

Dr. Martin Langer  
Dr. Steffen Sagave  
Winter term 2011/12

## Graduate Seminar Advanced Topology S4D4 “Selected papers in homotopy theory”

Tuesday 12-14, room 0.006

The idea of this seminar is that each participant will give one or two talks about a “classic” paper in homotopy theory or a related topic. By definition, “classic” refers to papers which have become influential because they solved important problems or laid the foundations for work of many other people.

### Schedule

**Talk 1, 2011/10/11**

*Vector fields on spheres* [Ada62], Part I

**Talk 2, 2011/10/18**

*Vector fields on spheres* [Ada62], Part II

**Talk 3, 2011/10/25**

*On the (co-) homology of commutative rings* [Qui70], Part I

**Talk 4, 2011/11/08**

*On the (co-) homology of commutative rings* [Qui70], Part II

**Talk 5, 2011/11/15**

*Categories and cohomology theories* [Seg74], Part I

**Talk 6, 2011/11/22**

*Categories and cohomology theories* [Seg74], Part II

**Talk 7, 2011/11/29**

*Homotopy theory of  $\Gamma$ -spaces, spectra, and bisimplicial sets* [BF78], Part I

**Talk 8, 2011/12/06**

*Homotopy theory of  $\Gamma$ -spaces, spectra, and bisimplicial sets* [BF78], Part II

**Talk 9, 2011/12/13**

*Higher algebraic K-theory. II (after Daniel Quillen)* [Gra76], Part I

**Talk 10, 2011/12/20**

*Higher algebraic K-theory. II (after Daniel Quillen)* [Gra76], Part II

**Talk 11, 2012/01/10**

*The localization of spectra with respect to homology* [Bou79], Part I

**Talk 12, 2012/01/17**

*The localization of spectra with respect to homology* [Bou79], Part II

**Talk 13, 2012/01/24**

*On the groups  $J(X)$ . IV* [Ada66], Part I

**Talk 14, 2012/01/31**

*On the groups  $J(X)$ . IV* [Ada66], Part II

## References

- [Ada62] J. F. Adams, *Vector fields on spheres*, Ann. of Math. (2) **75** (1962), 603–632. DOI:10.2307/1970213. MR0139178 (25 #2614)
- [Ada66] ———, *On the groups  $J(X)$ . IV*, Topology **5** (1966), 21–71. DOI:10.1016/0040-9383(66)90004-8. MR0198470 (33 #6628)
- [BF78] A. K. Bousfield and E. M. Friedlander, *Homotopy theory of  $\Gamma$ -spaces, spectra, and bisimplicial sets*, Geometric applications of homotopy theory (Proc. Conf., Evanston, Ill., 1977), II, 1978, pp. 80–130. DOI:10.1007/BFb0068711. MR513569 (80e:55021)
- [Bou79] A. K. Bousfield, *The localization of spectra with respect to homology*, Topology **18** (1979), no. 4, 257–281. DOI:10.1016/0040-9383(79)90018-1. MR551009 (80m:55006)
- [Gra76] Daniel Grayson, *Higher algebraic K-theory. II (after Daniel Quillen)*, Algebraic K-theory (Proc. Conf., Northwestern Univ., Evanston, Ill., 1976), 1976, pp. 217–240. Lecture Notes in Math., Vol. 551. DOI:10.1007/BFb0080003. MR0574096 (58 #28137)
- [Qui70] Daniel Quillen, *On the (co-) homology of commutative rings*, Applications of Categorical Algebra (Proc. Sympos. Pure Math., Vol. XVII, New York, 1968), 1970, pp. 65–87. MR0257068 (41 #1722)
- [Seg74] Graeme Segal, *Categories and cohomology theories*, Topology **13** (1974), 293–312. DOI:10.1016/0040-9383(74)90022-6. MR0353298 (50 #5782)