Laws and Recurrence for the Planar Lorentz Process with Infinite Horizon. J. Stat. Physics, pp. 24. 2006 (with T. Varjú, in press).
90. Recurrence Properties of the Planar Lorentz Process. Duke Mat. Journal. pp. 33. 2006, (with D. Dolgopyat and T. Varjú, accepted).
91. Algebro-Geometric Methods for Hard Ball Systems. Discrete and Continuous Dyn. Systems, Ser. A. (accepted)
92. Limit Theorems for Perturbed Lorentz Processes. pp. 34, (with D. Dolgopyat and T. Varjú, in preparation).

Scientific-Popular

A. Has the Enigma of the Margin Been Solved? (in Hungarian) Természet Világa, 124 (1993), 483-484.

B. The Role of Mathematics in Sciences. Some Thoughts about its Teaching at University. (in Hungarian) Természet Világa, 125 (1995), 514.

C. Mathematical Billiards. Chaos and Ergodicity, (in Hungarian) Természet Világa, 128 (1998) III. Special Issue, 69-73

D. Kolmogorov, the "Cosmic" Mathematician, (in Hungarian), Magyar Tudomány (Hungarian Science), 48 (2003), 499-503

E. The Mathematician, (in Hungarian) Természet Világa (World of Science), 134 (2003), Special Issue III Dedicated to von Neumann, 3-7

F. John von Neumann, the Mathematician, to appear in Mathematical Intelligencer, pp. 19 (2003)

September, 2007