

Tematica prelegerii publice

- 1. Procese stochastice, ecuații diferențiale stochastice și aplicații**
- 2. Mișcare Browniană, procese înrudite și aplicații**
- 3. Analiză și aplicații**
- 4. Aplicații la proprietăți de monotonie, injectivitate și extrem**

Bibliografie minimală:

1. R. Bass, Probabilistic Techniques in Analysis, Springer, New York, 1995.
2. R. F. Bass, Diffusions and Elliptic Operators, Springer, New York, 1997.
3. R. F. Bass, Stochastic processes, Cambridge University Press, 2011.
4. P. Billingsley, Probability and Measure, 3rd edition, J. Wiley and Sons, 1995.
5. K. L. Chung, Green, Brown, and Probability & Brownian Motion on the Line, World Scientific Publishing Company, 2002.
6. R. M. Dudley, Real Analysis and Probability, Cambridge University Press, 2002.
7. P. L. Duren, Univalent Functions, New York, Springer, 1983.
8. R. Durrett, Probability: Theory and Examples, 4th edition, Cambridge University Press, 2010.
9. R. Durrett, Essentials of Stochastic Processes, 2nd edition, Springer, 2012.
10. K. Ito, H. P. McKean, Diffusion processes and their sample paths, second edition, Springer-Verlag, Berlin-New York, 1974.
11. I. Karatzas, S.E. Shreve, Brownian Motion and Stochastic Calculus, Springer-Verlag, 1999.
12. C. Pommerenke, G. Jensen, Univalent functions, Vandenhoeck & Ruprecht, Gottingen, 1975.
13. D. Stroock, Probability Theory, An Analytic View, Cambridge University Press, 1993.
14. D. Williams, Probability with martingales, Cambridge University Press, 1991.
15. L.C.G. Williams, D. Williams, Diffusions, Markov Processes and Martingales, Cambridge University Press, 2000.

Articole recente (aplicații):

1. R. Banuelos, K. Burdzy, On the "Hot Spots" conjecture of J. Rauch, J. of Funct. Anal. **164** (1999), pp. 1 - 33.
2. K. Burdzy, W. Kendall, Efficient Markovian couplings: Examples and counterexamples, Ann. Appl. Probab. **10** (2000), No. 2, pp. 362 - 409.
3. D. Jerison, N. Nadirashvili, The "hot spots" conjecture for domains with two axes of symmetry, J. Amer. Math. Soc. **13** (2000), No. 4, pp. 741 - 772.
4. R. Banuelos, K. Burdzy, On the "hot spots" conjecture of J. Rauch, J. Funct. Anal. **164** (1999), No. 1, pp. 1 - 33.
5. R. A. Carmona, W. Zheng, Reflecting Brownian motions and comparison theorems for Neumann heat kernels, J. Funct. Anal. **123** (1994), No. 1, pp. 109 - 128.
6. E. Hsu, A domain monotonicity property for the Neumann heat kernel, Osaka Math. J., **31** (1994), pp. 215 - 223.
7. W. S. Kendall, Coupled Brownian motions and partial domain monotonicity for the Neumann heat kernel, J. Funct. Anal. **86** (1989), No. 2, pp. 226 - 236.
8. D. Jerison, N. Nadirashvili, The "hot spots" conjecture for domains with two axes of symmetry, J. Amer. Math. Soc. **13** (2000), No. 4, pp. 741 - 772.
9. W. S. Kendall, Nonnegative Ricci curvature and the Brownian coupling property, Stochastics **19** (1986), No. 1-2, pp. 111 - 129.
10. I. Benjamini, K. Burdzy, Z. Q. Chen, Shy couplings, Probab. Theory Related Fields **137** (2007), No. 3-4, pp. 345 - 377.
11. W. S. Kendall, Brownian couplings, convexity, and shy-ness, Electron. Commun. Probab. **14** (2009), pp. 66 - 80.
12. R. Bass, K. Burdzy, Fiber Brownian motion and the "hot spots" problem, Duke Math J. **105** (2000), pp. 25 - 58.
13. M. Cranston, Gradient estimates on manifolds using coupling, J. Funct. Anal. **99** (1991), No. 1, pp. 110 - 124.

Desfășurarea concursului

Data și ora 30 Ianuarie 2015, ora 10:00

Locul Brașov, Strada Iuliu Maniu, Nr. 50, Corp P, Sala PP6