

Curriculum Vitae - Nelly Bencomo, May 2016

Lecturer in Computer Science, Aston University, UK

<http://www.nellybencomo.me/>

Nelly Bencomo is a *Lecturer in Computer Science* in Aston University (since May 2013). Before she was a **EU Marie Curie Fellow**, from May 2011- May 2013 under a *Marie-Curie Fellowship (Grant) Requirements@run.time: Requirements-aware Systems*. She is also a **Visiting Academic** at Lancaster University since May 2011. She was a Lecturer (tenured position 2003) in the Computing School, Universidad Central de Venezuela (UCV). She was awarded her PhD in Computer Science by Lancaster University in 2008.

Research: She is interested in all aspects of software modelling and specially the application of model-driven techniques, during the **development and operation of highly distributed and dynamically adaptive systems**. Lately, she has focused on **quantification of uncertainty** and the use of Bayesian learning to support **decision-making for self-adaptation**. She is particularly interested in what she calls *models@run.time*, the use of models and model-driven techniques during runtime. Research on *models@run.time* seeks to extend the applicability of models and abstractions to the runtime environment, with the goal of providing effective technologies for managing the complexity of evolving software behaviour while it is executing. Runtime models can be used, for example, to check correctness and consult the current state of a system during execution. Key benefits of runtime models are (1) runtime models can be used to match domain-specific knowledge, offer a richer semantics support for runtime decision-making related to system adaptation and other runtime concerns and (2) runtime models support reasoning and self-awareness (i.e. requirements-awareness, context-awareness). She coined the term *models@run.time*, with her colleagues Prof. Blair (from UK) and Prof. France (from USA). Details about all the publications (papers accepted, under submission and in preparation) are described at the end of this CV.

Teaching: I enjoy teaching. In addition to my research record, I also have substantial teaching experience. Since May 2013 I have been a lecturer at Aston University where I have had the opportunity to teach different modules with different roles. I have been a module leader but also have shared the duties of modules with other staff members. I have also had other roles such as supervisor of Final Year Projects, Group projects, Personal tutor and Final Year Tutor for Computing for Business (2014-16). More about my teaching experience is described in this CV.

Education

- PhD in Computing, Lancaster University, March 2008
- MSc in Software Engineering, Universidad Central de Venezuela (UCV), (honourable mention) 1998
- Five-year Bachelor in Computing Science, Computing School, Universidad Central de Venezuela, (ranking 4th in a group of 37), 1993

Qualifications

- Postgraduate Certificate in Teaching & Learning (Aston University, 2014)
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Professional Memberships

ACM (since May 2008), ACM SIGSOFT, IEEE (since 2008), BCS (2013)
Fellowship of the Higher Education Academy (under submission)

Employment History

- 2013 May – Present, Lecturer in Computer Science, Aston University, UK
- 2011 May – May 2013, Marie Curie Fellow, INRIA, Paris-Rocquencourt, France
- 2008 April – April 2011, Senior Research Associate, Lancaster University
- 2006 – March 2008, Research Associate, Lancaster University

2003 – 2006, Teaching Assistant, Lancaster University

1997 – 2003, Lecturer, Computing School, Universidad Central de Venezuela (UCV)

Research Activities

Research Projects

- Main Investigator of European Marie Curie project requirements@run.time May 2011 – May 2013
- Research Fellow of European project CONNECT February 2011 - Present
- Research Fellow of European project DiVA (Dynamic Variability, February 2008 – January 2011
- Researcher of ESPRC UK Project The Divergent Grid, October 2005 – January 2008
- Researcher of European project RUNES Project, European Project Sixth Framework Programme. September 1st 2004 - April 30th 2007

Proposed Successful Grants

- requirements@runtime: Requirements-aware Systems, €222.547, 24-month Marie Curie Action Intra-European Fellowship (Main author for project proposal), (2011-2013)
- Visiting Scholar Funding 2015, Aston University, £1200
- M@TURE Models @ run Time for self-adaptive pervasive systems: enabling User-in-the-loop, REquirement-awareness, and interoperability in ad hoc settings, 24-month, €37.600, Inria-funded international collaboration grant (Brazil-France) with Nikolaos Georgantas (2012-2014).
- DiVA: Dynamic Variability in complex, Adaptive Systems, 3-year project STREP proposal, FP7-ICT (Co-author for project proposal), 2008
- VERA: Verifiable Aspect Models for Middleware Product Families - (ESPRC project Visiting Fellowship) Co-author for project proposal, 2006
- Faculty PhD Studentship 3 years (Lancaster University), October 2003 – September 2006
- International Travel Grant, The Royal Academy of Engineering, 2009, 2008, 2007
- ACM SIGSOFT CAPS Grant for MoDELS/UML 2006, 2005
- International Travel Grant, The Royal Academy of Engineering, October 2006
- ACM/IFIP/USENIX 5th International Middleware Conference, Canada, October 18-22, 2004
- Student Travel Grant Association Internationale pour les Technologies Objects (AITO), Norway June, 2004

Services to Research Community

Organization of Events

- Coordinator Five-day Dagstuhl seminar on Models@run.time 2011, Germany, <http://www.dagstuhl.de/> (participants 64 people)
- Co-organizer and co-founder of Workshop Models@run.time in MODELS 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016 (average participants 20-40 people)
- Co-organizer and co-founder of Workshop Artificial Intelligence for Requirements Engineering (AIRE) in RE 2014, 2015
- 1st Workshop on Requirements Engineering for Self-adaptive and Autonomous Systems (RESA 2014) @ REFSQ 2014
- Co-organizer and co-founder of Workshop Requirements@run.time in RE 2010 and 2011 (average participants 20-35 people)
- Co-organizer 3rd International Model-Driven Requirements Engineering Workshop MoDRE 2013
- Co-organizer of the First International workshop on Validation and Verification of Dynamic Software Systems ViDaS' 10, Paris, April, 2010
- Co-organizer Workshop M-ADAPT: Model-Driven Software Adaptation in ECOOP 2007 (participants >20 people)
- Co-organizer Working Meeting "Models and Aspects for Product Families: A Roadmap for Research" 1st Nov 2006, Lancaster University, UK

Professional Services

Member of the Steering Committee SEAMS since 2014

Member of the BCS RESG Committee (special interest group for systems requirements) since 2016

Member of the Editorial Board of the Springer Journal of Software Engineering Research and Development (JSERD) since March 2016

International Projects Reviewer

- **EU ERA-NET CHIST-ERA** Expert reviewer since 2014
- **Swiss National Science Foundation (SNSF)**, Expert reviewer, Switzerland,, 2012

- **Natural Sciences and Engineering Research Council of Canada**, Expert reviewer, Canada, 2012
- **French National Research Agency (ANR)**, Expert reviewer, France, 2010, 2011, 2013, 2014
- **Vienna Science and Technology Fund**, Austria, project reviewer/evaluator, 2010, 2014

Publications Reviewer

- **Journal SoSyM Software and Systems Modeling**, Springer, <http://sosym.se-rwth.de/> (regular reviewer)
- **Journal Computing**, Springer
- **JUCS** Special issue on Software Components, Architectures and Reuse- Special Issue, Summer 2009
- **IEEE Software Special Issue: Domain-Specific Languages & Modeling**, Jul/Aug 2009
- **Journal of Systems and Software** - Special issue on Software Architectures and Mobility
- **Journal Formal Aspects of Computing (FAC)**

Program Committee and organization

I have served or serve as Program Committee member of:

2016

- PC Member **ESEC/FSE**, 11th Symposium on the Foundations of Software Engineering (FSE), 2016
- PC 18th **MODELS 2016**, France, 2015
- PC PhD Symposium at **MODELS 2016**, France, 2015
- PC **RE 2016**, China, 2016
- PC Member **SEAMS 2016** Symposium Software Engineering for Adaptive and Self-Managing Systems, 16-1, May, 2016, Austin, Texas, USA
- PC Member **REFSQ 2016**
- PC Member **SAC-RE 2016** 9th Edition of the Requirements Engineering Track (RE-Track'16), 4-8, April 2016, Pisa, Italy

2015

- PC Member **ESEC/FSE**, 10th joint meeting of the European Software Engineering Conference (ESEC) and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE) , Bergamo, Italy, August 31-September 4th, 2015
- PC Member **ICSE NIER Track 2015**, ICSE 2015 New Ideas and Emerging Results NIER Track , Firenze, Italy, May 16-24, 2015
- PC 18th **MODELS 2015**, Ottawa, Canada, September - October 3, 2015
- Member of the **RE'15** Workshop Selection Committee, 23th International Conference requirements Engineering, Ottawa, Canada 24-28 August 2015

2014

- Programme Chair **SEAMS 2014** Symposium Software Engineering for Adaptive and Self-Managing Systems (SEAMS), Hyderabad, India, June 2014
- PC Member 22th International Conference requirements Engineering **RE'14**, Karlskrona, Sweden 25-29 August 2014
- Member of the **RE'14** Workshop Selection Committee, 22th International Conference requirements Engineering, Karlskrona, Sweden 25-29 August 2014
- PC Member **RE'14 Posters&Demos** 22th International Conference requirements Engineering, Karlskrona, Sweden 25-29 August 2014
- PC Member 17th ACM/IEEE International Conference **MODELS 2014**, Valencia, Spain, September 28 - October 3, 2014
- PC Member 29th IEEE/ACM International Conference on Automated Software Engineering (**ASE 2014**), Västerås, Sweden, September 15 - 19, 2014
- PC Member **ICSE NIER Track 2014**, ICSE 2014 New Ideas and Emerging Results NIERTrack , Hyderabad, India, May 31- June 7, 2014
- Publicity co-Chair ACM/IEEE 17th **MODELS 2014**, Valencia, Spain, September 28 - October 3, 2014.
- PC Member 8th International Workshop on Variability Modelling of Software-intensive Systems **VAMOS 2014**, Nice, France 23-24 January 2014
- PC Member XVII Iberoamerican Conference on Software Engineering **CibSE 2014**, Pucon, Chile 23-25 April 2014

2013

- **SEAMS** Symposium 2013, San Francisco, USA, PC
- **MODELS** ACM/IEEE 16th International Conference on Model Driven Engineering Languages & Systems 2013, USA, PC
- **RE 2013: Posters&Demos**, 21th International Conference requirements Engineering, Rio, Brazi, July 15-19th 2013
- **VaMOS** The Seventh International Workshop on Variability Modelling of Software-intensive Systems, Pisa, Italy, January, 2013, PC

- **SANES**, Self-Adaptive Networked Embedded Systems, a special session in the International Conference on Pervasive and Embedded Computing and Communication Systems - PECCS 2013 - 19 - 21 February, 2013, Barcelona, Spain, □ PC
- **CibSE** XVI Ibero-American Conference on Software Engineering, Uruguay, 2013- PC
- **SBES** 27th Brazilian Symposium on Software Engineering (SBES), Brazil, 2013 – PC
- **MoDRE** 3rd International Model-Driven Requirements Engineering Workshop 2013 – Organizer and PC

2012

- **ICSE** 2012, Zurich, Switzerland, **Students Volunteer Chair**
- **MODELS** Conference 2012 Austria, -PC
- **SEAMS** Symposium 2012, Zurich, Switzerland, -PC
- Posters and Demonstration **RE** 2012 -PC
- XV Ibero-American Conference on Software Engineering **CibSE**, Buenos Aires, Argentina, 2012- PC
- **SBES** 26th Brazilian Symposium on Software Engineering (SBES), Brazil, 2012 – PC
- Workshop **UsARE** First International Workshop on Usability and Accessibility focused Requirements Engineering at ICSE 2012
- XVII Jornadas de Ingeniería del Software y Bases de Datos, Almería, Spain, 2012

2011

- Posters and Demonstrations RE 2011 -PC
- SBES 25th Brazilian Symposium on Software Engineering (SBES), Sep 26-30 2011 Sao Paulo, Brazil
- **MoDRE** 1st Model-Driven Requirements Engineering workshop (colocated with the 19th International Requirements Engineering Conference), August, 2011
- **SEAMS** 2011 Symposium Software Engineering for Adaptive and Self-Managing Systems (SEAMS) at ICSE 2011 , May 21-28 2011 Hawaii, USA
- VAST 2011 First Workshop on Variability-intensive Systems Testing, Validation & Verification (VAST) at ICST 2011 , March 21-25 2011 Berlin, Germany

2010

- SOAR 2010 Second International Workshop on Self-Organizing Architectures at The 7th International Conference on Autonomic Computing and Communications, , June, 2010, Washington, DC, USA
- SEAMS 2010 Workshop Software Engineering for Adaptive and Self-Managing Systems (SEAMS) at ICSE 2010 , 2010 Cape Town, South Africa
- WCSI 2010 International Workshop on Component and Service Interoperability June 29th 2010 at TOOLS 2010, June 28 - July 2, 2010, Malaga, Spain

2009

- WICSA/ECSA: Joint Working IEEE/IFIP **Conference on Software Architecture 2009 & European Conference on Software Architecture 2009 (WICSA/ECSA)**, Cambridge, UK, 14 – 17 September 2009
- SOAR 2009 **Workshop Self-Organizing Architectures at WICSA/ECSA 09**, Cambridge, UK, 14 September, 2009
- REV 2009 4th **International Workshop on Requirements Engineering Visualization (REV'09)**, Atlanta, USA, 31th August,, 2009
- WASELF 2009 **2nd Workshop on Autonomic and SELF-adaptive Systems**, San Sebastian, Spain, 8th September, 2009
- SEAMS 2009 **Workshop, Software Engineering for Adaptive and Self-Managing Systems (SEAMS)** at ICSE 2009, Mon/Tue, May 18-19, 2009 Vancouver, BC, Canada

2008

- AQuSerM: **Advances in Quality of Service Management**, München, Germany, September 18th, 2008, with EDOC 2008
- WASELF-*: **Workshop on Autonomic and SELF-adaptive Systems**, Gijon, Spain, October 7th, 2008
- REV 2008 **Third International Workshop on Requirements Engineering Visualization (REV'08)**, Barcelona, Spain, Monday 8th September, 2008
- WCAT 2008 5th **Workshop on Coordination and Adaptation Techniques**, L'Aquila, Italy, September 15th, 2008, ASE 2008
- ARAMIS 2008 **Automated EngineerRing of Autonomic and run-tiMe evolving Systems**, L'Aquila, Italy, September 16th, 2008, ASE 2008
- MDDAS 2008 **The First IEEE International Workshop on Model-Driven Development of Autonomic Systems**, Turku, Finland, July 28 - August 1, 2008
- IDEAS 2008 **11th Iberoamerican Workshop Requirements Engineering and Software Environments**, 11-15 February, Recife, Brazil
- IRMA International Conference 2006, **TRACK: UML and Unified Process**, USA

Talks and Invitations

- **"Decision making for Self-adaptation under Uncertainty"**, Fraunhofer IESE – Kaiserslautern, Germany, June, 2016
- **"How Self-Adaptive Systems Challenge Requirements Engineering"**, Fraunhofer IESE – Kaiserslautern, Germany, May, 2012

- **"On the Use of Runtime Models: the use of claims to tackle uncertainty"**, Projet ADAM – IRIAN – Lille, France - May, 2012
- **"On the Use of Runtime Models: from architectural-based models to requirement-based models"**, Projet MARGE - Équipe SAMOVAR/ACMES - Dpt INF - Télécom SudParis, France, November, 2011
- **"Known Unknowns: How Self-Adaptive Systems Challenge Requirements Engineering"**, University of Trento, Italy, November, 2011
- **"Requirements for Self-adaptation: a tutorial"**, 4th Summer School on Generative and Transformational Techniques in Software Engineering, Braga, Portugal, July, 2011
- **"Dagstuhl Perspective Workshop: Model Engineering of Complex Systems, 10-13 August 2008, Dagstuhl, Germany"**, 10-08-2008 – 13-08-2008
- **"Supporting the Model Driven Development of Reflective, Component-based Adaptive Systems"**, Conference Code Generation, 2008, CG2008, Cambridge, UK, 25 - 27 June 2008
- **Workshop on Quality of Service Management**, at King's College London, 22nd and 23rd of April 2008
- **Invited talk: "Dynamically Adaptive Systems supported by Reflective Component-based Technologies: a Software-based Models Perspective"**, 25th February, 2008, King's College London
- **Dagstuhl-Seminar on "Software Engineering for Self-Adaptive Systems"**, 13-01-2008 – 18-01-2008. Workshop Organized by Cheng H.C. Betty, de Lemos Rogerio, Giese Holger, Inverardi Paola, Magee Jeff
- Workshop on **"Perspectives on Model Driven Engineering of Software"**, Rennes, April 2007, organized by Prof Jézéquel

Panels

- Fishbowl Panel: Do we need to Change Software Engineering Curricula for the Challenges of an Instrumented and Interconnected World, **ICSE 2012**, (Wed June 6 2012)
- Panelist invited at **SEAMS Workshop (Software Engineering for Adaptive and Self-Managing Systems)**, 12,13 May held with ICSE, 2008

PhD External Examiner

University of York, UK (2015), Birmingham University, UK (2015), University of Malaga, Spain (2012), Fondazione Bruno Kessler, University of Trento, Italy (2011), King's College London, UK (2010)

Honours and Awards

- **Best Award Paper** in the 19th International Working Conference on Requirements Engineering (REFSQ) Germany, 2013
- **Promotion Assistant Lecturer (with Honours, Tenure position)** Computing School, UCV, February, 2003
- **Award Program for the Researcher's Promotion** (Programa de Promoción al Investigador PPI), 2001
- **Award Level III 2002, 2000, 1998** National Commission of the System for Recognition of Merits to Lectures of National Universities CONABA, Venezuela
- **Best National Postgraduate Thesis 1998 (Distributed Graphical User Interface for Pipeline Transportation of Crude Oil)**, "UCV/PDVSA-CIED". Universidad Central de Venezuela / National Oil Holding - PDVSA.

Teaching Experience

At Aston University, UK:

- Since May 2013 I have been a lecturer at Aston University where I have had the opportunity to teach different modules (such as Java Programming, Computational Intelligence and Software Project Management) with different roles. I have been a module leader but also have shared the duties of modules with other staff members. I have also had other roles such as supervisor of Final Year Projects, Group projects, Personal tutor and Final Year Tutor for Computing for Business (2014-16). At Aston, I got the Postgraduate Certificate in Teaching & Learning in 2014.

At Lancaster University, UK:

- 2007, 2008, 2009 Guest Lectures on the use of UML and Models-driven Engineering, for undergraduate students and Master Student at Lancaster
- 2004, 2005, 2006, *Web Technologies Practical course*, Responsible for design of curriculum, overseeing lab activity, designing and grading exams (number of students between 50 and 100).
- 2004, 2005, *Discrete Math* course, Presented lectures, and prepared associated material designing, and grading exams (between 50-100 students)
- 2002, *Concurrent Programming* course, Presented 2 lectures and prepared associated material.

At UCV, Venezuela:

- until 2003 Courses in *Distributed Object Applications*, *Probability and Statistic and Object-Oriented Simulation*, Responsible for design of curriculum, presenting topics, overseeing lab activity, designing, administering and grading exams, and assigning final grades.

Courses/events on teaching undertaken or attended

I went through a two-year training as a Instructor Lecturer (Junior Lecturer) after been promoted to Assistant Lecturer (tenure position) at the UCV before joining Lancaster. This training program is very structured and rigorous and is part of the preparation of all Assistant Lecturers in any public university in Venezuela. It is a very competitive field.

During my training I got the certificate for the following course:

- **Teaching techniques and learning strategies in the classroom:** The course teaches skills to design and deliver material in the classrooms and lab, how to open, develop, and close a lecture in an effective way. It was fully based in reflection and auto feedback received from videos of classes delivered that were filmed. The feedback was discussed by peers and tutor of the course (20 hours 5 sessions of 4 hours each plus the assessment).

- **Fundamentals of the Design of Courses and Elaboration of Programs:** This course was about how to design course programs and syllabus. The course teaches the skills of how to develop and program a course, including the description of the main goals of a course and the specific goals of every lecture/class to be delivered, and strategies of evaluations to be used. (60 hours in 15 sessions of 4 hours each. Assessment: The course needed me to design 2 new courses I was in charge of in those days.)

Technical Knowledge

- Design and modelling, Model-Driven Engineering and code generation technologies, UML, DSL Tools: MetaEdit+, Poseidon, GME.
- Java, C/C++, C concurrent programming, Java reflection capabilities, Lisp, Python, Tcl/Tk, XWindows, FORTRAN, and ModSIM (object-oriented simulation tool), R language
- Distributed and Parallel Computing and Middleware Java RMI, OMG/CORBA, Web Services, and MPI (Message-Passing Interface),
- Operating systems Unix (including programming) and Windows
- LaTeX

Languages Spanish (mother tongue), English (second language), French (good)

Other activities Cinema, Trekking, Photography, and Yoga

References

- **Prof. Gordon Blair, Computing Department, Lancaster University, UK** (PhD Supervisor, co-author of several research papers, co-organizer of international workshops, co-organizer Dagstuhl Seminar)
 - **Prof. Betty H.C. Cheng, Computer Science and Engineering, Michigan State University, USA** (co-author of several papers, co-organizer of international workshops, co-organizer Dagstuhl Seminar)
 - **Dr. Valerie Issarny, Directeur de recherche INRIA ARLES Project-Team, Paris, France** (line manager and co-author of several papers)
 - **Prof. Anthony Finkelstein, Professor and Dean of UCL Faculty of Engineering Sciences** (co-author of several papers)
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Publications - See Annexe next pages

Publications

Under Submission

- **"The Reassessment of Preferences of Quality Attributes for Better Informed Decision-making in Self-Adaptation"**, Luis Garcia, Nelly Bencomo, submitted to MODELS 2016
- **"Similarity-based Adaptation for Probabilistic Roadmap Generation in Intelligent Virtual Agents"**, Katrina Samperi, Nelly Bencomo and Peter R. Lewis, submitted to ACM Transactions on Autonomous and Adaptive Systems, 2016

Under Preparation (May 2016)

- **"Models@run.time Unplugged : a Guided Tour of the State-of-the-Art and Research Challenges"**, Nelly Bencomo, Sebastian Götz and Hui Song, ACM Computing Surveys
- **"Models@run.time: Foundations and Experiences"**, Nelly Bencomo, Paul Grace, Gordon Blair, Transactions Software Engineering
- **"Model-driven sustainability evaluation: A review"**, (Journal Paper to be submitted to CAMCM), Jorg Kienzle, Cristof Becker, Lucy Bastin, Nelly Bencomo, Stefanie Betz, JM Bruel, Betty Cheng, Ruzanna Chitchyan, Benoit Combenale, Gunter Mussbacher, Birgit Penzenstadler, Norbert Seyf, Colin Venters
- **"On the Role of Preferences and Weights of Quality Attributes in Decision-making for Self-Adaptive Systems: the Bad, the Good and the Ugly"**, Luis Garcia, Nelly Bencomo (Literature Review in preparation)

Editorials

- **"Introduction to the Special Section on Best Papers from SEAMS 2014"**, Nelly Bencomo, Gregor Engels (Eds.) ACM Transactions on Autonomous and Adaptive Systems, Volume 10, Issue 4, February 2016
- **Editorial of the Book "Models@run.time: Foundations, Applications, and Roadmaps"**, Nelly Bencomo, Robert France, Betty H.C. Cheng and Uwe Assmann (Eds.) LNCS 8378, 2014, © Springer International Publishing Switzerland 2014
- **"Editorial: IEEE Computer: Special issue on [Models@run.time](#)"**, Gordon Blair, Nelly Bencomo, and Robert France, October, 2009

Journal Publications and Book Contributions

- **"Self-explanation in Adaptive Systems based on Runtime Goal-based Models"**, Nelly Bencomo, Kris Welsh, Pete Sawyer, Jon Whittle, Transactions on Computational Collective Intelligence, 2014
- **"The Role of Models@run.time in Supporting On-the-fly Interoperability"**, Nelly Bencomo, Amel Bennaceur, Paul Grace, Gordon Blair, and Valerie Issarny, Special Issue [Models@run.time](#), Springer Computing, Edited by Radu Calinescu, Robert France, and Carlo Guezzi, 2013
- **"A View of the Landscape of Dynamic Software Product Lines"**, Nelly Bencomo, Svein Hallsteinsen, Eduardo Almeida, Special Special Issue on Dynamic Software Product Lines (DSPL) **IEEE Computing**, Edited by Mike Hinchey and Klaus Schmid, October 2012
- **"Software Engineering for Self-Adaptive Systems: A Second Research Roadmap"**, In Software Engineering for Self-Adaptive Systems 2, Editors R. de Lemos, H. Giese, H. Müller, and M. Shaw. Lecture Notes in Computer Science Hot Topics, Springer, 2012
- **"RELAX: A Language to Address Uncertainty in Self-Adaptive Systems Requirements"**, Jon Whittle, Pete Sawyer, Nelly Bencomo, Betty H.C. Cheng, and Jean-Michel Bruel in Requirements Engineering Journal, 2010,

- **"Software Engineering for Self-Adaptive Systems: A Research Roadmap"**, Betty H.C. Cheng, Rogério de Lemos, Holger Giese, Paola Inverardi, Jeff Magee, Jesper Andersson, Basil Becker, *Nelly Bencomo*, Yuriy Brun, Bojan Cukic, Giovanna Di Marzo Serugendo, Schahram Dustdar, Anthony Finkelstein, Cristina Gacek, Kurt Geihs, Vincenzo Grassi, Gabor Karsai, Holger M. Kienle, Jeff Kramer, Marin Litoiu, Sam Malek, Rafaela Mirandola, Hausi A. Muller, Sooyong Park, Mary, Shaw, Matthias Tichy, Massimo Tivoli, Danny Weyns, Jon Whittle, Chapter in Book on Software Engineering for Self-Adaptive Systems (SEfSAS Book) [LNCS Hot Topics on Software Engineering for Self-Adaptive Systems](#), 2009
- **"Traceability Management through Use Cases when Developing Distributed Object Applications"** **extended/refereed article**, *Bencomo, N., Mateo, A.*, in Journal of Object Technology, vol. 4, no. 6, 2005 pp 29-43

Conferences Publications

- **"QuantUn: Quantification of Uncertainty for the Reassessment of Requirements"**, *Nelly Bencomo*, RE: Next! track at the 23rd International Requirements Engineering Conference RE'15 Ottawa, Canada, 24-28 Aug, 2015
- **"Minimize Nasty Surprises with Better Informed Decision-Making in Self-Adaptive Systems"**, Sara Hassan, *Nelly Bencomo* and Rami Bahsoon, 10th International Symposium on Software Engineering for Adaptive and Self-Managing Systems, 2015, Florence, Italy
- **"Revisiting Goal-Oriented Models for Self-Aware Systems-of-Systems"**, *André Almeida, Nelly Bencomo, Thais Batista, Everton Cavalcante, Francisco Dantas*, 30th ACM Symposium on Applied Computing (SAC), Requirements Engineering Track (SAC-RE-Track'15), Salamanca, Spain, April, 2015
- **"Dynamic Decision-Making based on NFR for Managing Software Variability and Configuration Selection"**, *Everton Cavalcante, Thais Batista, Nelly Bencomo, Pete Sawyer*, 12th IEEE International Conference on Autonomic Computing ICAC 2015, Grenoble, France, 7 - 10 July, 2015
- **"CloudMPL: A Domain Specific Language for Describing Management Policies for an Autonomic Cloud Infrastructure"**, *Marwah M. Alansari, Andre Almeida, Nelly Bencomo* and Behzad Bordbar, 5th International Conference on Cloud Computing and Services Science CLOSER 2015, Lisbon, Portugal, May, 2015 (one of the Best Papers)
- **"Self-adaptive Probabilistic Roadmap Generation for Intelligent Virtual Agents"**, *Kat McIvor, Nelly Bencomo, Peter Lewis*, Eighth IEEE Conference on Self-Adaptive and Self-Organizing Systems SASO 2014, London, UK in September 2014 (one of the best papers)
- **"A world full of surprises: Bayesian theory of surprise to quantify degrees of uncertainty"**, *Nelly Bencomo, Amel Belaggoun*, 36st International Conference on Software Engineering 2014, ICSE 2014, Track on New Ideas and Emerging Results (NIER), India, 31 May - June 7 2014, Acceptance rate: 24%
- **"Dynamic Decision Networks for Decision-making in Self-adaptive Systems : a Case Study"**, *Nelly Bencomo, Amel Belaggoun, and Valerie Issarny*, 8th International Symposium on Software Engineering for Adaptive and Self-Managing Systems, 2013
- **"Supporting Decision-making for Self-adaptive Systems: From Goal Models to Dynamic Decision Networks"**, *Nelly Bencomo* and Amel Belaggoun, submitted to the 19th International Working Conference on Requirements Engineering: Foundation for Software Quality REFSQ 2013 (one of the best papers)
- **"RELAXing Claims: Coping With Uncertainty While Evaluating Assumptions at Run Time"**, *Andres Ramirez, Betty H.C. Cheng, Nelly Bencomo, and Pete Sawyer*, submitted to 15th ACM/IEEE International Conference On Model Driven Engineering Languages And Systems MODELS 2012 (Foundations Tracks), Austria
- **"Self-explanation in Adaptive Systems"**, *Nelly Bencomo, Kristopher Welsh, Pete sawyer, and Jon Whittle* 17th IEEE International Conference on Engineering of Complex Computer Systems, ICECCS 2012, Paris, France, July, 2012 (one of the best papers)

- **"Towards Requirements Aware Systems: Run-time Resolution of Design-time Assumptions"**, Kristopher Welsh, Pete Sawyer, Nelly Bencomo 26th IEEE/ACM International Conference On Automated Software Engineering, ASE 2011, Kansas, USA, November 6 - 10, 2011
- **"Requirements-Aware Systems A research agenda for RE for self-adaptive systems"**, Pete Sawyer, Nelly Bencomo, Jon Whittle, Emmanuel Letier, Anthony Finkelstein, 18th IEEE International Requirements Engineering Conference, RE 2010, Sydney, Australia, September 27th - October 1st 2010, Acceptance rate: 15.9%
- **"Requirements Reflection: Requirements as Runtime Entities"**, Nelly Bencomo, Jon Whittle, Pete Sawyer, Anthony Finkelstein, and Emmanuel Letier, 32nd International Conference on Software Engineering 2010, ICSE 2010, Track on New Ideas and Emerging Results (NIER), Cape Town, South Africa, 2-8 May 2010, Acceptance rate: 25%
- **"A Goal-Based Modeling Approach to Develop Requirements for Adaptive Systems with Environmental Uncertainty"**, Betty H.C. Cheng, Pete Sawyer, Nelly Bencomo, and Jon Whittle, 12th ACM/IEEE International Conference On Model Driven Engineering Languages And Systems MODELS 2009, Denver, Colorado, USA, 4 - 9 October 2009, Acceptance rate: 16%
- **"RELAX: Incorporating Uncertainty into the Specification of Self-Adaptive Systems"**, Jon Whittle, Pete Sawyer, Nelly Bencomo, Betty H.C. Cheng, and Jean-Michel Bruel, 17th IEEE International Requirements Engineering Conference, RE 2009, Atlanta, Georgia, USA, 31 August - 4 September 2009, Acceptance rate : 21%
- **"An Aspect-Oriented and Model-Driven Approach for Managing Dynamic Variability"**, Brice Morin, Franck Fleurey, Nelly Bencomo, Jean-Marc Jezequel, Arnor Solberg, Vegard Dehlen, and Gordon Blair, 11th ACM/IEEE International Conference On Model Driven Engineering Languages And Systems MODELS Conference, Toulouse, France, 28 September - 3 October 2008, Acceptance rate: 21%
- **"Engineering Complex Adaptations in Highly Heterogeneous Distributed Systems"**, Paul Grace, Gordon Blair, Carlos Flores, Nelly Bencomo
2nd International Conference on Autonomic Computing and Communication Systems [Autonomics 2008](#), Turin, Italy, September 2008, *Invited paper*
- **"Genie: Supporting the Model Driven Development of Reflective, Component-based Adaptive Systems"**, Nelly Bencomo, Paul Grace, Carlos Flores, Danny Hughes, and Gordon Blair
Formal Research Demonstrations, 30th International Conference on Software Engineering, [Formal demos at ICSE 2008](#), 811-814, Leipzig, Germany, May 2008, Acceptance rate for formal demos: 20.5%
- **"Goal-Based Modeling of Dynamically Adaptive System Requirements"**, Heather J. Goldsby, Pete Sawyer, Nelly Bencomo, Danny Hughes, and Betty H. C. Cheng
15th IEEE International Conference on Engineering of Computer-Based Systems, [ECBS 08](#), Belfast, Northern Ireland, 31 March - 4 April, 2008.
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