

Dr. **ARI MEIR BRODSKY**

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TEACHING EXPERIENCE

- 2017–present **Teaching Fellow**, Department of Mathematics, Bar-Ilan University
Courses taught (in Hebrew) including determining syllabus, setting and marking exams:
Mathematical Logic (3rd year course for Mathematics specialists)
Graph Theory (3rd year course for Mathematics specialists)
[reference letter from students](#)
Advanced Algebra (to students in Graduate Engineering Degree programs)
- 2020 **Teaching Assistant**, Jerusalem College of Technology, Calculus I for Engineers
- Ongoing **Tutoring** individual students in mathematics, science, and religious studies at the elementary school, high school, college, and university levels, both in English and Hebrew, including students with learning disabilities
- 2001–2009 & 2014 **Teaching Assistant**, Department of Mathematics, University of Toronto
Calculus (various levels), Mathematical Logic, Concepts in Abstract Mathematics
Leading tutorials, individual assistance, marking, supervising tests and exams

ACADEMIC RESEARCH EMPLOYMENT

- 2017 – 2019 Postdoctoral fellow, Department of Mathematics, Ariel University, Ariel, Israel
2014 – 2017 Postdoctoral fellow, Department of Mathematics, Bar-Ilan University, Ramat-Gan, Israel

EDUCATION

- 2014 **Doctor of Philosophy** in Pure Mathematics,
Department of Mathematics, University of Toronto
Thesis: A Theory of Stationary Trees and the Balanced Baumgartner–Hajnal–Todorćević Theorem for Trees
Supervisor: Professor Stevo Todorćević
- 2002 **Master of Science**, Department of Mathematics, University of Toronto
- 2001 **Honours Bachelor of Science** with High Distinction (Magna Cum Laude),
Faculty of Arts and Science, University of Toronto
Specialist program in Mathematics; Minor in Computer Science
Dean’s List Scholar in recognition of academic excellence: 1998, 2000, 2001
- 1995 – 1997 **Yeshivat Sha’alvim**, Israel
Two-year program of intensive Talmudic and Religious Studies, with classes taught in Hebrew

PROFESSIONAL EXPERIENCE

- Summer 2001 **Editorial Assistant**, First Folio Resource Group, Inc., Toronto, Ontario
Editing high school mathematics textbooks and computer-based tutorials
- Summers 1999 and 2000 **Product Verification** at Nortel Networks in Ottawa - for Operator Services (Billing and Access Service) and Global Server products
- Summer 1998 **Programming** in Java, Techné Knowledge Systems Inc., Toronto
Developing a tool for software inventory analysis

PROGRAMMING LANGUAGES USED: Java, C++, Perl, LaTeX

PEER-REVIEWED PUBLICATIONS (total of 401 pages)

- A. M. Brodsky, *A Theory of Stationary Trees and the Balanced Baumgartner-Hajnal-Todorćevic Theorem for Trees*, Acta Math. Hungar., 144(2):285-352, December 2014.
- A. M. Brodsky and A. Rinot, *Reduced powers of Souslin trees*, Forum Math. Sigma, 5(e2):1-82, 2017.
- A. M. Brodsky and A. Rinot, *A microscopic approach to Souslin-tree constructions, Part I*, Ann. Pure Appl. Logic, 168(11):1949-2007, November 2017.
- A. M. Brodsky and A. Rinot, *More notions of forcing add a Souslin tree*, Notre Dame J. Form. Log., 60(3):437-455, August 2019.
- A. M. Brodsky and A. Rinot, *Distributive Aronszajn trees*, Fund. Math., 245(3):217-291, 2019.
- A. M. Brodsky and A. Rinot, *A remark on Schimmerling's question*, Order, 36(3):525-561, 2019.
- A. M. Brodsky and A. Rinot, *A microscopic approach to Souslin-tree construction, Part II*, Ann. Pure Appl. Logic, accepted June 2020, 61 pages.

INVITED TALKS

- KGRC Research Seminar, Kurt Gödel Research Center, Vienna, January 2016
- The 19th Midrasha Mathematicae, 8th Young Set Theory Workshop (Compactness, Incompactness and Canonical Structures), Israel Institute for Advanced Studies, Jerusalem, October 2015
- 22nd Boise Extravaganza in Set Theory, San Francisco State University, June 2015
- DU Sesquicentennial Ramsey Theory Conference, University of Denver, May 2014

CONTRIBUTED TALKS

- Set Theory, Model Theory & Applications, Ben-Gurion University of the Negev, Eilat, April 2018
- 6th European Set Theory Conference, Alfréd Rényi Institute of Mathematics, Budapest, July 2017
- ASL 2014 North American Annual Meeting, University of Colorado, Boulder, May 2014

SEMINAR TALKS

- Set Theory seminar, Bar-Ilan University, Ramat-Gan, January 2020
- Set Theory seminar, Bar-Ilan University, Ramat-Gan, April 2018
- Seminar series on Infinite Combinatorics, Ariel University, July 2017 – January 2018 (in Hebrew)
- Logic, Set Theory and Topology Seminar, Ben-Gurion University of the Negev, Beer Sheva, June 2017
- Set Theory seminar, Bar-Ilan University, Ramat-Gan, May 2017
- Set Theory seminar, Tel-Aviv University, May-June 2017 (in Hebrew)
- Toronto Set Theory Seminar, Fields Institute, Toronto, April 2017
- Toronto Set Theory Seminar, Fields Institute, Toronto, October 2016
- Colloquium, Bar-Ilan University, Ramat-Gan, June 2016 (in Hebrew)
- Combinatorics Seminar, Ariel University, June 2016 (in Hebrew)
- Logic, Set Theory and Topology Seminar, Ben-Gurion University of the Negev, Beer Sheva, May 2016 (in Hebrew)
- Toronto Set Theory Seminar, Fields Institute, Toronto, May 2016
- Set Theory seminar, Bar-Ilan University, Ramat-Gan, March 2016 (in Hebrew)
- Infinite Combinatorics seminar, Bar-Ilan University, Ramat-Gan, November 2014
- Toronto Set Theory Seminar, Fields Institute, Toronto, July 2013

PEER REVIEW

Referee for *Israel Journal of Mathematics* and *Bekhol Drakhekha Daehu*

SEMINARS, CONFERENCES, AND WORKSHOPS ATTENDED

April 2018	Set Theory, Model Theory and Applications, Ben-Gurion University of the Negev, Eilat
July 2017	6 th European Set Theory Conference, Alfréd Rényi Institute of Mathematics, Budapest
Feb. 2016	Menachem Magidor 70th Birthday Conference, The Hebrew University of Jerusalem
Oct. 2015	The 19th Midrasha Mathematicae, 8th Young Set Theory Workshop (Compactness, Incompactness and Canonical Structures), Israel Institute for Advanced Studies, Jerusalem
June 2015	22nd Boise Extravaganza in Set Theory, San Francisco State University
May 2014	DU Sesquicentennial Ramsey Theory Conference, University of Denver
May 2014	ASL 2014 North American Annual Meeting, University of Colorado, Boulder
2002-2014	Ongoing participation in the Toronto Set-Theory Seminar (Fields Institute) and the Toronto Student Set-Theory Seminar
Fall 2012	Fields Institute Thematic Program on Forcing and its Applications, Toronto
Oct. 2010	Workshop on the Concentration Phenomenon, Transformation Groups and Ramsey Theory, Fields Institute, Toronto
Nov. 2007	Conference in honour of the 60 th birthday of Professor Andreas R. Blass, Fields Institute
Sept. 2006	Combinatorial Set Theory Workshop, University of Florida, Gainesville
Fall 2002	Fields Institute Thematic Program on Set Theory and Analysis, Toronto

ADMINISTRATIVE ACTIVITIES AND COMMUNITY INVOLVEMENT

2007 – present	Formulated design specifications for, and helped develop computer-automated system for production of annual calendar with religious events and schedules for local synagogue; continue to maintain and upgrade the system annually
2005 – 2011	Editor of weekly e-bulletin and other announcements for local synagogue; also involved with editing semi-annual printed bulletin
2006 – 2010	Active with the Canadian Union of Public Employees (CUPE) Local 3902: successfully opposed anti-Israel resolutions at the Union's local and national levels
2001 – 2008	Coordinating religious activities at Hillel at the University of Toronto, including daily prayer services
2001 – 2002	Mathematics Graduate Students' Association representative to the Graduate Students' Union, University of Toronto
1998 – 2001	Secretary of Mathematics, Actuarial and Statistics Students' Union (MASSU), University of Toronto

RESEARCH INTERESTS

- Combinatorial set theory:
 - Infinite trees, the Souslin problem and its generalizations
 - Jensen's Diamond principle and its applications
 - Ramsey theory – partition relations for cardinals, ordinals, trees, and partial orders
- Model theory – abstract elementary classes, non-forking relations and uniqueness triples
- Forcing axioms – Martin's Axiom and the Proper Forcing Axiom and their consequences; elementary submodels as side conditions
- The Jewish calendar – its mathematical structure, history, and implementation

LANGUAGES: Fluent in Hebrew, French, and English

SPECIAL ACHIEVEMENTS, HONOURS, AND AWARDS

Kolman-Soref Fellowship at Bar-Ilan University 5775 (2014-2015)

Hillel of Greater Toronto Award for Campus Communication, May 2011

Hillel at the University of Toronto Campus Award

In recognition of dedication, passion and enthusiasm for fostering Jewish life on the university campus, May 2006 and May 2002

Ontario Graduate Scholarship

Awarded to pursue graduate studies in 2001-02, 2002-03, and 2004-05

Ann (Medres) Glass Memorial Scholarship in Yiddish

Awarded for achievement in Yiddish studies in 2001

Nortel Networks Silver PRIDE Award

In recognition of work on Global Server Software Installation Guide, June 2000

William Lowell Putnam Mathematical Competition

Participated in the William Lowell Putnam Mathematical Competition 4 times; twice scored within the top 10% of contestants

Golden Key National Honour Society

Granted lifetime membership since 1999 in the Society in recognition of outstanding scholastic achievement and excellence

Howard Ferguson Provincial Scholarship

Entrance scholarship to University College at University of Toronto, renewable for four years of undergraduate study

Governor General's Award for Excellence for highest O.A.C. average in high school graduating class

American High School Mathematics Examination

Gold Medal in 1995

School Winner and Honour Roll each year from 1991 to 1995

Invited to write the American Invitational Mathematics Examination each year

Canadian Mathematics Competitions

School Winner and Certificate of Distinction each year from 1990 to 1995

Carleton and Ottawa Award for Excellence in Mathematics 1990, 1991 and 1993

Silver Medal for placing second in Canada (first in Ontario) in the Pascal Contest in 1991 with a score of 142½.

Chosen to write Canadian Invitational Mathematics Challenge (CIMC) in 1992 and 1993, and received Certificate of Distinction for a score within the top 25% of contestants in the Challenge

Invited to week-long Waterloo Mathematics Contests Seminar in 1993

Chosen to write Canadian Mathematical Olympiad in 1994

Sir Isaac Newton Physics Contest

Top 5% of contestants in 1994 and 1995