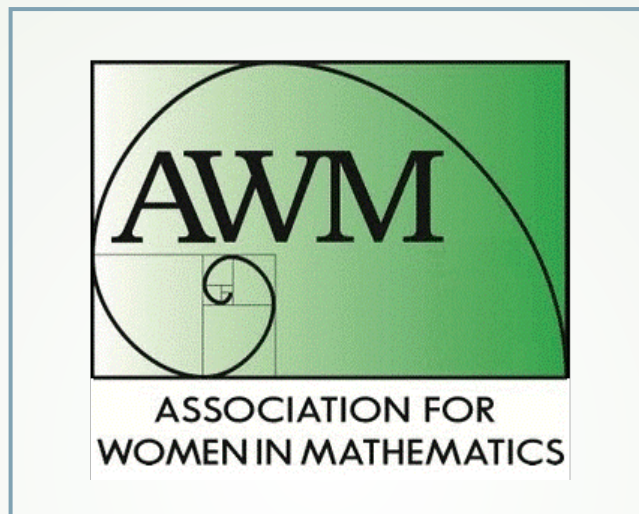


UB's AWM Lecture Series
and
Topology Seminar Present:

DR. ELIZABETH MUNCH
FRIDAY SEPTEMBER 23RD
AT 4:00PM



Located in Math 122.

THE INTERLEAVING DISTANCE

When working with data, it is imperative to have a definition of a distance in order to rigorously define concepts such as noise and approximations. The interleaving distance was first defined in the context of generalizing the bottleneck distance for persistence diagrams, a common tool from topological data analysis (TDA) by Chazal et al. It was then shown to fit easily into the categorified framework of persistence modules provided by Bubenik and Scott. Category theory allows the idea to be fluidly moved and redefined to work on many other constructions. In particular, some standard metrics such as L_∞ and Hausdorff distance, can also be viewed as special cases of the interleaving distance. In this talk, we will discuss the basic ideas for the interleaving, its generalized definition in the category theory language, and recent work extending this idea to give interleavings on Reeb graphs and Merge trees. This work is joint with Vin de Silva, Amit Patel, and Anastasios Stefanou.