1. **James Cameron**, *The local cohomology modules of group cohomology rings*

   Group cohomology rings have many striking properties, one of which is the fact due to Benson and Carlson that Cohen-Macaulay group cohomology rings are always Gorenstein. In fact, Dwyer, Greenlees, and Iyengar show that the ring spectrum of cochains on BG always satisfies a Gorenstein condition, which manifests itself algebraically in the form of a spectral sequence starting with the local cohomology of H^*BG and converging to the homology of BG. Using a filtration of the Borel equivariant cohomology ring of a smooth manifold with an action of an elementary abelian p-group due to Duflot and techniques used by Symonds in his proof that group cohomology rings have Castelnuovo-Mumford regularity zero, we construct a tractable chain complex computing the Matlis duals of the local cohomology modules of group cohomology rings.

2. **Kevin Carlson**, *Modeling* $(\infty, 1)$*-categories with derivators*

   We will describe progress towards a presentation of the homotopy theory of homotopy theories by derivators. A main goal is to have the weak equivalences between fibrant objects detected by equivalences on sufficiently many homotopy categories, thus yielding an infinity-version of the classical Whitehead theorem.

3. **Yue Feng**, *Topological Fukaya category over* E_∞ *ring spectra*

   Topological Fukaya category, as a local analog of Fukaya category associated to arbitrary symplectic manifolds, is first proposed by Kontsevich and later developed by Kapranov, Dyckerhoff, Sibilla and other people. In this talk we try to introduce a K-theoretic construction of topological Fukaya category involving Waldhausen's S category, perverse prestacks and Tamarkin's microlocal operad. If time permits I'll also discuss some local-global correspondence by factorization homotopy and bordism category. This is based on my work in progress.

4. **Zhen Huan**, *Quasi-elliptic cohomology*

   Quasi-elliptic cohomology is closely related to Tate K-theory. It can be interpreted by orbifold loop spaces and expressed in terms of equivariant K-theories. We formulate the complete power operation of this theory. Applying that we proved the finite subgroups of Tate curve can be classified by the Tate K-theory of symmetric groups modulo a certain transfer ideal. Moreover, we construct a G-orthogonal spectra weakly representing quasi-elliptic cohomology. Unfortunately, our construction does not arise from a global spectra; thus, we consider a new formulation of global stable homotopy theory that contains quasi-elliptic cohomology.

5. **Magdalena Kedziorek** *Left-induced model structures*

   Classical, powerful results for inducing (or transferring) model structures are due to Quillen and Kan. They've already been very useful, opening certain categories to the tools of homotopy theory. However, they can only be used in specific situations with a right adjoint defining weak equivalences and fibrations.

   In this talk I will discuss a dual situation, where one uses a left adjoint to define weak equivalences and cofibrations. I will introduce a class of accessible model structures on locally presentable categories, which includes, but is more general than, combinatorial model structures. An accessible model structure is particularly good if one wants to left- (or right-) induce it along an adjunction - one needs to check only one compatibility condition. If it holds then one obtains a model structure and it is again accessible.

I will show how easy it is to check this compatibility condition for left-induced model structures in many cases and give specific examples. This is joint work with K.Hess, E.Riehl and B.Shipley.

6. **Dimitar Kodjabachev**, *Gorenstein duality for topological modular forms with level structure*

   Gorenstein duality is a homotopy theoretic framework that allows one to view a number of dualities in algebra, geometry and topology as examples of a single phenomenon. I will briefly introduce the framework and try to illustrate it with examples coming from derived algebraic geometry, especially topological modular forms with level structure.

7. **Tasos Moulinos**, *On the Topological K-theory of derived Azumaya algebras*

   Recent work of Anthony Blanc constucts a localizing invariant of $\mathbb{C}$-linear stable ∞-categories, called topological K-theory. The name arises from the fact that for $\phi : X \to Spec(\mathbb{C})$, a sufficiently nice scheme, $K^{top}(Perf(X)) \simeq KU^*(X(\mathbb{C}))$, the topological K-theory of the associated space of complex points. In this talk I describe recent work extending this idea to Azumaya algebras over such schemes. Namely, if T is a derived Azumaya algebra over X, we can identify $K^{top}(T)$ with $KU^{\alpha}(X(\mathbb{C}))$, a form of twisted topological K-theory of $X(\mathbb{C})$.

8. **Peter Nelson**, *A Small Presentation for Morava E-theory Power Operations*

   We give a small and somewhat explicit presentation for the action of (not-necessarily additive) power operations on the homotopy of $K(n)$-local commutative algebras for height n Morava E-theory. This depends only on the E-cohomology of two symmetric groups. We hope for this to aid in computations of mapping spaces between commutative E-algebras.

9. **Viktoriya Ozornova**, *Splitting of $TMF_0(7)$*

   This is joint work with Lennart Meier. We obtain a splitting of a variant of TMF with level structure into easier pieces. I will also sketch the underlying algebraic result about the vector bundles on the moduli stack of elliptic curves.

10. **Nicolas Ricka**, *Motivic modular forms*

    In this talk, I will describe the construction of a motivic version of tmf, that is, a motivic ring spectrum whose cohomology is $A//A(2)$. This answers positively a conjecture made by Dan Isaksen.

11. **Husney Parvez Sarwar**, *K-theory of affine toric varieties*

    We will discuss various questions of Gubeladze about K-theory singular toric varieties. Then we answer some of them. This is a joint work with Amalendu Krishna.

12. **Helene Sigloch**, *Homotopy classification of line bundles over rigid analytic varieties*

Steenrod proved that the infinite Grassmannian Gr_n classifies isomorphism classes of vector bundles of rank n over a paracompact Hausdorff topological space. Similar theorems hold for complex analytic vector bundles over a complex Stein space (Grauert) and algebraic vector bundles over a smooth affine variety (F. Morel). In the algebraic case one has to work with $\mathbb{A}^1$-homotopy theory instead of classical topological homotopy theory. We want the same for analytic spaces over a complete nonarchimedean valued field. In my thesis I proved this for line bundles over a nonarchimedean quasi-Stein space using a variant of $\mathbb{A}^1$-homotopy theory constructed by Ayoub. As expected, the classifying space is $\mathbb{P}^\infty$.