

RĂZVAN DIACONESCU

curriculum vitæ

June 10, 2025

GENERAL DATA

Born on 19 March 1964 in Ploieşti, România.
mobile phone: (+4)0744-153-703
e-mail: Razvan.Diaconescu@ymail.com
web page: <http://rdiaconescu.weebly.com>

DIPLOMAS

- *Habilitation* in Informatics, IMAR,* 2014.
- *DPhil* in Computation, Faculty of Mathematical Sciences, Oxford, 1994.
- *MSc* in Algebra and Informatics, Faculty of Mathematics, Universitatea Bucureşti, 1988.
- *BSc* in Informatics, Faculty of Mathematics, Universitatea Bucureşti, 1987.

PROFESSIONAL ACTIVITY:

My areas of activity are in model theory and category theory as such and with applications to computing. My brand is ‘institution-independent model theory’, a fully abstract, categorical, and axiomatic approach to model theory. Applications include formal specification and verification, symbolic computational modelling, and, recently, experimental mathematics. The milestones of my professional career are as follows.

- *Oxford doctoral years*. Between 1990-1994 I had been enrolled in a doctoral programme in computing at Oxford under the guidance of late Professor Joseph A. Goguen, a paramount scientist. Those years shaped completely my future research style and orientation.
- *Computer language designer in Japan*. Between 1996-2000 I worked as designer of the new logic-based specification and verification language CafeOBJ at *Japan Advanced Institute for Science and Technology*, a project funded on a large scale by the Japanese Government. This design was based on advanced mathematical work involving category theory and model theory. Besides the language itself, many fundamental ideas (of mathematical nature) that have been developed during the process of designing CafeOBJ, have strongly influenced other developments worldwide. This work was awarded in 2004 the *Grigore Moisil Prize* of the Romanian Academy.

*Simion Stoilow Institute of Mathematics of the Romanian Academy. www.imar.ro

- *Building a master programme for elite students in informatics.* Between 2002-2011, as Director of the Informatics Department of *Școala Superioară București* I had organised a master programme in *Logic and Formal Specification* dedicated to very elite students in Romania, its main aim being to reduce the brain drain from Romania to the West. Most of the graduates of the programme have subsequently graduated from doctoral programmes in prestigious universities in US, Europe and Japan, many of them intending to return home. The advanced research orientation of that master programme is illustrated by the six publications of the students themselves in top international journals, a very rare achievement for any master programme worldwide.
- *Doctoral advisor abroad and IBM Award.* Between 2010-2013 I had been supervisor of a doctoral thesis in computer science in Portugal that had won the prestigious IBM Award.
- *Advancing model theory and applications to informatics.* Since 2000 my main research activity can be summarised as advancing a fully abstract axiomatic approach to model theory and its applications to computer science, especially in the areas of formal methods and (hard) artificial intelligence. This revolutionary form of model theory, known as ‘institution-independent model theory’ (the authoritative monograph of the area, now at its second edition, being published with this name), has had a strong impact in the context of the modern universal trend in logic.

POSITIONS:

- Head of IMAR Department of *Number Theory and Computational Methods*, since 2015.
- Research Professor (CS1) at IMAR, since 2001.
- Research Associate Professor (CS2) at IMAR, 1997–2001
- Panasonic-Fujitsu-USAC Endowed Chair & Associate at JAIST[†], 1996–1999.
- Research Assistant Professor (CS3) at IMAR, 1995–1997.
- Visiting Researcher at the Naval Postgraduate School, Monterey, CA, Sept 1994.
- Researcher at IMAR, 1990–1995.

AWARDS AND DISTINCTIONS (main ones)

- Birkhäuser Award for the winner of the contest “How to translate a logic into another one?” of the *2nd World Congress of Universal Logic* (joint work with T. Mossakowski and A. Tarlecki) (2007).
- *Grigore Moisil Award* (for 2002) of the Romanian Academy (2004).
- J. William Fulbright Award under *Mutual Educational Exchange Program* (1996).[‡]
- US National Research Council *Resident Research Associateship Award* (1995).[‡]

RESEARCH GRANTS

- *Project director* of seven national competitive research grants, from which five from CNCSIS/UEFISCDI. Three of these were fundamental research grants for mathematics while two of them were experimentally-demonstrative grants for development of computing systems.

[†]Japan Advanced Institute for Science and Technology, Hokuriku. www.jaist.ac.jp

[‡]But fellowship declined due to concurrency with other professional commitments.

- *Partner team leader* in two projects on international cooperation, one between Romania and Japan, and another between EU and Brazil.

PUBLICATIONS

- two thirds are peer-reviewed journal publications, 90% of which in Web of Science indexed journals;
- publications in 30 different journals (23 Web of Science indexed journals) in mathematics/informatics, logic and philosophy;
- two thirds of publications are single authored
- *paramount scientists as co-authors*: J. Goguen, R. Burstall, A. Tarlecki, T. Mossakowski, etc.
- *citations* \approx 4000 ([Google Scholar](#)); *h-index* =31(GS), =22 ([ScholarGPS](#)), =19 ([Scopus](#)), =15(Web of Science), =13(MathSciNet), =12([zbMATH](#))
- *monographs*:
 - *Institution-independent Model Theory*, 2nd Edition, volume of *Studies in Universal Logic* series. Birkhäuser Basel, 2025. (570 pages).
 - *Institution-independent Model Theory*, 1st Edition, volume of *Studies in Universal Logic* series, Birkhäuser Basel, 2008. (386 pages).
 - (with K. Futasugi) *CafeOBJ Report: the language, proof techniques, and methodologies for object-oriented algebraic specification* volume 6 of *AMAST Series in Computing*. World Scientific Singapore, 1998. (174 pages)
- *Editorial work*. Since 2007 I am in the editorial board of a book series at Springer/Birkhäuser. I have also edited two volumes at Oxford Univ. Press and at Springer.

CONFERENCES

- *Invited/keynote speaker* to nine international congresses/symposiums, e.g. World Congress on Universal Logic, International Colloquium on Theoretical Aspects of Computing, etc.
- Three *tutorials* in international events, e.g. World School on Universal Logic, European Summer School on Logics for Specification Languages, etc.
- Over 70 talks delivered to events such as conferences or seminars, most of them in the international environment.

SYSTEM DEVELOPMENT

- (1) Designer of [CafeOBJ](#),* an industrial strength multi-logic heterogeneous algebraic language, successor of the OBJ, and directly incorporating some modern developments in algebraic specification such as behavioural specification and rewriting logic.
- (2) Author of [COMP](#), a language and system for formal specification and verification of component-based systems, based on hierarchical object composition within the hidden algebra formalism.
- (3) Author of [H](#), a language and system for logic-based formal specification and verification of reconfigurable systems.
- (4) Built the first prototype of EQLOG, an equational and constraint logic programming system with subtypes and generic modules, extending the OBJ3 system.

*Developed at the Japan Advanced Institute for Science & Technology; supported on a large scale by the Japanese Government through its Information-technology Promotion Agency.

TEACHING AND ADVISOR FOR MASTER AND DOCTORAL THESES

- Director of Master (by research) programme in *Logic and Formal Specification*, Școala Normală Superioară București, 2004-2011. During which I have also taught 15 courses.
- Courses taught at undergraduate or master level in Universities of Athens (1), București (3), Ploiești (2).
- Advisor for six master and one doctoral theses in Romania and one doctoral thesis in Portugal.

SCIENTIFIC EVENTS

- Chair, co-chair or organiser of seven international congresses, conferences, workshops, schools, and of regular seminars. Founder of the series of *Romanian-Japanese Algebraic Specification Workshops* and of the monthly *Hellenic-Romanian Logic and Computation Seminar*.
- PC member of eight international conferences/workshops.

COMMITTEES

- in a committee for professorship and a committee for associate professorship at University Politehnica București
- in a committee for a Habilitation at University of București
- various positions in the [CNATDCU](#)[†] Commission for Informatics, including head of the commission.

[†]National Council for Attesting Titles, Diplomas and Certificates