

PERSONAL INFORMATION **Stamatis Dimopoulos**

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EDUCATION

September 2014- July 2018 **PhD in Mathematics** ISCED 8
Thesis title: "New aspects of strongly compact cardinals"

Institution: University of Bristol

Supervisors: Dr. Andrew Brooke-Taylor and Prof. Philip Welch

Synopsis: Strong compactness is one of the established large cardinal notions, but it presents a pathological behaviour. Its preservation through forcing extensions comes with serious obstacles and as a result, there are fundamental questions about it that remain open. The first goal of the thesis is to define a powerful version of strong compactness, called "Woodinised strong compactness" and explore its properties. We show that the new concept suffers from an "identity crisis", i.e. the first witness can be very small or very large depending on the model of set theory we work in, a behaviour similar to that of the first strongly compact cardinal. Secondly, we investigate the interaction between forcing and strong compactness. We show that assuming only partial supercompactness, it is possible to increase the size of the power set of a strongly compact cardinal and at the same time, control the value of some of the most important cardinal characteristics. We also show that assuming a supercompact cardinal, we can collapse it to a cardinal which is strongly compact with no degree of supercompactness and fully control its cardinal characteristics.

September 2012 - September 2013 **MSc in Pure Mathematics and Logic** ISCED 7
Dissertation title: "Independence of the Continuum Hypothesis"

Institution: University of Manchester

Supervisor: Prof. Alex Wilkie

Modules included: Gödel's theorems, Group theory, Model theory, Set theory

September 2007 - March 2012 **BSc in Mathematics** ISCED 6

Institution: University of Athens

Result: 7.79/10

September 2005 - June 2007 **Greek Apolyterion** ISCED 3

Institution: 2nd Lyceum of Aghia Varvara, Greece

Result: 18.4/20

RESEARCH POSITIONS

January 2017 - Present **Visiting Researcher**

University of Leeds, UK

RESEARCH INTERESTS

I am interested in the interaction between large cardinals and forcing, in particular studying how large cardinals are preserved or destroyed by various forcing notions. I would like to continue my research in this area, with a focus on strongly compact cardinals and their variations. At the same time, I have grown an interest in the applications of large cardinals to other areas of mathematics, such as topology and model theory.

PUBLICATIONS

- Articles**
- S. D. Woodin for strong compactness cardinals. Accepted for publication in JSL. (Preprint available at <https://arxiv.org/abs/1710.05743>)
 - A. Apter & S. D. Strong compactness and the continuum function. In preparation.
- Notes**
- S. D. Woodin cardinals and forcing. (Preprint available at <https://arxiv.org/abs/1711.02962>)

AWARDS AND FUNDING

- UK Engineering and Physical Sciences Research Council (EPSRC) DTA 14 EP/M506473/1 PhD studentship, 2014-2018.
- Junior member grant from the INI institute to attend “Mathematical, Foundational and Computational Aspects of the Higher Infinite” workshop in Cambridge, Autumn 2016.
- CRM grant to attend “Intensive Research Programme on Large Cardinals and Strong Logics” in Barcelona, September 2016.
- Bristol Alumni Foundation travel grant to speak at “MAMLS Logic Friday” in CUNY Graduate Center New York, 27 October 2017.

PERSONAL SKILLS

- Administration**
- Co-organised an one-day conference for graduate logic and philosophy students from Bristol, Gothenburg and Oxford.
 - Co-organised a week-long research workshop on Set Theory in ICMS (Edinburgh), addressed to graduate students around the world. Involved in the search for funding sources and planning of the logistics, as well as the speakers and participants selection process and preparation of the booklet for the conference.

- Teaching experience**
- Academic tutoring for first year undergraduate mathematics courses including Analysis, Foundations and Proof, Group Theory.
 - Academic tutoring for first year Calculus course, addressed to students of other disciplines.
 - Marker for 3rd year mathematics courses including Set theory and Mathematical Logic.
 - Planned reading groups for graduate set theory students and presented regularly in them.
 - Have presented to both specialist and general mathematical audiences.
 - Adept at making science accessible to non-specialists. Was praised for presentation in a local event inviting PhD students to show their research in general audience.

- Relevant training** “Starting to teach”: one-day session on how to support students in academic tutorials and small group teaching.

Mother tongue Greek

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C2
International English Language Testing System (IELTS) 8.0					
French	A1	A2	A1	A1	A1
Diplôme d' études en langue française (DELFF) B2					

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](https://www.cedefop.europa.eu/en/etd/122)

- Computer skills**
- Competent user of LaTeX for the creation of articles, presentations and official documents.
 - Experience with HTML and Jekyll for the creation of webpages.

CONFERENCES AND PRESENTATIONS

Invited talks

- July 18, 2018 Accessible categories and their connections, Leeds
"Vopěnka's Principle and Woodin-like cardinals"
- October 27, 2017 MAMLS Logic Friday, New York
"Woodin for strong compactness cardinals, a new identity crisis"

Contributed talks

- July 24, 2018 Logic Colloquium 2018, Udine
"Strong compactness and the continuum function"
- January 31, 2018 Winter School in Abstract Analysis: Section Set theory and Topology
"Strong compactness and cardinal characteristics"
- March 7, 2017 Models and sets seminar, Leeds
"Large cardinals with identity crises"

Posters

- July 3-7, 2018 6th European Set Theory Conference, Budapest
"Woodin for strong compactness cardinals"

Conferences attended

- November 14-18, 2016 Applications of strong logics in other areas of Mathematics, Barcelona
- September 26-30, 2016 Set-theoretical aspects of the model theory of strong logics, Barcelona
- September 19-23, 2016 Advanced course on large cardinals and strong logics, Barcelona
- June 13-17, 2016 Young set theory masterclass, Copenhagen
- December 14-18, 2015 The role of the higher infinite in mathematics and other disciplines, Cambridge
- October 25-30, 2015 8th Young Set Theory workshop, Jerusalem
- August 24-28, 2015 5th European Set Theory Conference, Cambridge
- January 27 - February 7, 2015 Winter School in Abstract Analysis: Section Set Theory and Topology, Hejnice

PROFESSIONAL MEMBERSHIPS

Student member of the Association of Symbolic Logic (ASL).

REFERENCES

Dr. Andrew Brooke-Taylor (PhD supervisor)
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