Curriculum Vitae

Dr. Alessandra Russo

CONTENTS

Personal Details

Full Name and Title:	Dr. Alessandra Russo
Date of Birth:	5 August 1966 (Italy)
Address:	86, Fairford Gardens, Worcester Park, Surrey KT4 7BJ, U.K.
Telephone:	+44 (20) 7594 8312 (work) +44 (20) 8873 7344 (home and answer machine)
Fax:	+44 (20) 7581 8024
Email:	ar3@doc.ic.ac.uk
Nationality	Joint Italian and British
Current Appointment:	Lecturer B, Department of Computing, Imperial College, London.

Employment History

March 2001 – present

Lecturer B, Department of Computing, Imperial College of Science, Technology and Medicine. Activities and achievements during this period have so far included:

Research:
- 1 book chapter, 1 journal paper, 1 conference (short) paper, 1 (refereed) workshop paper
- Programme committee membership of 1 conferences and 2 international workshops
- Co-chair for the BCS RESG
- Co-authorship of a first version of a research proposal on formal techniques for analysing and evolving requirements specifications
- First version of personal Fast Stream project proposal
- Invitation to give a talk at the University of Buenos Aires, Argentina.
- PhD supervision
- Invitation to give a talk at the Open University

Teaching:
- Software Engineering-Design I course, Imperial College   (6 lectures)
- Software Engineering course for M.Sc, Imperial College   (14 lectures)
- Programming II, Imperial College   (10 lectures)
- Supervision of third year and MSc group projects
- Supervision of individual projects
- Joint supervision of 1 Ph.D. student and 1 RA
- Sole Supervision of 1 research programmer
- Granted from the Academic committee three months salary for one research programmer

May 1999 – March 2001

Research Associate (post-doc), Department of Computing, Imperial College of Science, Technology and Medicine, employed on the EPSRC funded VOICI project. This is an interdisciplinary project between Logic and Software Engineering investigating the use of logic-based techniques such as abductive reasoning and belief revision for handling (large) evolving requirements specifications. Activities and achievements during this period have so far included:

Research:
- 2 book chapters, 2 journal papers, and 1 workshop paper
- 1 journal paper, submitted
- Two invited talks
- Programme committee membership of 3 conferences and 2 international workshops
- Invitation to the 2001 IFIP WG2.9 Requirements Engineering meeting
- Invitation to the *Dagstuhl-Seminar*
- Committee membership of the BCS RESG
- Invitation to co-organise an ICSE'01 Workshop on "Living with inconsistency"
- Co-authorship of a first version of a research proposal with City University on formal techniques for handling scenarios.

Teaching:
- Software Engineering-Design I course, Imperial College
- Software Engineering course for M.Sc, Imperial College
- Joint supervision of 1 Ph.D. student and 1 RA.

Jan 1998 – April 1999

Research Associated (post-doc), Department of Computing, Imperial College of Science, Technology and Medicine, employed on the EPSRC funded Managing Inconsistency in Software Engineering (MISE) project. This was an interdisciplinary project between logic and Software Engineering investigating the development of logic-based approaches for managing inconsistencies in multi-perspective requirements specifications. (The period from October 1998 to April 1999 was spent in maternity leave). Activities and achievements during this period included:

Research:
- Co-authorship of VOICI EPSRC project proposal (subsequently funded)
- 2 book chapters, 2 journal papers, and 2 workshop papers
- Programme Committee membership of an International Workshop
- An invited talk at City University.

Teaching:
- Joint supervision of 1 MEng. thesis and second marker of 2 BSc projects.
- Tutorial assistance for 2 courses.

Jan 1997 – Dec 1997

Research Associated (post-doc), Department of Computing, Imperial College of Science, Technology and Medicine, employed on the EPSRC funded VOILA project. This was a collaborative project with the Logic and Automated Reasoning Group in the Department of Computing at Imperial, investigating inconsistency handling in multi-perspective specifications. This is a highlight of the achievements:

Research:
- Co-authorship of a visiting fellowship proposal for Professor Ray Reiter, related to an EPSRC project on "proof methods for temporal logic of knowledge and belief"
- 1 journal paper and 2 conference papers, one of which was selected as **best paper**
- Two invited talks
- The development of a case study regarding the analysis of large NASA requirements specifications by means of Viewpoints (re)-structuring techniques, and implementation of a specialised Prolog reasoning tool.

Teaching:
Teaching duties included*:*
- Joint-supervision of 1 MEng. thesis and second marker of 2 BSc. projects
- Tutorial assistant for 2 courses.

May 1996 – Dec 1996

Part-time Teaching Assistant, Department of Computing, Imperial College of Science, Technology and Medicine. Activities and achievements during this period included:

Research:
- 1 journal paper, and 1 conference paper
- An invited talk at Manchester Metropolitan University
- Co-organisation of the Temporal Reasoning, Artificial Intelligence and Logic (TRAIL) Group, which holds regular seminars on topics related to temporal reasoning, A.I. and applications of logics. The group includes people from Imperial College, Queen Mary & Westfield College, and University College London.

Teaching:
- Joint-supervision of 2 undergraduate projects
- Tutorial assistance and marking for several courses

-   Personal maths tuition for 1st year undergraduate students.
-   Organisation of the "W.I.S.E." (Women in Science and Engineering) day at the Department of Computing, Imperial College.

Oct 1995 – April 1996

Research Assistant, Department of Computing, Imperial College of Science, Technology and Medicine, employed on the EPSRC funded "Algorithmic Deduction based on Labelled Tableaux" project. This was a project investigating the development of uniform tableaux proof systems for substructural logics. Activities and achievements during this period included:

Research:

-   1 book chapter and 2 conference papers
-   Completion of my Ph.D.

Teaching:
-   Tutorial assistance on two courses.

Jan 1991 – Sept 1991

Research Assistant, Dipartimento di Scienze dell'Informazione, Bari, Italy, employed on the ESPRIT funded EPIAIM project. This project investigated formalisation methods for user models in expert systems using belief networks. Achievements during this period included:

Research:

-   1 journal paper.

Higher Education

1992 – 1996   **Ph.D. in Mathematical Logic,**
Department of Computing, Imperial College, University of London.
Thesis: "Modal Labelled Deductive Systems".
Supervisors: Prof. Dov Gabbay and Dr. Krysia Broda.

1985 – 1990   **Laurea in Scienze dell'Informazione,**
First Class Honours degree with Distinction in Computer Science, Departimento di Informatica, Universitá degli Studi di Bari, Italy. Grade 110/110 cum laudae. *The last year of study was done as an Erasmus student at the French National Research Institute INSERM, Paris.* Undergraduate dissertation: "Formal representation of teaching principles and student models for intelligent tutoring systems".

Study Grants

1994   Awarded a research fellowship from the Italian National Research Institute CNR (Centro Nazionale della Ricerca) in the area of Mathematics and Physical Science, to fund two years of post-graduate research activity abroad. This fellowship was used to support the third and forth year of a Ph.D. at the Department of Computing, Imperial College, London.

1993   Awarded a research fellowship from the European Programme "Human Capital and Mobility" to fund one year of research activity at any European institute outside Italy. This fellowship was used to support the second year of a Ph.D. at the Department of Computing, Imperial College, London.

1992   Awarded a research fellowship from the Universitá di Bari, Italy, to fund one year of post-graduate research activity abroad. This fellowship was used to support the first year of a Ph.D. at the Department of Computing, Imperial College, London.

1990   Awarded an ERASMUS grant for undergraduate research activity abroad as part of a European joint project between Universitá di Bari and the French National Research Institute INSERM (Institut National de la Santé et de la Recherche Médicale), Paris.

Administrative Experience

April 2001   Local organiser of the 5th IEEE International Symposium on Requirements Engineering (RE'01) Programme Committee Meeting and Workshop, at the Department of Computing, Imperial College.

1996-1998   Co-organiser of the Temporal Reasoning, Artificial Intelligence and Logic (TRAIL) Group. This is an informal research group, which holds regular seminars on topics related to temporal reasoning, A.I., and applications of logic. Participants are mostly from Imperial College, Queen Mary & Westfield College, University College London (see htpp://www-dse.doc.ic.ac.uk/~ar3).

May 1996   Organiser of the W. I.S.E. (Women in Science and Engineering) Day at the Department of Computing, Imperial College. This involved the organisation and running of a lab demonstration for a group of 16 year old girls, to introduce them to degree-level Computer Science.

May 1994   Co-organiser of the "Third International Conference on Theorem Proving with Analytic Tableaux and Related Methods" (TABLEAUX'94), Abingdon, Oxford.

Teaching Experience

Teaching Statement

My background includes a broad knowledge of mainstream computer science, (mathematical) logic, and A.I. Topics I feel I could comfortably teach include, but are not limited to:

Software Engineering (programming, methods, design and environments) – Discrete Mathematics – Databases – Compilers – Logic – Operating Systems – Logic Programming – Artificial Intelligence – Automated Reasoning.

I have already had a variety of enjoyable and interesting experiences in teaching at Imperial. The most recent of these has been as lecturer for part of the compulsory 2nd year course "Software Engineering - Design I". This course has provided the students with software engineering techniques for building different kinds of models of software systems, as well as formal techniques to reason about the dynamic properties of envisaged systems. I would like to have the opportunity of improving and extending this course by providing more continuity between the earlier sessions on system modeling and the later sessions concerning formal theory. As my specialisms now include both software engineering and logic, I feel I would be in an ideal position to facilitate such an adaptation of the course.

I would also look forward to the opportunity of designing, preparing and teaching new courses. My positive teaching experiences so far have confirmed my view that teaching provides an opportunity to consolidate and clarify ideas generated during research, and can also be a mechanism for generating new research. As my current research is focused on formal aspects of software engineering, I would be particularly interested in teaching a new course or courses covering the following subjects:

Model Checking in Software Engineering – Theorem Proving for Program Verifications – Formal Methods – Formal Methods in Safety Critical Systems.

I envisage the first two subjects as perhaps being joined together in a single 3rd or 4th year module, possibly shared with Master students. Such a course would therefore cover two of the most widely used formal techniques in Software Engineering, and would provide an analysis of their respective advantages and differences.

Lecturing

2001 – 2002   **Software Engineering – Design (2nd year Computing, Maths & Computing, and ISE students)**
[6 lectures & 3 tutorials]

In this course, I have focused on the basic principles of formal specification and its role in software development. In the first year students learned logic and how to use it to write simple specifications such as pre- and post- conditions of program statements. This course focuses on the use of logical theories for specifying large systems, by incorporating notations similar to those used in the Z specification language. In the course, students learn to think about the issues involved in specifying system states, system operations and classes of objects, and learn how to use formal reasoning techniques for checking the correctness of the specifications, and for verifying that they meet the system requirements.

Software Engineering (Computing M.Sc.) (from February 2002)
[14 lectures and 7 tutorials]

The students attending this course are M.Sc. students with heterogeneous backgrounds all outside Computer Science. In the course, students are introduced to basic notions of logic and formal reasoning. The aim is to show how such concepts can be applied to the design of software systems specifications and the refinement of such specifications into object-oriented implementation models including pre-conditions, post-conditions and class invariants, in order to reason about the correctness of programs. The course starts from the level of programming "in the small", where examples of systems are small self-contained (mathematical) problems containing numbers or well-defined structures such as lists of arrays. Specifications are essentially expressed in terms of pre- and post-conditions and can often be defined by simply considering and defining the properties of the underlying mathematical problem. The course then covers programming "in the large". Here the focus is on how to specify (large) real-world systems. Specifications are in this case much larger (logical) theories that may well have to include references to and assumptions about complex real-world tasks and environments. The students are supposed to use a tool developed by an MSc student during his MSc project under my supervision, which allows the definition of Object Z formal specifications, automatic generation of implementation models for Java programs, and the use (in back hand) of an existing extended static checker for Java, called ESC Java.

Programming II (1st year Computing) (from February 2002)
[14 lectures and 7 tutorials]

To teach, and allow students to develop, a good understanding of, and ability to use, abstract data types; familiarise students with common abstract data types and associated operations, including lists, linked lists, stacks, queues, trees and hash tables. To teach various design and implementation solutions for these abstract data types; illustrate the practical effects of the different implementation choices; and illustrate their practical use in developing Java programs for real application problems.

2000 – 2001	**Software Engineering – Design (2nd year Computing and Maths & Computing)**

Software Engineering – Design (2nd year Computing and Maths & Computing)
[6 lectures & 3 tutorials]

In this course, I have focused on the basic principles of formal specification and its role in software development. In the first year students learned logic and how to use it to write simple specifications such as pre- and post- conditions of program statements. This course focuses on the use of logical theories for specifying large systems, by incorporating notations similar to those used in the Z specification language. In the course, students learn to think about the issues involved in specifying system states, system operations and classes of objects, and learn how to use formal reasoning techniques for checking the correctness of the specifications, and for verifying that they meet the system requirements.

Software Engineering (Computing M.Sc.) (from Jan 2001)
[10 lectures and 5 tutorials]

The students attending this course are M.Sc. students with heterogeneous backgrounds all outside Computer Science. In the course, students are introduced to basic notions of logic and formal reasoning. The aim is to show how such concepts can be applied to the design of software systems specifications. The course starts from the level of programming "in the small", where examples of systems are small self-contained (mathematical) problems containing numbers or well-defined structures such as lists of arrays. Specifications are essentially expressed in terms of pre- and post- conditions and can often be defined by simply considering and defining the properties of the underlying mathematical problem. The course then covers programming "in the large". Here the focus is on how to specify (large) real-world systems. Specifications are in this case much larger (logical) theories that may well have to include references to and assumptions about complex real-world tasks and environments.

Software Engineering (Industial M.Sc.) (March 2001)
[10 lectures and 5 tutorials]

The students attending this course are students with heterogeneous backgrounds all outside Computer Science. In the course, students are introduced to basic notions of reasoning about programs. In particular to the concepts of pre-conditions, post-conditions and class invariants in object-oriented programming. The course introduces also a new toll called Extended Static Checker (ESCJAVA) that allows some kind of verification analysis of Java programs with respect to given annotated specifications. .

1999 – 2000	**Software Engineering – Design (2nd year Computing and Maths & Computing)**

[10 lectures & 5 tutorials]

This course was similar to the first course described above, but expanded with case studies of real-world examples of failures of safety critical systems (such as the critical failures of the computer controlled Therac-25 radiation therapy machine). Via these examples, the students were encouraged to analyse types of problems that may occur in real-life computer-based systems, and understand how formal specifications can help detect errors prior to implementation, and help resolve them once detected. The last part of this course also included a brief introduction to the formal specification language Z, and a brief analysis of its similarities and differences to the logical approach used earlier in the course. The

aim was to relate the fundamental principles and techniques covered by the course to industrial specification tools (such as Z). The Student Evaluation Questionnaire responses for this year were (VP = Very Poor, P = Poor, S = Satisfactory, G = Good, VG = Very Good).

VP	P	S	G	VG	(Computing 2)
8.5	29.8	36.2	25.5	0.0	(47/110 returns)

VP	P	S	G	VG	(JMC 2)
0.0	0.0	58.8	29.4	11.8	(17/40 returns)

Supervision

Student Project Supervision

2001-2002	Supervision of 4 BSc individual projects. Supervision of 1 3rd year Group project and MSc group projects.
2000-2001	Supervision of 2 MSc individual projects (one of which got a distinction)
1997-1998	Co-supervision of 1 MEng. thesis
1996-1997	Co-supervision of 1 MEng. thesis and two undergraduate individual projects

I have also been second marker for various undergraduate projects while at Imperial, and was a member of a "project assessment team" in 1996.

Research Supervision

1999-present	Co-supervision of 2 Ph.D. students, one on the development of a formal representation language for modelling trust-based specifications in distributed systems; the other on logical frameworks for abductive and inductive reasoning. Co-supervision of 1 R.A. on the EPSRC funded SecPol project on goal-oriented requirements specifications of security policies for distributed systems. Co-supervision of 1 PostDoc RA on the EPSRC VOICI funded project on formal analysis and revision of requirements specifications using abduction and neural networks.

Tutorial Assistance

1998-1999	Ran tutorials for first year courses on "Discrete Mathematics" and "Reasoning about Programs".
1997-1998	Ran tutorials for first year courses on "Logic", and "Reasoning about Programs".
1996-1997	Was laboratory assistant and marker for undergraduate courses on Miranda and Turing, and a Personal Maths Tutor (PMT) for first year students.
1995-1996	Ran tutorials for first year courses on "Logic", and "Reasoning about Programs".
1993-1994	Ran tutorials for the MSc. Advanced Computing course "Automated Reasoning".
1992-1993	Ran laboratory sessions for undergraduate courses on the programming languages Miranda and Modula 2.

Research Experience

Research Statement

My main current research interest is in the investigation and application of Logic-based and Artificial Intelligence techniques to Software Engineering, in particular to Requirements Engineering. In recent years increased research effort has been directed to the use of formal methods at different stages of the software development process. Formal techniques such as model checking, theorem proving and logic-based reasoning mechanisms (e.g., abduction) enable a rigorous understanding of the system to be developed and are thus useful in uncovering errors, inconsistencies and incompleteness which might otherwise go undetected. In the particular case of requirements specifications, undetected errors often lead to later system failures that will generally be more expensive to correct than they would have been if discovered earlier during the development life cycle. The analysis of requirements specifications is therefore a crucial activity in the software development process.

In contrast, my Ph.D. focused on mathematical logic. It concerned the development of a new approach to a wide family of modal logics based on the idea of "Labelled Deductive Systems". This research was motivated by an increased demand for logics able to represent and reason about structures of information more complex than just sets. The idea was that in the longer term this would make such logics more useful in applied research. The results achieved during my Ph.D. contributed to the purely theoretical study of non-classical logic by providing a generalisation of (propositional and predicate) modal logics. It also provided the mathematical foundation for a further programme of research into generalising other non-classical logics, such as linear, relevance, intuitionistic and paraconsistent logics.

After my Ph.D. I resolved to widen my research interests and to work in applied as well as pure areas of logic and computer science. My initial work in requirement engineering was in the development of a large case study in collaboration with the NASA Verification and Validation Centre. In this study I applied the principles of the "Viewpoint" methodology to the analysis and restructuring of an existing (large) specification of a control system for a space station. This provided a first practical validation of the Viewpoint method as regards its use in handling evolving specifications. The case study also illustrated the need for systematic and rigorous techniques for such tasks. In particular, it highlighted the need for formal specification methods robust enough to be able to deal with initially or seemingly inconsistent requirements. This led to my development of two formal techniques for analysing and managing errors in requirements specifications. The first uses abductive reasoning techniques together with paraconsistent logic to allow for incremental evolution of specifications by identifying changes that address some specification errors while leaving others. The second uses a classical logic variant of the Event Calculus together with abduction in order to analyse and recommend changes to specifications of event driven systems.

In parallel to my work in Software engineering, I have continued to work on more theoretical aspects of logic and A.I. In particular, in collaboration with members of the Department of Computer Science at King's College London, I have recently developed a technique for defining belief revision operators for a range of non-classical logics, such as paraconsistent logic.

Future Research Directions

I intend to continue research in all of the areas outlined above. Current specific aims include:

- Investigating the use of inductive techniques for reasoning about change in software specifications, either in conjunction with or as an alternative to abductive techniques.
- Applying some of the techniques I have developed for requirements engineering to other areas of software engineering, such as management of policy specifications in distributed systems and management of scenarios. Some work in these areas has already been initiated with colleagues at Imperial and at City University.

- Extending and applying my Ph.D. work in order to develop modal logics that are useful for reasoning about mobile and multi-agent systems.

Research Grants

I have jointly written the following two project proposals, both of which were approved and funded. The first was co-written with Prof. Michael Fisher at the Department of Computing and Mathematics, Manchester Metropolitan University, and was related to an ongoing joint EPSRC project, entitled "Proof methods for temporal logic of knowledge and belief", between the Department of Computing, Imperial College and the Department of Computing and Mathematics, Manchester Metropolitan University.

Source of Funds:	EPSRC
Project Title:	VOICI: Managing Inconsistency and Change in Evolving Specifications
Duration:	36 months
Grant Holders:	Dr. Bashar Nuseibeh and Prof. Jeff Kramer
Total value:	£194,728
Comments:	The project investigated the development of formal techniques for the analysis and handling of evolving specifications. In particular, it focused on techniques for *analysing* specifications that may also facilitate formal reasoning in the presence of inconsistencies, techniques for analysing the *impact* of different developmental changes (whether these changes are to handle specific inconsistencies or initiate some evolutionary change) and techniques for providing automated guidance and support for acting in the presence of inconsistency.

Source of Funds:	EPSRC
Project Title:	Developing a Logic-Based Framework for Implementing Multi-Agent Systems.
Duration:	2 months period fellowship
Grant Holders:	Prof. Dov Gabbay and Prof. Michael Fisher
Comments:	This fellowship was primarily concerned with fostering collaboration, regarding logic-based agent programming frameworks, between the two world leading research groups, represented by the British grant holders and Prof Ray Reiter. The aim of this collaboration was to provide a deeper understanding of both the differences and the commonalities between (Concurrent) METATEM and (Concurrent) GOLOG, and to foster cross-fertilisation between these two approaches.

Committees

Membership of Conference Programme Committees:

- 3rd Australian Workshop on Requirements Engineering (AWRE01)
- 1st International (ASE) Workshop on Model Based Requirements Engineering (MBRE01), October 2001.
- 5th IEEE International Symposium on Requirements Engineering (RE-2001), September 2001, Toronto, Canada.
- International Symposium on Principles of Software Evolution (ISPSE), $1-2^{nd}$ November 2000, Kanazawa, Japan.
- 14th Brazilian Symposium on Software Engineering (SBES-2000), $4-6^{th}$ October 2000, Joao Pessoa, Brazil.
- 5th Australian Workshop on Requirements Engineering (AWRE-00), $8-9^{th}$ December, 2000, Brisbane.
- 3rd International Workshop on Intelligent Software Engineering (WISE-3), 5th June 2000, co-located with ICSE-2000, Limerick, Ireland.
- 1st Asia-Pacific Workshop on Intelligent Software Engineering (APWISE'98), $22-27^{th}$ November, co-located with PRICAI'98, Singapore.

Membership of Technical Committees:

- Co-Chair of British Computer Society's Requirements Engineering Specialist Group.

Invited Talks

May 1993 Dipartimento di Scienze dell'Informazione, Universitá degli studi di Bari, Italy

Nov. 1996 Department of Computing and Mathematics, Manchester Metropolitan University, Manchester, U.K.

May 1997 Nasa IV&V Centre, Morgantown, West Virginia, USA

Sept. 1997 Department of Computer Science, Royal Holloway University, London

Feb. 1998 Department of Computing, City University, London

Feb. 2000 IFIP WG2.9 Requirements Engineering, Flims, Switzerland

June 2000 Department of Computer Science, Imperial College

Feb. 2001 IFIP WG2.9 Requirements Engineering, Florida, USA

May 2001 Dagstuhl Seminars on "Can Formal Methods Cope with Software-Intensive Systems?", at International Conference and Research Center for Computer Science, Schloss Dagstuhl

June 2001 Department of Computer Science, King's College.

Reviewing Activity

In addition to reviewing activities as programme committee member in the above conferences, I have also reviewed papers for the following international journals and conferences:

- Studia Logica, Kluwer Academic Publishers
- Logic Journal of the IGPL, Oxford University Press

- Automated Software Engineering
- IEE Proceedings: Software
- IEEE Transaction on Software Engineering
- Journal of Logic and Computation, Oxford University Press
- International Conference TABLEAUX, Springer Verlag , LNAI
- ACM SigSoft 8th International Symposium on the Foundations of Software Engineering (FSE2000)

PUBLICATIONS

Book Chapters

1. Broda, K., D'Agostino, M., and Russo, A., "Transformation methods in LDS", in *Logic, Language and Reasoning – Essay in Honour of Professor Dov Gabbay*, (Kluwer Academic Publishers) 1998.

2. Gabbay, D., Rodrigues, O., and Russo A., "Revision by Translation", in *Information, Uncertainty and Fusion*, Bouchon-Meunier, B., Yager, R.R., and Zadeh, L.A., eds., (Kluwer Scientific Publishers) 1999.

3. Gabbay, D., Rodrigues, O., and Russo, A., "Revision by Translation (short version)", in *JFAK – Essay dedicated to Johan van Benthem on the Occasion of his 50th Birthday*, Gerbrandy, J., Marx, M., de Rijke, M., and Venema, Y. eds., (Amsterdam University Press) 1999.

4. Broda, K., Russo, A., and Gabbay, A., "A Unified Compilation Style Labelled Deductive Systems for Modal, Substructural and Fuzzy Logic", in *Discovering World with Fuzzy Logic: Perspectives and Approaches to the Formalisation of Human-Consistent Logical Systems*, Novak, V., and Perfilieva, I., eds, (Springer Verlag) 1999.

5. Russo, A., and Nuseibeh, B., "On the use of Logical Abduction in Software Engineering", in Handbook of Software Engineering and Knowledge Engineering, Chang, S. K., eds., World Scientific Publishing, 2001.

Journals

6. De Rosis, F., Pizzutilo, S., Russo, A., *et al.*, "Modelling the User Knowledge by Belief Networks", *International Journal of User-Modelling and User-Adapted Interaction*, Kluwer Academic Publishers, 2:367-388, 1992.

7. D'Agostino, M., Gabbay, D., and Russo, A., "Information Frames, Implication Systems and Modalities", *Mathware and Soft Computing*, Special issue on Aspects of

Mechanising Inference: Contexts and Problems, Universitat Politecnica de Catalunya, 3(1): 67-82, 1996.

8. D'Agostino, M., Gabbay, D., and Russo, A., "Grafting Modalities onto Substructural Implication Systems", *Studia Logica*, Kluwer Academic Publishers, 50: 65-102, 1997.

9. Russo, A., Nuseibeh, B., and Kramer, J., "Restructuring Requirements Specifications", *IEE Proceedings: Software*, 146(1): 44-53, February 1999.

10. Broda, K., Finger M., and Russo, A., "Labelled Natural Deduction for Substructural; Logics", *Logic Journal of IGPL*, Oxford University Press, 7(3):283-318, 1999.

11. Nuseibeh, B., and Russo, A., "Using Abduction to Evolve Inconsistent Requirements Specifications", *Australian Information Systems Journal*, Special Issue on Requirements Engineering, 7(1): 118-130, September 1999.

12. Nuseibeh, B., Easterbrook, S., and Russo, A., "Leveraging Inconsistency in Software Development", *IEEE Computer*, IEEE CS Press, 33(4):24-29, April 2000.

13. Nuseibeh, B., Easterbrook, S., and Russo, A., "Making Inconsistency Respectable in Software Development", *Journal of Systems and Software*, Elsevier Science, 2001.

Referred Conference Publications

14. Russo, A., "Generalising Propositional Modal Logics using Labelled Deductive Systems", *Proceedings of 1st International Workshop on Frontiers of Combining Systems*, Series of Applied Logics, 3:57-073, 1996, Kluwer Academic Publishers.

15. Broda, K., Finger, M., and Russo, A., "LDS-Natural Deduction for Substructural Logics", *Proceedings of 3rd International Workshop on Logic, Language, Information and Computation*, Special Issue of the Logic Journal of the IGPL, 4(3): 486-489, 1996, Oxford University Press.

16. Russo, A., Nuseibeh, B., and Kramer, J., "Restructuring Requirements Specifications for Managing Inconsistencies and Change: A Case Study, *Proceedings of 3rd International Conference on requirements Engineering (ICRE'98)*, Colorado Springs, USA, 5-9th April, 1998, IEEE CS Press. [**Selected as best paper**].

17. Nuseibeh, B., and Russo, A., "On the Consequences of Acting in the Presence of Inconsistencies", *Proceedings of 9th International Workshop on Software Specification and Design (IWSSD-9)*, Ise-shima, Japan, 6-10th April 1998, IEEE CS Press.

18. Russo, A., Miller, R., Nuseibeh, B., and Kramer, J., "An Abductive Approach for Handling Inconsistencies in SCR Specifications", *Proceedings of 3rd International Workshop on Intelligent Software Engineering (WISE-3)*, 5th June 2000, co-located with ICSE-2000, Limerick, Ireland.

19. A. S. d'Avila Garcez, Alessandra Russo, Bashar Nuseibeh and Jeff Kramer, "An Analysis-Revision Cycle to Evolve Requirements Specifications", *Proceedings of 16th IEEE International Conference on Automated Software Engineering (ASE-2001)*, 26-29 November 2001, San Diego, USA.

20. Dov Gabbay, Odinaldo Rodrigues and Alessandra Russo, "Belief Revision in Non-Classical Logics", *IJCAI01 Workshop on "Inconsistency in Data and Knowledge"*, Toronto, 2001.

Un-refereed Publications

21. Broda, K., and Russo, A., " Theorem Proving in LDS – A Compilation Approach", First", *Proceedings of the 3rd U.K. Workshop on Automated Reasoning -- Bridging the Gap between Theory and Practice (ARW'2000)*, Manchester Metropolitan University, 1996.

22. Russo, A., Nuseibeh, B., and Kramer, J., "Restructuring Requirements Specifications for Inconsistency Analysis: A Case Study, *Proceedings of ICSE-97 Workshop on "Living with Inconsistency"*, 17th May 1997.

23. Nuseibeh, B., and Russo, A., "Using Abduction to Evolve Inconsistent Requirements Specifications", *Proceedings of ICSE-99 Workshop on Principles of Software Change and Evolution (SCE'99)*, Los Angeles, USA, 17th May 1999.

Un-refereed Technical Reports

1. Russo, A., "Modal Labelled Deductive Systems", Imperial College, Technical Report DoC 95/7, 1995.

2. Broda, K., and Russo, A., "A Unified Compilation Style Labelled Deductive Systems for Modal and Substructural Logics, Imperial College Technical Report, DoC 97/10, 1997.

3. Broda, K., and Russo. A., "Labelled Natural Deduction for Substructural Logics", Imperial College Technical Report DoC 97/11, 1997.

4. Russo, A., Nuseibeh, B., and Kramer, J., "Restructuring Requirements Specifications for Inconsistency and Change: A Case Study, Imperial College Technical Report DoC 98/1, 1998.

5. Rodrigues, O., and Russo, A., "A Translation Method for Four-valued Logics, Imperial College Technical Report DoC 98/7, 1998.

6. Russo, A., Miller, R., Nuseibeh, B., and Kramer, J., "An Abductive Approach for Analysing Event-based Specifications", Imperial College, 2000.

REFEREES

Professor Bashar Nuseibeh

Department of Computing
Imperial College
180, Queen's Gate
London SW7 2BZ, U.K.
Tel: +44 (20) 7594 8286
Fax: +44 (20) 7581 8024
Email: ban@doc.ic.ac.uk

Dr. Constance L. Heitmeyer

Naval Research Laboratory
Code 5546
45555 Overlook Ave, SW
Washington, DC 20375-5337
Tel: +1 (202) 404 4890
Fax: +1 (202) 404 7942
Email: heitemeyer@itd.nrl.navy.mil

Dr Krysia Broda

Department of Computing
Imperial College
180, Queen's Gate
London SW7 2BZ, U.K.
Tel: +44 (20) 7594 8426
Fax: +44 (20) 7581 8024
Email: kb@doc.ic.ac.uk

Additional Referees

Professor Jeff Kramer

Department of Computing
Imperial College
180, Queen's Gate
London SW7 2BZ, U.K.
Tel: +44 (20) 7594 8271
Fax: +44 (20) 7581 8024
Email: jk@doc.ic.ac.uk

Professor Dov Gabbay

Department of Computer Science
King's College London
Strand, London WC2R 2LS
Tel: +44 (20) 7848 2930
Fax: +44 (20) 7240 1071
Email: dg@dcs.kcl.ac.uk

Professor Steve Easterbrook.

Department of Computer Science
University of Toronto
6 King's College Road, Toronto, Ontario M5S 3H5, Canada
Tel: +1 (416) 978 3610
Fax: +1 (416) 978 4765
Email: sme@cs.toronto.edu