

Curriculum Vitae et Studiorum

Rocco De Nicola

Birth: Calitri 26th June 1954 (Italy)

Citizenship: Italian

Home address: Piazza della Stazione, 22 - I-56125 Pisa (Italy)

Current Position: Full professor at IMT - Institute for Advanced Studies, Lucca.

Short Biography

De Nicola is a full professor of Computer Science at IMT Institute for Advanced Studies, Lucca; currently, he collaborates also with the Gran Sasso Science Institute (GSSI) in L'Aquila where he is the coordinator of the PhD program in Computer Science. De Nicola received the Laurea degree in Computer Science from the University of Pisa (Italy) in 1978 and the Ph.D. degree in Computer Science from the University of Edinburgh (UK) in 1985. From 1995 till 2011, he has been a full professor at Dipartimento di Sistemi e Informatica of the University of Florence (Italy) and from 1990 till 1995, a full professor at the Dipartimento di Scienze dell'Informazione of the University of Rome 'La Sapienza' (Italy). Before that, he was a full time researcher at IEI-CNR, Pisa and worked at Edinburgh University and for Italtel in Milano.

Education

- Ph.D. in Computer Science nel Maggio 1985 presso Department of Computer Science della University of Edinburgh (UK) - May 1985.
- Laurea (*magna cum laude*) in Scienze dell'Informazione at Pisa University - December 1978.

Working Experiences

- *July 2011- today.* Full Professor of Computer Science at IMT - Institute for Advanced Studies, Lucca.
- *November 1995 - June 2011.* Full Professor of Computer Science at University of Florence.
- *November 1990 - October 1995.* Full Professor of Computer Science at University "La Sapienza" in Rome.
- *October 1982 - October 1990.* Researcher at Istituto di Elaborazione dell'Informazione of CNR in Pisa
- *March 1981 - September 1983.* PhD student at University of Edinburgh.
- *May 1980 - February 1981.* Researcher at ITALTEL in Milan.
- *April 1978 - April 1980.* Grant from Olivetti to work on a joint project with Istituto di Elaborazione dell'Informazione (IEI) at CNR in Pisa.

Research and its outcomes

De Nicola's research aims at understanding the foundations of distributed computing and at applying the formal techniques based on these foundational studies to the development and the analysis of concurrent distributed systems. Current research concentrate on

- Models and Languages for Open Distributed Systems
- Network Aware Programming
- Service Oriented Computing
- Specification of Qualitative and Quantitative Properties of Distributed Systems
- Abstract Models for Security and Cryptographic Process Calculi
- Types for Access Control

On this topics, De Nicola presently collaborates with researchers from many national and international institutions and is the author of around 150 publications in international refereed journals and conference proceedings. De Nicola has also edited books and special issues of journals. The list of the main publications can be found at the end of this document.

De Nicola's research has also had four important recognitions:

Patent: United States Patent 6751619 Methods and apparatus for tuple management in data processing system Issued on June 15, 2004 Inventors Rocco De Nicola and Antony Rowstron.

Citations De Nicola is among the 300 researchers in the ISI-Thomson of highly cited researchers (<http://isihighlycited.com>).

Titles: De Nicola has been honoured with the title of "Commendatore al Merito della Repubblica Italiana".

Honors: De Nicola in 2011 has been accepted as a member of Academia Europaea.

De Nicola is a member of IFIP Working Groups 2.2 , 1.6 and 1.8. He is also a member of Gruppo 2003 (an association of leading Italian scientists).

Teaching

At Florence and/or Rome University, De Nicola has taught or is currently teaching: Concurrent Programming, Specification and Analysis of Concurrent Systems, Computer Security, Operating Systems, Algorithms and Data Structures, Computer Architectures, Computability and Formal Languages, Foundations of Programming Languages.

De Nicola has supervised the PhD or Master work of a number of students. Some of them (Luca Aceto, Lorenzo Bettini, Michele Boreale, Flavio Corradini, Daniele Gorla, Michele Loreti, Rosario Pugliese, Roberto Segala, Emilio Tuosto) are currently playing an important active role in international research and in Italian or European Universities.

Professional Services and Activities

De Nicola has been "visiting professor" at *Technical Univerität of Berlin* in May 1996, at *Ecole Normale Superiere* de Paris in April 2004 and at *Ludwig-Maximilians-Universität* in Munich in July 2004 and for four months in 2013; he has also been "visiting researcher" at *Microsoft Research Laboratories* in Cambridge (UK) for three months during 1999 and 2003. De Nicola is currently

- Editor in chief for the Journal of Logical and Algebraic Methods in Programming (Elsevier)
- Editor for Mathematical Structures in Computer Science (Cambridge University Press).
- Editor for Electronics Proceedings in Theoretical Computer Science.
- Coordinator of the PhD Program in Computer Science at Gran Sasso Science Institute (GSSI) in L'Aquila.
- Chairman of the Steering Committees of the International Symposium on Trustworthy Global Computing.
- Member of the Steering Committees of the International Conference on Coordination Models and Languages.
- Member of the Consiglio Accademico of IMT.
- Member of the Consiglio Consortile of CINECA, a consortium of Italian universities for IT services Committees.
- Member of the "Giunta Amministrativa" of CINI, a consortium of Italian universities for research in Informatics.
- Member of the "Consiglio di Amministrazione" of LUCENSE, a research company in Lucca.

De Nicola has been

- coordinator of the PhD Program in Computer Science and Applications at IMT.
- coordinator of the PhD Program in Informatica ed Applicazioni at University of Florence.
- Director of Studies of the Bachelor (Diploma) and Master (laurea) Curriculae in Informatics at University of Florence.
- Deputy Rector for the management of Information System of University of Florence.
- Vice-President of the board of (5) professors leading CSIAF. The center for information service of University of Florence.
- Deputy Director of Dipartimento di Sistemi ed Informatica at University of Florence.
- Vice-president (Coordinator of the Scientific Committee) of GRIN, the association of all researchers in Computer Science at Italian Universities.
- Chairman of the Steering Committees of the International Conference on Coordination Models and Languages.
- Member of the Consiglio Direttivo of IMT
- Member of the advisory board of CITI: The Research Center for Informatics and Information Technologies (Portugal)
- Member of the advisory board of MT-LAB: Modelling of Information Technology (Denmark)

Moreover, De Nicola has served as General Chair of PLI 2001, Conference Chair of PPDP 2001, Program Chair of COORDINATION 2004, TGC 2005 and ESOP 2007, member of the Steering Committee of ETAPS. He has also been a member of the program committee of important international conferences, such as AMAST, CAAP, CONCUR, COORDINATION, FCT, ICALP, LICS, MA, MFCS, PROCOMET, PPDP. De Nicola has also been *invited speaker* for many international conferences and schools among which IFIP World Congress 1986, COORDINATION 1999, CONCUR 2000, EXPRESS 2004, FMCO 2004, DAIS-FMOODS 2005, QAPL 2006.

Recent Research Project

De Nicola is or has recently been coordinator of projects funded by MIUR, CNR, Microsoft and European Union:

PAST PROJECT

NAPOLI: *Network Aware Programming: Objects Languages and Implementations*
2002-2003 MIUR - Italy 60.000 Euro (National Coordinator)

AGILE: *Architectures for Mobility*
2001-2004 IST FET Global Computing - EU 150.000 Euro (Site Coordinator)

MIKADO: *Models and Calculi for Mobility*
2001-2004 IST FET Global Computing - EU 500.000 Euro (Site Coordinator)

NAPI: *Network Aware Programming in Italy*
2001-2004 Microsoft Research Cambridge 100.000 Euro (Project Leader)

SP4: *Architetture Software ad Alta Qualità di Servizio per Global Computing su Cooperative Wide Area Networks*
2002-2005 Progetto SP4 - CNR 110.000 Euro (Site Coordinator)

SENSORIA: *Software Engineering for Service Oriented Architectures*
2005-2008 IST FET Global Computing - EU 400.000 Euro (Site Coordinator)

PaCo: *Performability-Aware Computing: Logics, Models, and Languages*
2008-2010 MIUR - Italy 20.000 Euro (Site Coordinator).

CURRENT PROJECT

ASCENS: *Autonomic Service-Component Ensembles*
2010-2014 IST FET Self-Awareness in Autonomic Systems - EU 400.000 Euro (Site Coordinator)

QUANTICOL: *A Quantitative Approach to Management and Design of Collective and Adaptive Behaviours*
2013-2017 IST FET Foundations of Collective Adaptive Systems - EU 400.000 Euro (Site Coordinator)

CINA: *Compositionality, Interaction, Negotiation, Autonomicity*
2013-2016 MIUR - Italy 600.000 Euro (National Coordinator)

WILIFE: *WiReLess and Ict technologies For Emergency management*
2013-20156 Regione Toscana - Italy 200.000 Euro (Site Coordinator)

Refereed International Journals

- [1] M. Bernardo, R. De Nicola, and M. Loreti: Revisiting bisimilarity and its modal logic for nondeterministic and probabilistic processes. *Acta Informatica* 52: 61-106, 2015.
- [2] M. Boreale, R. Bruni, R. De Nicola, and M. Loreti. Sessions and Pipelines for Structured Service Programming, *Mathematical Structures in Computer Science*, Cambridge University Press, 25: 666-709, 2015.
- [3] M. Bernardo, R. De Nicola, and M. Loreti: Revisiting Trace and Testing Equivalences for Nondeterministic and Probabilistic Processes. *Logical Methods in Computer Science* 10(1), 2014.
- [4] R. De Nicola, M. Loreti, R. Pugliese, F. Tiezzi A Formal Approach to Autonomic Systems Programming: The SCEL Language. *ACM transactions on Autonomous and Adaptive Systems* 9(7), 2014.
- [5] M. Bernardo, R. De Nicola, and M. Loreti: Relating strong behavioral equivalences for processes with nondeterminism and probabilities, *Theoretical Computer Science*, 546(1): 63–92, 2014.
- [6] M. Bernardo, R. De Nicola, and M. Loreti: A uniform framework for modeling nondeterministic, probabilistic, stochastic, or mixed processes and their behavioral equivalences. *Information and Computation* 225: 29-82, 2013.
- [7] R. De Nicola, D. Latella, M. Loreti, and M. Massink. A Uniform Definition of Stochastic Process Calculi, *ACM Computing Surveys* , 46(1): 5 (2013)
- [8] R. De Nicola and D. Gorla and A. Labella Tree-functors, determinacy and bisimulations, *Mathematical Structures in Computer Science*, 20(3):319-358, 2010.
- [9] R. De Nicola and D. Gorla and R.R. Hansen and F. Nielson and H. Riis Nielson and C. W. Probst and R. Pugliese, From Flow Logic to static type systems for coordination languages, *Science of Computer Programming*, 75(6): 376-397, 2010.
- [10] R. De Nicola and M. Loreti, Modelling global computations with Klaim, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, (editor Marta Kwiatkowska Tom Rodden Vladimiro Sassone), 336(1881): 3737-3745, 2008.
- [11] R. De Nicola and M. Loreti, Multiple-Labelled Transition Systems for nominal calculi and their logics, *Mathematical Structures in Computer Science*, 18(1): 107-14, 2008.
- [12] G. Castagna, R. De Nicola and D. Varacca, Semantic subtyping for the pi-calculus, *Theoretical Computer Science*, 398(1-3): 217-240, 2008.
- [13] R. De Nicola, J.-P. Katoen, D. Latella, M. Loreti and M. Massink, Model checking mobile stochastic logic, *Theoretical Computer Science*, 382(1): 42-70, 2007.
- [14] R. De Nicola, D. Gorla, and R. Pugliese. Basic observables for a calculus for global computing. *Information and Computation*, 205(10): 1491-1525, 2007.
- [15] R. De Nicola, D. Gorla, and R. Pugliese. Global computing in a dynamic network of tuple spaces. *Science of Computer Programming*, 64(2): 187-204, 2007.
- [16] R. De Nicola, D. Gorla, and R. Pugliese. On the expressive power of klaim-based calculi. *Theoretical Computer Science*, 356(3): 387-421, 2006.
- [17] R. De Nicola, D. Gorla, and R. Pugliese. Confining data and processes in global computing applications. *Science of Computer Programming*, 63(1): 57-87, 2006.
- [18] R. De Nicola, D. Sangiorgi: Types in concurrency. *Acta Informatica* 42(2-3): 79-81, 2005.
- [19] L. Bettini, R. De Nicola, and M. Loreti. Formulae meet programs over the net: A framework for correct network aware programming. *Autom. Softw. Eng.*, 11(3):245–288, 2004.
- [20] R. De Nicola and M. Loreti. A modal logic for mobile agents. *ACM Transaction on Computational Logic*, 5(1):79–128, 2004.
- [21] Rocco De Nicola and Anna Labella. Nondeterministic regular expressions as solutions of equational systems. *Theoretical Computer Science*, 1-3(302):179–189, 2003.
- [22] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. Trace and testing equivalence on asynchronous processes. *Information and Computation*, 172(2):139–164, 2002.
- [23] Flavio Corradini, Rocco De Nicola, and Anna Labella. An equational axiomatization of bisimulation over regular expressions. *J. Log. Comput.*, 12(2):301–320, 2002.
- [24] Lorenzo Bettini, Rocco De Nicola, and Rosario Pugliese. Klava: a java package for distributed and mobile applications. *Softw., Pract. Exper.*, 32(14):1365–1394, 2002.
- [25] Xiao Jun Chen and Rocco De Nicola. Algebraic characterizations of trace and decorated trace equivalences over tree-like structures. *Theoretical Computer Science*, 254(1-2):337–361, 2001.
- [26] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. Divergence in testing and readiness semantics. *Theoretical Computer Science*, 266(1-2):237–248, 2001.

- [27] Rocco De Nicola and Rosario Pugliese. Linda-based applicative and imperative process algebras. *Theoretical Computer Science*, 238(1-2):389–437, 2000.
- [28] Rocco De Nicola, Gian Luigi Ferrari, Rosario Pugliese, and Betti Venneri. Types for access control. *Theoretical Computer Science*, 240(1):215–254, 2000.
- [29] Flavio Corradini, Rocco De Nicola, and Anna Labella. A finite axiomatization of nondeterministic regular expressions. *ITA*, 33(4/5):447–466, 1999.
- [30] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. Basic observables for processes. *Information and Computation*, 149(1):77–98, 1999.
- [31] Flavio Corradini, Rocco De Nicola, and Anna Labella. Models of nondeterministic regular expressions. *Journal of Computer and System Sciences*, 59(3):412–449, 1999.
- [32] Rocco De Nicola, Gian Luigi Ferrari, and Rosario Pugliese. Klaim: A kernel language for agents interaction and mobility. *IEEE Trans. Software Eng.*, 24(5):315–330, 1998.
- [33] Flavio Corradini and Rocco De Nicola. Locality based semantics for process algebras. *Acta Informatica*, 34(4):291–324, 1997.
- [34] Rocco De Nicola and Scott A. Smolka. Concurrency: Theory and practice. *ACM Comput. Surv.*, 28(4es):52, 1996.
- [35] Flavio Corradini and Rocco De Nicola. On four partial ordering semantics for a process calculus. *Fundamenta Informaticae*, 27(4):349–383, 1996.
- [36] Michele Boreale and Rocco De Nicola. A symbolic semantics for the pi-calculus. *Information and Computation*, 126(1):34–52, 1996.
- [37] Michele Boreale and Rocco De Nicola. Testing equivalence for mobile processes. *Information and Computation*, 120(2):279–303, 1995.
- [38] Rocco De Nicola and Frits W. Vaandrager. Three logics for branching bisimulation. *Journal of ACM*, 42(2):458–487, 1995.
- [39] Rocco De Nicola and Roberto Segala. A process algebraic view of input/output automata. *Theoretical Computer Science*, 138(2):391–423, 1995.
- [40] Rocco De Nicola, Alessandro Fantechi, Stefania Gnesi, and Gioia Ristori. An action-based framework for verifying logical and behavioural properties of concurrent systems. *Computer Networks and ISDN Systems*, 25(7):761–778, 1993.
- [41] Pierpaolo Degano, Rocco De Nicola, and Ugo Montanari. Universal axioms for bisimulations. *Theoretical Computer Science*, 114(1):63–91, 1993.
- [42] Pierpaolo Degano, Rocco De Nicola, and Ugo Montanari. A partial ordering semantics for ccs. *Theoretical Computer Science*, 75(3):223–262, 1990.
- [43] Pierpaolo Degano, Rocco De Nicola, and Ugo Montanari. A distributed operational semantics for ccs based on condition/event systems. *Acta Informatica*, 26(1/2):59–91, 1988.
- [44] Rocco De Nicola. Extensional Equivalences for Transition Systems. *Acta Informatica*, 24(2):211–237, 1987.
- [45] Rocco De Nicola. Two complete axiom systems for a theory of communicating sequential processes. *Information and Control*, 64(1-3):136–172, 1985.
- [46] Rocco De Nicola and Matthew Hennessy. Testing equivalences for processes. *Theoretical Computer Science*, 34:83–133, 1984.

Edited Books or Special issues

- [1] R. De Nicola, and R. Hennicker, editors. *Software, Services, and Systems*, volume 8950 of *Lecture Notes in Computer Science*; Springer, 2015.
- [2] R. De Nicola, and C. Julien, editors. *Proceedings COORDINATION 2013*, volume 7890 of *Lecture Notes in Computer Science*; Springer, 2013.
- [3] P. Degano, R. De Nicola, and J. Meseguer, editors. *Concurrency, Graphs and Models*, volume 5065 of *Lecture Notes in Computer Science*; Springer, 2008.
- [4] R. De Nicola, editor. *Programming Languages and Systems, 16th European Symposium on Programming, ESOP 2007, Proceedings*, volume 4421 of *Lecture Notes in Computer Science*. Springer, 2007.
- [5] R. De Nicola, D. Sangiorgi, editors. Special issue on "Types in Concurrency". *Acta Informatica*, volume 42 N. 2-5. Springer, 2005.
- [6] R. De Nicola, D. Sangiorgi, editors. *Trustworthy Global Computing, Selected papers of TGC 2005*, volume 3705 of *Lecture Notes in Computer Science*. Springer, 2004.
- [7] R. De Nicola, G.L. Ferrari, and G. Meredith, editors. *Coordination Models and Languages, 6th International Conference, COORDINATION 2004, 2004, Proceedings*, volume 2949 of *Lecture Notes in Computer Science*. Springer, 2004.
- [8] R. De Nicola, U. Montanari, editors. Special issue on "Concurrency and Compositionality". *Theoretical Computer Science*, Volume 96 (1). Elsevier, 1992.

Invited Contributions to Books or Conference Proceedings

- [1] R. De Nicola, R. Hennicker A Homage to Martin Wirsing. In *Software, Services, and Systems- Essays Dedicated to Martin Wirsing on the Occasion of His Retirement from the Chair of Programming and Software Engineering* vol. 8950 of *Lecture Notes in Computer Science* p. 1-12, Springer, 2015.
- [2] R. De Nicola, A. Lluch-Lafuente, M. Loreti, A. Morichetta, R. Pugliese, V. Senni, F. Tiezzi: Programming and Verifying Component Ensembles. in *From Programs to Systems. The Systems perspective in Computing, essays in Honor of Joseph Sifakis* Lecture Notes in Computer Science vol. 8415, 69-83 , Springer 2014.
- [3] R. De Nicola A Formal Approach to Autonomic Systems Programming: The SCEL Language - (Long Abstract). Proc. *FACS 2014, Lecture Notes in Computer Science* Vol. 8997, 24-28, Springer 2015.
- [4] R. De Nicola A formal approach to autonomic systems programming: the SCEL language. Proc. of the *15th Italian Conference on Theoretical Computer Science (ICTCS 2014)*, CEUR Workshop Proceedings 1231, CEUR-WS.org, 2014
- [5] M. Wirsing, R. De Nicola, M. Hoelzl: Introduction to "Rigorous Engineering of Autonomic Ensembles"-Track Introduction. Proc. *ISoLA (1), Lecture Notes in Computer Science* Vol. 8802, 96-98. Springer 2014.
- [6] L. Belzner, R. De Nicola, A. Vandin and M. Wirsing, Reasoning (on) Service Component Ensembles in Rewriting Logic, *Specification, Algebra, and Software*, Lecture Notes in Computer Science vol. 8373, pp. 188-211, 2014.
- [7] R. De Nicola Processes Algebra, in *Encyclopedia of Parallel Computing*, Ed. David Padua, Springer 15 pages, 2011.
- [8] R. De Nicola Behavioral Equivalences, in *Encyclopedia of Parallel Computing*, Ed. David Padua, Springer 10 pages, 2011.
- [9] M. Bernardo, R. De Nicola and M. Loreti Uniform Labeled Transition Systems for Nondeterministic, Probabilistic, and Stochastic Processes Calculi, *First International Workshop on Process Algebra and Coordination*, volume 60 of *Electronic Proceeding in Theoretical Computer Science* pages 66-75, 2011.
- [10] M. Bernardo, R. De Nicola and M. Loreti Uniform Labeled Transition Systems for Nondeterministic, Probabilistic, and Stochastic Processes, *Trustworthy Global Computing - 5th International Symposium, TGC 2010*, volume 6084 of *Lecture Notes in Computer Science* pages 35-56; Springer, 2010.
- [11] R. De Nicola, D. Latella, M. Loreti, and M. Massink. On a Uniform Framework for the Definition of Stochastic Process Languages, *Formal Methods for Industrial Critical Systems*, volume 5825 of *Lecture Notes in Computer Science* pages 9-25; Springer, 2009.
- [12] P. Degano, R. De Nicola, and J. Meseguer. Ugo Montanari in a Nutshell, *Concurrency, Graphs and Models*, volume 5065 of *Lecture Notes in Computer Science* pages 7-8; Springer, 2008.
- [13] M. Boreale, R. Bruni, L. Caires, R. De Nicola, I. Lanese, M. Loreti, F. Martins, U. Montanari, A. Ravara, D. Sangiorgi, V. Thudichum Vasconcelos, G. Zavattaro SCC: A Service Centered Calculus. WS-FM 2006: 38-57, LNCS Springer 2006
- [14] R. De Nicola. Languages and Process Calculi for Network Aware Programming - Short Summary. ICTAC 2005: 49-52, LNCS Springer 2006.
- [15] R. De Nicola, J.-P. Katoen, D. Latella, M. Massink. Towards a Logic for Performance and Mobility. *Electr. Notes Theor. Comput. Sci.* 153(2): 161-175 (2006)
- [16] R. De Nicola From Process Calculi to Klaim and Back. *Electr. Notes Theor. Comput. Sci.* 162: 159-162 (2006)
- [17] R. De Nicola and M. Loreti. MoMo: A Modal Logic for Reasoning About Mobility, In Frank S. de Boer et al., editors, *Formal Methods for Components and Objects*, number 3657 in LNCS. pages 95–119. Springer, 2005.
- [18] L. Bettini, R. De Nicola. Mobile Distributed Programming in X-Klaim. in Marco Bernardo and Alessandro Bogliolo editors, *Formal Methods for Mobile Computing*, 5th International School on Formal Methods for the Design of Computer, Communication, and Software Systems, number 3465 in LNCS, page 29-68 Springer, 2005.
- [19] R. De Nicola, D. Gorla, and R. Pugliese. Pattern Matching over a Dynamic Network of Tuple Spaces. FMOODS - Formal Methods for Open Object-Based Distributed Systems, volume 3535 of *Lecture Notes in Computer Science*, pages 1–14. Springer, 2005.
- [20] R. De Nicola, D. Gorla, and R. Pugliese. On the expressive power of klaim-based calculi. *Electronic Notes in Theoretical Computer Science, Proc. Express 2004*, 128(2):117–30, 2005. Proceedings of the 11th International Workshop on Expressiveness in Concurrency (EXPRESS 2004).
- [21] Rocco De Nicola, Gian Luigi Ferrari, and Rosario Pugliese. Programming access control: The klaim experience. In Catuscia Palamidessi, editor, *CONCUR*, volume 1877 of *Lecture Notes in Computer Science*, pages 48–65. Springer, 2000.

- [22] Rocco De Nicola, Gian Luigi Ferrari, and Rosario Pugliese. Types as specifications of access policies. In Jan Vitek and Christian D. Jensen, editors, *Secure Internet Programming*, volume 1603 of *Lecture Notes in Computer Science*, pages 118–146. Springer, 1999.
- [23] Rocco De Nicola. Coordination and access control of mobile agents. In Paolo Ciancarini and Alexander L. Wolf, editors, *COORDINATION*, volume 1594 of *Lecture Notes in Computer Science*, pages 1–2. Springer, 1999.
- [24] Rocco De Nicola and Frits W. Vaandrager. Action versus state based logics for transition systems. In Irène Guessarian, editor, *Semantics of Systems of Concurrent Processes*, volume 469 of *Lecture Notes in Computer Science*, pages 407–419. Springer, 1990.
- [25] Rocco De Nicola. Action and state-based logics for process algebras. In Jos C. M. Baeten and Jan Friso Groote, editors, *CONCUR*, volume 527 of *Lecture Notes in Computer Science*, pages 20–22. Springer, 1991.
- [26] Pierpaolo Degano, Rocco De Nicola, and Ugo Montanari. Partial orderings descriptions and observations of nondeterministic concurrent processes. In J. W. de Bakker, Willem P. de Roever, and Grzegorz Rozenberg, editors, *REX Workshop*, volume 354 of *Lecture Notes in Computer Science*, pages 438–466. Springer, 1988.
- [27] Luca Aceto, Rocco De Nicola, and Alessandro Fantechi. Testing equivalences for event structures. In Marisa Venturini Zilli, editor, *Mathematical Models for the Semantics of Parallelism*, volume 280 of *Lecture Notes in Computer Science*, pages 1–20. Springer, 1987.
- [28] Rocco De Nicola. Net theory and application - response. In *IFIP World Congress 1986*, pages 833–836, IFIP 1986.

Books or Conference Proceedings

- [1] M. Andric, R. De Nicola, A. Lluch-Lafuente: Replica-Based High-Performance Tuple Space Computing. in *COORDINATION Lecture Notes in Computer Science*, vol. 9037, pp. 3-18, Springer 2015.
- [2] R. De Nicola, G. Iacobelli and M. Tribastone, Dimming Relations for the Efficient Analysis of Concurrent Systems via Action Abstraction, in *FORTE*, Lecture Notes in Computer Science, vol. 8461, pp. 216-23, Springer 2014.
- [3] A. Celestini, G. Costantino, R. De Nicola, Z. Maamar, F. Martinelli, M. Petrocchi, F. Tiezzi: Reputation-Based Composition of Social Web Services. Proc. *28th IEEE International Conference on Advanced Information Networking and Applications (AINA 2014)*, 735-742. IEEE Computer Society, 2014.
- [4] G. Cabri, N. Capodieci, L. Cesari, R. De Nicola, R. Pugliese, F. Tiezzi, F. Zambonelli: Self-expression and Dynamic Attribute-Based Ensembles in SCEL. In Proc. *Technologies for Mastering Change - 6th International Symposium, ISoLA 2014*, Lecture Notes in Computer Science 8802, 147-163, Springer 2014.
- [5] R. Vigo, A. Celestini, F. Tiezzi, R. De Nicola, F. Nielson, H. Riis Nielson: Trust-Based Enforcement of Security Policies. In proc. *Trustworthy Global Computing*, TGC 2014, Lecture Notes in Computer Science 8902, 176-191, Springer 2014.
- [6] L. Cesari, R. De Nicola, R. Pugliese, M. Puviani, F. Tiezzi, F. Zambonelli: Formalising Adaptation Patterns for Autonomic Ensembles. In proc. *Formal Aspects of Component Software (FACS 2013)*, Lecture Notes in Computer Science 8348, 100-118, Springer 2013.
- [7] T. Bures, R. De Nicola, I. Gerostathopoulos, N. Hoch, M. Kit, N. Koch, G. V. Monreale, U. Montanari, R. Pugliese, N. B. Serbedzija, M. Wirsing, F. Zambonelli: A Life Cycle for the Development of Autonomic Systems: The E-mobility Showcase. In proc. *7th IEEE International Conference on Self-Adaptation and Self-Organizing Systems (SASOW 2013)*, 71-76. IEEE Computer Society 2013.
- [8] A. Celestini, R. De Nicola and F. Tiezzi, Network-Aware Evaluation Environment for Reputation Systems, in *Trust Management*, IFIP Advances in Information and Communication Technology, vol. 401, pp. 231-238, Springer 2013.
- [9] A. Celestini, R. De Nicola and F. Tiezzi, Specifying and analysing reputation systems with a coordination language, Proc. 28th Annual ACM Symposium on Applied Computing, SAC '13, pp. 1363-1368, ACM Press, 2013.
- [10] M. Bernardo M, R. De Nicola and M. Loreti, Group-by-Group Probabilistic Bisimilarities and Their Logical Characterizations, Proceedings Trustworthy Global Computing vol 8358 of Lecture Notes in Computer Science, pp. 315-33; Springer, 2013.
- [11] M. Bernardo M, R. De Nicola and M. Loreti, Revisiting Trace and Testing Equivalences for Nondeterministic and Probabilistic Processes, in Foundations of Software Science and Computational Structures - 15th International Conference, FOSSACS 2012, volume 7213 of *Lecture Notes in Computer Science* pages 195-209; Springer, 2012.

- [12] R. De Nicola, D. Latella, M. Loreti and M. Massink, SoSL: A Service-Oriented Stochastic Logic, Rigorous Software Engineering for Service-Oriented Systems - Results of the SENSORIA Project on Software Engineering for Service-Oriented Computing, volume 6582 of *Lecture Notes in Computer Science* pages 447–466; Springer, 2011.
- [13] L. Caires, R. De Nicola, R. Pugliese, V.T. Vasconcelos and G. Zavattaro, Core Calculi for Service-Oriented Computing, Rigorous Software Engineering for Service-Oriented Systems - Results of the SENSORIA Project on Software Engineering for Service-Oriented Computing, volume 6582 of *Lecture Notes in Computer Science* pages 153–188; Springer, 2011.
- [14] R. De Nicola, A. Margheri and F. Tiezzi Orchestrating Tuple-Based Languages, Trustworthy Global Computing - 6th International Symposium, TGC 2011, volume 7173 of *Lecture Notes in Computer Science* pages 160–178; Springer, 2011.
- [15] L. Acciai, M. Boreale and R. De Nicola, Linear-Time and May-Testing in a Probabilistic Reactive Setting, *FMOODS/FORTE Formal Techniques for Distributed Systems*, volume 6722 of *Lecture Notes in Computer Science* pages 29–43; Springer, 2011.
- [16] R. De Nicola, D. Latella, M. Loreti, and M. Massink. SoSL: A Service-Oriented Stochastic Logic, *Results of the SENSORIA Project*, volume 6582 of *Lecture Notes in Computer Science* pages 447–466; Springer, 2011.
- [17] L. Caires, R. De Nicola, R. Pugliese, V. T. Vasconcelos and G. Zavattaro Core Calculi for Service-Oriented Computing, *Results of the SENSORIA Project*, volume 6582 of *Lecture Notes in Computer Science* pages 153–188; Springer, 2011.
- [18] R. De Nicola, D. Latella, M. Loreti, and M. Massink. MarCaSPiS: a Markovian Extension of a Calculus for Services, *Electr. Notes Theor. Comput. Sci.* 229 (4): 11–26 (2009)
- [19] R. De Nicola, D. Latella, M. Loreti, and M. Massink. Rate-Based Transition Systems for Stochastic Process Calculi, *Automata, Languages and Programming, 36th International Colloquium, ICALP 2009, Rhodes, Greece, July 5–12, 2009, Proceedings, Part II*, volume 5556 of *Lecture Notes in Computer Science* pages 435–446; Springer, 2009.
- [20] L. Bettini, R. De Nicola, and M. Loreti. Implementing Session Centered Calculi, *Formal Methods for Open Object-Based Distributed Systems (FMOODS2008)*, volume 5051 of *Lecture Notes in Computer Science* pages 100–111; Springer, 2008.
- [21] R. De Nicola, D. Gorla, Daniele, R. Hansen, F. Nielson, H. Riis Nielson, C.W. Probst and R. Pugliese. From Flow Logic to Static Type Systems for Coordination Languages, *Coordination Models and Languages, 6th International Conference, COORDINATION 2008*, volume 5052 of *Lecture Notes in Computer Science* pages 17–32; Springer, 2008.
- [22] M. Boreale, R. Bruni, R. De Nicola, and M. Loreti. Sessions and Pipelines for Structured Service Programming, *Formal Methods for Open Object-Based Distributed Systems (FMOODS2008)*, volume 5051 of *Lecture Notes in Computer Science* pages 19–38; Springer, 2008.
- [23] L. Bettini, R. De Nicola, D. Falassi, and M. Loreti. Implementing a Distributed Mobile Calculus Using the IMC Framework. *Electr. Notes Theor. Comput. Sci.* 181: 63–79 (2007)
- [24] L. Bettini, R. De Nicola, D. Falassi, M. Lacoste, M. Loreti, A Flexible and Modular Framework for Implementing Infrastructures for Global Computing. *DAIS 2005*: 181–193
- [25] R. De Nicola, D. Gorla, and R. Pugliese. Basic observables for a calculus for global computing. In C. Palamidessi et al., editor, *Proc. ICALP 2005*, number 3580 in LNCS, page 1226–1238 Springer, 2005.
- [26] R. De Nicola, D. Gorla, and R. Pugliese. Global computing in a dynamic network of tuple spaces. In J.M. Jacquet and G.P. Picco, editors, *Proc. of COORDINATION 2005*, number 3454 in LNCS, pages 157–172. Springer, 2005.
- [27] R. De Nicola, G.L. Ferrari, U. Montanari, R. Pugliese, and Emilio Tuosto. A basic calculus for modeling service level agreement. In J.M. Jacquet and G.P. Picco, editors, *Proc. of COORDINATION 2005*, number 3454 in LNCS. Springer, 2005.
- [28] G. Castagna, R. De Nicola, and D. Varacca. Semantic subtyping for the pi-calculus. In *Proc. of LICS '05*, page 92–101. IEEE, 2005.
- [29] R. De Nicola, D. Latella, and M. Massink. Formal modeling and quantitative analysis of klaim-based mobile systems. In H. Haddad et al., editor, *Proceedings of the 20th Annual ACM Symposium on Applied Computing*, pages 428–435. Association for Computing Machinery, 2005.
- [30] L. Bettini, R. De Nicola, D. Falassi, M., L. Lopes, L. Oliveira, H. Paulino, and V. Vasconcelos. A software framework for rapid prototyping of run-time systems for mobile calculi. In C. Priami and P. Quaglia, editors, *Global Computing*, volume 3267 of *Lecture Notes in Computer Science*, pages 179–207. Springer, 2004.
- [31] Lorenzo Bettini, Viviana Bono, Rocco De Nicola, Gian Luigi Ferrari, Daniele Gorla, Michele Loreti, Eugenio Moggi, Rosario Pugliese, Emilio Tuosto, and Betti Venneri. The klaim project: Theory and practice. In Corrado Priami, editor, *Global Computing*, volume 2874 of *Lecture Notes in Computer Science*, pages 88–150. Springer, 2003.

- [32] Rocco De Nicola, Gian Luigi Ferrari, Ugo Montanari, Rosario Pugliese, and Emilio Tuosto. A formal basis for reasoning on programmable qos. In Nachum Dershowitz, editor, *Verification: Theory and Practice*, volume 2772 of *Lecture Notes in Computer Science*, pages 436–479. Springer, 2003.
- [33] Lorenzo Bettini, Rocco De Nicola, and Michele Loreti. Formalizing properties of mobile agent systems. In Farhad Arbab and Carolyn L. Talcott, editors, *COORDINATION*, volume 2315 of *Lecture Notes in Computer Science*, pages 72–87. Springer, 2002.
- [34] Lorenzo Bettini and Rocco De Nicola. A java middleware for guaranteeing privacy of distributed tuple spaces. In Nicolas Guelfi, Egidio Astesiano, and Gianna Reggio, editors, *FIDJI*, volume 2604 of *Lecture Notes in Computer Science*, pages 175–184. Springer, 2002.
- [35] Luis Filipe Andrade, Paolo Baldan, Hubert Baumeister, Roberto Bruni, Andrea Corradini, Rocco De Nicola, José Luiz Fiadeiro, Fabio Gadducci, Stefania Gnesi, P. Hoffman, Nora Koch, Piotr Kosiuczenko, A. Lapadula, Diego Latella, Antónia Lopes, Michele Loreti, Mieke Massink, Franco Mazzanti, Ugo Montanari, C. Oliveira, Rosario Pugliese, Andrzej Tarlecki, Michel Wermelinger, Martin Wirsing, and Artur Zawlocki. Agile: Software architecture for mobility. In Martin Wirsing, Dirk Pattinson, and Rolf Hennicker, editors, *WADT*, volume 2755 of *Lecture Notes in Computer Science*, pages 1–33. Springer, 2002.
- [36] Lorenzo Bettini and Rocco De Nicola. Translating strong mobility into weak mobility. In Gian Pietro Picco, editor, *Mobile Agents*, volume 2240 of *Lecture Notes in Computer Science*, pages 182–197. Springer, 2001.
- [37] Lorenzo Bettini, Rocco De Nicola, and Rosario Pugliese. Xklaim and klava: Programming mobile code. *Electr. Notes Theoretical Computer Science*, 62, 2001.
- [38] Rocco De Nicola and Michele Loreti. A modal logic for klaim. In Teodor Rus, editor, *AMAST*, volume 1816 of *Lecture Notes in Computer Science*, pages 339–354. Springer, 2000.
- [39] Rocco De Nicola, Rosario Pugliese, and Antony I. T. Rowstron. Proving the correctness of optimising destructive and non-destructive reads over tuple spaces. In António Porto and Gruia-Catalin Roman, editors, *COORDINATION*, volume 1906 of *Lecture Notes in Computer Science*, pages 66–80. Springer, 2000.
- [40] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. Process algebraic analysis of cryptographic protocols. In Tommaso Bolognesi and Diego Latella, editors, *FORTE*, volume 183 of *IFIP Conference Proceedings*, pages 375–392. Kluwer, 2000.
- [41] Lorenzo Bettini, Rocco De Nicola, Gian Luigi Ferrari, and Rosario Pugliese. Mobile applications in x-klaim. In Antonio Corradi, Andrea Omicini, and Agostino Poggi, editors, *WOA*, pages 1–6. Pitagora Editrice Bologna, 2000.
- [42] Flavio Corradini, Rocco De Nicola, and Anna Labella. Graded modalities and resource bisimulation. In C. Pandu Rangan, Venkatesh Raman, and R. Ramanujam, editors, *FSTTCS*, volume 1738 of *Lecture Notes in Computer Science*, pages 381–393. Springer, 1999.
- [43] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. A theory of "may" testing for asynchronous languages. In Wolfgang Thomas, editor, *FoSSaCS*, volume 1578 of *Lecture Notes in Computer Science*, pages 165–179. Springer, 1999.
- [44] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. Proof techniques for cryptographic processes. In *LICS*, pages 157–166, 1999.
- [45] Simone Vegliani and Rocco De Nicola. Possible worlds for process algebras. In Davide Sangiorgi and Robert de Simone, editors, *CONCUR*, volume 1466 of *Lecture Notes in Computer Science*, pages 179–193. Springer, 1998.
- [46] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. Asynchronous observations of processes. In Maurice Nivat, editor, *FoSSaCS*, volume 1378 of *Lecture Notes in Computer Science*, pages 95–109. Springer, 1998.
- [47] Lorenzo Bettini, Rocco De Nicola, Rosario Pugliese, and Gian Luigi Ferrari. Interactive mobile agents in x-klaim. In *WETICE*, pages 110–117. IEEE Computer Society, 1998.
- [48] Rocco De Nicola and Anna Labella. Tree morphisms and bisimulations. *Electr. Notes Theoretical Computer Science*, 18, 1998.
- [49] Rocco De Nicola, Gian Luigi Ferrari, and Rosario Pugliese. Coordinating mobile agents via blackboards and access rights. In David Garlan and Daniel Le Métayer, editors, *COORDINATION*, volume 1282 of *Lecture Notes in Computer Science*, pages 220–237. Springer, 1997.
- [50] Michele Boreale, Rocco De Nicola, and Rosario Pugliese. Basic observables for processes. In Pierpaolo Degano, Roberto Gorrieri, and Alberto Marchetti-Spaccamela, editors, *ICALP*, volume 1256 of *Lecture Notes in Computer Science*, pages 482–492. Springer, 1997.
- [51] Rocco De Nicola, Gian Luigi Ferrari, and Rosario Pugliese. Locality based linda: Programming with explicit localities. In Michel Bidoit and Max Dauchet, editors, *TAPSOFT*, volume 1214 of *Lecture Notes in Computer Science*, pages 712–726. Springer, 1997.

- [52] Rocco De Nicola and Rosario Pugliese. A process algebra based on linda. In Paolo Ciancarini and Chris Hankin, editors, *COORDINATION*, volume 1061 of *Lecture Notes in Computer Science*, pages 160–178. Springer, 1996.
- [53] Xiao Jun Chen and Rocco De Nicola. Algebraic characterizations of decorated trace equivalences over tree-like structures. In Friedhelm Meyer auf der Heide and Burkhard Monien, editors, *ICALP*, volume 1099 of *Lecture Notes in Computer Science*, pages 63–74. Springer, 1996.
- [54] Rocco De Nicola, Alessandro Fantechi, Stefania Gnesi, Salvatore Larosa, and Gioia Ristori. Verifying hardware components within jack. In Paolo Camurati and Hans Ekeking, editors, *CHARME*, volume 987 of *Lecture Notes in Computer Science*, pages 246–260. Springer, 1995.
- [55] Flavio Corradini, Rocco De Nicola, and Anna Labella. Fully abstract models for nondeterministic regular expressions. In Insup Lee and Scott A. Smolka, editors, *CONCUR*, volume 962 of *Lecture Notes in Computer Science*, pages 130–144. Springer, 1995.
- [56] Michele Boreale and Rocco De Nicola. A symbolic semantics for the pi-calculus (extended abstract). In Bengt Jonsson and Joachim Parrow, editors, *CONCUR*, volume 836 of *Lecture Notes in Computer Science*, pages 299–314. Springer, 1994.
- [57] Flavio Corradini and Rocco De Nicola. Distribution and locality of concurrent systems. In Serge Abiteboul and Eli Shamir, editors, *ICALP*, volume 820 of *Lecture Notes in Computer Science*, pages 154–165. Springer, 1994.
- [58] Rocco De Nicola and Anna Labella. A completeness theorem for nondeterministic Kleene algebras. In Igor Privara, Branislav Rován, and Peter Ruzicka, editors, *MFCS*, volume 841 of *Lecture Notes in Computer Science*, pages 536–545. Springer, 1994.
- [59] Michele Boreale and Rocco De Nicola. Testing equivalence for mobile processes (extended abstract). In Rance Cleaveland, editor, *CONCUR*, volume 630 of *Lecture Notes in Computer Science*, pages 2–16. Springer, 1992.
- [60] Pierpaolo Degano, Rocco De Nicola, and Ugo Montanari. Observation trees. In S. Purushothaman and Amy E. Zwarico, editors, *NAPAW*, Workshops in Computing, pages 103–118. Springer, 1992.
- [61] Rocco De Nicola, Alessandro Fantechi, Stefania Gnesi, and Gioia Ristori. An action based framework for verifying logical and behavioural properties of concurrent systems. In Kim Guldstrand Larsen and Arne Skou, editors, *CAV*, volume 575 of *Lecture Notes in Computer Science*, pages 37–47. Springer, 1991.
- [62] Rocco De Nicola, Ugo Montanari, and Frits W. Vaandrager. Back and forth bisimulations. In Jos C. M. Baeten and Jan Willem Klop, editors, *CONCUR*, volume 458 of *Lecture Notes in Computer Science*, pages 152–165. Springer, 1990.
- [63] Rocco De Nicola and Gian Luigi Ferrari. Observational logics and concurrency models. In Kesav V. Nori and C. E. Veni Madhavan, editors, *FSTTCS*, volume 472 of *Lecture Notes in Computer Science*, pages 301–315. Springer, 1990.
- [64] Rocco De Nicola, Paola Inverardi, and Monica Nesi. Using the axiomatic presentation of behavioural equivalences for manipulating CCS specifications. In Joseph Sifakis, editor, *Automatic Verification Methods for Finite State Systems*, volume 407 of *Lecture Notes in Computer Science*, pages 54–67. Springer, 1989.
- [65] Pierpaolo Degano, Rocco De Nicola, and Ugo Montanari. On the consistency of “truly concurrent” operational and denotational semantics (extended abstract). In *LICS*, pages 133–141. IEEE Computer Society, 1988.
- [66] Rocco De Nicola and Matthew Hennessy. CCS without tau’s. In Hartmut Ehrig, Robert A. Kowalski, Giorgio Levi, and Ugo Montanari, editors, *TAPSOFT, Vol.1*, volume 249 of *Lecture Notes in Computer Science*, pages 138–152. Springer, 1987.
- [67] Pierpaolo Degano, Rocco De Nicola, and Ugo Montanari. CCS is an (augmented) contact free c/e system. In Marisa Venturini Zilli, editor, *Mathematical Models for the Semantics of Parallelism*, volume 280 of *Lecture Notes in Computer Science*, pages 144–165. Springer, 1987.
- [68] Rocco De Nicola. Models and operators for nondeterministic processes. In Michal Chytil and Václav Koubek, editors, *MFCS*, volume 176 of *Lecture Notes in Computer Science*, pages 433–442. Springer, 1984.
- [69] Rocco De Nicola. A complete set of axioms for a theory of communicating sequential processes. In Marek Karpinski, editor, *FCT*, volume 158 of *Lecture Notes in Computer Science*, pages 115–126. Springer, 1983.
- [70] Rocco De Nicola and Matthew Hennessy. Testing equivalence for processes. In Josep Díaz, editor, *ICALP*, volume 154 of *Lecture Notes in Computer Science*, pages 548–560. Springer, 1983.