

RĂZVAN DIACONESCU

publication list

May 25, 2018

STATISTICS

- 60% peer-reviewed journal publications, 87% of them in ISI Web of Science indexed journals;
- publications in 24 journals (18 ISI Web of Science indexed journals) in informatics, mathematics, logic and philosophy;
- 60% of publications are single authored;
- paramount scientists as co-authors: J. Goguen, R. Burstall, A. Tarlecki, T. Mossakowski, etc.
- 3000 citations ([Google Scholar](#)); h-index = 26 (Google Scholar), =15 ([Scopus](#)),

THESES

- [1-T] *Institution Theory and Applications*,
Habilitation thesis, Simion Stoilow Institute of Mathematics of the Romanian Academy, 2014.
- [2-T] *Category-based Semantics for Equational and Constraint Logic Programming*,
DPhil thesis, University of Oxford, 1994. (published as OUCL Monograph PRG-116, 120 pages)
- [3-T] *Monadic Signatures for Abstract Model Theory*,
MSc thesis, Universitatea București, 1988.
- [4-T] *Algebraic Aspects of Logic Programming and Theorem Proving*,
BSc graduation thesis, Universitatea București, 1987.

MONOGRAPHS AND TEXTBOOKS

- [5-B] *Institution-independent Model Theory*,
volume of *Studies in Universal Logic* series. Birkhäuser Basel, 2008. (386 pages).
- [6-B] *CafeOBJ Report: the language, proof techniques, and methodologies for object-oriented algebraic specification* (with K. Futatsugi),
volume 6 of *AMAST Series in Computing*. World Scientific Singapore, 1998. (174 pages)

JOURNAL ARTICLES (PEER-REVIEWED)

- [7-J] [Implicit Kripke semantics and ultraproducts in stratified institutions](#),
Journal of Logic and Computation, 27(5):1577–1606, Oxford Univ. Press, 2017.
- [8-J] [Functorial semantics of first-order views](#),
Theoretical Computer Science 656:46–59, Elsevier, 2016.
- [9-J] [Encoding hybridized institutions into first order logic](#) (with Alexandre Madeira),
Mathematical Structures in Computer Science 26(5):745–788, Cambridge Univ. Press, 2016.
- [10-J] [Quasi-varieties and initial semantics for hybridized institutions](#),
Journal of Logic and Computation 26(3):855–891, Oxford Univ. Press, 2016.
- [11-J] [Institution Theory](#),
Internet Encyclopedia of Philosophy, 2016.
- [12-J] [On the existence of translations of structured specifications](#),
Information Processing Letters 115:15–22, Elsevier, 2015.
- [13-J] [The institution-theoretic scope of logic theorems](#) (with T. Mossakowski and A. Tarlecki),
Logica Universalis, 8(3-4):393–406, Springer Basel, 2014.
- [14-J] [Graded consequence: an institution theoretic study](#),
Soft Computing, 18(7):1247–1267, Springer, 2014.
- [15-J] [Foundations for structuring behavioural specifications](#) (with I. ȚuȚu),
Journal of Logical and Algebraic Methods in Programming, 83(3-4):319–338, Elsevier, 2014.
- [16-J] [Institutional semantics for many-valued logics](#),
Fuzzy Sets and Systems, 218:32–52, Elsevier, 2013.
- [17-J] [Borrowing interpolation](#),
Journal of Logic and Computation, 22(3):561–586, Oxford Univ. Press, 2012.
- [18-J] [An axiomatic approach to structuring specifications](#),
Theoretical Computer Science, 433:20–42, Elsevier, 2012.
- [19-J] [Interpolation for predefined types](#),
Mathematical Structures in Computer Science, 22(1):1–24, Cambridge Univ. Press, 2012.
- [20-J] [Grothendieck inclusion systems](#),
Applied Categorical Structures, 19(5):783–802, Springer, 2011.
- [21-J] [Structural Induction in Institutions](#),
Information and Computation, 209(9):1197–1222, Elsevier, 2011.
- [22-J] [On the Algebra of Structured Specifications](#) (with I. ȚuȚu),
Theoretical Computer Science, 412(28):3145–3174, Elsevier, 2011.
- [23-J] [On quasi-varieties of multiple valued logic models](#),
Mathematical Logic Quarterly, 57(2):194–203, Wiley, 2011.
- [24-J] [Coinduction for preordered algebras](#),
Information and Computation, 209(2):108–117, Elsevier, 2011.
- [25-J] [Saturated models in institutions](#) (with M. Petria),
Archive for Mathematical Logic, 49(6):693–723, Springer, 2010.
- [26-J] [Quasi-Boolean encodings and conditionals in algebraic specification](#),
Journal of Logic and Algebraic Programming, 79(2):174–188, Elsevier, 2010.
- [27-J] [An encoding of partial algebras as total algebras](#),
Information Processing Letters, 109(23-24):1245–1251, Elsevier, 2009.
- [28-J] [What is a Logic Translation?](#) (with T. Mossakowski and A. Tarlecki),
Logica Universalis, 3(1):59–94, Birkhäuser, 2009.
- [29-J] [A categorical study on the finiteness of specifications](#),
Information Processing Letters, 108(2):75–80, Elsevier, 2008.
- [30-J] [Ultraproducts and possible worlds semantics in institutions](#) (with P. Stefaneas),
Theoretical Computer Science, 379(1):210–230, Elsevier, 2007.

- [31-J] [Stratified institutions and elementary homomorphisms](#) (with M. Aiguier),
Information Processing Letters, 103(1):5–13, Elsevier, 2007.
- [32-J] [Abstract Beth definability in institutions](#) (with M. Petria),
Journal of Symbolic Logic, 71(3):1002–1028, 2006.
- [33-J] [Proof systems for institutional logic](#),
Journal of Logic and Computation, 16(3):339–357, Oxford Univ. Press, 2006.
- [34-J] [Behavioural specification for hierarchical object composition](#),
Theoretical Computer Science, 343(3):305–331, Elsevier, 2005.
- [35-J] [Elementary diagrams in institutions](#),
Journal of Logic and Computation, 14(5):651–674, Oxford Univ. Press, 2004.
- [36-J] [Herbrand theorems in arbitrary institutions](#),
Information Processing Letters, 90:29–37, Elsevier, 2004.
- [37-J] [An institution-independent proof of Craig interpolation theorem](#),
Studia Logica, 77(1):59–79, Springer, 2004.
- [38-J] [Interpolation in Grothendieck institutions](#),
Theoretical Computer Science, 311:439–461, Elsevier, 2004.
- [39-J] Modality in open institutions with concrete syntax (with P. Stefaneas),
Bulletin of the Greek Mathematical Society, 49:91–101, 2004.
- [40-J] [CafeOBJ: logical foundations and methodologies](#) (with K. Futatsugi and K. Ogata),
Computing and Informatics, 22:257–283, 2003.
- [41-J] [Institution-independent ultraproducts](#),
Fundamenta Informaticæ, 55(3-4):321–348, IOS Press, 2003.
- [42-J] [Logical foundations of CafeOBJ](#) (with K. Futatsugi),
Theoretical Computer Science, 285:289–318, Elsevier, 2002.
- [43-J] [Grothendieck institutions](#),
Applied Categorical Structures, 10(4):383–402, Kluwer, 2002.
- [44-J] [Behavioural coherence in object-oriented algebraic specification](#) (with K. Futatsugi),
Universal Computer Science, 6(1):74–96, Springer, 2000.
- [45-J] [Category-based constraint logics](#),
Mathematical Structures in Computer Science, 10(3):373–407, Cambridge Univ. Press, 2000.
- [46-J] [Extra theory morphisms for institutions: logical semantics for multi-paradigm languages](#),
Applied Categorical Structures, 6(4):427–453, Kluwer, 1998.
- [47-J] An overview of CafeOBJ (with K. Futatsugi, M. Ishisone, A. Nakagawa and T. Sawada),
Electronic Notes in Theoretical Computer Science, 15:285–298, Elsevier Science, 1998.
- [48-J] Category-based modularization for equational logic programming,
Acta Informatica, 33(5):477–510, Springer, 1996.
- [49-J] Foundations of behavioural specification in rewriting logic,
Electronic Notes in Theoretical Computer Science, 4:226–245, Elsevier Science, 1996.
- [50-J] Completeness of category-based equational deduction,
Mathematical Structures in Computer Science, 5(1):9–41, Cambridge Univ. Press, 1995.
- [51-J] An Oxford survey of order sorted algebra (with J. Goguen),
Mathematical Structures in Computer Science, 4(4):363–392, Cambridge Univ. Press, 1994.
- [52-J] [Contraction algebras and unification of infinite terms](#),
Journal of Computer and System Sciences, 44(1):23–43, Academic Press, 1992.
- [53-J] A short Oxford survey of order sorted algebra (with J. Goguen),
Bulletin of EATCS, 48:121–133, European Association of Theoretical Computer Science, 1992.

INVITED PAPERS

- [54-I] [Universal logic and computation](#) (editorial),
Journal of Logic and Computation, 27(6):1677–1678, Oxford Univ. Press, 2017.

- [55-I] [Structuring of Specification Modules \(extended\)](#),
Computer Science Journal of Moldova, 23(2):135–152, 2015.
- [56-I] [Structuring of Specification Modules](#),
 in Proceedings of the Workshop on *Foundations of Informatics – FOI 2015*, pages 4–13, Institute of Mathematics and Computer Science, Chişinău, Republic of Moldova, August 2015. ISBN 978-9975-4237-3-1
- [57-I] [From universal logic to computer science, and back](#),
 in G. Ciobanu and D. Méry (Eds.): *Theoretical Aspects of Computing – ICTAC 2014*,
Lecture Notes in Computer Science 8687, pages 1–16, Springer Switzerland, 2014.
- [58-I] An introduction to category-based equational logic (with J. Goguen),
 in V.S. Alagar and Maurice Nivat, editors, *Algebraic Methodology and Software Technology*, vol. 936 of
Lecture Notes in Computer Science, pag. 91–126, Springer, 1995.
- [59-I] [Hiding and behaviour: an institutional approach](#) (with R. Burstall),
 in A. William Roscoe, editor,
A Classical Mind: Essays in Honour of C.A.R. Hoare, pages 75–92, Prentice-Hall, 1994.

BOOK CHAPTERS

- [60-P] [The Algebra of Opposition \(and universal logic interpretations\)](#),
 in A. Koslow and A. Buchsbaum editors,
The Road to Universal Logic, pages 127–143, Springer Basel, 2015.
- [61-P] [Three decades of institution theory](#),
 in Jean-Yves Beziau editor,
Universal Logic: an Anthology, pages 309–322, Springer Basel, 2012.
- [62-P] A methodological guide to CafeOBJ logic,
 in Dines Björner and Martin Henson editors,
Logics of Specification Languages, pages 153–240, Springer-Verlag Berlin Heiderberg, 2008.
- [63-P] [Institutions, Madhyamaka, and universal model theory](#),
 in Jean-Yves Béziau and Alexandre Costa-Leite editors,
Perspectives in Universal Logic, pages 41–65, Polimetrica, 2007.
- [64-P] [What is a Logic?](#) (with T. Mossakowski, J. Goguen and A. Tarlecki),
 in Jean-Yves Beziau editor,
Logica Universalis, pages 113–133, Birkhauser, 2005.
- [65-P] CafeOBJ jewels (with K. Futatsugi and S. Iida),
 In Kokichi Futatsugi, Ataru Nakagawa, and Tetsuo Tamai editors,
Cafe: An Industrial-Strength Algebraic Formal Method, Elsevier, 2000.
- [66-P] Component-based algebraic specification - behavioural specification for component-based software engineering - (with S. Iida and K. Futatsugi),
 In *Behavioral specifications of businesses and systems*, The Springer International Series in Engineering and Computer Science Volume 523, pages 105–121, Kluwer, 1999.
- [67-P] A short Oxford survey of order sorted algebra (with J. Goguen),
Current Trends in Theoretical Computer Science: Essays and Tutorials, World Scientific, 1993, pages 209–221.

CONFERENCE PUBLICATIONS (PEER-REVIEWED)

- [68-C] Towards logics for neural conceptors (with Till Mossakowski),
 ... editors,
AITP 2018, volume ..., pages ..., 2018.
- [69-C] CafeOBJ traces,
 in S. Iida, J. Meseguer, K. Ogata editors,
Specification, Software and Algebra, volume 8373 *Lecture Notes in Computer Science*, pages 53–65,
 Springer, Berlin Heidelberg, 2014.

- [70-C] Hybridization of Institutions (with M. Martins, A. Madeira and L. Barbosa),
in Andrea Corradini, Bartek Klin and Corina Cîrstea editors,
Algebra and Coalgebra in Computer Science, volume 6859 *Lecture Notes in Computer Science*, pages 283–297, Springer, Berlin Heidelberg, 2011.
- [71-C] Jewels of institution-independent model theory,
in Kokichi Futatsugi, Jean-Pierre Jouannaud, and Jose Meseguer editors,
Algebra, Meaning, and Computation (a Festschrift in honour of Professor Joseph Goguen), vol. 4060 of *Lecture Notes in Computer Science*, pag. 65–98, Springer, 2006.
- [72-C] Behavioural specification of hierarchical object composition,
in Frank S. de Boer, Marcello M. Bonsangue, Susanne Graf and Willem-Paul de Roever editors,
Formal Methods for Components and Objects, vol. 3188 of *Lecture Notes in Computer Science*, pag. 134–156, Springer, 2004.
- [73-C] [Component-based algebraic specification and verification in CafeOBJ](#) (with K. Futatsugi and S. Iida),
in Jeanette M. Wing, Jim Woodcock and Jim Davies editors,
FM'99 – Formal Methods, vol. 1709 of *Lecture Notes in Computer Science*, pg. 1644–1663, Springer, 1999.
- [74-C] A category-based equational logic semantics to constraint programming,
in Magne Haveraaen, Olaf Owe, and Ole-Johan Dahl, editors,
Recent Trends in Data Type Specification, vol. 1130 of *Lecture Notes in Computer Science*, pag. 200–221, Springer, 1996.
- [75-C] Towards an algebraic semantics for the object paradigm (with J. Goguen),
In Harmut Ehrig and Fernando Orejas, editors,
Recent Trends in Data Type Specification, vol. 785 of *Lecture Notes in Computer Science*, pag. 1–34, Springer, 1994.
- [76-C] [Logical support for modularization](#) (with J. Goguen and P. Stefaneas),
In Gerard Huet and Gordon Plotkin, editors,
Logical Environments, pages 83–130, Cambridge Univ. Press, 1993.
- [77-C] Component-based algebraic specification: – behavioural specification for component based software engineering – (with S. Iida and K. Futatsugi),
in *7th OOPSLA Workshop on Behavioral Semantics of OO Business and System Specification*, 1998. Also in the technical report of Technical University of Munich TUM-I9820.
- [78-C] Logical semantics for CafeOBJ (with K. Futatsugi),
In *Precise Semantics for Software Modeling Techniques*, 1998. Technical Report TUM-I9803, Technical University Munchen, pages 31–54. Proceedings of an ICSE'98 workshop held in Kyoto, Japan.
- [79-C] Free monads in the hypercategory of all the monads,
In *East European Category Seminar 1990*. Proceedings of a Workshop held in Predela, Bulgaria, March 1990.

TECHNICAL REPORTS (NOT PUBLISHED ELSEWHERE)

- [80-R] Generic partiality for $\frac{3}{2}$ -Institutions.
[arXiv:1711.04666 \[math.LO\]](#), 2017.
- [81-R] $\frac{3}{2}$ -Institutions: an institution theory for conceptual blending.
[arXiv:1708.09675 \[math.LO\]](#), 2017.
- [82-R] WADT 2014 Preliminary Proceedings (with M. Codescu, I. Țuțu)
Technical Report 7-2014, Simion Stoilow Institute of Mathematics of the Romanian Academy, 2014.
- [83-R] A module algebra for behavioural specifications.
In N. Marti-Oliet and M. Palomino editors, *WADT 2012 Preliminary Proceedings*, Technical report TR-08/12 pages 44–45, Universidad Complutense de Madrid Departamento de Sistemas Informaticos y Computacion, 2012.
- [84-R] (with K. Futatsugi and S. Iida) Component-based algebraic specification and verification in CafeOBJ.
Technical Report IS-RR-99-0020S, Japan Advanced Institute for Science and Technology, 1999.
- [85-R] (with P. Stefaneas) Categorical foundations of modularization for multi-paradigm languages.
Technical Report IS-RR-98-0014F, Japan Advanced Institute for Science and Technology, 1998.
- [86-R] (with S. Iida, M. Matsumoto, K. Futatsugi and D. Lucanu) Concurrent object composition in CafeOBJ.
Technical Report IS-RR-98-0009S, Japan Advanced Institute for Science and Technology, 1998.

- [87-R] Completeness of semantic paramodulation: a category-based approach.
Technical Report IS-RR-96-0006S, Japan Advanced Institute for Science and Technology, 1996.
- [88-R] The logic of Horn clauses is equational.
Technical Report PRG-TR-3-93, Programming Research Group, University of Oxford, 1990.
- [89-R] Monadic equational logic.
Technical Report 9-90, INCREST București, 1990.

EDITORIAL WORK:

VOLUMES

- [90-E] *Universal Logic and Computation. Special issue to celebrate Jean-Yves Beziau's 50th birthday*, (with M. Coniglio), *Journal of Logic and Computation* 27(6), Oxford University Press, 2017.
- [91-E] *Recent Trends in Algebraic Development Techniques* – 22nd International Workshop, WADT 2014, revised selected papers (with M. Codrescu and I. Ţuţu), volume 9463 of *Lecture Notes in Computer Science (Theoretical Computer Science and General Issues)*, Springer, 2015.