Association for Symbolic Logic

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ASL NEWSLETTER

November 2015

• In Memoriam: John Shepherdson. John Shepherdson, who died on 8th January of this year, was a longstanding member of the University of Bristol, which he joined at the age of 20 directly from his undergraduate degree in 1946 from Cambridge. He was recruited to Bristol by the number theorist Hans Heilbronn in 1946 as an Assistant Lecturer for the Mathematics Department. (He never took a Ph.D.) Initially he had been unsure of which field to enter, for a while leaning towards mathematical physics; Heilbronn unsuccessfully tried to interest him in number theory and he did write a couple of early papers, one on combinatorics which was reviewed by Erdös.

His career in mathematical logic (at that period, not a subject much in evidence in the UK) was occasioned by his own read of Gödel's Princeton monograph on the Continuum Hypothesis. This resulted in a series of three papers for the *Journal of Symbolic Logic*, in which he gave proofs of Zermelo's arguments on models of second order set theory (which he had criticized for their imprecision), as well as formalizing arguments about the limitations of the inner model method for consistency results (such as putatively that for not-CH), arguments that would be seen as straightforward today, but not then. He abstracted the idea of the transitivizing Collapsing Lemma from Gödel's arguments, and this was published here, although the date was slightly later than that of Mostowski's independent version.

He visited the IAS at Princeton for the year of 1953-54, perhaps arranged through Gödel, but only managed to see the latter for one hour in total. He shared an office with Martin Davis. Just after this visit he met the British logician John Myhill and together they wrote a paper on effective operations on partial computable functions. A seminal paper was that with a student of Heilbronn's, Albrecht Fröhlich (A.Fröhlich and J.C. Shepherdson, '*Effective procedures in field theory*', Philosophical Transactions of the Royal Society, series A, vol. 248 (1956), 407–432), which was a very early example of a paper in Effective Mathematics, a field which would be taken up years later by others. (This paper has been described by Angus Macintyre as still relevant to some major issues in contemporary model theory.)

The year 1963 saw the publication with Sturgis of the theory of 'Unlimited Register Machines', now much used as a method of introducing students to the notions of computability theory. This greatly simplified the formal approach to computability and undecidability results. He also used this as a basis for considering computation on structures other than the natural numbers. His interests at this point in the mid-sixties turned towards non-standard models of arithmetic ('Non-standard models for fragments of number theory' in John W. Addison, Leon Henkin and Alfred Tarski (eds.), Theory of Models (Proceedings of the 1963 International Symposium, Berkeley), North Amsterdam, 1965, pp. 342–358). Some of this came out of studying models of R. Robinson's Q. With Bezboruah he produced a paper which gave, in Q, a 'natural' (scare quotes needed here) notion of formalized proof, but in which Q proved its own consistency (A. Bezboruah, J.C. Shepherdson; 'Gödel's second incompleteness theorem for Q', JSL **41** (1976), no. 2, 503–512.).

In general his research was marked by deep thought over lengthy periods of time, writing seminal papers that were later to be standard references. He would then move on to pastures new. John stayed in Bristol for the entire length of his academic career, and many of the UK's logicians trained or passed through there. For many years an M.Sc. program in Logic and the Theory of Computer Science taught generations of young British logicians. There was a stream of illustrious visitors over the years, which would require a long list to exhaust. He made major contributions to the furtherance of mathematical logic in the UK, as well as the early European meetings of the ASL, and he proposed in 1970, and then became a co-founder of the British Logic Colloquium.

His later work before retirement at Bristol was on the computer language PROLOG, spending three summers

at the IBM Watson Research Center at Yorktown Heights, NY. Later still (and after retirement) he worked on theories of truth in fuzzy logic with Paris and Hájek (P. Hájek, J. Paris, and J.C. Shepherdson, *'The liar paradox and fuzzy logic'* JSL, **65** (2000), no. 1, 339–346). In 1990 he was recognized for his work through election to a Fellowship of the British Academy, the citation reading, partly, "for his original contributions to topics that are of interest to philosophers as well as mathematical specialists."

He was a man of great kindness and modesty: the last person to push (or even volunteer) his opinion in seminars, his attitude was the opposite of dogmatic. He had a particular sensitivity to people junior to him, that must have been unthreatening in his quiet manner, although occasionally a flash of devastatingly sly humor would break through.

- The 2015 ASL Election. Enclosed with this Newsletter is the ballot for the 2015 election for President, Vice President, two members of the Executive Committee of the Council, and two members of the Council. For those receiving the Newsletter via email, the ballot is included as a pdf attachment. All terms are for three years beginning January 1, 2016. The Nominating Committee consisted of Matthias Baaz, Xavier Caicedo, Martin Grohe, Byunghan Kim, Donald A. Martin, Richard Shore, Alex Wilkie (Chair), and Richard Zach.
- Call for Proposals: 2017 AMS-ASL Joint Special Session. The ASL Committee on Logic in North America requests proposals for an AMS-ASL Joint Special Session to be held at the Joint Mathematics Meetings in Atlanta, January 4–7, 2017. Proposals or requests for further information should be sent to the Committee Chair, Reed Solomon (email: david.solomon@uconn.edu). The deadline for receipt of proposals is January 4, 2016.
- Discounted Dues for New ASL Individual Members. The ASL now offers a 50% discount on dues for new individual members during each of the first two years of membership. For more information, visit http://www.aslonline.org/membership-individual.html.
- 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, found at http://www.aslonline.org/worldbankeconomies.html 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://www.aslonline.org/membership-individual.html. After the initial two-year period new members under this program will pay the reduced membership dues, currently at US\$18, (see below) as long as their country of residence is on the ASL's list of developing economies.
- Reduced Dues for Individuals and Institutions in Developing Economies. The ASL offers reduced dues for individuals and institutions in developing economies. For 2016, 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://www.aslonline.org/membership_outreach.html or contact the ASL Business Office: ASL, Box 742, Vassar College, 124 Raymond Avenue, Poughkeepsie, New York 12604, USA; Tel: 1-845-437-7080; Fax: 1-845-437-7830; email: asl@vassar.edu.
- Emeritus 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 2016 are US\$47. 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://www.aslonline.org/membership-individual.html.

- New ASL Books. To see new books in the ASL's *Lecture Notes in Logic* and *Perspectives in Logic* series, visit http://www.aslonline.org/books-lnl-available.html for LNL volumes and http://www.aslonline.org/books-perspectives_cup_springer.html for Perspectives volumes.
- Book and Journal Discounts for ASL Members. Several publishers now offer discounts on books and journals to ASL members. For a detailed description of these discounts, visit http://www.aslonline.org/members-discounts.html, or write to the ASL Business Office.

ASL MEETINGS

• Student Travel Awards: The 2016 ASL North American Annual Meeting, 2016 ASL European Summer Meeting, and other ASL or ASL-Sponsored Meetings. The ASL will make available modest travel awards to graduate students in logic and (for the European Summer Meeting only) to recent Ph.D.s so that they may attend the 2016 ASL North American Annual Meeting in Storrs, Connecticut or the 2016 ASL European Summer Meeting in Leeds, England; see below for information about these meetings. Student members of the ASL also may apply for travel grants to other ASL or ASL-sponsored meetings. See below for information about these 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. In addition to funds provided by the ASL, the program of travel grants is supported by a grant from the US National Science Foundation; NSF funds for meetings outside of North America may be awarded only to students at USA universities and to citizens and permanent residents of the USA. Air travel paid for using NSF funds must be in accordance with the Fly America Act. Application by email is encouraged; put "ASL travel application" in the subject line of your message.

For the 2016 ASL North American Annual Meeting, applications and recommendations should be received before the deadline of March 11, 2016, by the Program Chair: Patricia Blanchette, Department of Philosophy, 100 Malloy Hall, University of Notre Dame, Notre Dame, IN 46556 USA; Fax: 574-631-0588; email: Patricia. Blanchette.1@nd.edu. Applications by email are preferred.

For the 2016 ASL European Summer Meeting, applications and recommendations should be received before the deadline of May 2, 2016, by the Organizing Committee: Logic Colloquium 2016, School of Mathematics, University of Leeds, Leeds LS2 9JT, United Kingdom; email: lc2016@leeds.ac.uk. For applications by email, please put "ASL travel application" in the subject line of your message. Applications by email are preferred.

For ASL student member travel grants to other ASL or ASL-sponsored meetings, applications and recommendations should be received at least three months prior to the start of the meeting at the ASL Business Office: ASL, Box 742, Vassar College, 124 Raymond Avenue, Poughkeepsie, New York 12604, USA; Fax: 1-845-437-7830; email: asl@vassar.edu. Decisions will be communicated at least two months prior to the meeting.

- 2015-16 ASL Winter Meeting (with Joint Mathematics Meetings). January 8–9, 2016, Seattle, Washington. This meeting will take place in conjunction with the Joint Mathematics Meetings. The invited speakers include: D. Bartosova, N. Dobrinen, L. van den Dries, J. Freitag, C. Jockusch, B. Khoussainov, and J. Zapletal. The members of the Program Committee are C. Conley, C. Ealy, and J. Hirst (Chair). The Joint Mathematics Meetings program includes two joint AMS-ASL special sessions: Applications of Logic, Model Theory, and Theoretical Computer Science to Systems Biology, organized by J. Lynch and L. Marcus; Surreal Numbers, organized by P. Ehrlich and O. Costin. The complete program for this meeting is included in this Newsletter mailing (as a pdf attachment for those receiving the Newsletter via email).
- 2016 ASL Winter Meeting (with APA). March 2–5, 2016, Chicago, Illinois. This meeting will be held jointly with the Annual Meeting of the Central Division of the American Philosophical Association. The speakers for the two invited sessions on Paradoxes, Properties, and Logicism are: G. Leach-Krouse, S. Logan, J. Payne, L.

Picollo, J. Studd, and S. Walsh. The members of the Program Committee are R. Cook (Chair), Ø. Linnebo, and M. Rossberg. Information about registration and hotel reservations can be found at http://www.apaonline. org/events/event_details.asp?id=322904.

2016 ASL North American Annual Meeting. May 23-26, 2016, Storrs, Connecticut. The invited speakers include: Z. Chatzidakis, M. Kaufmann, K. Lange, I. Neeman, M. Rathjen, and S. Shapiro. Alasdair Urquhart will give an ASL retiring presidential address. Tutorials will be offered by D. Hirschfeldt and M. Malliaris. Special sessions (with organizers in parentheses) include: Computability theory (B. Csima and M. Soskova), Model theory (C. Hill and R. Nagloo), History and philosophy of logic (dedicated to the memory of Aldo Antonelli) (G. Russell and R. Zach), and Set theory (C. Conley and G. Sargsyan). The members of the Program Committee include: P. Blanchette (Chair), D. Dzhafarov, R. Lubarsky, A. Montalban, J. Moore, and C. Wood. The members of the Local Organizing Committee are: Jc. Beall, D. Dzhafarov, D. Ripley, M. Rossberg, and R. Solomon (Chair). For further information, visit http://asl2016.logic.uconn.edu/.

Abstracts for 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 February 26, 2016, at the ASL Business Office: ASL, Box 742, Vassar College, 124 Raymond Avenue, Poughkeepsie, New York 12604, USA; Fax: 1-845-437-7830; email: asl@vassar.edu.

 2016 ASL European Summer Meeting (Logic Colloquium '16). July 31-August 6, 2015, Leeds, England. The Program Committee members are: M. Bodirsky, S. Buss, N. Gambino, R. Iemhoff (Chair), H. Leitgeb, S. Lempp, M. Malliaris, R. Schindler, and Y. Venema. The Local Organizing Committee includes: O. Beyersdorff, S.B. Cooper, N. Gambino (Chair), I. Halupczok, H.D. Macpherson, V. Mantova, M. Rathjen, J.K. Truss, and S.S. Wainer. For further information, visit http://www.lc2016.leeds.ac.uk.

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 can be submitted at http://www.lc2016. leeds.ac.uk/submission.html; the deadline for submission is April 29, 2016.

• Rules for Abstracts. The rules for abstracts of contributed talks at ASL meetings (including those submitted "by title") may be found at http://www.aslonline.org/rules_abstracts.html. 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

- New Challenges in Reverse Mathematics. January 3-16, 2016, Singapore. This event combines opportunities for collaborative research with a workshop. There will be talks in the mornings and free discussions in the afternoons. A tutorial will be offered by V. Brattka. The Organizing Committee includes: D. Hirschfeldt, R. Shore, S. Simpson, T.A. Slaman, F. Stephan, and Y. Yang. For further information, visit http://www2.ims. nus.edu.sg/Programs/016reverse/index.php.
- Eleventh International Conference on Computability, Complexity and Randomness (CCR 2016). January 4-8, 2016, Honolulu, Hawaii. Topics for this event include: algorithmic randomness, computability theory, computational complexity, Kolmogorov complexity, and reverse mathematics and logic. The invited speakers include: U. Andrews, R. Kuyper, S. Nandakumar, R. Peretz, C. Rojas, J. Shallit, D. Turetsky, and L. Westrick. A tutorial on computability and complexity-theoretical aspects of economics will be offered by L. Fortnow. A more informal workshop on algorithmic randomness will be held the subsequent week, January 11-15, 2016. The Program Committee includes: L. Bienvenu, R. Downey (Co-Chair), J. Franklin, D. Hirschfeldt (Co-Chair), B. Kjos-Hanssen, J. Lutz, E. Mayordomo, J. Miller, K. Miyabe, A. Romashchenko, H. Towsner, and N. Vereshchagin. The Local Organizing Committee members are: A. Beros, B. Kjos-Hanssen (Chair), M. Khan, D. Ross, and D. Pavlovic. For more information, visit http://math.hawaii.edu/wordpress/ccr-2016/.

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ASL SPONSORED MEETINGS (continued)

- International Conference on Model Theory. June 20-24, 2016, Notre Dame, Indiana. This event is a component of the Thematic Program on Model Theory, taking place June 6-24, 2016 (see Other Meetings, below). The invited speakers include: I. Ben-Yaacov, A. Berarducci, A. Berenstein, A. Chernikov, A. Conversano, L. van den Dries, I. Farah, I. Kaplan, A. Kolesnikov, C. Laskowski, A. Macintyre, M. Malliaris, R. Moosa, L. Newelski, Y. Peterzil, J. Solymosi, C. Steinhorn, F. Wagner, and B. Zilber. The organizers are I. Goldbring, A. Pillay, and S. Starchenko. For further information, visit https://www3.nd.edu/~cmnd/programs/cmnd2016/conference/index.html.
- Thirty-first Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2016). July 5-8, 2016, New York, New York. The LICS Symposium is an annual forum on theoretical and practical topics in computer science that relate to logic. This event marks the thirtieth anniversary of LICS. The Program Committee Chair is N. Shankar, the Conference Chair is E. Koskinen, the Workshop Chair is P. Bouyer-Decitre, and the General Chair is M. Grohe. The deadline for submission of titles and short abstracts is January 11, 2016; for full papers it is January 18, 2016. The Kleene Award for the best student paper will be presented at the symposium. For more information, see http://lics.rwth-aachen.de/lics16/.

CALENDAR OF OTHER MEETINGS (Also see http://www.aslonline.org.)

- Fourteenth International Symposium on Artificial Intelligence and Mathematics (ISAIM 2016). January 4-6, 2016, Fort Lauderdale, Florida. This biennial meeting fosters interactions between mathematics, theoretical computer science, and artificial intelligence. The keynote speakers are Y. Chen, R. Dechter, and A. Procaccia. The General Chair is M. Charles Golumbic, the Conference Chair is F. Hoffman, and the Program Co-Chairs are F. Rossi and K.B. Venable. For more information, visit http://isaim2016.cs.virginia.edu.
- New Pathways Between Group Theory and Model Theory. February 1-4, 2016, Mülheim an der Ruhr, Germany. This event is the successor meeting of the 2011 "Groups and Model Theory" conference (http:// www.enigma-software.de/algebra/agmt/welcome/) held in the same location. The invited speakers include: I. Dolinka, L. Fuchs, S. Kuhlmann, D. Macpherson, L. Salce, J. Trlifaj, J. Truss, and M. Ziegler. The invited young speakers are: G. Braun, A. Chernikov, K. Dupont, A. Fornasiero, K. Gong, I. Kaplan, F. Karimi, and E. Solak. The organizers are M. Droste, B. Goldsmith, and L. Strüngmann. For further information, visit http:// www.enigma-software.de/algebra/agmt2.
- Tenth International Conference on Language and Automata Theory and Applications (LATA 2016). March 14–18, 2016, Prague, Czech Republic. The invited speakers include: A. Blum, M. Grohe, G. Pighizzini, J.-F. Raskin, and F. Wolter. The Chair of the Program Committee is C. Martín-Vide, and the Co-Chairs of the Organizing Committee are J. Janoušek and C. Martín-Vide. For further information, visit http://grammars.grlmc.com/lata2016/.
- Special Semester on Computational Complexity and Proof Complexity. April-June 2016, St. Petersburg, Russia. This program will be hosted by the Chebyshev Laboratory at St. Petersburg State University, organized jointly with the Skolkovo Institute of Science and Technology. It will include visiting researchers, visiting Ph.D. students, and two or three workshops. A workshop on Proof Complexity will be held on May 17-20, 2016, organized by S. Buss and P. Pudlák; the keynote speaker is J. Krajíček. A workshop on Low-Depth Complexity will be held May 23-25, 2016, organized by B. Rossman and R. Santhanam; the keynote speaker is R. Williams. There are funding opportunities for graduate students for either short visits or extended stays throughout the semester. There also are funding opportunities for visiting researchers and postdoctoral researchers. The Special Semester is organized jointly by S. Buss (sbuss@ucsd.edu) and E.A. Hirsch (hirsch@pdmi.ras.ru). To inquire about participation or apply for funding, please complete the form on the webpage at http://en. chebyshev.spb.ru/complexity2016 or contact the organizers directly.

Calendar of other meetings continued on reverse side

CALENDAR OF OTHER MEETINGS (continued)

- European Joint Conferences on Theory and Practice of Software (ETAPS 2016). April 2-8, 2016, Eindhoven, The Netherlands. This event is the primary European forum for academic and industrial researchers working on topics relating to software science. The invited speakers include: A.D. Gordon, C. Lopes, R. Majumdar, O. Nierstrasz, and V. Shmatikov. The General Chair is J.F. Groote and the Tutorials and Workshops Chair is E. de Vink. For further information, visit http://www.etaps.org.
- Thematic Program on Model Theory. June 6-24, 2016, Notre Dame, Indiana. This program consists of three components: an Undergraduate Summer School (June 6-10th), Graduate and Postdoc Mini-Courses (June 13-17th), and an International Conference on Model Theory (June 20-24th; see Sponsored Meetings, above). The Undergraduate Summer School will include two courses (with lecturers in parentheses): Introduction to Model Theory I (A. Tserunyan) and Introduction to Model Theory II (G. Conant). The Graduate and Postdoc Mini-Courses are (with lecturers in parentheses): Continuous Model Theory (B. Hart); Descriptive Set Theory and Model Theory (C. Rosendal); Stability, Combinatorics, and NIP (P. Simon); and Topological Dynamics and Model Theory (K. Krupiński). The confirmed speakers for the International Conference on Model Theory include: I. Ben-Yaacov, A. Berarducci, A. Berenstein, A. Chernikov, A. Conversano, L. van den Dries, I. Farah, I. Kaplan, A. Kolesnikov, C. Laskowski, A. Macintyre, M. Malliaris, R. Moosa, L. Newelski, J. Solymosi, C. Steinhorn, F. Wagner, and B. Zilber. This program is supported by the Center for Mathematics at Notre Dame and the U.S. National Science Foundation. The organizers are I. Goldbring, A. Pillay, and S. Starchenko. For further information, visit https://www3.nd.edu/~cmnd/programs/cmnd2016/.
- Thirty-fifth ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2016). June 26–July 1, 2016, San Francisco, California. The PODS symposium series, held in conjunction with the SIGMOD conference series, provides an annual forum for the communication of new advances in the theoretical foundations of data management. The keynote speaker is M. Vardi. Tutorials will be offered by S. Cohen and F. Neven. The SIGMOD General Chairs are G. Koutrika and F. Ozcan, and the PODS General Chair is T. Milo. The SIGMOD Program Chair is S. Madden and the PODS Program Chair is W.-C. Tan. For further information, visit http://www.sigmod2016.org.
- North American Summer School in Logic, Language, and Information (NASSLLI 2016). July 9-16, 2016, New Brunswick, New Jersey. This event, loosely modeled on the ESSLLI series in Europe (see http://www.esslli2014.de/), meets approximately every other summer. It is geared towards graduate students and advanced undergraduate students in fields such as Cognitive Science, Computer Science, Linguistics, and Philosophy. The featured course instructors (with course titles in parentheses) are: J. van Benthem (Logic, agency, and games), M. Bittner (Dynamic semantics), R. Muskens (Multi-modal logic), U. Sattler (An introduction to description logics techniques, properties, and applications), and B. Skyrms (Evolution and learning dynamics in signaling games). The Program Committee Chairs are T. Icard and C. Potts and the Organizing Committee Chair is E. Lepore. The Steering Committee includes: D. Beaver, P. Kolaitis, L. Moss, V. de Paiva, S. Shieber, and M. Vardi. For more information, visit http://ruccs.rutgers.edu/nasslli2016/index.html.
- Twenty-eighth European Summer School in Logic, Language and Information (ESSLLI-2016). August 15–26, 2016, Bolzano, Italy. The European Summer School in Logic, Language and Information brings together logicians, linguists, computer scientists, and philosophers to study language, logic and information, and their interconnections. Introductory and advanced courses, together with workshops, cover a wide variety of topics within the three areas of interest: Language and Computation, Language and Logic, and Logic and Computation. The Chair of the Program Committee is C. Gardent. ESSLLI-2016 is organized under the auspices of the European Association for Logic, Language and Information (FoLLI). For more information about ESSLLI-2016, visit http://esslli2016.unibz.it; for further information about FoLLI, visit http://www.folli.info.

The next Newsletter will be sent in January 2016. Items to be included should reach the Secretary-Treasurer before January 10, 2016.

Submitted by Charles Steinhorn, Secretary-Treasurer.