

# Recommended Restaurants

## More Expensive

- Giulia (classic Italian)
- Rialto (Italian inspired)
- Toscano (classic Italian)
- Harvest (modern American)
- Alden & Harlow (modern American)

## Less Expensive

- Russell House Tavern (pub fare)
- Grafton Street (pub fare)
- Cambridge One (pizza)
- Daedalus (pub fare)
- Tanjore (Indian)
- Spice (Thai)



**In black:** Fong Auditorium (Boylston), the Faculty Club, and the Society of Fellows (Eliot House)

# Conference in Honor of Hugh Woodin's 60th Birthday

## Friday, March 27:

2:00 - 3:00

Fong Auditorium  
(Boylston Hall 110)

### Norming Infinitesimals of Large Fields

H. G. Dales

Long ago, I worked on a question of Kaplansky concerning the existence of discontinuous homomorphisms into a Banach algebra from the algebra  $C(\Omega)$  of all continuous functions on a compact space  $\Omega$ . I shall recall this problem and some reformulations, and note that with CH, such discontinuous homomorphisms were constructed by myself and by Jean Esterle. I shall also explain that Hugh Woodin proved that there are models of ZFC in which all such homomorphisms are continuous. Thus the question is independent of ZFC.

One reformulation involves norming the infinitesimals of a large ordered field. This leads to two natural questions. First, for which fields is this possible? Second, when are ordered fields isomorphic to fields, such as hyper-real fields and super-real fields, that arise from algebras of continuous functions? Large cardinals come in here.

I claim that one particular field is a 'natural grown-up version of the real line'. But it is open whether the infinitesimals of this field are normable.

3:30 - 4:30

### Strong Reflection Properties at $\omega_3$ and Inner Models with Huge Cardinals

Matthew Foreman

A consistent variant of Chang's Conjecture is presented that implies an inner model with a huge cardinal. The proof is quite elementary and will be presented.

5:00 - 7:00

Harvard Faculty Club  
(Library)

### Reception

## Saturday, March 28:

8:15 - 9:00

Ticknor Lounge  
(Boylston Hall)

### Breakfast

9:00 - 10:00

Fong Auditorium  
(Boylston Hall 110)

### Subcomplete and Subproper Forcing

Ronald Jensen

10:30 - 11:30

### Descriptive Graph Combinatorics

Alexander S. Kechris

This talk is about a relatively new subject, developed in the last two decades or so, which is at the interface of descriptive set theory and graph theory but also has interesting connections with other areas such as ergodic theory and probability theory.

The object of study is the theory of definable graphs, usually Borel or analytic, on Polish spaces and one investigates how combinatorial concepts, such as colorings and matchings, behave under definability constraints, i.e., when they are required to be definable or perhaps well-behaved in the topological or measure theoretic sense.

11:30 - 12:30

Fong Auditorium  
(Boylston Hall 110)

### Inner Models Defined from Generalized Logics and MM

Menachem Magidor

The subjects that will be discussed in the talk are part of an ongoing project (jointly with J. Kennedy and J. Vaananen) of studying the inner models one gets by imitating the construction of the constructible universe  $L$ , but replacing "first order definability" in the successor stage of the construction by "definable by the logic  $L$ " where  $L$  is a logic generalizing first order logic.

In the talk we shall concentrate on the model constructed using the "aa" logic (first order logic with the quantifier  $\text{aa}P \Phi(P)$  meaning "for a club of countable subsets of the model  $\Phi(P)$  holds.") We shall be especially interested in the inner model one gets by using this logic in a universe of Set Theory satisfying Martin's Maximum (MM).

2:30 - 3:30

### Survey of Recent Work on Low Level Determinacy

Donald A. Martin

By "low level," I mean Borel or low  $\Delta_1^1$ . I will discuss recent results on the exact of strength of determinacy for various low level pointclasses, and I will mention some questions that remain open.

4:00 - 5:00

### Forcing Axioms and the Solovay Hierarchy

Grigor Sargsyan

We will show that PFA augmented by a mild large cardinal axiom implies that there is a model of  $\text{AD}^+$  in which there is a Largest Suslin cardinal which is a member of the Solovay sequence. The aforementioned determinacy theory, known as LSA, is one of the strongest pure determinacy theories known to us. We will also have a discussion of determinacy-like theories that are stronger than LSA. However, it is known that LSA is much weaker than a Woodin limit of Woodin cardinals.

## Sunday, March 29:

8:15 - 9:00

Ticknor Lounge  
(Boylston Hall)

### Breakfast

9:00 - 10:00

Fong Auditorium  
(Boylston Hall 110)

### Woodin's Contributions to Recursion Theory

Theodore A. Slaman

I will discuss Woodin's contributions to Recursion Theory and the subsequent work that builds upon them.

10:30 - 11:30

### Equiconsistencies at Subcompact Cardinals

John Steel

We say that a regular cardinal  $\delta$  is threadable just in case every coherent sequence of clubs of length  $\delta$  can be properly extended. It is consistent relative to supercompact cardinals that every  $\delta \geq \omega_2$  is threadable. It seems likely that the converse relative consistency statement is true. We describe some work in this direction due to Itay Neeman and the author.

Organizers: Peter Koellner (919) 698-2532, Paul Larson (301) 580-8412, Gabriel Goldberg (323) 206-1749