

Curriculum Vitae

Marco Carbone

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Personal Information

Full Name:	Marco Carbone	Work Address:	Theoretical Computer Science Section
DOB:	10 March 1977		IT University of Copenhagen
Nationality:	Italian		Rued Langgaards Vej 7
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Current and Previous Positions

- *January 2011–December 2013.* **FNU Steno Research Fellow** at IT University of Copenhagen, DK. Funded by the Danish Agency for Science Research and Innovation (FNU).
- *June 2010–Present.* **Associate Professor** at IT University of Copenhagen, DK.
- *January 2009–June 2010.* **Assistant Professor** at IT University of Copenhagen, DK.
- *October 2007–January 2009.* **Research Associate** at Queen Mary University of London, UK.
- *July 2006–Present.* **Invited Expert** in the W3C WS-CDL working group.
- *July 2006–September 2007.* **Research Associate** at Imperial College London, UK.
- *March 2005–June 2006.* **Research Assistant** at Queen Mary University of London, UK.

Education

- *2001–2005.* **Ph.D. degree in Computer Science**, BRICS, Aarhus University, Denmark. Ph.D. Dissertation: “*Trust and Mobility*”. Supervisor: Prof. M. Nielsen. June 30, 2005.
- *1995–2001.* **M.Sc. degree (Laurea) in Computer Science**, University of Pisa, Italy. M.Sc. Thesis: “*Analysing Properties of Safe Ambients with Static Analysis*” (received with honours). Supervisor: Prof. P. Degano. June 15, 2001.

Academic Travels

- *November 2008. Research Visit* at Northeastern University, Boston, USA (visiting Prof. Joshua Guttman).
- *February 2003–August 2003. Marie Curie Fellow* at University of Sussex, Brighton, UK (visiting Prof. Vladimiro Sassone).

Research

- Interests in Theoretical and Practical aspects of Web Services, Concurrency, Static Analyses, Security and Trust Based Systems. In particular, contributions on Session Types and Choreography for Web Services, Security and Expressivity of languages for concurrency resulting into several peer-reviewed publications in international journals and conferences.

Research Projects

- *2012-2015 Member of Behavioural Types for Reliable Large Software Systems (BETTY)*, ICT COST Action IC1201 (European Cooperation in the Field of Scientific and Technical Research).
- *2011-2013. PI of Choreography-driven Programming and Security (Chords)*, FNU Steno Research Fellowship funded by the Danish Agency for Science Research and Innovation.
- *2007-2008. Named Researcher of Engineering Foundations of Web Services: Theories and Tool Support*, project funded by EPSRC, Queen Mary University of London, UK.
- *2002-2004. Member of SECURE*, project funded by EU FET-Global Computing, BRICS, Aarhus University, Denmark.

Invited Lectures and Colloquium Talks

- Invited Talk at the *Third Workshop on Formal Languages and Analysis of Contract-Oriented Software (FLACOS'09)*. Toledo, Spain, September, 2009.
- Invited Lecturer at the *9th International School on Formal Methods for the Design of Computer, Communication and Software Systems: Web Services (SFM-WS'09)*. Bertinoro, Italy, June 2009.
- Invited Talk at the *New England Programming Languages and Systems Symposium Series (NEPLS)*. Harvard University, USA, October 2008.
- Invited Lecturer at the *PhD School in Theory and Practice of Business Process Execution and Service Orientation (BPESO'07)*. IT University of Copenhagen, Denmark, October 2007.
- Invited talk at the *Business Process Seminar*. IT University of Copenhagen, Denmark, December 2006.
- Invited Talk at the *Colloquium on Emerging Trends in Concurrency Theory*. LIX, École Polytechnique de Paris, France, November 2006.
- Invited at other institutions and meetings among which (in reverse chronological order) Brown University (2008), Northeastern University (2008), London Theory Seminar (2008), University of Leicester (2007), Global Computing workshop (2004).

Program Committee, Editing, Refereeing

- **PC chair.** 3rd International Workshop on Behavioural Types (*BEAT 2014*).
- **PC member.** 7th Interaction and Concurrency Experience (*ICE'14*).
- **PC member.** 9th International Workshop on Web Services and Formal Methods (*WS-FM'12*). Affiliated to BPM 2012.
- **PC chair.** 6th Interaction and Concurrency Experience (*ICE'13*).
- **PC chair.** 5th Interaction and Concurrency Experience (*ICE'12*).
- **PC member.** 5th Workshop on Programming Language Approaches to Concurrency and communication-cEntric Software (*PLACES'12*). Affiliated to ETAPS 2012.
- **PC chair.** 8th International Workshop on Web Services and Formal Methods (*WS-FM'11*). Affiliated to BPM 2011.
- **PC member.** 4th Interaction and Concurrency Experience (*ICE'11*).
- **PC member.** 4th Workshop on Programming Language Approaches to Concurrency and communication-cEntric Software (*PLACES'11*). Affiliated to ETAPS 2011.
- **PC member.** 3rd Workshop on Programming Language Approaches to Concurrency and communication-cEntric Software (*PLACES'10*). Affiliated to ETAPS 2010.
- **Journal Guest Editor.** *Theoretical Computer Science*, Special Issue for Festschrift for Mogens Nielsen's 60th birthday, 2009.
- **PhD International Reviewer.** Roberto Guanciale. *The Signal Calculus: beyond message based coordination for services*. IMT Institute for Advanced Studies, Lucca. 2009.
- **PC member.** 16th International Workshop on Expressiveness in Concurrency (*EXPRESS'09*).
- **PC member.** 2nd Interaction and Concurrency Experience (*ICE'09*) - Structured Interactions in Concurrent Distributed Systems.
- **PC member.** 1st Interaction and Concurrency Experience (*ICE'08*) - Synchronous and Asynchronous Interactions in Concurrent Distributed Systems.
- **PC member.** ACM Symposium on Applied Computing (*SAC'05*) - Trust, Recommendations, Evidence and other Collaboration Know-how (TRECK) Track.
- Referee for several international journals, conferences and workshops, including JACM, IandC, IJFCS, JCS, LMCS, TCS, Aplas, Concur, Coordination, Esop, Express, Fossacs, FSEN, FSTTCS, ICFP, Ictac, Places, Pepm, Savcb, and TGC.

Organisation of Scientific Events

- Organiser of the 1st Workshop on Web Services, Business Processes and Infrastructure. 2008.
- Founder of the Pi-Lambda Seminar at BRICS, Univ. of Aarhus, Denmark. 2004.

List of Publications

(Available online at <http://www.itu.dk/people/maca>)

Journals

- M. Carbone, K. Honda and N. Yoshida. *Structured Communication-Centred Programming for Web Services*.
ACM Trans. Program. Lang. Syst. 34(2): 8. June 2012.
- K. Honda, N. Yoshida, A. Bejleri and M. Carbone. *Multiparty Asynchronous Session Types*.
Submitted for Journal publication. April 2012.
- K. Honda, N. Yoshida and M. Carbone. *Web Services, Mobile Processes and Types*.
In the Bulletin of the European Association for Theoretical Computer Science, N. 91:165-185,
February 2007.
- M. Carbone, M. Nielsen and V. Sassone. *Trust in Global Computing*.
In Association for Logic Programming (ALP) Newsletter, Vol. 17 (4), November 2004.
- M. Carbone et al. *Using Trust for Secure Collaboration in Uncertain Environment*.
In IEEE Pervasive Computing Journal 2003
- M. Carbone and S. Maffei. *On the Expressive Power of Polyadic Synchronisation in Pi-Calculus*.
In Nordic Journal of Computing, Vol.10, n.2, Summer 2003.

Conferences

- M. Carbone and J. Guttman. *Sessions and Separability in Security Protocols*.
In Proc. of the 2nd Conference on Principle of Security and Trust (POST13). Rome, Italy,
March 2013.
- M. Carbone and F. Montesi. *Deadlock-freedom-by-design: Multiparty Asynchronous Global Programming*.
In Proc. of the 40th Symposium on Principles of Programming Languages (POPL '13).
Rome, Italy, January 2013.
- F. Montesi and M. Carbone. *Programming Services with Correlation Sets*.
In Proc. of the 9th International Conference on Service Oriented Computing (ICSOC 2011).
Paphos, Cyprus, December 2011.
- M. Carbone, K. Honda and N. Yoshida. *Structured Interactional Exceptions for Session Types*.
In Proc. of the 19th International Conference on Concurrency Theory (CONCUR 2008).
Toronto, Canada, August 2008.
- K. Honda, N. Yoshida and M. Carbone. *Multiparty Asynchronous Session Types*.
In Proc. of the 35th Symposium on Principles of Programming Languages (POPL '08). San
Francisco, USA, January 2008.
- M. Carbone, K. Honda and N. Yoshida. *Structured Communication-Centred Programming for Web Services*.
In Proc. of the 16th European Symposium on Programming (ESOP'07). Braga, Portugal,
March 2007.
- M. Carbone, M. Nielsen and V. Sassone. *A Calculus for Trust Management*.
In Proc. of the 24th Conference on Foundations of Software Technology and Theoretical
Computer Science (FSTTCS '04). Chennai, India, December 2004.
- M. Carbone, M. Nielsen and V. Sassone. *A Formal Model for Trust in Dynamic Networks*.
In Proc. of IEEE International Conference on Software Engineering and Formal Methods
(SEFM '03). Brisbane, Australia, September 2003.

Workshops

- M. Carbone, T. Hildebrandt, G. Perrone, A. Wasowski. *Refinement for Transition Systems with Responses*.
In Proc. of the Fourth Workshop on Foundations of Interface Technologies. 48-55. 2012.
- M. Carbone and F. Montesi. *Merging Multiparty Protocols in Multiparty Choreographies*.
In Proc. of Programming Languages Approaches to Concurrency and Communication-Centric Software (PLACES 2012). Tallinn, Estonia, March 2012.
- D. Christiansen, M. Carbone and T. Hildebrandt. *Formal Semantics and Implementation of BPMN 2.0 Inclusive Gateways*.
In Proc. of Web Services and Formal Methods (WS-FM'10). Hoboken, New Jersey, USA, September 2010.
- M. Carbone and S. Debois. *A Graphical Approach to Progress for Structured Communication in Web Services*.
In Proc. of Interaction and Concurrency Experience (ICE10). Amsterdam, Holland, June 2010.
- M. Carbone, T. Hildebrandt and H. Lopez. *Towards a Modal Logic for the Global Calculus*.
In Proc. of Programming Languages Approaches to Concurrency and Communication-Centric Software (PLACES 2010). Paphos, Cyprus, April 2010.
- M. Carbone and J. Guttman. *Choreographies with Secure Boxes and Compromised Principals*.
In Proc. of Interaction and Concurrency Experience (ICE09). Bologna, Italy, August 2009.
- M. Carbone and J. Guttman. *Execution models for Choreographies and Cryptoprotocols*.
In Proc. of Programming Languages Approaches to Concurrency and Communication-Centric Software (PLACES 2009). York, UK, March 2009.
- M. Carbone. *Session-based Choreography with Exceptions*.
In Proc. of Programming Languages Approaches to Concurrency and Communication-Centric Software (PLACES 2008). Oslo, Norway, June 2008.
ETNCS, Vol. 241, pagg. 35-55.
- M. Carbone, K. Honda and N. Yoshida. *Theoretical Aspects of Communication-Centred Programming*.
In Proc. of the LIX Colloquium on Emerging Trends in Concurrency Theory (LIX 2006), ETNCS, Vol. 209, pagg. 125-133.
- M. Carbone, K. Honda and N. Yoshida. *A Calculus of Global Interaction based on Session Types*.
In Proc. of the 2nd International Workshop on Developments in Computational Models (DCM 2006), Vol. 171, issue 3 of ENTCS, July 2006.
- W. Wagealla, M. Carbone, C. English, S. Terzis, H. Lowe and P. Nixon. *A Formal Model for Trust Life-cycle Management*.
In Proc. of the Workshop on Formal Aspects in Security and Trust (FAST 2003). Pisa, Italy, September 2003.
- M. Carbone and S. Maffei. *On the Expressive Power of Polyadic Synchronisation in Pi-Calculus*.
In Proc. of the 9th International Workshop on Expressiveness in Concurrency (EXPRESS'02), ENTCS 68(2). Brno, Czech Rep., August 2002.

- M. Carbone, M. Coccia, G. Ferrari and S. Maffeis. *Process Algebra-Guided Design of Java Mobile Network Applications*.
Extended abstract, In the Workshop on Formal Techniques for Java Programs (FTJP'01).
Budapest, Hungary, June 2001.

Technical Reports and Unpublished

- M. Carbone, K. Honda and N. Yoshida. *A Theoretical Basis of Communication-Centred Concurrent Programming*.
W3C working note associated to the WS-CDL project. 2006.
- M. Carbone, S. Maffeis and A. Ravara. *Types for $e\pi$* .
Unpublished Manuscript. July 2004.
- M. Carbone, M. Nielsen and V. Sassone. *A Formal Model for Trust in Dynamic Networks*.
BRICS Technical Report RS-03-4. January 2003.

Ph.D. Thesis

- M. Carbone. *Trust and Mobility*.
Ph.D. Thesis, BRICS, University of Aarhus. June 2005.

H-Number (the list of publications is provided separately)

According to Google Scholar (as of December 13, 2013) my H-number is 11 i.e. I have at least 11 publications with at least 11 citations.

1. (340 citations) *Using Trust for Secure Collaboration in Uncertain Environments*. (2003)
 2. (312 citations) *Structured Communication-Centred Programming for Web Services*. (2007)
(including *A Theoretical Basis of Communication-centred Concurrent Programming* cited 69 times)
 3. (288 citations) *Multiparty Asynchronous Session Types*. (2008)
 4. (229 citations) *A Formal Model for Trust in Dynamic Networks*. (2003)
 5. (98 citations) *On the Expressive Power of Polyadic Synchronisation in Pi-Calculus*. (2003)
 6. (46 citations) *A Calculus of Global Interaction based on Session Types*. (2006)
 7. (38 citations) *Structured Interactional Exceptions in Session Types*. (2008)
 8. (29 citations) *A Calculus for Trust Management*. (2004)
 9. (23 citations) *Web Services, Mobile Processes and Types*. (2007)
 10. (15 citations) *A Formal Model for Trust Life-cycle Management*. (2003)
 11. (12 citations) *Programming Services with Correlation Sets*. (2011)
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12. (11 citations) *Deadlock-freedom-by-design: Multiparty Asynchronous Global Programming*. (2013)
 13. (11 citations) *Session-based Choreography with Exceptions*. (2009)
 14. (8 citations) *Asynchronous Session Types: Exceptions and Multiparty Interactions*. (2008)

Student Supervision

- 2011-2013. F. Montesi. **PhD student** on "Choreographic Programming". IT University of Copenhagen.
- 2009-2011. H. Lopez. **PhD student** on "Foundations of Communication-Centred Programming: Calculi, Logics and Types. (Co-Advised with T. Hildebrandt). IT University of Copenhagen.
- Spring 2010. P. Mller. **Master student** on A Choreography Language Implementation. IT University of Copenhagen.
- Spring 2010. M. El Allali. **Master student** on A Course Registration System for ITU. IT University of Copenhagen.
- Spring 2010. M. Iversen, S. Matthiesen, L. Petersen. **Bachelor students** on an implementation of End-Point Projection. IT University of Copenhagen.
- 2007. N. Danzi. **Bachelor (exchange) student** on Mobile Ad-Hoc Networks (Co-Advised with M. Merro). Queen Mary University of London.
- 2006. A. Al-Armaghany **Bachelor student** on design of a WS-CDL application (Co-Advised with K. Honda). Queen Mary University of London.

Teaching Experience

- Spring 2014. *Foundations of Computing: Discrete Mathematics*. Master and Bachelor Level. Full course, ITU.
- Spring 2013. *Foundations of Computing: Discrete Mathematics*. Master and Bachelor Level. Full course, ITU.
- Spring 2012. *Foundations of Computing: Discrete Mathematics*. Master Level. Full course, ITU.
- Spring 2011. *Foundations of Computing: Discrete Mathematics*. Master Level. Full course, ITU.
- Spring 2011. *Advanced Mobile and Distributed Systems*. Master level. 1/2 of the course, ITU.
- Autumn 2010. *Foundations of Computing: Discrete Mathematics*. Master Level. Full course, ITU.
- Spring 2010. *Algorithms and Data Structures*. Bachelor level. 1/3 of the course, ITU.
- Autumn 2009. *Advanced Mobile and Distributed Systems*. Master level. 1/2 of the course, ITU.
- Autumn 2009. *Models and Design*. Master level. 1/3 of the course, ITU.
- Spring 2009. *Advanced Models and Programming*. Master level. 1/5 of the course, ITU.
- Spring 2009. *Models and Design*. Master level. 1/3 of the course, ITU.
- Autumn 2008. *Language and Communication*. 2 lectures and Teaching Assistant, Queen Mary University of London.
- Autumn 2007. *Language and Communication*. Teaching Assistant, Queen Mary University of London.

- Autumn 2007. *System Analysis*. 2 lectures and Teaching Assistant, Queen Mary University of London.
- Autumn 2006. *Models for Concurrency*. Teaching Assistant, Imperial College London.
- Spring 2006. *Web Technologies*. 2 lectures, Queen Mary University of London.
- Spring 2002. *Models and Logic*. Teaching Assistant, Aarhus University.

Other Teaching Activities

- 2009. **The Assistant Professor Programme**. Course on teaching. Copenhagen Business School, Denmark.
- November 2006. **Translation into Italian of “Teaching Teaching & Understanding Understanding”**, a 20min award-winning short-film about constructive alignment. Aarhus University Press. Denmark.

Scholarships

- *February–August 2003*. **Marie-Curie**, University of Sussex, UK.
- *August 2001–January 2005*. **PhD**, BRICS and The Danish Research Foundation, Aarhus University, Denmark.
- *Academic Year 1999-2000*. **Erasmus**, Free University of Amsterdam, Holland.

Languages

- *Italian* (native)
- *English* (fluent)
- *Danish* (intermediate)
- *Spanish* (conversational level)