

CURRICULUM VITAE

EUROPEAN FORMAT

PERSONAL INFORMATION

Name, Surname Maurice H. ter Beek

Address

Tel

Fax

E-mail

Website

Nationality

WORK EXPERIENCE

- | | |
|------------------------------|--|
| Dates (from – to) | January 2003 - present |
| Name and address of employer | ISTI-CNR, Pisa, Italy |
| Occupation or position held | Senior researcher (<i>primo ricercatore</i>) since January 2021; head of the lab Formal Methods and Tools (FMT) since August 2019 |
| Main research activities | Formal methods and model-checking tools for the specification and verification of safety-critical software systems and communication protocols, focusing in particular on applications in service-oriented computing, software product line engineering and railway systems. |
| Dates (from – to) | July 2015 |
| Name and address of employer | LIACS (Leiden Institute of Advanced Computer Science), Leiden University, The Netherlands |
| Occupation or position held | Guest professor with a Short-Term Mobility research grant from CNR |
| Main research activities | Programme “Compatibility and receptiveness in team automata: the case of masters and slaves” |
| Dates (from – to) | August 2012 - July 2013 (sabbatical) |
| Name and address of employer | LIACS (Leiden Institute of Advanced Computer Science), Leiden University, The Netherlands |
| Occupation or position held | Lecturer |
| Main teaching activities | Requirements Engineering (2013), Software Engineering (2012), <i>Studievaardigheden</i> (2012) |
| Dates (from – to) | Fall 2003, Fall 2007 |
| Name and address of employer | Department of Computer Science, University of Pisa, Italy |
| Occupation or position held | Teaching assistant |
| Main teaching activities | Software Engineering (2007), <i>Laboratorio di Introduzione alla Programmazione B</i> (2003) |
| Dates (from – to) | 2001 |
| Name and address of employer | LIACS, Leiden University, The Netherlands |
| Occupation or position held | Lecturer |
| Main teaching activities | Formal Languages and Automata, Introduction to Fundamental Computer Science, Theory of Concurrency |
| Dates (from – to) | 1994 - 2000 |
| Name and address of employer | LIACS, Leiden University, The Netherlands |
| Occupation or position held | Teaching assistant |
| Main teaching activities | Formal Languages and Automata, Introduction to Fundamental Computer Science, Theory of Concurrency, Artificial Intelligence, Operating Systems, Logic for Computer Scientists, Theory of Databases |

EDUCATION AND TRAINING

Dates (from – to)	January, August 2005
Name and type of organisation	Department of Mathematics and Computer Science, University of Antwerp, Belgium
Occupation or position held	SegraVis (EU Network of Excellence) fellow
Dates (from – to)	2003
Name and type of organisation	ISTI-CNR, Pisa, Italy
Occupation or position held	ERCIM (European Research Consortium for Informatics and Mathematics) fellow
Dates (from – to)	2002
Name and type of organisation	Computer and Automation Research Institute, Academy of Sciences, Budapest, Hungary
Occupation or position held	ERCIM (European Research Consortium for Informatics and Mathematics) fellow
Dates (from – to)	2000-2001
Name and type of organisation	Dipartimento di Informatica, Università di Pisa, Italy
Occupation or position held	EU Socrates grant
Dates (from – to)	1996-2001
Name and type of organisation	Leiden University, The Netherlands
Title of qualification awarded	Ph.D. in Computer Science
Dates (from – to)	1995-1996
Name and type of organisation	Department of General Computer Science, Eötvös Loránd University, Budapest, Hungary
Occupation or position held	Student of Computer Science
Dates (from – to)	1995-1996
Name and type of organisation	Computer and Automation Research Institute, Academy of Sciences, Budapest, Hungary
Occupation or position held	Cultural exchange scholarship of Hungarian Ministry of Culture and Education
Dates (from – to)	1990-1996
Name and type of organisation	Department of Mathematics and Computer Science, Leiden University, Leiden, The Netherlands
Title of qualification awarded	M.Sc. in Computer Science

RESEARCH ACTIVITIES

Research sectors	Formal Methods, Model Checking, Software Product Line Engineering, Software Engineering, Formal languages and Automata, Theoretical Computer Science, Service Computing, Railways
h-index	24 (Google Scholar) 19 (Scopus) 12 (Web of Science)
Best paper awards	SPLC 2019, ICIW 2007
Conference coordination	<ul style="list-style-type: none">• Steering Committee: FMICS (2020-present), SPLC (2018-present), VaMoS (2018-present), WWV (2014-2016), FMSPLE (2012-2016) and ISARCS (2009-2013)• General chair: FMICS-AVoCS 2016• Workshop chair: DisCoTec 2019, FM 2018, SPLC 2014, iFM & ABZ 2012 and SEFM 2010• Finance chair: REFSQ 2020• Publicity chair: FSEN 2019-2021• PC chair: iFM 2022, COORDINATION 2022, QAVS 2020-2022, SPLC 2021, FMICS 2020, FM 2019, CAS 2018, SOAP 2017, VaMoS 2017, FORECAST 2016, SOAP 2016, WWV 2014-2015, FMSPLE 2014, FMSPLE 2012, WS-FM 2012• PC member: SPLC 2013-2021, VaMoS 2013-2021, FMICS 2017-2021, FormaliSE 2018-2022, FM 2019-2021, SPIN 2019-2021, ABZ 2020-2021, FORTE 2021, COORDINATION 2021, RSS- Rail 2021, SEFM 2018-2020, iFM 2020, AVoCS 2017-2019, FASE 2019, ICSR 2016-2018, FMSPLE 2013-2016, ICTCS 2014, WS-FM 2012-2014, ACSD 2011, WWV 2011, ...

Participation in research projects

- National MIUR-PRIN 2017FTXR7S project IT MaTTeRS (Methods and Tools for Trustworthy Smart Systems), 2019-2022
- H2020-Shift2Rail-RIA-881775 project 4SECURail (Formal methods and CSIRT for the railway sector), 2019-2021
- Regional POR-FESR project STINGRAY (SmarT station INtelliGent RAILwaY), 2018-2020
- H2020-Shift2Rail-RIA-777561 project ASTRail (SATellite-based Signalling and Automation SysTems on RaiLways along with Formal Method and Moving Block validation), 2017-2019
- FP7-ICT-619583 project LearnPAd (Model-Based Social Learning for Public Administrations), 2014-2016
- FP7-ICT-600708 project QUANTICOL (A Quantitative Approach to Management and Design of Collective and Adaptive Behaviours), 2013-2017
- National MIUR-PRIN 2010LHT4KM project CINA (Compositionality, Interaction, Negotiation, Autonomicity for the future ICT society), 2012-2016
- Regional PAR-FAS project TRACE-IT (Train Control Enhancement via Information Technology), 2011-2013
- CNR-RSTL project XXL (Advanced Tools and Techniques for the Specification and Verification of Systems with Elevated Granularity), 2008-2011
- National MIUR-PRIN 2007XKEHFA project D-ASAP (Dependable Adaptable Software Architectures for Pervasive Computing), 2008-2011
- FP6-NoE-IST-4-026764 Network of Excellence ReSIST (Resilience for Survivability in IST) mini-project FAERUS (Formal Analysis of Evolving Resilient Usable Systems), 2008
- National MIUR-FIRB 2005 RBNE05BFRK project TOCAI.IT (Knowledge oriented technologies for enterprise integration in Internet), 2006-2010
- FP6-IP-IST-016004 project SENSORIA (Software Engineering for Service-Oriented Overlay Computers), 2005-2010
- FP5-IST-32747 project AGILE (Architectures for Mobility), 2003-2005

Selected recent journal papers

(2016-present)

- M.H. ter Beek, F. Damiani, M. Lienhardt, F. Mazzanti & L. Paolini, Efficient Static Analysis and Verification of Featured Transition Systems. *Empirical Software Engineering* 22, 1 (2022), 10:1–10:43
- A. Ferrari, F. Mazzanti, D. Basile & M.H. ter Beek, Systematic Evaluation and Usability Analysis of Formal Methods Tools for Railway signaling System Design. *IEEE Transactions on Software Engineering* (2021)
- M.H. ter Beek, A. Legay, A. Lluch Lafuente & A. Vandin, Quantitative Security Risk Modeling and Analysis with RisQFLan. *Computers & Security* 109 (2021)
- M.H. ter Beek, A. Legay, A. Vandin & A. Lluch Lafuente, A framework for quantitative modeling and analysis of highly (re)configurable systems. *IEEE Transactions on Software Engineering* 46, 3 (2020), 321–345
- D. Basile, M.H. ter Beek, P. Degano, A. Legay, G.-L. Ferrari, S. Gnesi & F. Di Giandomenico, Con-troller synthesis of service contracts with variability. *Science of Computer Programming* 187 (2020)
- D. Basile, M.H. ter Beek & A. Legay, Timed Service Contract Automata. *Innovations in Systems and Software Engineering* 16, 2 (2020), 199–214
- D. Basile, M.H. ter Beek, and R. Pugliese, Synthesis of Orchestrations and Choreographies: Bridging the Gap between Supervisory Control and Coordination of Services. *Logical Methods in Computer Science* 16, 2 (2020), 9:1–9:29
- M.H. ter Beek, F. Damiani, S. Gnesi, F. Mazzanti & L. Paolini, On the Expressiveness of Modal Transition Systems with Variability Constraints. *Science of Computer Programming* 169 (2019), 1–17
- M.H. ter Beek, A. Fantechi, S. Gnesi & F. Mazzanti, Modelling and Analysing Variability in Product Families: Model Checking of Modal Transition Systems with Variability Constraints. *Journal of Logical and Algebraic Methods in Programming* 85, 2 (2016), 287–315

Selected recent conference papers

(2016-present)

- M.H. ter Beek, G. Cledou, R. Hennicker & J. Proença, Featured Team Automata. FM'21, LNCS 13047, 2021
- D. Basile, M.H. ter Beek, M. Cordy & A. Legay, Tackling the Equivalent Mutant Problem in Real-Time Systems: The 12 Commandments of Model-Based Mutation Testing. SPLC'20, ACM, 2020, 252-262
- H. Garavel, M.H. ter Beek & J. van de Pol, The 2020 Expert Survey on Formal Methods. FMICS'20, LNCS 12327, 2020, 3-69
- A. Ferrari, F. Mazzanti, D. Basile, M.H. ter Beek & A. Fantechi, Comparing Formal Tools for System Design: a Judgment Study. ICSE'20, ACM, 2020, 62–74
- M.H. ter Beek, S. van Loo, E.P de Vink & T.A.C. Willemse, Family-Based SPL Model Checking Using Parity Games with Variability. FASE'20, LNCS 12076, 2020, 245–265
- M.H. ter Beek, A. Borälv, A. Fantechi, A. Ferrari, S. Gnesi, C. Löfving & F. Mazzanti, Adopting Formal Methods in an Industrial Setting: The Railways Case. FM'19, LNCS 11800, 2019, 762–772.
- M.H. ter Beek, F. Damiani, M. Lienhardt, F. Mazzanti & L. Paolini, Static Analysis of Featured Transition Systems. SPLC'19, ACM, 2019, 39–51 (BEST PAPER AWARD)
- D. Basile, M.H. ter Beek, A. Fantechi, S. Gnesi, F. Mazzanti, A. Piattino, D. Trentini & A. Ferrari, On the Industrial Uptake of Formal Methods in the Railway Domain. IFM'18, LNCS 11023, 2018, 20–29
- A. Vandin, M.H. ter Beek, A. Legay & A. Lluch Lafuente, QFLan: A Tool for the Quantitative Analysis of Highly Reconfigurable Systems. FM'18, LNCS 10951, 2018, 329–337
- M.H. ter Beek, E.P de Vink & T.A.C. Willemse, Family-Based Model Checking with mCRL2. In FASE'17, LNCS 10202, 2017, 387–405