Recent Advances in Core Model Theory

The American Institute of Mathematics

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Table of Contents

CHAPTER A: PARTICIPANT CONTRIBUTIONS

Participant Contributions

A.1 Aspero, David

Most of Hugh Woodin's deep work on core model theory remains unpublished. I believe this workshop will be an excellent opportunity for me to learn about the Cofinal Branches Hypothesis (about which I don't know much) and about Woodin's refutation of it.

A.2 Brooke-Taylor, Andrew

I find progress on the continuum hypothesis very interesting, and so learning what the ramifications of this work are for Woodin's Omega conjecture is particularly enticing. Also, my current area of study is at the level of I3, so it will be good to know more about the difficulties in trying to build models with superstrong cardinals, with an eye to continuing the ascent.

A.3 Brown, Elizabeth

Core Model Theory as such is largely a new topic to me; what I know about CMT specifically I have learnt in preparation for this workshop.

I am particularly interested in CMT as part of the general study of large cardinals and their equivalencies, and in the implications of CMT for analysis.

A.4 Cummings, James

Some of my goals/questions for the workshop:

A. I would like a better understanding of the relationship between models of the form $\mathrm{HOD}^{\mathrm{M}}$ and the classical $L[\vec{E}]$ models.
B. Very strong axioms are used in the refutations of UBH and CBH (at least in the versions of these results which I have heard about). How exactly are they used? Are they necessary?
C. I would like to know more about Woodin's recent work on promising extender sequences.
D. I would like to get a picture of the status and significance of the Ω conjecture.

A.5 Dobrinen, Natasha

I am delighted to participate in the ARCC Workshop. My general goal is, naturally, to gain a deeper and better understanding of the state of the art in core model research and find some open problems to work on. In particular, my research with games related to distributive laws in Boolean algebras is leading me to look at large cardinals. My hope is to learn techniques for working with large cardinals which will help in settling questions about relationships between games, distributive laws, and stationary subsets of $P_\kappa\lambda$.

A.6 Dzamonja, Mirna

The primary interest of my research is combinatorial set theory. The fields of core model theory and combinatorial set theory may look rather distant at a first glance, but in fact the work in the last ten or so years have shown that there is a large overlap. I am very

pleased to participate in the workshop with the idea of learning more methods that have been invented within the core model theory and understanding their combinatorial nature.

A.7 Fuchs, Gunter

Of the scope of the conference, two topics are of main importance to me.

Firstly, getting familiar with the method used to refute the CBH is essential. I am looking forward to learning about this.

Secondly, the theory of inner models constructed relative to a sequence of extenders together with partial iteration strategies seems to get more and more important. This is an intriguing area, and I hope to be able to do some research here, using a very widely applicable form of fine structure theory.

A.8 Greenberg, Noam

My mathematical training is mainly in recursion theory on admissible ordinals, in which fine-structural notions come into play. I am also in general interested in set theory; inner model theory in particular has some flavor of recursion theory, and so I hope to gain understanding of the field. As I am a beginner I'm afraid I don't have much to contribute in the way of suggesting problems or issues for consideration.

A.9 Koellner, Peter

I am interested in Woodin's HOD-analysis. In particular, I would like to come away from the workshop with an understanding of the analysis of $HOD^{L(R)}$ (under the assumption of $AD^{L(R)}$) and the proof that $HOD^{L(R)}$ thinks $V = HOD$.

A.10 Sargsyan, Grigor

I am a second year graduate student at UC, Berkeley, and have taken inner model theory seminars with Professor Steel and Professor Woodin. Having learnt the basics of inner model theory, I hope to learn, during this workshop, more advanced topics in core model theory.

A.11 Schimmerling, Ernest

Please see
http://www.math.cmu.edu/~eschimme/AIM/Index.html

A.12 Yoshinobu, Yasuo

I am working in core model theory. My interests are exactly those described by the organizers in their detailed conference description.