



ASSOCIATION FOR SYMBOLIC LOGIC

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ASL NEWSLETTER

September 2019

- **In memoriam: Terry Millar.** Longtime ASL member Terry Millar, professor emeritus, passed away on March 9, 2019 after a long and heroic battle with cancer. Millar was a faculty member in the Math Department, University of Wisconsin–Madison, from 1976 until his retirement in 2015. After dropping out of college to join the Marines for two years (including a brief stint as forward artillery observer in Vietnam), Millar entered a graduate program at Cornell and received his PhD in 1976 under the direction of Anil Nerode.

During the 1980's, Millar was one of the world's foremost researchers in computable model theory, an area that had been developed by the Novosibirsk school of algebra and logic led by Mal'cev and Ershov, and later by Goncharov, Nurtazin, and Peretyat'kin, as well as in the West by Fröhlich, Shepherdson and Rabin, and later by Metakides, Nerode, Millar, Harrington, and Morley. For a decade, Millar proved some of the same results independently and often simultaneously as researchers in Novosibirsk, but left many questions open to this day. During this period, Millar was the advisor to twelve Ph.D. students who further advanced computable model theory.

The first general results in computable model theory were obtained by following the fundamental notions and results of classical model theory. A model with a computable domain is called computable (weakly constructive) if its atomic diagram is decidable, and is called decidable (strongly constructive) if its elementary diagram is decidable. In 1978, Millar published a seminal paper establishing the foundations of computable model theory. In that and later papers, he produced an extensive body of work on topics regarding the existence of decidable models and the properties of their types, effective versions of the omitting types theorem, decidability of prime, saturated, and homogeneous models, effective Vaught's theorem, and the study of decidable theories with only finitely many as well as with only countably many countable models.

For example, Millar proved that there is a complete decidable theory with a prime model and all types computable, which does not have a computable prime model. He introduced the notion of an almost decidable model and showed that if a complete decidable theory has fewer than continuum many types, then it has an almost decidable prime model. Millar also constructed a complete decidable theory with exactly two non-isomorphic decidable models. In a construction described by a reviewer as ingenious, Millar produced a decidable theory with all types computable, which has only countably many non-isomorphic countable models, and yet has a countable model (in fact, the saturated one) not isomorphic to a decidable one. Millar also proved that the decidability of the existential diagram for a computably categorical model is sufficient to preserve computable categoricity under expansions by finitely many constants.

Millar's other great talent, which he started pursuing in the late 1980's, was administration. He first served for many years as an Associate Dean for Physical Sciences in the UW Graduate School, and then served as an Assistant to the Provost. Up until his retirement, Millar played a key role, along with some UW physics professors, in several of the largest physics experiments, such as IceCube, GERS and CONDOR. He also became heavily involved in mathematics education and teacher training and was in charge of a number of large grants for multiple school districts across the country, including Madison's. Millar received the 2006 Madison Metropolitan School District Distinguished Service Award. A few semesters before his retirement, he returned full time to the UW math department to teach, and revived, in particular, the history of mathematics course using his expertise in both physics and mathematics.

Millar will be remembered for his dedication to family and students, his humor and stories, his athletic ability, his fondness for sports and music, his endless energy and drive, his integrity, and his remarkable intellectual and scientific curiosity and creativity.

- **2019 Shoenfield Prizes.** The ASL invites nominations for the Shoenfield Prizes for outstanding expository writing in the field of logic. There are two Shoenfield prizes, one for books and one for expository articles, each to be awarded simultaneously every three years; the Shoenfield Prizes were first awarded in 2007. Any book first published in the past 9 years may be considered for the book award. Any article published in the past 6 years may be considered for the article award. Nominations should be submitted to Justin Moore (justin@math.cornell.edu), Chair of the ASL Committee on Prizes and Awards. The deadline for nominations for the 2019 Prizes is November 1, 2019.

The Shoenfield prizes were established by the ASL to honor the late Joseph R. Shoenfield for his many outstanding contributions to logic and to the ASL. Generations of logicians have especially valued Shoenfield's expository gifts, and his writings provide models of lucidity and elegance. The ASL administers the fund on which the Prize is based and makes the award upon the recommendation of its Committee on Prizes and Awards. For general information about the Prize, see <http://aslonline.org/asl-information/prizes-and-awards/>.

- **2019 Sacks Prize.** The ASL invites nominations for the 2019 Sacks Prize for the most outstanding doctoral dissertation in mathematical logic. Nominations must be received by September 30, 2019. The Sacks Prize was established to honor Professor Gerald Sacks of MIT and Harvard for his unique contribution to mathematical logic, particularly as adviser to a large number of excellent Ph.D. students. The Prize was first awarded in 1994 and became an ASL Prize in 1999. The Fund on which the Prize is based is now administered by the ASL and the selection of the recipient is made by the ASL Committee on Prizes and Awards. The Sacks Prize will consist of a cash award plus five years free membership in the ASL. For general information about the Prize, visit <http://aslonline.org/asl-information/prizes-and-awards/>. Anyone who wishes to make a nomination for the 2019 Sacks Prize should consult the webpage <http://aslonline.org/asl-information/prizes-and-awards/sacks-prize-recipient/sacks-prize-nominations-and-other-information/> for the precise details.

Students who defend their dissertations (equivalent to the American doctoral dissertation) between October 1, 2018, and September 30, 2019, are eligible for the Prize this year. This is an international prize, with no restriction on the nationality of the candidate or the university where the doctorate is granted. Nominations should be made by the thesis adviser, and consist of: name of student, title and 1–2 page description of dissertation, date and location of the thesis defense, letter of recommendation from the adviser, an electronic copy of the thesis in pdf form, or the address of a website from which an electronic copy in pdf form can be downloaded, and an independent second letter of recommendation. Nominations and questions about the Prize should be sent to the Committee Chair, Justin Moore; pdf files sent as attachments by email to justin@math.cornell.edu are preferred. The form of such letters and other pertinent details can be found at the website above, and need to be read prior to submitting a nomination. Correspondence should be addressed to Justin Moore, Dept. of Mathematics, 310 Malott Hall, Cornell University, Ithaca, NY 14853, USA.

Those wishing to contribute to the Sacks Prize Fund may send contributions to the ASL Business Office (see address at the top of this Newsletter). All such contributions are tax-deductible within the USA.

STUDENT TRAVEL AWARDS

- **Student Travel Awards: ASL and ASL-Sponsored Meetings.** Student members of the ASL may apply for travel grants to ASL and ASL-sponsored meetings. To be considered for a travel award, please (1) send a letter of application, and (2) ask your thesis supervisor to send a brief recommendation letter. The application letter should be brief (preferably one page) and should include: (1) your name; (2) your home institution; (3) your thesis supervisor's name; (4) a one-paragraph description of your studies and work in logic, and a paragraph indicating why it is important to attend the meeting; (5) your estimate of the travel expenses you will incur; (6) (for citizens or residents of the USA) citizenship or visa status; and (7) (voluntary) indication of your gender and minority status. Women and members of minority groups are strongly encouraged to apply. Application by email is encouraged; put "ASL travel application" in the subject line of your message.

For ASL student member travel grants to ASL or ASL-sponsored meetings (other than the 2020 North American Annual Meeting and the 2020 European Summer Meeting, for which details will be announced), applications and recommendations must be received at least three months prior to the start of the meeting, via

STUDENT TRAVEL AWARDS (continued)

email to asl@uconn.edu or at the ASL Business Office (address at the top of this Newsletter). Decisions will be communicated at least two months prior to the meeting.

ASL MEETINGS

- **18th Simposio Latino Americano de Lógica Matemática (SLALM 2019)** *December 16-20, 2019, Universidad de Concepción, Chile.* The SLALM was conceived in the late 1960s by Abraham Robinson, who at the time was President of the ASL. It brings together the community of researchers in logic in Latin America and is nourished by the crucial participation of researchers from around the world. The 18th SLALM (Latin American Symposium on Mathematical Logic 2019) will take place at the Universidad de Concepción in Chile, with plenary speakers including P. Barceló, M. Busaniche, Z. Chatzidakis, M. Hrusak, E. Pimentel, C. Rojas, and H. Towsner. Special sessions will be held in Model Theory (organized by X. Caicedo and J. Utreras); Set Theory (J. López-Abad and C. Martínez); Computability and Computer Science (P. Barceló and A. Montalbán); and Philosophy and Non-classical Logics (A. Massolo and R. Núñez).
The Program Committee consists of A. Berenstein (chair), M. Busaniche, D. Figueira, Ll. Godo, C. Gutierrez, J. Lopez-Abad, A. Macintyre, C. Martinez-Ranero, A. Montalbán, S. Montenegro, N. Olivetti, T. Slaman, and B. Ziliani. Members of the Organizing Committee are S. Briceño, A. Gajardo, C. A. Martinez-Ranero, M. A. Rodriguez, J. Utreras, and X. Vidaux. The conference website is <http://slalmxviii.udec.cl>.
- **2019-2020 ASL Winter Meeting (with Joint Mathematics Meetings)** *January 17-18, 2020, Denver, Colorado.* This meeting will be held in conjunction with the Joint Mathematics Meetings taking place January 15-18, 2020, with invited talks by C. Freer, V. Gitman, W. Holliday, A. Kechris, B. Rossman, M. Thomas, and L. Westrick. The members of the Program Committee are N. Dobrinen (chair), D. Haskell, and D. Roy. The Joint Mathematics Meetings program includes two joint AMS-ASL special sessions on January 15-16: *Choiceless Set Theory and Related Areas*, organized by P. Larson and J. Zapletal; and *Logic Facing Outward*, organized by K. Lange and R. Miller. K. Lange will also give an AMS-MAA Invited Address on January 15.
- **2020 ASL North American Annual Meeting.** *March 25–28, 2020, Irvine, California.* The members of the Program Committee are L. Cohen, J. Cummings, D. Hirschfeldt (chair), P. Kolaitis, M. Malliaris, and T. Meadows. The Local Organizing Committee consists of M. Foreman, I. Goldbring (chair), P. Maddy, T. Meadows, K. Wehmeier and M. Zeman.
- **2020 ASL Winter Meeting (with APA)** *April 8-12, 2020, San Francisco, California.* This meeting will be held in conjunction with the Annual Meeting of the Pacific Division of the American Philosophical Association. The invited speakers already confirmed include A. Bacon, M. Fusco, H. Lin, and S. Shieh. The members of the Program Committee are G. Russell, G. Sagi (chair), and S. Walsh. Abstracts of contributed talks submitted by ASL members will be published in *The Bulletin of Symbolic Logic* if they satisfy the Rules for Abstracts (see below). Abstracts must be received by the deadline of October 1, 2019, at the ASL Business Office, preferably by email: asl@uconn.edu.
- **2020 ASL European Summer Meeting (Logic Colloquium).** *July 13-17, 2020, Poznań, Poland.* This meeting will be hosted by Adam Mickiewicz University in Poznań. The members of the Program Committee are W. Buszkowski, A. Dawar, G. Primiero, M. Soskova, H. Towsner, M. Viale, and B. Zil'ber (chair). The Local Organizing Committee consists of W. Buszkowski, J. Golińska-Pilarek, L. Kołodziejczyk, P. Łupkowski, R. Murawski (co-chair), M. Nasieniewski, J. Pogonowski, T. Skura, K. Świrydowicz, M. Urbański (co-chair), and A. Wiśniewski.
- **Rules for Abstracts.** The rules for abstracts of contributed talks at ASL meetings (including those submitted “by title”) may be found at <http://aslonline.org/meetings/rules-for-abstracts/>. Please note that abstracts *must* follow the rules as set forth there; those which do not conform to the requirements will be returned immediately to the authors who submitted them. Revised abstracts that follow the rules will be considered if they are received by the announced deadline.

ASL SPONSORED MEETINGS

- **Circularity in Syntax and Semantics (CiSS 2019)** *November 20-23, 2019, University of Gothenburg, Sweden.* The conference is dedicated to aspects of circularity and ill-foundedness in formal methods. The aim is to gather together researchers who study or/and utilise these phenomena from different perspectives such as provability, formal reasoning, construction, computation and complexity. As well as invited speakers there will be sessions for contributed talks. Invited speakers include J. van Benthem (Amsterdam), M. Dam (KTH), A. Doumane (Lyon & Warsaw), H. Hvid Hansen (TU Delf), P. Melliès (Paris), and S. Negri (Helsinki). Programme Committee: B. Afshari (co-chair), D. Baelde, A. Das, V. Goranko, G. Leigh Gothenburg (co-chair), A. Saurin, and Y. Venema. Contact for inquiries: bahareh.afshari@gu.se. For more information, visit: <http://www.cse.chalmers.se/~bahafs/ciss2019/>. (ASL Sponsored Meeting.)
- **Carlos di Prisco Birthday Meeting** *November 27-29, 2019, Universidad de Los Andes, Bogotá, Colombia.* Carlos di Prisco, who has been a supporter of the ASL's activities for many years, will turn 70 years old in October 2019. This conference is held in honor of his life and work. It is intended for a wide audience, especially for students, but will also include the participation of mathematicians who have worked with Carlos and are close to him. Invited speakers include J. Bagaria, C. Brech, J. López-Abad, N. Dobrinen, A. Arias, and X. Caicedo. Members of the Organizing Committee: A. Villaveces, C. Uzcátegui and J. Mijares. Read more here: <https://matematicas.uniandes.edu.co/eventos/2019/dipriscofest/>. (ASL Sponsored Meeting.)
- **Logical Foundations of Computer Science (LFCS 2020)** *January 4-7, 2020, Deerfield Beach, Florida.* The LFCS series provides an outlet for the fast-growing body of work in the logical foundations of computer science, e.g., areas of fundamental theoretical logic related to computer science. The LFCS series began with Logic at Botik, Pereslavl-Zalessky, 1989 and was co-organized by Albert R. Meyer (MIT) and Michael Taitlin (Tver), after which organization passed to Anil Nerode. Members of the Steering Committee: A. Nerode (General Chair), S. Cook, D. van Dalen, Y. Matiyasevich, S. Buss, G. Sacks, A. Scedrov, and D. Scott. The submission deadline for papers is midnight September 10, 2019, any time zone. For more information regarding LFCS 2020, please visit <https://lfcs.ws.gc.cuny.edu/lfcs-2020/>. (ASL Sponsored Meeting.)
- **Australasian Association of Logic Annual Conference** *July 2-3, 2020, University of Sydney, Australia.* The Australasian Association of Logic has held Annual Conferences since 1965. This conference embraces all topics in logic (mathematical, philosophical, computational, etc.). For further information visit <http://www-personal.usyd.edu.au/~njjsmith/aa12020/>. (ASL Sponsored Meeting.)
- **Practical and Structural Model Theory on the Occasion of the 60th +/- Birthdays of Ya'acov Peterzil and Sergei Starchenko** *July 27-31, 2020, University of Passau, Germany.* The scope of this conference will include: model theory of o-minimal structures, interactions and applications of o-minimality, model theoretic generalizations. The Organizing Committee consists of: P. Eleftheriou (University of Konstanz), A. Hasson (Ben-Gurion University), and T. Kaiser (University of Passau). Read about the list of confirmed speakers and more about the meeting here: <http://www.fim.uni-passau.de/index.php?id=24850&L=1>. (ASL Sponsored Meeting.)

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CALENDAR OF OTHER MEETINGS

- **Symposium in Honor of Julia Robinson's 100th Birthday** *December 9, 2019, University of California, Berkeley.* A Symposium on the occasion of Julia Robinson's 100th birthday will be held on Monday December 9, 2019 at MSRI. The RSVP deadline is December 9, 2019.

Julia Robinson (1919-1985) was a leading mathematical logician of the twentieth century, and a notable first in many ways, including the first woman president of the American Mathematical Society and the first woman mathematician elected to membership in the National Academy of Sciences. Her most famous work, alongside others including Martin Davis and Hilary Putnam, led to Yuri Matijasevich's solution in the negative of Hilbert's Tenth Problem, showing that there is no general algorithmic solution for Diophantine equations. She contributed in other topics as well. Her 1948 thesis linked the undecidability of the field of rational numbers to Gödel's proof of undecidability of the ring of integers.

Confirmed participants in this day-long celebration of her work and of current mathematics inspired by her research include: Lenore Blum, who will give a public lecture, Lou van den Dries, Martin Davis, Kirsten Eisentrager, and (provisionally) Yuri Matijasevich. Read more here: http://www.msri.org/general_events/24293.

- **Formal Methods in Mathematics / Lean Together 2020** *January 6–10, 2020, Carnegie Mellon University, Pittsburgh, Pennsylvania.* This meeting will focus on formal methods in pure and applied mathematics, including interactive theorem proving, automated reasoning, verification of symbolic and numeric computation, general mathematical infrastructure, and the Lean theorem prover. For more information, see <http://www.andrew.cmu.edu/user/avigad/meetings/fomm2020>.

OTHER ANNOUNCEMENTS (Also see <http://aslonline.org/announcements/>.)

- **Call for Proposals: 2021 AMS-ASL Joint Special Session.** The ASL Committee on Logic in North America seeks proposals for an AMS-ASL Joint Special Session to be held at the Joint Mathematics Meetings in Washington, DC, January 6–9, 2021. Proposals or requests for information should be sent to the Committee Chair, Natasha Dobrinen (natasha.dobrinen@du.edu). The deadline for receipt of proposals is January 8, 2020.
- **Ph.D. Abstracts in Logic being Published in the Bulletin of Symbolic Logic.** The ASL has begun to publish abstracts of Ph.D. theses in logic in the *Bulletin of Symbolic Logic*. Christian Rosendal is the editor for this new section of the *BSL*. For further information, visit <http://aslonline.org/journals/the-bulletin-of-symbolic-logic/logic-thesis-abstracts-in-the-bulletin-of-symbolic-logic/>.
- **Mailing of Journals.** To improve punctuality, Cambridge University Press has switched to a system of mailing the *Journal of Symbolic Logic* and the *Bulletin of Symbolic Logic* separately. In many quarters this will allow one to be dispatched several weeks earlier, while the other is still in production. The *Review of Symbolic Logic* will continue to be mailed separately from both of the others. The new system will not incur any additional cost to the ASL or its members.
- **Discounted Dues for New ASL Individual Members.** The ASL offers a 50% discount on dues for new individual members during each of the first two years of membership. For more information, visit <http://aslonline.org/membership/individual-membership/>.
- **Reduced Dues for Individuals and Institutions in Developing Economies.** The ASL offers reduced dues for individuals and institutions in developing economies. For 2019, the reduced dues are US\$18 for individuals and US\$130 for institutional basic membership, US\$180 for full membership. These dues apply to individuals and institutions in countries whose economies are classified as “upper middle income” or below on the World Bank's annual list for four of the last five years. For more information, visit <http://aslonline.org/membership/individual-membership/> or <http://aslonline.org/membership/institutional-membership/> or contact the ASL Business Office: ASL, Department of Mathematics, University of Connecticut, 341 Mansfield Road, U-1009, Storrs, CT 06269-1009, USA. Tel: 1-860-486-3989; Fax: 1-860-486-4238; email: asl@uconn.edu.

OTHER ANNOUNCEMENTS (continued)

- **Free Individual ASL Membership Program for Individuals in Developing Economies.** The ASL invites applications for an initial two-year free membership in the Association for new and lapsed members from countries classified as developing economies. The list includes Brazil, Bulgaria, China, Colombia, India, Iran, South Africa, and many other countries classified as “upper middle income” or below on the World Bank’s annual list for four of the last five years. To apply, please send an email to the ASL Committee on Membership at asl-membership@googlegroups.com. Include your name, full mailing address, and your academic affiliation. For information about the ASL and membership benefits, visit <http://aslonline.org/membership/individual-membership/>. After the initial two-year period new members under this program will pay the reduced membership dues, currently at US\$18, as long as their country of residence is on the ASL’s list of developing economies (see <http://aslonline.org/membership/outreach-memberships/world-bank-list-as-of-october-2018-for-2019-memberships/>).
- **Emeritus and Retired ASL Individual Membership.** The ASL offers retired individual members two membership options. Emeritus membership includes all the privileges of regular individual membership and is available to retired individuals who have been members of the ASL for 15 years. The dues for Emeritus membership for 2019 are US\$51. The privileges attached to Retired membership include the ASL newsletter and the right to vote in ASL elections, but do not include subscriptions to the ASL journals. Retired membership is offered to retired individuals who have been members of the Association for 20 years and is free. For more information about both options, visit <http://aslonline.org/membership/individual-membership/>.
- **New ASL Books.** To see all new books in the ASL’s *Lecture Notes in Logic* and *Perspectives in Logic* series, visit <http://aslonline.org/books/lecture-notes-in-logic/> for LNL volumes and <http://aslonline.org/books/perspectives-in-logic/> for Perspectives volumes.
- **Book and Journal Discounts for ASL Members.** Several publishers offer discounts on books and journals to ASL members. For a detailed description of these discounts, visit <http://aslonline.org/books/book-discounts-for-asl-members/>, or write to the ASL Business Office.

The next newsletter will be mailed in November 2019. Items to be included should reach the Secretary-Treasurers before October 25, 2019.

Submitted by Russell Miller & Reed Solomon, co-Secretary-Treasurers.