

Department of Mathematics, BGU

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## Colloquium

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*On Tuesday, November ,10 2015*

*At 14:30 – 15:30*

*In Math 101-*

Daniel Moskovich (BGU)

will talk about

### **Low dimensional topology of information fusion**

Abstract: It has been suggested that every good mathematical pattern ought to be manifest in nature. This talk surveys the speaker's work with A.Y. Carmi on a manifestation of low-dimensional topology's diagrammatic calculus of tangles in the theory of information fusion networks e.g. sensor networks and complex systems. It turns out that various sets of information-theoretic quantities such as sets of entropies naturally admit an algebraic structure called a quandle. The topological toolbox is completely different from the toolbox of statistical inference. Our diagrams are similar but not identical to classical tangle diagrams, and our work involves studying their diagrammatic algebra. The talk is planned to be accessible to a general mathematical audience.