New Hampshire Operator Theory Symposium

Schedule of Events

October 30, 2012

10:00 - 11:00

Speaker: Don Hadwin

Title: Remarks on Kadison's Similarity Problem

Abstract: I will discuss variants of Kadison's Similarity Problem and new results (with Weihua Li) on Pisier's Similarity degree.

11:00 - 12:00

Speaker: Junhao Shen

Title: Extension of MF algebras

Abstract: In the talk, we will investigate the problem whether extensions of MF algebras are still MF algebras. The concept of MF algebra was introduced by Blackadar and Kirchberg in 1997. It plays important role in BDF extension theory and Voiculescu's topological free entropy theory. In the talk, we will show some sufficient conditions on MF algebras such that extensions of these MF algebras are again MF algebras. It is a joint work with Don Hadwin and Qihui Li.

12:00 - 1:30

Lunch in Kemeny 300

1:30 - 2:30

Speaker: Fred Shultz

Title: Finding decompositions of separable states

Abstract: We consider the class of separable states which admit a decomposition $\sum_i A_i \otimes B_i$ with the B_i's having independent images. We give a simple intrinsic characterization of this class of states. Given a density matrix in this class, we construct such a decomposition, which

can be chosen so that the A_i's are distinct with unit trace, and then the decomposition is unique. We relate this to the facial structure of the set of separable states.

The states investigated include a class that corresponds (under the Choi-Jamiołkowski isomorphism) to the quantum channels called quantum-classical and classical-quantum by Holevo.

2:30 - 3:30

Speaker: Liang Kong

Title: Conformal field theory and a new geometry

Abstract: I will review the main results of the operator algebra approach to 2-dimensional conformal field theory, which is a special type of quantum field theory. Then I will tell you how a conformal field theory can be viewed as a stringy generalization of Riemannian geometry.

3:30 - 4:00

Break

4:00 - 5:00

Speaker: Scott LaLonde

Title: Nuclearity of groupoid crossed products

Abstract: The goal of this talk is to sketch a proof of the fact that the crossed product of a nuclear C^*-algebra by a measurewise amenable groupoid is nuclear. We'll begin with an outline of the proof for group crossed products, followed by a brief overview of groupoid crossed products. Then we will get into tensor product dynamical systems and the actual proof.

DINNER

Dinner will be at Jesses in Hanover. The reservation is for 6:00. From Dartmouth, take N. Park St South, back towards I-89. Continue straight through the funny intersection, with the Hanover Co-Op on the left, and onto Rt 120. The restaurant is on the left at the second set of lights and there is a gas station to the right.