S E M I N A R

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On Cellularity, Irreducibility and the Sober and Preregular properties in the Lower Vietoris Topology

Date:
Thursday, 14 November 2024

Time:
12h15-13h15 SAST

Venue:
- **NITheCS Seminar Room**
  University of KwaZulu-Natal
  Westville Campus
  3rd Floor, H-Block,
  School of Chemistry and Physics

- **Online**

Refreshments will be served

WHO SHOULD ATTEND?
This talk is intended to be accessible to postgraduate students. All are welcome!

ENQUIRIES:
Email Neli Mncube:
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ABSTRACT:

A hyperspace generally refers to a topological space whose points are subsets of another space, called the base space. The lower Vietoris topology is a hypertopology that can be defined on any set of subsets of an arbitrary space. It has applications in the study of multi-valued functions, category theory and order theory. In particular the Hoare powerspace is a hyperspace with the lower Vietoris topology which is related to the Hoare powerdomain, a model of angelic non-determinism in theoretical computer science. Together with the upper Vietoris topology and the co-compact topology, the lower Vietoris topology provides a foundation for both the Vietoris topology and the Fell topology respectively, two of the most extensively studied hypertopologies. In this talk we discuss several aspects of the lower Vietoris topology on arbitrary hyperspaces which have not been investigated in the literature, amongst them being the cellularity, irreducibility and the sober and preregular properties.

Shimon Corcos is a PhD candidate at the School of Mathematics, Statistics and Computer Science at the University of KwaZulu-Natal.

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