

## Lebenslauf von Nikolai D. Botkin

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### Schulbildung

1963–1973 Gymnasium, Sysert bei Jekaterinburg,

### Studium

1973–1978 Angewandte Mathematik und Mechanik,  
Universität Jekaterinburg,

### Akademische Abschlüsse

1983 PhD im Bereich Differentialgleichungen und Steuerungstheorie,  
Institut für Mathematik und Mechanik, Jekaterinburg

### Berufliche Tätigkeit

1978–1990 Wiss. Mitarbeiter,  
Institut für Mathematik und Mechanik, Jekaterinburg,  
1990–1992 Wiss. Obermitarbeiter,  
Institut für Mathematik und Mechanik, Jekaterinburg,  
1992–1994 Humboldt-Stipendiat,  
Universität Würzburg und TU München  
1994–1999 Wiss. Mitarbeiter,  
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## Publications

### Refereed Articles in Journals

- [1] Botkin, N.D. Evaluation of numerical construction error in differential game with fixed terminal time. *Problems of Control and Information Theory*. 1982. Vol. 11, no. 4, pp. 283-295.
- [2] Botkin, N.D., and Patsko, V.S. Universal optimal strategy in a differential game with fixed stopping time. *Problems of Control and Information Theory*. 1982. Vol. 11, no. 6, pp. 419-432.
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- [9] Botkin, N. D. Asymptotic behavior of solutions of differential games. Viability domains of differential inclusions. (Russian). *Dokl. Akad.*

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- [10] Botkin, N.D., Zarkh, M.A., Kein, V.M., Patsko, V.S., Turova, V.L. Differential games and aircraft control problems in the presence of wind disturbances. (Russian). Izvestia Akademii Nauk. Tekhnicheskaya Kibernetika, No. 1, p. 68–76, 1993.
  - [11] Botkin, N.D., Turova-Botkina V.L. An algorithm for finding the Chebyshev center of a convex polyhedron. Applied Mathematics and Optimization. 1994, Vol.29, p. 211-222.
  - [12] Patsko, V.S., Botkin, N.D., Kein, V.M., Turova, V.L., and Zarkh, M.A. Control of an aircraft landing in windshear. JOTA . 1994, Vol.83, No.2, pp. 237-267.
  - [13] Botkin, N.D. Approximation schemes for finding the value functions. Int. J. of Analysis and its Applications. 1994, Vol. 14, p. 203-220.
  - [14] Botkin, N.D. Randomized algorithms for the separation of point sets and for solving quadratic programs. Appl. Math. Optim. No. 32, 1995, pp. 195–210
  - [15] Botkin, N. D. Identification of unknown parameters for heat conductivity equations. Numer. Funct. Anal. Optim. 16 (1995), no. 5-6, 583–599.
  - [16] Botkin, Nikolai D. Estimation of parameters of a linear thin plate excited by a piezoelectric patch. Analysis 17 (1997), no. 4, 367–378.
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plied Mathematical Modelling*, 28 (2004) 573-589.
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fluids. Accepted for publication in *SIAM J. Appl. Math.*
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convex hull of a point set. (submitted for publication in *Mathematical*  
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game. (Russian). *Differential equations and applications, I,II* (Ruse,  
1985), 543–546, ‘Angel Kanchev’ Tech. Univ., Ruse, 1987.
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*aircraft control* (Klin, 1987), 8-15, MAI, Moscow, 1988.
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*computation* (Espoo, 1990), 226–234, *Lecture Notes in Control and*  
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- [41] Botkin, N.D.; Hoffmann, K.-H.; Starovoitov, V.N.; and Turova, V.L. Modeling the interaction between bristle elastic structures and fluids. *Proceedings of the 6th International Conference on Modeling and Simulation of Microsystems 1*, San Francisco, February 23–27 (2003), pp. 126–129.
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- [43] Botkin, N.D.; Hoffmann, K.-H.; Pykhiteev, O.A.; and Turova, V.L., Numerical computation of dispersion relations for multi-layered anisotropic structures. *Proceedings of the Nanotechnology conference and trade show 2*, Boston, March 7–11 (2004), pp. 411–414.

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- [57] K.-H. Hoffmann and N. D. Botkin. Homogenization of a fully coupled model for a nonlinear thin plate excited by piezoelectric transducers. DFG-Project “Echtzeit-Optimierung großer Systeme”, Preprint 00-23.
- [58] K.-H. Hoffmann and N. D. Botkin. A fully coupled model of a nonlinear thin plate excited by piezoelectric actuators. DFG-Project “Echtzeit-Optimierung großer Systeme”, Preprint 00-25.
- [59] Botkin, N.D.; Turova, V.L. Mathematical models of a biosensor. Preprint 2002-12-30 31. caesar, Bonn (2002).
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- [61] Botkin, N.D.; Turova, V.L. Finite element modelling of a biosensor. Preprint N110, SFB611 “Singuläre Phänomene und Skalierung in mathematischen Modellen”, Bonn (2003).
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- [64] Botkin, N.; Khludnev, A. Shape optimization for elastic structures with nonlinear cracks. Preprint N121, SFB611 “Singuläre Phänomene und Skalierung in mathematischen Modellen”, Bonn (2003).

**Papes in issues of the Ural Branch of the Russian Academy of Sciences**

- [65] Botkin, N.D. Numerical constructing the sections of positional absorption set in a linear differential game.(Russian). Algorithms and programs for solving linear differential games (issue on computer software), 5-38, Akad. Nauk SSSR, Ural.Nauch. Centr, Sverdlovsk, 1984.
- [66] Botkin, N.D. Error estimation of constructing the positional absorption set in a linear differential game.(Russian). Algorithms and programs for solving linear differential games (issue on computer software), 39-80, Akad. Nauk SSSR, Ural. Nauch. Centr, Sverdlovsk, 1984.
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an aircraft when landing. (Russian). Positional control with a guaranteed result, 33-44, Akad Nauk SSSR, Ural.Otdelenie, Inst. Matem. i Mekhan., Sverdlovsk, 1988.

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#### **Abstracts of conference papers**

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## Conference and seminar talks

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