

## LEHRSTUHL XIII - TOPOLOGIE

RUHR-UNIVERSITÄT BOCHUM

Gebäude NA 1/66  
Universitätsstr. 150  
D-44801 Bochum

Fon: +49 234 32-22160  
Fax: +49 234 32-14750  
gerd.laures@rub.de  
www.rub.de

## OBERSEMINAR TOPOLOGIE

**Referent:** Dan Berwick-Evans (University of Illinois)

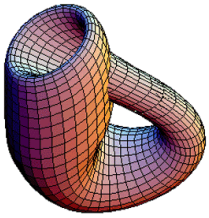
**Thema:** Field theories and elliptic cohomology

**Zeit:** Donnerstag, 26. Januar 2017, 16 Uhr s.t.  
Kaffee/Tee ab 15.45 Uhr

**Ort:** Friedrich-Sommer-Raum NA 1/58

**Hierzu sind alle Interessenten herzlich eingeladen!**

19. Januar 2017



# LEHRSTUHL XIII – TOPOLOGIE

Prof. Dr. Gerd Laures

## OBERSEMINAR TOPOLOGIE

**Referent:** Markus Land, Uni Regensburg

**Thema:** L-theorie und die Tate Konstruktion von  
algebraischer K-theorie

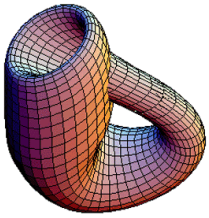
**Referent:** Fabian Hebestreit, Uni Bonn

**Thema:** Ein Verschwindungssatz für tautologische Klassen

**Zeit:** Donnerstag, 16. März 2017, 16 Uhr s.t.  
Kaffee/Tee ab 15.45 Uhr

**Ort:** Friedrich-Sommer-Raum NA 1/58

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Prof. Dr. Gerd Laures

## OBERSEMINAR TOPOLOGIE

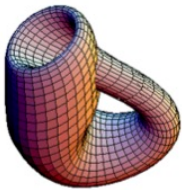
**Referent:** Hanno von Bodecker

**Thema:** TAF via curves

**Zeit:** Dienstag, 11. Juli 2017, 16 Uhr s.t.  
Kaffee/Tee ab 15.45 Uhr

**Ort:** Friedrich-Sommer-Raum NA 1/58

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## LEHRSTUHL XIII – TOPOLOGIE

Prof. Dr. Gerd Laures

### OBERSEMINAR TOPOLOGIE

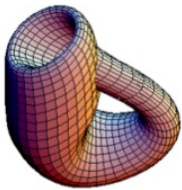
**Referent:** Jan Holz (Lehrstuhl Topologie)

**Thema:** Symplektischer Bordismus und 2-wertige formale Gruppengesetze

**Zeit:** Dienstag, 19. September 2017, 16 Uhr c.t.  
Kaffee/Tee ab 15.45 Uhr

**Ort:** Seminar-Raum NA 1/64

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## LEHRSTUHL XIII – TOPOLOGIE

Prof. Dr. Gerd Laures

### OBERSEMINAR TOPOLOGIE

**Referent:** Barbara Giunti (Università degli studi di Pavia)

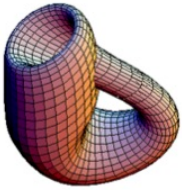
**Thema:** Zigzag persistence: a way to classify barcode intervals

**Zeit:** Dienstag, 26. September 2017, 16 Uhr c.t.  
Kaffee/Tee ab 15.45 Uhr

**Ort:** Friedrich-Sommer-Raum NA 1/58

**Abstract:** Zigzag persistence generalises the theory of persistent homology, avoiding the limitation of working only with forward maps. In the seminar will be given an introduction to zigzag modules, and how they decompose into interval modules. Those interval modules carry the information about how the homological features arise and perish, throw the classification of the barcodes into four classes. To achieve this goal, persistence will be defined as finite rectangle measures on the half plane.

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## LEHRSTUHL XIII – TOPOLOGIE

Prof. Dr. Gerd Laures

### OBERSEMINAR TOPOLOGIE

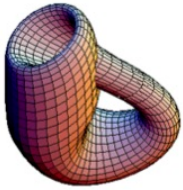
**Referent:** Prof. Dr. Gerd Laures

**Thema:** On  $K(2)$ -local decompositions of  $MString$

**Zeit:** Dienstag, 07. November 2017, 16 Uhr c.t.  
Kaffee/Tee ab 15.45 Uhr

**Ort:** Friedrich-Sommer-Raum NA 1/58

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## LEHRSTUHL XIII – TOPOLOGIE

Prof. Dr. Gerd Laures

### VORTRAG IM OBERSEMINAR TOPOLOGIE

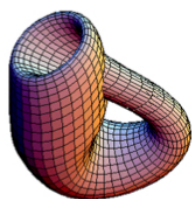
**Referent:** Tyler Foster, MPI Bonn

**Thema:** Homotopy equivalences of non-Archimedean analytic spaces

**Zeit:** Freitag, 17. November 2017, 14.30 Uhr c.t.  
Kaffee/Tee ab 14.00 Uhr

**Ort:** Seminar-Raum NA 3/24

**Hierzu sind alle Interessenten herzlich eingeladen!**



## VORTRÄGE IM OBERSEMINAR TOPOLOGIE

**Zeit/Ort:** Montag, 27. November 2017, 14 Uhr c.t.  
Kaffee/Tee ab 13.45 Uhr  
Friedrich-Sommer-Raum NA 1/58

**Referent:** **Irakli Patchkoria, Uni Bonn**

**Thema:** Real topological Hochschild homology

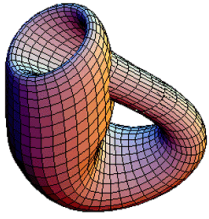
**Abstract:** This talk will define the real topological Hochschild homology (THR), introduced by Hesselholt and Madsen. THR is an invariant for rings with anti-involution and is a genuine  $\mathbb{Z}/2$ -equivariant refinement of the classical topological Hochschild homology. THR approximates the real algebraic K-theory  $KR$  and hence on fixed points one gets an approximation for the Hermitian K-theory. In this talk we will concentrate on foundations of THR. We will compare different models and discuss tools for computations. Along the way we will introduce necessary equivariant homotopy theory background. At the end we will compute the group of components of THR and THR of finite fields. This is a joint work with E. Dotto, K. Moi and S. Reeh.

**Referent:** **Emanuele Dotto, Uni Bonn**

**Thema:** The trace map for the Hermitian K-theory of  $\mathbb{Z}/2$ -equivariant ring spectra

**Abstract:** I will talk about joint work with C. Ogle, where we extend the construction of Hesselholt and Madsen's real K-theory to ring spectra "with genuine involution". We define a trace to real topological Hochschild homology, and we show that the restricted assembly map of the spherical group-ring splits. We then reformulate the Novikov conjecture in terms of the module structure of the "genuine L-theory spectrum" of the spherical group-ring.

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# LEHRSTUHL XIII – TOPOLOGIE

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## VORTRAG IM OBERSEMINAR TOPOLOGIE

**Zeit/Ort:** Montag, 04. Dezember 2017, 16 Uhr c.t.

Kaffee/Tee ab 15.45 Uhr

Seminar-Raum NA 1/64

**Referent:** Bogdan Gheorghe, MPI Bonn

**Thema:** From filtered spectra to Cellular Motivic Homotopy over Spec  $\mathbb{C}$

**Abstract:** This is current work in progress with Achim Krause and Nicolas Ricka. Motivic homotopy theory over the complex numbers (or related bases) is becoming a tool for attacking classical problems in algebraic topology, in a similar fashion that equivariant homotopy theory can be. For example, recent work of Isaksen & collaborators extended the calculation of classic stable homotopy groups of spheres this way, and Behrens & collaborators made progress towards the telescope conjecture. In this talk we will give a new construction of the category of cellular motivic spectra over Spec  $\mathbb{C}$ , by completely avoiding Morel & Voevodsky's construction and without talking about schemes. Our approach uses the category of filtered spectra, in which the extra filtration grading corresponds to the motivic weight. If time permits, I will show how we can easily recover known computations, for example by recomputing the motivic Steenrod algebra of Voevodsky.

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