

## ***TOPOLOGY SEMINAR***

**Guest Speaker: Sebastian Hensel**  
**Mathematics Institute, University of Munich**

**Date:** Tuesday, August 18, 2020

**Time:** 2:30 PM

**Location:** See Zoom Link Below Title



***Lecture Title:***

**Quasi-morphisms on surface diffeomorphism groups**

**<https://notredame.zoom.us/j/97262637721>**

***Abstract***

We will construct nontrivial quasimorphisms on the group of diffeomorphisms of a surface of genus at least 1 which are isotopic to the identity. This involves considering the graph whose vertices correspond to curves on the surface (not up to isotopy!), and transferring usual curve graph methods to this setting. In particular, we show that it is hyperbolic, and we construct elements of  $\text{Diff}_0(S)$  which act as independent enough hyperbolic elements on it. As a consequence, we also solve a question by Burago-Ivanov-Polterovich on the unboundedness of the fragmentation norm. This is joint work with Jonathan Bowden and Richard Webb.