

Ivo Bleylevens

Curriculum Vitae

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Personal Information

Date of birth	March 12th, 1979
Place of birth	Heerlen, the Netherlands
Nationality	Dutch
Driving license	Yes

Education

- 2004–2010 **PhD-student**, *Department of Mathematics, MICC, Maastricht University*, Maastricht.
Field of research: Computer Algebra
Title: Algebraic Polynomial System Solving and Applications.
Date: December 9th, 2010
Keywords: Polynomial optimization, numerical/symbolic computation, direct/iterative eigenvalue solver, large eigenvalue problem, nd-system, parallel/distributed computation, model order reduction.
Promotors: Prof.dr.ir. R.L.M. Peeters (Maastricht University) and Prof.dr. B. Hanzon (UCC Cork, Ireland)
- 1998–2003 **Master in Applied Mathematics**, *Department of Knowledge Engineering (Kennistechnologie), MICC, Maastricht University*, Maastricht.
Knowledge Engineering is a broad computer science and mathematics programme based on a project-centered learning approach. This approach enables the student to apply the theories learned immediately in practical projects, in which cooperation with other students to develop concrete solutions is important. The main courses given are in the field of Mathematics and Computer Science but attention is also paid to artificial intelligence, psychology, philosophy in science and multimedia aspects.
Title master thesis: *The computation of the global minima of a multivariate polynomial.*
Grade: 8.5
Date: June 19th, 2003
- 2000–2001 **Third year**, *Limburgs Universitair Centrum*, Diepenbeek, Belgium.
The third year of the Knowledge Engineering programme at Maastricht University was given in Diepenbeek in cooperation with the Limburgs Universitair Centrum
- 1997–1998 **Propaedeutic Chemical Technology**, *Hogeschool Limburg*, Heerlen.
Date: June 1998

1991–1997 **Pre-university Education**, *Gymnasium Rolduc*, Kerkrade.
Subjects: Mathematics A, Mathematics B, Physics, Chemistry, Biology, Latin, English, Dutch.
Date: May 1997

Employment

- 2010–2011 July **Post-doctoral Researcher**, *BioMathematics and BioInformatics Research group (BMI)*, *Department of Knowledge Engineering (DKE)*, *Maastricht University*, Maastricht.
- 2008–2009 **Software Developer**, *Maastricht Instruments/IDEE*, *Faculty of Health, Medicine and Life Sciences*, *Maastricht University*, Maastricht.
- 2004–2010 **PhD-student**, *Department of Mathematics, MICC*, *Maastricht University*, Maastricht.
See above
- 2003–2004 **Junior researcher**, *Faculty of General Sciences*, *Maastricht University*, Maastricht.
With the use of a grant provided by Maastricht University the electronic self and peer assessment system e-SAPAS is extended and adapted to new needs and features caused by a university wide application.
- 2003–2003 **Junior researcher**, *Faculty of Law*, *Maastricht University*, Maastricht.
During this period e-SAPAS is implemented for the use at the Faculty of Law.
- 2001–2003 **Assistant**, *Faculty of General Sciences*, *Maastricht University*, Maastricht.
During this period an electronic (web based) self and peer assessment system, called e-SAPAS, is developed and implemented. With such a system students can grade and evaluate their own (self assessment) and their fellow students' attitude and performance (peer assessment) during the projects in the Knowledge Engineering programme by use of an online questionnaire. The results of both assessments are provided online to each student individually in the hope that this leads to (self) reflection such that the students get a better grip on their own learning process through which new learning objectives can be set.
- 2000–2001 **Tutor/Assistent**, *Faculty of General Sciences*, *Maastricht University*, Maastricht.
Coordinating and guiding groups of students in the project-centered approach of the Knowledge Engineering programme.
- 2001–2002 **Employee**, *Mateum B.V.*, Maastricht.
Part-time employee at Mateum B.V.
- 2001–2001 **Traineeship**, *Mateum B.V.*, Maastricht.
Traineeship in the third year of the Knowledge Engineering programme. See www.mateum.nl for more information about Mateum B.V.

Publications

- 2010 I. Bleylevens, M. E. Hochstenbach, R. Peeters, *Polynomial optimization and a Jacobi-Davidson type method for commuting matrices*, submitted.
- 2008 I. Bleylevens, R. Peeters and B. Hanzon, *A generalized eigenvalue approach to H_2 model order reduction*, Proceedings of the 27th Benelux Meeting on Systems and Control 2008, March 18-20, 2008, Heeze, The Netherlands.
- 2007 I. Bleylevens, R. Peeters and B. Hanzon, *Efficiency improvement in an nD -systems approach to polynomial optimization*, Journal of Symbolic Computation, Volume 42, Issue 1-2, Pages 30-53.
- I. Bleylevens, R. Peeters and B. Hanzon, *Optimal H_2 model reduction from order N to $N-2$* , Internal Report M07-01, Department of Mathematics, Maastricht University.
- 2006 I. Bleylevens, R. Peeters and B. Hanzon, *Optimal H_2 model reduction from order N to $N-2$* , Proceedings of the 13th ILAS Conference, July 18-21, 2006, Amsterdam, The Netherlands.
- 2005 I. Bleylevens, R. Peeters and B. Hanzon, *An nD -systems approach to global polynomial optimization with an application to H_2 model order reduction*, Proceedings of CDC-ECC 2005: 44th IEEE Conference on Decision and Control and European Control Conference 2005, December 12- 15, 2005, Sevilla, Spain.
- I. Bleylevens, R. Peeters and B. Hanzon, *Efficiency improvement in an nD -systems approach to polynomial optimization*, Proceedings of the MEGA 2005: Effective Methods in Algebraic Geometry Computing in and with algebraic geometry: Theory, Algorithms, Implementations, Applications, May 27th - June 1st, 2005, Sardinia, Italy.
- I. Bleylevens, R. Peeters and B. Hanzon, *Efficient polynomial optimization with an nD -system approach*, Proceedings of the 24th Benelux Meeting on Systems and Control 2005, March 22-24, 2005, Houffalize, Belgium.
- 2004 I. Bleylevens, R. Peeters and B. Hanzon, *A multidimensional systems approach to algebraic optimization*, Proceedings of the HPOPT 2004 - the 8th International Workshop on High Performance Optimization Techniques: Optimization and Polynomials, June 23-25, 2004, CWI, Amsterdam, The Netherlands.
- I. Bleylevens, B. Hanzon and R. Peeters, *A multidimensional systems approach to polynomial optimization*, Proceedings of the MTNS 2004, July 5-9, 2004, Leuven, Belgium.
- 2003 R. Peeters, I. Bleylevens and B. Hanzon, *A mixed algebraic-numerical global optimization approach to H_2 model reduction*, Proceedings of the 22th Benelux Meeting on Systems and Control 2003, March 19-21, 2003, Lommel, Belgium.

Congresses, workshops and summerschools

- 2008
 - 27th Benelux Meeting on Systems and Control, Heeze, The Netherlands.
 - 3rd Maastricht Brain Imaging Center fMRI workshop 2008, Maastricht University, Maastricht, The Netherlands.
- 2006
 - 25th Benelux Meeting on Systems and Control, Heeze, The Netherlands.
 - 13th ILAS Conference (International Linear Algebra Society), Vrije Universiteit, Amsterdam, The Netherlands.
- 2005
 - 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
 - MEGA 2005; Effective Methods in Algebraic Geometry, Computing in and with algebraic geometry: Theory, Algorithms, Implementations, Applications, Sardinia, Italy.
 - Doctoral school on Optimization over Polynomials and Semi-definite Programming, University of Klagenfurt, Klagenfurt, Austria.
 - 44th IEEE: Conference on Decision and Control and European Control Conference ECC 2005, Seville, Spain.
- 2004
 - HPOPT 2004, the 8th International Workshop on High Performance Optimization Techniques, CWI, Amsterdam, The Netherlands.
 - DISC* Systems and Control Day, Delft University, The Netherlands.

Courses and visits

- 2010 Visit to supervisor Prof.dr. B. Hanzon, University College Cork (UCC), Cork, Ireland.
- 2008 Programming in C# using Microsoft .NET, Twice IT Training, Eindhoven.
- 2006 Visit to supervisor Prof.dr. B. Hanzon, University College Cork (UCC), Cork, Ireland.
- 2005 DISC* courses:
 - Network Modeling and Control of Physical Systems.
 - Systems and Control Theory of Nonlinear Systems.
- 2004 DISC* courses:
 - Mathematical Models of Systems.
 - Linear Matrix Inequalities in Control.
 - Design Methods for Control Systems.

* DISC: Dutch Institute of Systems and Control: Post University Research school for System and Control theory (<http://www.disc.tudelft.nl/>)

Educational experience

2007-2008	Modeling Nature, University College Maastricht (UCM)
2006-2007	Discrete Mathematics (3 Lectures) Chaos and Fractals (3 Lectures) Linear Algebra (Skills Classes) Linear Algebra (3 Lectures)
2005-2006	Discrete Mathematics (Skills Classes) Discrete Mathematics (2 Lectures) Chaos and Fractals (Skills Classes) Linear Algebra (Skills Classes) Process Control (Skills Classes)
2004-2005	Discrete Mathematics (Skills Classes) Discrete Mathematics (1 Lecture) Linear Algebra (Skills Classes) Neural Networks (Skills Classes) Neural Networks (2 Lectures)

Languages

Dutch	Native language.
English	Fluent, written and spoken.
German	Fluent, written and spoken.

Computer skills

Environments	Microsoft Windows 98, XP & Vista, Unix, Linux, Ubuntu, Fedora, DOS, Parallel/Distributed environments
Languages	Java, C++, C#, Delphi, VBA, Prolog, Lisp, XML, Flash, PHP, HTML, SQL, MySQL, LaTeX
Software	Matlab, Mathematica, Maple, SciLab (and various other mathematical software packages), Microsoft Visual C++, Microsoft Office

Personal interests

- Traveling
- Photography
- Dance music
- Fitness
- Snowboarding
- Yoga
- Meditation
- Mindfulness
- Mountainbiking
- Lego

References

These persons are familiar with my professional qualifications and my character:

Prof.dr.ir. R.L.M. Peeters

Department of Knowledge Engineering
Maastricht University
ralf.peeters [AT] maastrichtuniversity.nl

Prof.dr. B. Hanzon

Edgeworth Center for Financial Mathematics
School of Mathematical Sciences
University College Cork, Ireland
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Drs. J. Paredis

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Updated

Oktober 18, 2010