

THE BULLETIN OF SYMBOLIC LOGIC

Edited by

Frank Wagner, *Managing Editor*

Laurent Bienvenu

Paola D'Aquino

Patricia Blanchette

Menachem Kojman

Andrea Cantini

Leonid Libkin

Thierry Coquand

Reviews Editors

Ernest Schimmerling, *Managing Editor for Reviews*

Benno van den Berg

Steffen Lemp

Thomas Colcombet

Bernard Linsky

Mark Colyvan

Rahim Moosa

Samuel Coskey

Henry Towsner

Bradd Hart

Kai Wehmeier

VOLUME 23 • NUMBER 3 • SEPTEMBER 2017 • ISSN 1079-8986

Copyright © 2017 by the Association for Symbolic Logic. All rights reserved.
Reproduction by photostat, photo-print, microfilm, or like process by permission only.



PUBLISHED BY CAMBRIDGE UNIVERSITY PRESS FOR
AND ON BEHALF OF THE ASSOCIATION OF SYMBOLIC LOGIC.

The BULLETIN, the JOURNAL and the REVIEW OF SYMBOLIC LOGIC are the official organs of the Association for Symbolic Logic, an international organization for furthering research in logic and the exchange of ideas among mathematicians, computer scientists, linguists, and others interested in this field. The BULLETIN encourages submissions of *Articles* and *Communications* in all areas of logic, including mathematical or philosophical logic, logic in computer science or linguistics, the history or philosophy of logic, and applications of logic to other fields. The BULLETIN also publishes reviews of publications in logic.

Editors

Frank Wagner (Managing Editor), Institut Camille Jordan, UMR 5208, Bâtiment Braconnier, Université Lyon 1, 21, avenue Claude Bernard, 69622 Villeurbanne Cedex, France
wagner@math.univ-lyon1.fr

Laurent Bienvenu, LIAFA, Université Paris Diderot - Paris 7 - Case 7014, 75205 Paris Cedex 13, France
laurent.bienvenu@computability.fr

Patricia Blanchette, Department of Philosophy, University of Notre Dame, 100 Malloy Hall, Notre Dame, IN 46556, USA
blanchette.1@nd.edu

Andrea Cantini, Department of Philosophy, Università degli Studi di Firenze, Via Bolognese 52, I-50139 Firenze, Italy
cantini@unifi.it

Thierry Coquand, University of Gothenburg, Department of Computer Science and Engineering, SE-4196 Gothenburg, Sweden
Thierry.Coquand@gu.se

Paola D'Aquino, Department of Mathematics and Physics, Università della Campania "L. Vanvitelli", viale Lincoln 5, Caserta 81100, Italy
paola.daquino@unia2.it

Menachem Kojman, Department of Mathematics, Ben-Gurion University of the Negev, Be'er-Sheva, Israel 84105
kojman@math.bgu.ac.il

Leonid Libkin, Laboratory for Foundations of Computer Science, University of Edinburgh, Informatics Forum, IF 5.33, Crichton Street, Edinburgh, EH8 9AB, UK
libkin@inf.ed.ac.uk

Reviews editors

Ernest Schimmerling (Managing Editor), Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213, USA, eschimme@andrew.cmu.edu

Benno van den Berg bennovdberg@gmail.com,

Thomas Colcombet thomas.colcombet@liafa.univ-paris-diderot.fr,

Mark Colyvan mcolyvan@usyd.edu, Samuel Coskey scoskey@boisestate.edu,

Bradd Hart hartb@mcmaster.ca, Steffen Lempp lempp@math.wisc.edu,

Bernard Linsky bernard.linsky@ualberta.ca, Rahim Moosa rmoosa@uwaterloo.ca,

Henry Towsner htowsner@math.upenn.edu, and Kai Wehmeier wehmeier@uci.edu.

Please follow the submission procedure described at

<http://www.aslonline.org/journals-bulletin-guide.html>

It is recommended that papers be prepared in L^AT_EX using the ASL's class file, especially for manuscripts having extensive symbolic or mathematical notation. This style file is available from the ASL's website at <http://www.aslonline.org>; links from that site provide further information about the BULLETIN and about submitting papers for publication.

No print offprints will be supplied but authors will receive a link to a freely accessible electronic pdf of their published article. Print offprints may be purchased if required.

Articles present topics of broad interest in a way that is accessible to a large audience. They can be purely expository, survey, or historical articles or they may contain, in addition, new ideas or results or new approaches to old ones.

Communications should be announcements of important new results and ideas in any aspect of logic; they may be short papers in their final form or preliminary announcements (extended abstracts, position papers) of longer, full papers that will be published elsewhere. In any case, they should include, in addition to a description of the new results or ideas, enough history, background, and explanation to make the significance of the work apparent to a wide audience. *Communications* will be quickly refereed and published within six months of the submission of final version.

Books for review in the BULLETIN should be sent to ASL, BOX 742, Vassar College, 124 Raymond Avenue, Poughkeepsie, NY 12604, USA.

TABLE OF CONTENTS

ARTICLES

Intuitionistic analysis at the end of time, by JOAN RAND MOSCHOVAKIS	279
Metavaluations, by ROSS T. BRADY	296
Products of Hurewicz spaces in the Laver model, by DUŠAN REPOVŠ AND LYUBOMYR ZDOMSKYY	324

REVIEW

C. T. Conley and B. D. Miller, <i>A bound on measurable chromatic numbers of locally finite Borel graphs. Mathematical Research Letters</i> Reviewed by ANUSH TSERUNYAN.....	334
---	-----

IN MEMORIAM

In Memoriam: Solomon Feferman (1928–2016)	337
---	-----

2016 North American Annual Meeting of the Association for Symbolic Logic, University of Connecticut Storrs, CT, USA, May 23–26, 2016.....	345
Notices	374