ΑΡΧΙΜΗΔΟΥΣ ΣΤΟΜΑ
..... ON
Τού λεγομένου στομαχίου ποικί-
λαν ἔχοντος τὰ ἐξ ὧν συνέσταχε
σχημάτων μεταθέσεως θεωρίαν
ἀναγκαῖον ἡγησάμην πρᾶτον τοῦ
ὅλου σ⟨χήματο⟩ς μεγέθ⟨ους θεω⟩-

—Archimedes, *Ostomachion*

# THE TRIVIAL NOTIONS SEMINAR

## An invitation to noncommutative (linear) algebra

a talk by

### Lucy Yang

ABSTRACT

We exhibit techniques for manipulating stable $\infty$-categories which are geometric in nature. In particular, we discuss how one may glue these categories (via récollements and semiorthogonal decompositions) and how the space of length $n$ semiorthogonal decompositions of a fixed stable $\infty$-category $C$ naturally admits an action of the braid group on $n$ strands via *mutation*. We discuss how to 'de-categorify' via exceptional collections and their relationship to quiver representations. Time permitting, we look into the connection between mutating subcategories across each other and mutation in the sense of cluster algebras. This talk will be motivated via examples and audience members are invited to suggest their own.

**Friday, May 5, 2023**

**11:50am**

**Science Center, Room 232**