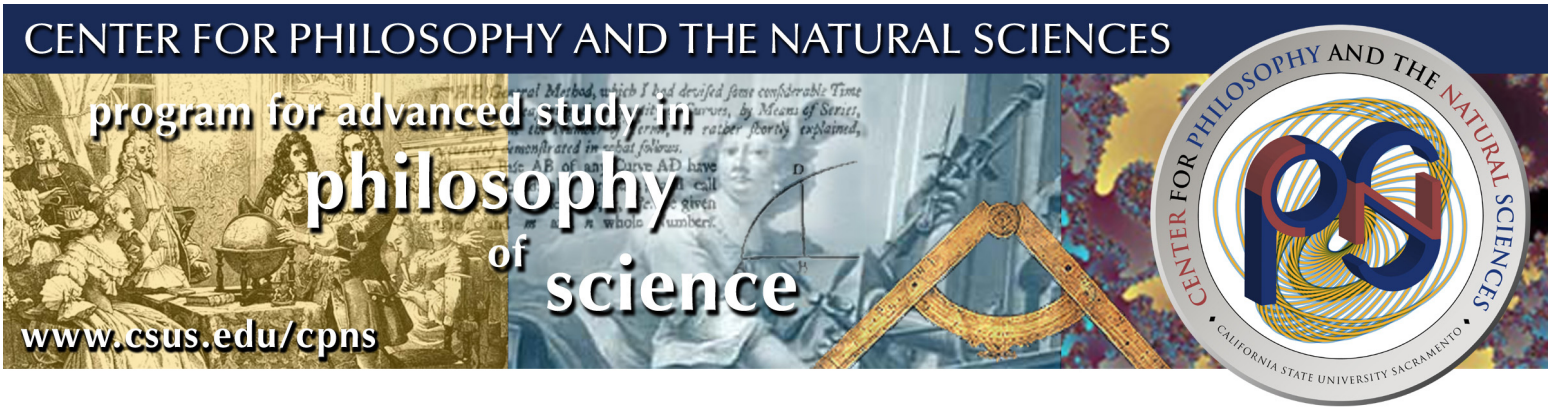


# SEMINAR

## A Sheaf Theoretic Framework for the Representation of Quantum Event Structures in Terms of Boolean Covering Systems

CSUS Department of Mathematics Colloquium

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This seminar will present a sheaf-theoretic framework for the representation of quantum event and observable structures in terms of Boolean covering systems.This algebraic representation scheme effects a semantic transition of quantum structures from the axiomatic set-theoretic context of orthocomplemented partially ordered sets according to Birkhoff and Von Neumann, to the categorical sheaf-theoretic context of Boolean localization systems according to Grothendieck. The representation is based on the existence of a categorical adjunction between presheaves of Boolean event algebras and quantum event algebras. Using this adjunction we will elaborate on the following: [1] Decoding the global information contained in quantum event structures inductively via partially compatible processes of localization in Boolean reference frames realized as physical contexts for measurement of observables; and [2] Classifying quantum information in terms of contextual truth valuations with respect to these Boolean logical frames.

**DATE AND TIME**: Thursday, October 25, 2012
3:00 – 3:50

**LOCATION:** California State University
Sacramento, Brighton Hall Rm. 204

Visit www.csus.edu/cpns for more info.