

1143-55-20

**Montek Singh Gill\*** (montekg@umich.edu). *Stable operads and spectral chains.*

Let  $\mathcal{EZ}$  denote the Eilenberg-Zilber operad. McClure and Smith have constructed a small combinatorial  $E_\infty$  operad  $\mathcal{MS}$  which embeds into  $\mathcal{EZ}$  via an inclusion  $\mathcal{MS} \rightarrow \mathcal{EZ}$ . Both  $\mathcal{EZ}$  and  $\mathcal{MS}$  act naturally on the normalized cochains  $N^\bullet(X)$  of a simplicial set  $X$ . I will discuss a notion of suspension of operads, and the fact that  $\mathcal{EZ}$  and  $\mathcal{MS}$  admit stabilization maps  $\Sigma\mathcal{EZ} \rightarrow \mathcal{EZ}$  and  $\Sigma\mathcal{MS} \rightarrow \mathcal{MS}$ . I will discuss a notion of a stable operad, and will discuss stable analogues  $\mathcal{EZ}_{\text{st}}$  and  $\mathcal{MS}_{\text{st}}$  of the Eilenberg-Zilber and McClure-Smith operads. I will then discuss some applications of these concepts, including a convenient notion of spectral chains. (Received June 12, 2018)