

CHROMATIC HOMOTOPY, K -THEORY AND FUNCTORS

CIRM, LUMINY, 23-27.01.2023

THURSDAY 15:30 – 16:30, **John Rognes** (University of Oslo):

Topological cyclic homology of the second truncated Brown–Peterson spectrum.

In joint work with Gabriel Angelini-Knoll, Christian Ausoni, Dominic Leon Culver and Eva Höning, we calculate the mod (p, v_1, v_2) homotopy $V(2)_*TC(BP\langle 2 \rangle)$ of the topological cyclic homology of the truncated Brown–Peterson spectrum $BP\langle 2 \rangle$, at all primes $p \geq 7$, and show that it is a finitely generated and free $\mathbb{F}_p[v_3]$ -module on $12p + 4$ generators in explicit degrees within the range $-1 \leq * \leq 2p^3 + 2p^2 + 2p - 3$. Our computation is the first that exhibits chromatic redshift from pure v_2 -periodicity to pure v_3 -periodicity in a precise quantitative manner.