Seminar on Stochastic Analysis on Manifolds

1. Stochastic differential equations on manifolds (Hsu, Chapter 1; Hackenbroch and Thalmaier, Section 7.1)
2. Horizontal lift and stochastic development (Hsu, Sections 2.1–2.4; Hackenbroch and Thalmaier, Section 7.4)
3. Martingales on manifolds (Hsu, Sections 2.5–2.6; Hackenbroch and Thalmaier, Section 7.3)
4. Brownian motion on manifolds (Hsu, Chapter 3; Hackenbroch and Thalmaier, Section 7.3)
5. Asymptotic behavior of Brownian motion (Hsu, Chapter 4; Hackenbroch and Thalmaier, Section 7.8)
6. Dirichlet problem at infinity (Hsu, Sections 6.1–6.4)
7. Coupling of Brownian motions (Hsu, Sections 6.5–6.7; Wang, Section 2.1)
8. Brownian motion on manifolds with time-dependent Riemannian metric (Coulibaly-Pasquier)
9. Martingales on manifolds with time-dependent connection (Guo, Philipowski and Thalmaier)

References


E. P. Hsu (2002), *Stochastic Analysis on Manifolds*. American Mathematical Society, Providence, RI.