



**Oct 2000 - Oct 2001** (1 year)  
Signal processing and acoustics

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. RESEARCH FELLOW WITH THE BELGIAN NATIONAL FUND FOR SCIENTIFIC RESEARCH (“ASPIRANT FNRS”).  
Impulse response measurement, head related transfer function measurement, sound spatialisation, audio virtual reality.  
▷ *Development and implementation of a new impulse response measurement method, significantly increasing the quality of the impulse response measurement (by up to 30 dB).*  
▷ *Digital signal processing, adaptive signal processing, image and speech processing, real-time implementation on DSPs.*

## Teaching Experience

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**2010 - present** (15 hours)

IMPERIAL COLLEGE LONDON, DEPARTMENT OF BIOENGINEERING. *Modelling in Biology*, MODULE LEADER AND LECTURER.  
Course in the 3rd year undergraduate Bioengineering curriculum, ≈ 70 students.  
▷ *Course design, preparation, and lecturing.*  
▷ *Matlab dry lab exercises and assignments design, supervision and marking.*  
▷ *Exam questions and cribs preparation, exam marking.*

**2010 - present** (8 hours)

IMPERIAL COLLEGE LONDON, DEPARTMENT OF BIOENGINEERING AND DIVISION OF MOLECULAR BIOSCIENCES, DEPARTMENT OF LIFE SCIENCES. *Introduction to Modelling and Scientific Programming in Matlab*, LECTURER.  
Postgraduate course for the MRes in Systems and Synthetic Biology, ≈ 10-15 students.  
▷ *Course design, preparation, and lecturing.*  
▷ *Matlab dry lab exercises design.*

**2008 - 2010** **lent term** (2 x 1 term)

UNIVERSITY OF CAMBRIDGE, DEPARTMENT OF ENGINEERING, CONTROL GROUP. *Robust Multivariable Control, Part II (4F2/2) : Design of Multivariable Systems (Dynamic Programming,  $\mathcal{H}_2$  and  $\mathcal{H}_\infty$  Robust Optimal Control)*, LECTURER.  
Course in the 4th year undergraduate Engineering curriculum and in the graduate curriculum (Ph.D. students and Postdocs), ≈ 20 students.  
▷ *Course design and preparation, lecturing, and supervision.*  
▷ *Exam questions and cribs preparation.*

**2002 - 2003** (1 semester, 30 hours)

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. *Analysis of systems and introduction to their synthesis*, TEACHING ASSISTANT.  
30 hours course by Prof Rodolphe Sepulchre + 30 hours by Guy-Bart Stan in the 4th year Engineering curriculum, ≈ 60 students.  
▷ *Course preparation and supervision.*  
▷ *Exam questions preparation and marking.*

**2001 - 2003** (2 x 1 semester, 2 x 30 hours)

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. *Signals and Systems*, TEACHING ASSISTANT.  
30 hours course by Professor Rodolphe Sepulchre + 30 hours by Guy-Bart Stan in the 3rd year Engineering curriculum, ≈ 80 students.  
▷ *Course preparation and supervision.*  
▷ *Exam questions preparation and marking.*

**July 2002** (2 weeks, 15 hours)

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. *BEST Summer School on Signal Processing*, TEACHING ASSISTANT.  
15 hours course by Prof Jacques Verly + 15 hours by Guy-Bart Stan, ≈ 25 students.  
▷ *Course preparation and supervision.*  
▷ *Labs preparation : Real-time signal processing on the Motorola 56002 DSP.*

**27/1/2002 - 3/2/2002** (1 week, 15 hours)

UNIVERSITY CHOUAIB DOUKKALI, FACULTY OF SCIENCES, EL JADIDA, MOROCCO. *Nonlinear systems theory and applications*, TEACHING ASSISTANT.  
15 hours invited Postgrad. course by Prof Rodolphe Sepulchre + 15 hours by Guy-Bart Stan, ≈ 25 students.  
▷ *Course preparation and supervision.*  
▷ *Exam questions preparation and marking.*

**2000 - 2002** (2 x 1 semester, 2 x 30 hours)

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. *Integrated Engineering of Sound and Image Processing*, TEACHING ASSISTANT.  
30 hours course by Prof Jean-Jacques Embrechts + 30 hours by Guy-Bart Stan in the 5th year Engineering curriculum, ≈ 35 students.  
▷ *Course preparation and supervision.*  
▷ *Labs preparation and supervision : Real-time signal processing on the Motorola 56002 DSP.*  
▷ *Exam questions preparation and marking.*

**1999 - 2000**  
(1 semester,  
30 hours)

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. *General electronics*, TEACHING ASSISTANT.  
30 hours course by Prof Willy Legros (Rector of the University of Liège) + 30 hours by Guy-Bart Stan in the 3rd year Engineering curriculum,  $\approx$  80 students.  
▷ *Labs preparation and supervision.*

**1998 - 1999**  
(1 semester,  
30 hours)

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. *Numerical analysis*, TEACHING ASSISTANT.  
30 hours course by Prof François-Xavier Litt + 30 hours by Guy-Bart Stan in the 2nd year Engineering curriculum,  $\approx$  100 students.  
▷ *Labs preparation and supervision.*

## Supervisory Experience

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**PhD students**  
**Oct 2010 - present**

IMPERIAL COLLEGE LONDON, CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION. PH.D. STUDENTS SUPERVISION.  
Supervisor of Ph.D. students  
▷ *Idea formulation and structuring; Ph.D. supervision; conference and journal publications management.*  
▷ *Weekly meetings with the Ph.D. students.*  
▷ *Oct 2011 - Dec 2014: Wei Pan, "Automatic Robust output maximisation of arbitrary synthetic biological circuits in vivo", funded by Microsoft PhD Scholarship, Dorothy Hodgkin Postgraduate Award, and Department of Bioengineering Industrial PhD studentship..*  
▷ *Oct 2011 - Dec 2014: Felix Jonas, "Modelling and modifying the Unfolded Protein Response in Yeast" (co-supervision with Dr Karen Polizzi).*  
▷ *2010 - present: Rhys Algar, "Modelling of Circuit-Chassis Interactions in Synthetic Biology Systems" (co-supervision with Dr Tom Ellis).*  
▷ *2010 - present: Marios Tomazou, "Towards Light Based Dynamic Control of Biological Systems" (co-supervision with Prof Mauricio Barahona and Dr Karen Polizzi).*  
▷ *2010 - present: Neave O'Clery, "Theoretical Approaches to Analysis of Systems in Biology" (co-supervision with Prof Mauricio Barahona).*

**UG and MSc students**  
**Oct 2010 - present**

IMPERIAL COLLEGE LONDON, DEPARTMENT OF BIOENGINEERING. 4TH YEAR UG AND MSc PROJECT SUPERVISION.  
Supervisor of UG and MSc Bioengineering projects.  
▷ *Idea formulation and structuring; project supervision.*  
▷ *Weekly meetings with the students.*  
▷ *2011: Juan Kuntz (UG), "Design and simulation of gene control circuits for metabolism".*  
▷ *2011: George Qian (UG, co-supervision with Dr Reiko Tanaka), "Modelling approaches for the design anti-HIV therapies (2)".*  
▷ *2011: Rajat Jain (UG, co-supervision with Dr Aldo Faisal and Dr Luke Dickens), "At the core of the robot: Machine-based vs human reinforcement learning for robotic control (1)".*  
▷ *2011: Keshava Murthy (UG, co-supervision with Dr Aldo Faisal and Dr Luke Dickens), "At the core of the robot: Machine-based vs human reinforcement learning for robotic control (2)".*  
▷ *2010: Marie Bessadi (MSc, co-supervision with Dr Reiko Tanaka), "Modelling approaches for the design anti-HIV therapies".*  
▷ *2010: Qing (Angela) Yang (UG), "Investigating modularity and fan-out for the design of synthetic biology systems from the interconnection of devices".*  
▷ *2010: Holly Phillips (UG, co-supervision with Dr Aldo Faisal), "At the core of the robot: Machine-based vs human reinforcement learning for robotic control (2)".*  
▷ *2010: Nikhil Howai (UG, co-supervision with Dr Aldo Faisal), "At the core of the robot: Machine-based vs human reinforcement learning for robotic control (1)".*

**iGEM team**  
**2010, 2011**

IMPERIAL COLLEGE LONDON, DEPARTMENT OF BIOENGINEERING. *iGEM* SUPERVISOR (MODELLING).  
Supervisor for the International Genetically Engineering Machine competition  
▷ *Supervision of the modelling and computational aspects.*  
▷ *The 2011 Imperial iGEM team was 1<sup>st</sup> runner-up (MIT World Jamboree finalist, 2<sup>nd</sup> worldwide among 154 teams worldwide), European region Grand Winner, and won Best Poster and iGEMers prizes at the World Jamboree, and Best Wiki and Safety Commendation at the European Jamboree.*  
▷ *The 2010 Imperial iGEM team was MIT World Jamboree finalist, and won best Human Practices Advance prize, Best Wiki prize (tie with Cambridge's iGEM team), and iGEMers prize.*

**MRes students**  
**Jan 2010 -**  
**present**

IMPERIAL COLLEGE LONDON, DEPARTMENT OF BIOENGINEERING. MRES CO-SUPERVISION.  
Co-supervisor of Masters in Research (MRes) research projects in Systems and Synthetic Biology.

- ▷ *Idea formulation and structuring ; MRes project supervision.*
- ▷ *Weekly meetings with the MRes students.*
- ▷ 2012 : Hannah Somani, “Towards a solar biorefinery for the conversion of CO<sub>2</sub> to chemicals and fuels” co-supervision with Dr Travis Bayer.
- ▷ 2012 : Bob Pepin, “Investigating the interplay between the intrinsic and extrinsic noise in gene expression : a synthetic biology approach”, co-supervision with Dr Vahid Shahrezaie and Dr Travis Bayer.
- ▷ 2012 : Charubutr Asavaroengchai, “Exploring the possibility of cell-cell communication through light using an engineering approach”, co-supervision with Dr Karen Polizzi.
- ▷ 2012 : Matthew O'Reilly, “Programmable self-purification of yeast for biofuel production”, co-supervision with Dr Tom Ellis.
- ▷ 2011 : Axel Nystrom, “Programming cells with light for the production of liquid fuels”, co-supervision with Dr Travis Bayer.
- ▷ 2010 : Rhys Algar, “Setting the standard for characterising the interactions between a synthetic gene circuit and its chassis cell”, co-supervision with Dr Tom Ellis.
- ▷ 2010 : Royah Vaezi, “Artificial cell-cell communication/symbiosis ; Provision of glutamine to mammalian cells by *B. subtilis*”, co-supervision with Dr Karen Polizzi.

**Visiting students**  
**2010 - present**

IMPERIAL COLLEGE LONDON, DEPARTMENT OF BIOENGINEERING. VISITING STUDENT SUPERVISION.  
Supervisor of visiting students in my group.

- ▷ *Idea formulation and structuring ; project supervision.*
- ▷ *Weekly meetings with the students.*
- ▷ 1/3/2012-31/7/2012 : Jean-Baptiste Lugagne, INP Grenoble, France (UROP student, co-supervised with Dr Diego Oyarzún), “Study of noise propagation in genetic regulation of metabolism based on linear and non-linear control theory”.
- ▷ 15/9/2011-14/12/2011 : Alejandro Vignoni, University of Valencia, Spain (visiting Ph.D. student, co-supervised with Dr Diego Oyarzún), “Hybrid control design for synthetic cell-to-cell communication circuits”.
- ▷ 1/7/2011-31/12/2011 : Gabriel Bosque Chacòn, University of Valencia, Spain (Leonardo Da Vinci Programme, co-supervised with Dr Travis Bayer), “Controlling metabolic pathways using external control inputs”.
- ▷ 2/2/2011-14/3/2011 : Marit Hoffmeyer-Zlotnik, University of Bremen, Germany (UROP student, co-supervised with Dr Diego Oyarzún), “One-to-all genetic control for metabolic demands”.
- ▷ June 2010 - Aug 2010 : Taylor Southwick, Brigham Young University, Utah, USA, “Assessing model and information quality in biochemical network reconstruction”.
- ▷ Apr 2010 - June 2010 : Nuri Purswani, Imperial College London, (Master in Bioinformatics and Systems Biology, Department of Life Sciences, Division of Molecular Biosciences), “Comparison of different methods for biochemical network reconstruction from data”.

**Tesi di laurea**  
**student**  
**Sep 2009 -**  
**June 2010**

UNIVERSITY OF CAMBRIDGE, DEPARTMENT OF ENGINEERING, IMPERIAL COLLEGE LONDON, DEPARTMENT OF BIOENGINEERING. TESI DI LAUREA CO-SUPERVISION.  
External supervisor of a “Tesi di laurea specialistica in Ingegneria dell'automazione” (Univ. of Pisa, Italy).

- ▷ *Idea formulation and structuring ; project supervision.*
- ▷ Stefano Falasca : “Cooperative control of 3D mobile agents with limited sensing capabilities”.

**PhD students**  
**Jan 2006 -**  
**Dec 2011**

UNIVERSITY OF CAMBRIDGE, DEPARTMENT OF ENGINEERING, CONTROL GROUP. PH.D. THESES CO-SUPERVISION.  
Co-supervisor of Ph.D. theses with Dr Jorge Gonçalves.

- ▷ *Idea formulation and structuring ; Ph.D. supervision ; conference and journal publications management.*
- ▷ *Weekly meetings with the Ph.D. students.*
- ▷ 2008 - 2011 : Ye Yuan, “Dynamical network reconstruction from data”.
- ▷ 2006 - 2010 : Abdullah O. Hamadeh, “Constructive robust synchronization in networked control systems”.
- ▷ 2006 - 2009 : Adrian A. Salinas-Varela, “Semidefinite programming-based analysis of continuous-time piecewise affine systems”.

**UG final year**  
**students**  
**2007 - 2010**

UNIVERSITY OF CAMBRIDGE, DEPARTMENT OF ENGINEERING, CONTROL GROUP. ENGINEERING GRADUATION PROJECTS CO-SUPERVISION AND ASSESSMENT.  
Co-supervisor and assessor of six final year (4th year) engineering graduation projects.

- ▷ *Idea formulation and structuring ; project supervision.*
- ▷ *Weekly meetings with the students.*
- ▷ *Project reports and presentations assessment and marking.*
- ▷ 2009 - 2010 : Sang Han, “Network reconstruction with applications to biology and finance”.
- ▷ 2009 - 2010 : Mengmeng Wang, “How plants keep track of time : understanding circadian rhythms”.
- ▷ 2008 - 2009 : Daniel McDuff and Kevin Fan, “Stock market modelling and portfolio optimisation”.
- ▷ 2007 - 2008 : Yoyo Li, “Competition dynamics in a fund management system”.
- ▷ 2007 - 2008 : Emma Lewis, “Data-driven control : a comparison between system identification and reinforcement learning based control”.

**UG final year students 2001-2003** UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. ENGINEERING GRADUATION PROJECTS CO-SUPERVISION AND ASSESSMENT.  
 Co-supervisor and assessor of four final year (5th year) engineering graduation projects.  
 ▷ *Idea formulation and structuring ; project supervision.*  
 ▷ *Weekly meetings with the students.*  
 ▷ *Project reports and presentations assessment and marking.*  
 ▷ *2002 - 2003 : Alain Hirtzig, "Virtual Dolby Digital sur DSP".*  
 ▷ *2002 - 2003 : Christophe Lemort, "Implémentation d'un décodeur AC-3 sur Simulink".*  
 ▷ *2001 - 2002 : Johan Van Hoye, "Implémentation d'un annulateur des trajets croisés pour un système de reproduction transaural".*  
 ▷ *2001 - 2002 : Olivier Knodt, "Attributs de localisation au moyen des HRTF".*

## Academic Awards and Funded Research Projects

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**March 2012 - June 2013** (14 months) IMPERIAL COLLEGE, DEPARTMENT OF BIOENGINEERING AND CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION, U.K. **PI** ON THE EPSRC FIRST GRANT PROJECT EP/J014214/1, "DATA-BASED OPTIMAL CONTROL OF SYNTHETIC BIOLOGY GENE CIRCUITS".  
 Project ranked "Outstanding" by 4 out of 4 reviews. Value awarded : 99,918 GBP.

**June 2012 - Sep 2013** (14 months) IMPERIAL COLLEGE, DEPARTMENT OF BIOENGINEERING AND CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION, U.K. **Co-I** ON THE BBSRC JOINT SYNTHETIC BIOLOGY INITIATIVE BB/J019720/1, "ENGINEERED SECURITY SYSTEMS FOR ENVIRONMENTAL SYNTHETIC BIOLOGY".  
 Value awarded : 119,512.42 GBP.

**June 2012 - May 2017** (60 months) IMPERIAL COLLEGE, DEPARTMENT OF BIOENGINEERING AND CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION, U.K. **Co-I** ON THE EPSRC GRANT EP/J02175X/1, "AN INFRASTRUCTURE FOR PLATFORM TECHNOLOGY IN SYNTHETIC BIOLOGY", IN COLLABORATION WITH UNIV. CAMBRIDGE, UNIV. NEWCASTLE, UNIV. EDINBURGH, KING'S COLLEGE LONDON.  
 Total value awarded : 5,007,845 GBP.

**Oct 2012 - Sep 2015** (3 years) IMPERIAL COLLEGE, DEPARTMENT OF BIOENGINEERING AND CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION, U.K. **PI** ON A DEPARTMENT OF BIOENGINEERING PH.D. STUDENTSHIP (AWARDED TO SHAUN BURD).

**Oct 2011 - Sep 2014** (3 years) IMPERIAL COLLEGE, DEPARTMENT OF BIOENGINEERING AND CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION, U.K. **Co-I** ON THE EPSRC PROJECT EP/I032223/1, "CONTROL-ENGINEERING INSPIRED DESIGN TOOLS FOR SYNTHETIC BIOLOGY", IN COLLABORATION WITH UNIV. OXFORD, AND UNIV. CAMBRIDGE.  
 Total value awarded : 1,105,658 GBP. Value awarded to Imperial College : 429,418 GBP.

**Oct 2011 - Sep 2015** (4 years) IMPERIAL COLLEGE, DEPARTMENT OF BIOENGINEERING AND CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION, U.K. **PI** ON A DOROTHY HODGKIN POSTGRADUATE AWARD (EP/J500628/1), A MICROSOFT RESEARCH PH.D. SCHOLARSHIP (MSR 2011-042), AND A DEPARTMENT OF BIOENGINEERING INDUSTRIAL STUDENTSHIP FOR THE PROJECT "AUTOMATIC ROBUST OUTPUT MAXIMISATION OF ARBITRARY SYNTHETIC BIOLOGICAL CIRCUITS IN-VIVO".  
 Total value awarded : 120,000 GBP.

**Oct 2010 - Sep 2013** (3 years) IMPERIAL COLLEGE, CENTRE FOR SYNTHETIC BIOLOGY AND INNOVATION, U.K. **PI** ON A CSYNBI PH.D. STUDENTSHIP (AWARDED TO RHYS ALGAR WITH GUY-BART STAN AND TOM ELLIS AS CO-SUPERVISORS).

**Jan 2007 - Jan 2010** (3 years) UNIVERSITY OF CAMBRIDGE, U.K. RESEARCH ASSOCIATE WITH EPSRC SUPPORT, PROJECT EP/E02761X/1, "GLOBAL STABILITY AND ROBUSTNESS ANALYSIS OF OSCILLATORS WITH APPLICATION TO BIOLOGY AND ROBOTICS".  
 Project ranked "Outstanding" by 4 out of 4 reviews. Value awarded : 295,732 GBP.

**2009, 2010** INCLUSION IN WHO'S WHO IN THE WORLD 2009 (26TH ED.), 2010 (27TH ED.).  
 Marquis Who's Who.

**June 2007** UNIVERSITY OF CAMBRIDGE, U.K. INTERNATIONAL TRAVEL GRANT FROM THE ROYAL ACADEMY OF ENGINEERING, GRANT ITG C7-253.  
 Used for presentation and attendance at the 26th IEEE American Control Conference (IEEE-ACC 2007).

<b>Jan 2006 - Dec 2006</b> (1 year)	UNIVERSITY OF CAMBRIDGE, U.K. EU FP6 MARIE CURIE INTRA-EUROPEAN FELLOW, PROJECT 025509 GASO, "GLOBAL ANALYSIS AND SYNTHESIS OF OSCILLATIONS". Project average review score : 86.9%. Value awarded : 72,963 EUR.
<b>Sep 2000 - Sep 2004</b> (4 years)	BELGIUM. RESEARCH FELLOW WITH THE BELGIAN NATIONAL FUND FOR SCIENTIFIC RESEARCH ("ASPIRANT FNRS"). Value : 80,016 EUR (with tax exemption).
<b>2000</b>	INCLUSION IN 2000 OUTSTANDING SCHOLARS OF THE 21ST CENTURY, FIRST EDITION. International Biographical Center, Cambridge, England.
<b>1999 - 2000</b> (1 year)	UNIVERSITY OF LIÈGE, BELGIUM. "BOURSE D'ENCADREMENT PISART" (PISART TEACHING GRANT). Merit-based, one year scholarship.
<b>Nov 1995</b>	UNIVERSITY OF LIÈGE, BELGIUM. GELBLUM-LARMOYEUX-LOUKATCHEVSKY GRANT. Merit-based grant, awarded exceptionally by the Jury of the Fernand Pisart grant for a student taking the engineering entrance examination with an average score > 94%.
<b>June 30th, 1995</b>	COLLÈGE SAINT-BENOIT SAINT-SERVAIS, LIÈGE, BELGIUM. "PRIX DE LANGUE NÉERLANDAISE". Dutch Language Award, awarded by Georges Theunis, Ministre d'État belge.

## Membership of Professional Bodies and Networks

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<b>iGEM Software Track Europe</b>	COMMITTEE MEMBER AND ORGANISER OF THE iGEM SOFTWARE TRACK FOR THE EUROPEAN REGION SINCE MARCH 2011.
<b>SynBioStandards</b>	MEMBER OF THE SYNTHETIC BIOLOGY SYNBIOSTANDARDS NETWORK SINCE 2011.
<b>RoSBN</b>	MEMBER OF THE SYNTHETIC BIOLOGY ROSBN NETWORK SINCE 2009.
<b>New-ACE</b>	MEMBER OF THE EPSRC FUNDED NEW-ACE NETWORK SINCE 2008.
<b>IET</b>	MEMBER OF THE IET SINCE 2011.
<b>IEEE</b>	MEMBER OF THE IEEE SINCE 2006.

## Refereed Full Papers (\* indicates corresponding author)

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<b>EMBO Reports 2012</b>	James Anderson, Natalja Strelkova, <b>Guy-Bart Stan</b> , Thomas Douglas, Julian Savulescu, Mauricio Barahona, Antonis Papachristodoulou, <i>Synthetic Biology : Engineering, Biological and Ethical Perspectives</i> , To appear in EMBO Reports, 2012. Impact Factor : 6.907
<b>IEEE TAC 2012</b>	Ye Yuan, <b>Guy-Bart Stan*</b> , Sean Warnick, Jorge Gonçalves, <i>Minimal realisation of the dynamical structure function and its application to network reconstruction</i> , To appear in IEEE Transactions on Automatic Control, 2012. Impact Factor : 3.485
<b>MBEC 2012</b>	Kim H. Parker, Jordi Alastruey, <b>Guy-Bart Stan</b> , <i>Arterial Reservoir-Excess Pressure and Ventricular Work</i> , Medical & Biological Engineering & Computing Journal, Vol. 50, Issue 4, April 2012, pp. 419-424, doi : 10.1007/s11517-012-0872-1. Impact Factor : 1.791
<b>IEEE TAC 2012</b>	Abdullah Hamadeh, <b>Guy-Bart Stan*</b> , Rodolphe Sepulchre, Jorge Gonçalves, <i>Global state synchronization in networks of cyclic feedback systems</i> , To appear in IEEE Transactions on Automatic Control, 2012, doi : 10.1109/TAC.2011.2164015. Impact Factor : 3.485
<b>PNAS 2011</b>	Neil Dalchau, Seong Jin Baek, Helen M. Briggs, Fiona C. Robertson, Antony N. Dodd, Michael J. Gardner, Matthew A. Stancombe, Michael J. Haydon, <b>Guy-Bart Stan</b> , Jorge M. Gonçalves, and Alex A. R. Webb, <i>The circadian oscillator gene GIGANTEA mediates a long-term response of the Arabidopsis thaliana clock to sucrose</i> , Proceedings of the National Academy of Sciences of the United States of America (PNAS), Vol. 108, Issue 12, March 2011, pp. 5104-5109, doi : 10.1073/pnas.1015452108. Impact Factor : 9.771
<b>Integrative Biology 2011</b>	James MacDonald, Christopher Barnes, Richard Kitney, Paul Freemont, <b>Guy-Bart Stan*</b> , <i>Computational design approaches and tools for synthetic biology</i> , Integrative Biology, Special Issue on Synthetic Biology, Vol. 3, Issue 2, Jan 2011, pp. 97-108, doi : 10.1039/c0ib00077a. <b>Invited publication.</b> Impact Factor : 4.44
<b>Nature Biotech 2011</b>	Jean Peccoud, J. Christopher Anderson, Deepak Chandran, Douglas Densmore, Michal Galdzicki, Matthew W. Lux, Cesar A. Rodriguez, <b>Guy-Bart Stan</b> , Herbert M. Sauro, <i>Essential Information for Synthetic DNA Sequences</i> , Nature Biotechnology, Vol. 29, Issue 1, Jan 2011, pp. 22, doi :10.1038/nbt.1753. Impact Factor : 29.495
<b>Automatica 2011</b>	Ye Yuan, <b>Guy-Bart Stan</b> , Sean Warnick, Jorge Gonçalves, <i>Robust dynamical network structure reconstruction</i> , Automatica, Vol. 47, 2011, pp. 1230-1235, doi :10.1016/j.automatica.2011.03.008. Impact Factor : 3.753

- IEEE TCAS I** 2011 Hai-Tao Zhang, Michael ZhiQiang Chen, and **Guy-Bart Stan\***, *Fast consensus via predictive pinning control*, IEEE Transactions on Circuits and Systems I, 2011, doi : 10.1109/TCSI.2011.2123450. Impact Factor : 2.396
- PNAS** 2010 Neil Dalchau, Katharine E. Hubbard, Carlos T. Hotta, Fiona C. Robertson, Helen M. Briggs, **Guy-Bart Stan**, Jorge M. Gonçalves, Alex A.R. Webb, *Correct biological timing in Arabidopsis requires multiple light signaling pathways*, Proceedings of the National Academy of Sciences of the United States of America (PNAS), Vol. 107, Issue 29, July 2010, pp. 13171-13176, doi : 10.1073/pnas.1001429107. Impact Factor : 9.452
- IFAC Control Engineering Practice** 2009 Marie-José Mhawej, Cécile Brunet-François, Raphael Fonteneau, Damien Ernst, Virginie Ferré, **Guy-Bart Stan**, François Raffi, Claude H. Moog, *Apoptosis characterizes immunological failure of HIV infected patients*, IFAC Control Engineering Practice, Vol. 17, 2009, pp. 798-804, doi :10.1016/j.conengprac.2009.01.001. Impact Factor : 2.68
- IET Systems Biology** 2008 **Guy-Bart Stan\***, Florence Belmudes, Raphael Fonteneau, Frederic Zeggwagh, Marie-Anne Lefebvre, Christian Michelet, and Damien Ernst, *Modelling the influence of activation-induced apoptosis of CD4<sup>+</sup> and CD8<sup>+</sup> T-cells on the immune system response of a HIV infected patient*, IET Systems Biology, Vol. 2, Issue 2, 2008, pp. 94-102, doi : 10.1049/iet-syb :20070029. Impact Factor : 2.057
- IEEE Circuits and Systems Magazine** 2008 Hai-Tao Zhang, Michael ZhiQiang Chen, **Guy-Bart Stan**, Tao Zhou and Jan M. Maciejowski, *Collective behavior coordination with predictive mechanisms*, IEEE Circuits and Systems Magazine, Vol. 8, Issue 3, 2008, pp. 67-85, doi :10.1109/MCAS.2008.928446. Impact Factor : 3.042
- EPL** 2008 Hai-Tao Zhang, Michael ZhiQiang Chen, Tao Zhou, and **Guy-Bart Stan\***, *Ultrafast consensus via predictive mechanisms*, Europhysics Letters, Vol. 83, Issue 4, 2008, 40003 (6 pages), doi : 10.1209/0295-5075/83/40003. Impact Factor : 2.208
- IEEE TAC** 2007 **Guy-Bart Stan\***, and Rodolphe Sepulchre, *Analysis of interconnected oscillators by dissipativity theory*, IEEE Transactions on Automatic Control, Vol. 52, Issue 2, 2007, pp. 256-270, doi : 10.1109/TAC.2006.890471. Impact Factor : 3.889
- SCL** 2005 Rodolphe Sepulchre, and **Guy-Bart Stan\***, *Feedback mechanisms for global oscillations in Lure systems*, Systems and Control Letters (Elsevier Science), Vol. 54, Issue 8, 2005, pp. 809-818, doi :10.1016/j.sysconle.2004.12.004. Impact Factor : 1.656
- JAES** 2002 **Guy-Bart Stan\***, Jean-Jacques Embrechts, and Dominique Archambeau, *Comparison of different impulse response measurement techniques*, Journal of the Audio Engineering Society, Vol. 50, Issue 4, 2002, pp. 249-262. Impact Factor : 0.404
- Acustica** 2001 Jean-Jacques Embrechts, Dominique Archambeau, and **Guy-Bart Stan\***, *Determination of the scattering coefficient of random rough diffusing surfaces for room acoustics applications*, Acta Acustica united with Acustica, Vol. 87, 2001, 482-494. Impact Factor : 0.25

## Full Papers Under Review

- 2012** Christos Markides, Adebayo Osuolale, Roochi Solanki, and **Guy-Bart Stan**, *Nonlinear Heat Transfer Processes in a Two-Phase Thermofluidic Oscillator*, Submitted, 2012.
- 2011** Michal Galdzicki, Mandy L. Wilson, Cesar A. Rodriguez, Laura Adam, Aaron Adler, J. Christopher Anderson, Jacob Beal, Deepak Chandran, Douglas Densmore, Omri A. Drory, Drew Endy, John H. Gennari, Raik Grünberg, Timothy S. Ham, Allan Kuchinsky, Matthew W. Lux, Curtis Madsen, Goksel Misirli, Chris J. Myers, Jean Peccoud, Hector Plahar, Matthew R. Pocock, Nicholas Roehner, Trevor F. Smith, **Guy-Bart Stan**, Alan Villalobos, Anil Wipat, and Herbert M. Sauro, *Synthetic Biology Open Language (SBOL) Version 1.0.0*, Submitted, BBF RFC #84, 2011.
- 2011** Abdullah Hamadeh, **Guy-Bart Stan**, Jorge Gonçalves, *Constructive Synchronization of Networked Feedback Systems*, Submitted, 2011.
- 2011** Ye Yuan, **Guy-Bart Stan**, Ling Shi, Mauricio Barahona, and Jorge Gonçalves, *Decentralised Minimal-time Consensus*, Submitted, 2011.
- 2011** Pablo S. Rivadeneira, Marie-José Mhawej, Claude H. Moog, Federico Biafore, Djomangan A. Ouattara, Cécile Brunet-François, Virginie Ferré, Damien Ernst, Raphael Fonteneau, **Guy-Bart Stan**, Florence Bugnon, François Raffi, Xiaohua Xia, *Mathematical modeling of HIV dynamics after antiretroviral therapy initiation*, Submitted, 2011.
- 2010** Justin E. Davies, Kim H. Parker, **Guy-Bart Stan**, Jordi Alastruey, Anura Malaweera, Darrel P. Francis, David Hackett, Therese Tillin, Jamil Mayet, Herbert Thurston, Kennedy Cruickshank, David Collier, Alice Stanton, Peter Lacy, Bryan Williams, Simon A.M. Thom, Alun D. Hughes, *Identification of the link between cardiac excess work and cardiovascular events by isolation of arterial reservoir pressure*, Submitted, 2010.

## Full Papers In Preparation

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- 2012** Konstantinos I. Papadimitriou, **Guy-Bart Stan**, and Emmanuel M. Drakakis, *A Systematic Approach To Cellular And Molecular Dynamics Computation Using CytoMimetic Circuits*, In preparation, 2012.
- 2012** Wei Pan, Ye Yuan, Wei Dai, Mauricio Barahona, and **Guy-Bart Stan**, *Reconstruction of Complex Dynamical Networks*, In preparation, 2012.
- 2012** Christos Markides, Adebayo Osuolale, Roochi Solanki, and **Guy-Bart Stan**, *Nonlinear Dynamic Heat Transfer in a Two-Phase Thermofluidic Oscillator*, In preparation, 2012.
- 2012** Natalja Strelkova, **Guy-Bart Stan**, Damien Ernst, and Mauricio Barahona, *Data-based optimal control of synthetic gene networks*, In preparation, 2012.
- 2012** Julius Adebayo, Taylor Southwick, Enoch Yeung, Ye Yuan, Jorge Gonçalves, Julianne Grose, **Guy-Bart Stan**, Sean Warnick, *Dynamical Structure Function Identifiability Conditions Enabling Signal Structure Reconstruction*, In preparation, 2012.

## Edited Books in preparation

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- 2012** Eds. : Vishwesh Kulkarni, **Guy-Bart Stan**, Karthik Raman, *Systems and Synthetic Biology : A Systematic Approach*, Springer Science, Dordrecht, In preparation, 2012

## Book Chapters

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- 2011** Geoff Baldwin, Travis Bayer, Robert Dickinson, Tom Ellis, Paul Freemont, Richard Kitney, Karen Polizzi, Nick Rose, **Guy-Bart Stan**, Chapter for the book “*Synthetic Biology : a Primer*”, ICL Press, To appear, 2012.
- 2011** Vishwesh Kulkarni and **Guy-Bart Stan**, Chapter for the book “*Model-based Design in Synthetic Biology (Chapman & Hall/CRC Mathematical & Computational Biology)*”, Submitted, 2011.

## Refereed Conference Papers (\* indicates corresponding author)

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- CDC 2012** Julius Adebayo, Taylor Southwick, Vasu Chetty, Enoch Yeung, Ye Yuan, Jorge M. Goncalves, Julianne Grose, John Prince, **Guy-Bart Stan**, Sean Warnick , *Dynamical Structure Function Identifiability Conditions Enabling Signal Structure Reconstruction*, Submitted to the 51st IEEE Conference on Decision and Control (IEEE-CDC 2012), Maui, Hawaii, USA, 10-13 December, 2012 (8 pages).
- CDC 2012** Diego Oyarzún, **Guy-Bart Stan**, *Design constraints in an operon circuit for engineered control of metabolic networks*, Submitted to the 51st IEEE Conference on Decision and Control (IEEE-CDC 2012), Maui, Hawaii, USA, 10-13 December, 2012 (8 pages).
- CDC 2012** Alejandro Vignoni, Diego Oyarzún, Jesus Picó, **Guy-Bart Stan**, *Population-level control of gene expression via engineered cell-to-cell communication*, Submitted to the 51st IEEE Conference on Decision and Control (IEEE-CDC 2012), Maui, Hawaii, USA, 10-13 December, 2012 (8 pages).
- CDC 2012** Wei Pan, Ye Yuan, **Guy-Bart Stan**, *Reconstruction of Arbitrary Biochemical Reaction Networks : A Compressive Sensing Approach*, Submitted to the 51st IEEE Conference on Decision and Control (IEEE-CDC 2012), Maui, Hawaii, USA, 10-13 December, 2012 (8 pages).
- ACC 2012** Diego Oyarzún, **Guy-Bart Stan**, *Design tradeoffs in a synthetic gene control circuit for metabolic networks*, To appear in Proceedings of the 2012 American Control Conference (ACC), Montreal, Canada, 27-29 June, 2012 (6 pages).
- Allerton 2011** Vishwesh Kulkarni, Marc Riedel, **Guy-Bart Stan**, *Networks of Passive Oscillators*, In Proceedings of the 49th Annual Allerton Conference on Communication, Control, and Computing, University of Illinois at Urbana-Champaign, Allerton Retreat Center, Monticello, Illinois, USA, 28-30 September, 2011 (6 pages).
- CDC 2011** Ye Yuan, **Guy-Bart Stan**, Mauricio Barahona, Ling Shi, and Jorge Gonçalves, *Decentralised Minimal-time Consensus : Formulation, Characterisation, Design, Algorithm and Application*, In Proceedings of the 50th IEEE Conference on Decision and Control (IEEE-CDC 2011), Orlando, Florida, USA, 12-15 December, 2011 (8 pages).
- CDC 2010a** Abdullah Hamadeh, **Guy-Bart Stan**, and Jorge Gonçalves, *Constructive synchronization of networked feedback systems*, In Proceedings of the 49th IEEE Conference on Decision and Control (IEEE-CDC 2010), Atlanta, Georgia, USA, 15-17 December, 2010 (6 pages).

- CDC 2010b** Ye Yuan, **Guy-Bart Stan**, Sean Warnick, and Jorge Gonalves, *Robust dynamical network reconstruction*, In Proceedings of the 49th IEEE Conference on Decision and Control (IEEE-CDC 2010), Atlanta, Georgia, USA, 15-17 December, 2010 (6 pages).
- MTNS 2010a** Ye Yuan, **Guy-Bart Stan**, Ling Shi, Mauricio Barahona, and Jorge Gonalves, *Minimal-time output final value of unknown DT-LTI systems with application to the decentralised network consensus problem*, In Proceedings of the 19th International Symposium on Mathematical Theory of Networks and Systems (MTNS 2010), University Congress Center, Budapest, Hungary, 5-9 July, 2010, (8 pages).
- MTNS 2010b** Ye Yuan, **Guy-Bart Stan**, Sean Warnick, and Jorge Gonalves, *Robust dynamical network structure reconstruction with application to systems biology*, In Proceedings of the 19th International Symposium on Mathematical Theory of Networks and Systems (MTNS 2010), University Congress Center, Budapest, Hungary, 5-9 July, 2010, (6 pages).
- CDC 2009a** Ye Yuan, **Guy-Bart Stan**, Ling Shi, and Jorge Gonalves, *Decentralized final value theorem for discrete-time LTI systems with application to minimal-time distributed consensus*, In Proceedings of the 48th IEEE Conference on Decision and Control (IEEE-CDC 2009), Shanghai, China, December 16-18, 2009, (6 pages).
- CDC 2009b** Ye Yuan, **Guy-Bart Stan**, Sean Warninck, and Jorge Gonalves, *Minimal dynamical structure realisations with application to network reconstruction from data*, In Proceedings of the 48th IEEE Conference on Decision and Control (IEEE-CDC 2009), Shanghai, China, December 16-18, 2009, (6 pages).
- CDC 2008a** Abdullah Hamadeh, **Guy-Bart Stan**, and Jorge Gonalves, *Robust synchronization in networks of cyclic feedback systems*, In Proceedings of the 47th IEEE Conference on Decision and Control (IEEE-CDC 2008), Cancun, Mexico, 9-11 December, 2008, (6 pages).
- CDC 2008b** Russell Howes, Lee Eccleston, Jorge Gonalves, **Guy-Bart Stan**, and Sean Warnick, *Dynamical structure analysis of sparsity and minimality heuristics for reconstruction of biochemical networks*, In Proceedings of the 47th IEEE Conference on Decision and Control (IEEE-CDC 2008), Cancun, Mexico, 9-11 December, 2008, (6 pages).
- IFAC 2008** Adrian Salinas-Varela, **Guy-Bart Stan**, and Jorge Gonalves, *Global asymptotic stability of the limit cycle in piecewise linear versions of the Goodwin oscillator*, In Proceedings of the 17th IFAC World Congress (IFAC 2008), Seoul, Korea, 6-11 July, 2008, (6 pages).
- PowerTech 2007** Damien Ernst, Mevludin Glavic, **Guy-Bart Stan**, Shie Mannor, and Louis Wehenkel, *The cross-entropy method for power system combinatorial optimization problems*, In Proceedings of the 7th IEEE Power Engineering Society (IEEE-PowerTech 2007), Lausanne, Switzerland, 1-5 July, 2007, (6 pages).
- ACC 2007** **Guy-Bart Stan\***, Abdullah Hamadeh, Rodolphe Sepulchre, and Jorge Gonalves, *Output synchronization in networks of cyclic biochemical oscillators*, In Proceedings of the 26th American Control Conference (ACC 2007), New York City, NY, USA, 11-13 July, 2007, (6 pages). *Best paper in session award*.
- CDC 2006** Damien Ernst, **Guy-Bart Stan**, Jorge Gonalves, and Louis Wehenkel, *Clinical data based optimal STI strategies for HIV : a reinforcement learning approach*, In Proceedings of the 45th IEEE Conference on Decision and Control (IEEE-CDC 2006), San Diego, CA, USA, 13-15 December, 2006, (6 pages).
- BENELEARN 2006** Damien Ernst, **Guy-Bart Stan**, Jorge Gonalves, and Louis Wehenkel, *Clinical data based optimal STI strategies for HIV : a reinforcement learning approach*, In Proceedings of the 15th Machine Learning conference of Belgium and The Netherlands (BENELEARN 2006), Ghent, Belgium, 11-12 May, 2006, (7 pages).
- NOLCOS 2004** **Guy-Bart Stan\***, and Rodolphe Sepulchre, *Global analysis of limit cycles in networks of oscillators*, In Proceedings of the 6th IFAC Symposium on Nonlinear Control Systems (IFAC-NOLCOS 2004), Stuttgart, Germany, 1-3 September, 2004, (6 pages).
- MTNS 2004** **Guy-Bart Stan\***, and Rodolphe Sepulchre, *Dissipativity and global analysis of limit cycles in networks of oscillators*, In Proceedings of the 16th International Symposium on Mathematical Theory of Networks and Systems (MTNS 2004), KUL, Heverlee, Belgium, 5-9 July, 2004, (6 pages).
- CDC 2003** **Guy-Bart Stan\***, and Rodolphe Sepulchre, *Dissipativity characterization of a class of oscillators and networks of oscillators*, In Proceedings of the 42nd IEEE Conference on Decision and Control (IEEE-CDC 2003), Maui, Hawaii, USA, 9-12 December, 2003, (5 pages).

## Refereed Conference Abstracts

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- EFB 2012** Alejandro Vignoni, **Guy-Bart Stan**, Diego Oyarzun, Jesus Pico, *Population-level control of heterologous protein production in bacteria*, Applied Synthetic Biology in Europe Conference (European Federation of Biotechnology), Barcelona, Spain, February, 6-8, 2012.

- BioEng 2011** Kim H. Parker, **Guy-Bart Stan**, Jordi Alastruey, *The Usefulness of Reservoir-Excess Pressure in the Analysis of Arterial Pressure Waveforms*, Bioengineering 11, The School of Engineering & Materials Science, Queen Mary, University of London, London, September 12-13, 2011.
- IWBDA 2011** Michal Galdzicki, Cesar Rodriguez, Herbert Sauro, Laura Adam, J. Christopher Anderson, Deepak Chandran, Douglas Densmore, Drew Endy, John H. Gennari, Raik Gruenberg, Timothy Ham, Matthew Lux, Akshay Maheshwari, Barry Moore, Chris J. Myers, Jean Peccoud, Nicholas Roehner, **Guy-Bart Stan**, Mandy Wilson, *Evolution of SBOL – design information exchange standard*, International Workshop on Bio-Design and Automation 2011, San Diego Convention Center, San Diego, CA, USA, June 6-7, 2011.
- Phys Fluid Mech 2011** Kim H. Parker, **Guy-Bart Stan**, Jordi Alastruey, *The Usefulness of Reservoir-Excess Pressure in the Analysis of Arterial Pressure Waveforms*, Physiological Fluid Mechanics : The Cardiovascular System, Brunel University, Uxbridge, UK, July 14-15, 2011.
- CNS 2011** Holly Phillips, Nikhil Howai, **Guy-Bart Stan**, Aldo Faisal, *The implied exploration-exploitation trade-off in human motor learning*, Twentieth Annual Computational Neuroscience Meeting, Royal Institute of Technology, Stockholm, Sweden, 23-28 July, 2011.
- ERNSI 2010** Ye Yuan, **Guy-Bart Stan**, Jorge Gonçalves, *Biological network reconstruction from noisy input-output data*, 2010 ERNSI System Identification Workshop, Pembroke College, Cambridge UK, 27-29 September, 2010.
- ICSB 2010** Neil Dalchau, Katharine E. Hubbard, Fiona C. Robertson, Carlos T. Hotta, Helen M. Briggs, **Guy-Bart Stan**, Jorge M. Gonçalves, Alex A.R. Webb, *Correct biological timing in Arabidopsis requires multiple light signaling pathways*, 11th International Conference on Systems Biology, Edinburgh, U.K., 11-14 October, 2010
- STAB 2008** **Guy-Bart Stan**, *Global analysis of oscillations : a dissipativity approach*, 10th E.S. Pyatnitskiy International Workshop on Stability and Oscillations of Nonlinear Control Systems, The Institute of Control Sciences of the Russian Academy of Sciences, Moscow, Russia, 3-6 June, 2008.  
Invited by Dr Ivan Barabanov.
- ZIF 2007** **Guy-Bart Stan**, *Global stability analysis and synthesis of oscillations*, “Mathematical Stability Analysis in Biomechanics and Robotics” Symposium, Zentrum für Interdisziplinäre Forschung (ZIF), Universität Bielefeld, Germany, 15-17 February, 2007.  
Invited by Professor Peter Giesl.
- DSP Conf. 2005** René Derkx, Kees Janse, Marie-Bernadette Gennotte, **Guy-Bart Stan**, Dimitri Warnez, and Jean-Pierre Jallet, *In-car speech communication*, 4th Philips Conference on Digital Signal Processing, Koningshof Veldhoven, The Netherlands, 15-16 November, 2005.
- DSP Conf. 2005** Dimitri Warnez, Marie-Bernadette Gennotte, Jean-Pierre Jallet, **Guy-Bart Stan**, René Derkx, Kees Janse, and Sebastiaan de Bont, *Speech communication and sound field control in the car*, 4th Philips Conference on Digital Signal Processing, Koningshof Veldhoven, The Netherlands, 15-16 November, 2005.
- Benelux Meeting 2005** **Guy-Bart Stan**, and Rodolphe Sepulchre, *Dissipativity theory for oscillator analysis*, 24th Benelux Meeting on Systems and Control, Houffalize, Belgium, 22-24 March, 2005.
- Benelux Meeting 2004** **Guy-Bart Stan**, and Rodolphe Sepulchre, *Feedback mechanisms for global oscillations*, 23rd Benelux Meeting on Systems and Control, Heilvort, The Netherlands, 19-21 March, 2004.
- Dyn. and Comp. Workshop 2003** **Guy-Bart Stan**, and Rodolphe Sepulchre, *A simple winner-take-all network as an illustration of the prisoners dilemma*, 7th Workshop on Dynamics and Computation, *Iterated Games and Computation*, Royal Academy of Sciences, Brussels, Belgium, 27-28 October, 2003.
- Benelux Meeting 2003** **Guy-Bart Stan**, and Rodolphe Sepulchre, *Input-output tools for the analysis of limit cycles*, 22nd Benelux Meeting on Systems and Control, Lommel, Belgium, 19-21 March, 2003.
- Benelux Meeting 2002** **Guy-Bart Stan**, and Rodolphe Sepulchre, *Passivity as a tool for the analysis of limit cycles*, 21st Benelux Meeting on Systems and Control, Veldhoven, The Netherlands, 19-21 March, 2002.
- Benelux Meeting 2001** **Guy-Bart Stan**, and Rodolphe Sepulchre, *Comparison of different impulse response measurement techniques in electroacoustics*, 20th Benelux Meeting on Systems and Control, Houffalize, Belgium, 26-28 March, 2001.

ABAV 2000

**Guy-Bart Stan**, *Implémentation et comparaison de différentes méthodes d'obtention de la réponse impulsionnelle d'un espace acoustique pour l'auralisation*, Association Belge des Acousticiens (ABAV), Liège, Belgium, May 25th, 2000.

Invited by Professor Jean-Jacques Embrechts.

## Invited Talks

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Paris ENS 2012

**Guy-Bart Stan**, *Taking a Systems Control Approach in Biology*, invited talk at the “Design, optimization and control in systems and synthetic biology” workshop, École Normale Supérieure, Paris, June 11-12, 2012. Invited by Dr Grégory Batt.

Exeter 2012

**Guy-Bart Stan**, *Taking a Systems Control Approach in Biology : exogenous data-based optimal control of synthetic gene circuits*, invited talk at the “Robustness in Biology and Engineering” workshop, University of Exeter, March 16th, 2012.

Invited by Dr Orkun Soyer.

Imperial 2012

**Guy-Bart Stan**, *Taking a Systems Control Approach in Biology*, Imperial College London, Department of Bioengineering, March 7th, 2012.

Invited by Dr Massimo Marenzana and Dr Carsten Mehring.

U. Oxford 2012

**Guy-Bart Stan**, *Data-based optimal control of biological systems*, University of Oxford, Department of Engineering Science, January 30th, 2012.

Invited by Dr Antonis Papachristodoulou.

CCBI 2011

**Guy-Bart Stan**, *Data-based optimal control of biological systems*, Cambridge Computational Biology Institute Annual Symposium, September 29th, 2011.

Invited by Dr Gos Micklem.

CSynBI visit by Imperial College Rector 2011

**Guy-Bart Stan**, *Modelling applied to Synthetic Biology*, talk given for the visit of the Centre for Synthetic Biology and Innovation by Professor Sir Keith O’Nions, Rector of Imperial College London, July 1st, 2011.

CSynBI workshop at LSE 2011

**Guy-Bart Stan**, *The role of modelling in adopting a forward-engineering approach to the design of synthetic biology systems*, CSynBI Workshop, Historical, Social and Philosophical Aspects of Modelling and their implications for synthetic biology, London School of Economics, London, June 28th, 2011.

Invited by Prof Nikolas Rose.

BCANM “Making it Real” 2011

**Guy-Bart Stan**, *Taking a Systems Control Approach in Synthetic Biology*, Bristol Centre for Applied Non-linear Mathematics (BCANM), Engineering Mathematics Department, University of Bristol, February 11th, 2011.

Invited by Prof Mario di Bernardo and Dr Mathieu Desroches.

Autumn SSB Symposium 2010

**Guy-Bart Stan**, *Taking a Systems Control Approach in Synthetic Biology*, **Plenary Speaker**, Autumn Symposium of the Institute of Systems and Synthetic Biology, Imperial College, London, U.K., 10-11 November, 2010.

CSynBI Industry Day 2010

**Guy-Bart Stan**, *Modelling Synthetic Biology*, Centre for Synthetic Biology and Innovation Industry Day, Imperial College, Department of Bioengineering, London, U.K., May 17th, 2010.

Imperial College Biomaths 2010

**Guy-Bart Stan**, *Clinical-data-based optimal Structured Treatment Interruption strategies for HIV : a reinforcement learning approach*, Biomathematics seminar series, Imperial College, Department of Mathematics, London, U.K., March 8th, 2010.

Invited by Dr Vahid Shahrezaei.

CSynBI SynBio Club 2010

**Guy-Bart Stan**, *Developing a registry of standard, composable models*, Synthetic Biology Club, Imperial College, Department of Bioengineering, Centre for Synthetic Biology and Innovation, London, U.K., March 3rd, 2010.

KTK Stuttgart 2009

**Guy-Bart Stan**, *Clinical-data-based optimal Structured Treatment Interruption strategies for HIV : a reinforcement learning approach*, Kolloquium Technische Kybernetik, Institute for Systems Theory and Automatic Control, University of Stuttgart, Germany, November 17th, 2009.

Invited by Professor Christian Ebenbauer.

U. Kent 2009

**Guy-Bart Stan**, *A vision for bridging the gaps between engineering and biological sciences*, University of Kent, Canterbury, U.K., September 2nd, 2009.

Invited by Professor Sarah Spurgeon, Head of the School of Engineering and Digital Arts.

- U. Liège 2008** **Guy-Bart Stan**, *Improving collective behaviour coordination and consensus with predictive mechanisms*, University of Liège, Belgium, November 29th, 2008.  
Invited by Professor Rodolphe Sepulchre.
- Hamilton Institute 2008** **Guy-Bart Stan**, *Global analysis and synthesis of networks of oscillators : a dissipativity approach*, The Hamilton Institute, National University of Ireland Maynooth, Ireland, June 25th, 2008.  
Invited by Dr Mark Verwoerd and Professor Rick Middleton.
- U. Cambridge 2007** **Guy-Bart Stan**, *Clinical data based optimal STI strategies for HIV : a reinforcement learning approach*, University of Cambridge, Department of Engineering, Machine Learning Group, U.K., November 21st, 2007.  
Invited by Dr Carl Edward Rasmussen.
- U. Southampton 2007** **Guy-Bart Stan**, *Clinical data based optimal STI strategies for HIV : a reinforcement learning approach*, University of Southampton, Department of Electronics and Computer Science, ISIS group, U.K., October 18th, 2007.  
Invited by Dr Ivan Markovskiy.
- Supélec 2007** **Guy-Bart Stan**, *Global analysis and synthesis of limit cycles : a dissipativity approach*, Laboratoire des Signaux et Systèmes, Supélec, Gif-sur-Yvette, France, May 25th, 2007.  
Invited by Dr Romeo Ortega.
- UCLouvain SESAME 2007** **Guy-Bart Stan**, *Clinical data based optimal STI strategies for HIV : a reinforcement learning approach*, Université Catholique de Louvain (UCL), SESAME, Louvain-la-Neuve, Belgium, April 17th, 2007.  
Invited by Dr Pierre-Antoine Absil.
- U. Groningen 2006** **Guy-Bart Stan**, *Global analysis and synthesis of limit cycles : a dissipativity approach*, University of Groningen, Department of Mathematics, The Netherlands, October 19th, 2006.  
Invited by Professor Arjan Van der Schaft.
- Imperial College London 2006** **Guy-Bart Stan**, *Global analysis and synthesis of limit cycles : a dissipativity approach*, Imperial College London, Department of Engineering, Power Systems and Control Group, U.K., October 11th, 2006.  
Invited by Professor George Weiss.
- TU Eindhoven 2006** **Guy-Bart Stan**, *Global analysis and synthesis of limit cycles : a dissipativity approach*, Eindhoven University of Technology, Department of Industrial Design, Designed Intelligence group, The Netherlands, September 1st, 2006.  
Invited by Professor G.W.M. Rauterberg.
- U. Cambridge 2006** **Guy-Bart Stan**, *Global analysis and synthesis of limit cycles : a dissipativity approach*, University of Cambridge, Department of Engineering, U.K., May 18th, 2006.  
Invited by Dr Andrea Lecchini-Visintini.
- U. Liège 2001** **Guy-Bart Stan**, *Recurrent networks and reinforcement learning*, University of Liège, Belgium, November 19th, 2001.
- U. Liège 2001** **Guy-Bart Stan**, *Dynamic programming*, University of Liège, Belgium, June 6th, 2001.
- U. Liège 2001** **Guy-Bart Stan**, *Optimal control of discrete systems*, University of Liège, Belgium, April 19th, 2001.
- ITA Aachen 2000** **Guy-Bart Stan**, *Implementation and comparison of different impulse response measurement techniques*, Institut für Technische Akustik, Aachen, Germany, November 24th, 2000.  
Invited by Professor Michael Vorländer.

## Posters

- RoSBNNet 2011** Natalja Strelkowa, **Guy-Bart Stan**, Damien Ernst, Mauricio Barahona *Control Strategies for Genetic Networks*, 3<sup>rd</sup> RoSBNNet Synthetic Biology Workshop 2011, St Anne's College, University of Oxford, July 20-22, 2011.
- RoSBNNet 2011** Diego Oyarzum, **Guy-Bart Stan**, *Transcriptional control circuits for metabolic demands*, 3<sup>rd</sup> RoSBNNet Synthetic Biology Workshop 2011, St Anne's College, University of Oxford, July 20-22, 2011.
- RoSBNNet 2011** Marios Tomazou, Karen Polizzi, **Guy-Bart Stan**, Mauricio Barahona, *Towards Light Based Dynamic Control of Synthetic Biological Systems*, 3<sup>rd</sup> RoSBNNet Synthetic Biology Workshop 2011, St Anne's College, University of Oxford, July 20-22, 2011.
- RoSBNNet 2011** Rhys Algar, **Guy-Bart Stan**, Tom Ellis *Too much synthetic biology? Quantifying and modelling device-imposed burden on E.coli chassis*, 3<sup>rd</sup> RoSBNNet Synthetic Biology Workshop 2011, St Anne's College, University of Oxford, July 20-22, 2011.

- SB 5.0 2011** Michal Galdzicki, Laura Adam, J. Christopher Anderson, Deepak Chandran, Douglas Densmore, Drew Endy, John H. Gennari, Raik Gruenberg, Timothy Ham, Matthew Lux, Akshay Maheshwari, Barry Moore, Chris J. Myers, Jean Peccoud, Cesar A. Rodriguez, Nicholas Roehner, **Guy-Bart Stan**, Mandy Wilson, Herbert M. Sauro, *Synthetic Biology Open Language : A standardized information exchange framework for synthetic biologists*, the Fifth International Meeting on Synthetic Biology (SB 5.0), Stanford University, Stanford, USA, June 15-17, 2011.
- SB 5.0 2011** Richard Kitney, **Guy-Bart Stan**, Dineka Khurmi, Vinod Tek, Christopher Hirst, *A web-based Information System for Synthetic Biology (SynBIS)*, the Fifth International Meeting on Synthetic Biology (SB 5.0), Stanford University, Stanford, USA, June 15-17, 2011.
- Genopole 2010** Rhys Algar, Tom Ellis, **Guy-Bart Stan**, *Too much synthetic biology? Quantifying and modelling device-imposed burden on E.coli chassis*, International Conference on Synthetic Biology : “Bottom-up, Top-Down and Cell-Free approaches, Intellectual Property Issues”, Genopole, Evry, France, 15-16 December, 2010.
- RoSBNet 2010** Neil Dalchau, Katharine E. Hubbard, Carlos T. Hotta, Fiona C. Robertson, Helen M. Briggs, **Guy-Bart Stan**, Jorge M. Gonçalves, Alex A.R. Webb, *Correct biological timing in Arabidopsis requires multiple light signaling pathways*, 2<sup>nd</sup> RoSBNet Synthetic Biology Workshop 2010, St Anne’s College, University of Oxford, July 12-14, 2010.
- RoSBNet 2010** Natalja Strelkova, **Guy-Bart Stan**, Damien Ernst, Mauricio Barahona, *Application of optimal feedback control to genetic networks*, 2<sup>nd</sup> RoSBNet Synthetic Biology Workshop 2010, St Anne’s College, University of Oxford, July 12-14, 2010.
- CSynBI 2009** Ye Yuan, **Guy-Bart Stan**, Jorge Gonçalves, *Biological network reconstruction from data*, Autumn Symposium of the Institute of Systems and Synthetic Biology, Imperial College Business School, London, 11-12 November, 2009. *3rd prize for the best poster award*.
- Wellcome Trust 2009** Ye Yuan, **Guy-Bart Stan**, Jorge Gonçalves, *Biological network reconstruction from data*, Joint Cold Spring Harbor Laboratory/Wellcome Trust Conference, “Engineering Principles in Biological Systems”, Wellcome Trust Genome Campus, Hinxton, U.K., 14-16 October, 2009.
- Microsoft Research 2009** Adrian A. Salinas-Varela, **Guy-Bart Stan**, Jorge Gonçalves *Analysis of piecewise linear feedback systems*, Microsoft Research Summer School 2009, Microsoft Research, Cambridge, U.K., 29 June - 3 July, 2009.
- IAP 2003** **Guy-Bart Stan**, *Input-output tools for the analysis of limit cycles*, Study day of the Inter-University Attraction Poles (IAP), ESAT, KUL, Heverlee, Belgium, May 8th, 2003.

## Panels, reviews and events organisation

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- Journal paper reviewer** Reviewer for international journal papers (about 10 reviews per year) : “IEEE Transactions on Automatic Control”, “Automatica”, “IEEE Transactions on Circuits and Systems”, “Systems and Synthetic Biology Journal”, “PLoS ONE”, “International Journal of Control”, “International Journal of Robust and Nonlinear Control”, “Industrial & Engineering Chemistry Research”, “IEEE/ASME Transaction on Mechatronics”, “Physics Letter A”, “Journal of the Royal Society Interface”.
- Conference paper reviewer** Reviewer for international conference papers (about 15 reviews per year) : “IEEE Conference on Decision and Control (CDC)”, “European Control Conference (ECC)”, “American Control Conference (ACC)”, “International Federation of Automatic Control (IFAC)”.
- Chairman** Chairman at conferences : 24th Benelux Meeting on Systems and Control, Session “Mechanical Systems II”, Houffalize, Belgium, 22-24 March, 2005; 2nd RoSBNet Synthetic Biology Workshop, St Anne’s College, University of Oxford, Oxford, U.K., 12-14 July, 2010; 49th Conference on Decision and Control (IEEE CDC 2010), Session “Biological and Biomedical Systems II”, Atlanta, Georgia, USA, 15-17 December, 2010.
- IPC member** International Program Committee member for conferences : “2nd IFAC Conference on Analysis and Control of Chaotic Systems, Chaos09”, Queen Mary, University of London, 22-24 June, 2009.
- Panel member** 1. Member of the selection and interviewing panel for two Lecturer positions in “Mathematical Modelling of Biological Phenomena”, Department of Bioengineering, Imperial College London, Nov 2011.  
2. Member of the Scientific Committee for Work Package 3 (“Community Building”) of the European Research Area Network on Synthetic Biology (ERASynBio), 2012-2013.
- Conferences and invited sessions** Proposer and organiser of the invited session “Control Theory in Synthetic Biology”, 51st IEEE Conference on Decision and Control (IEEE-CDC 2012), Maui, Hawaii, USA, 10-13 December, 2012.

## Participations to National and International Conferences

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<b>SBOL Workgroup 2012</b>	6th Synthetic Biology Open Language (SBOL) workgroup meeting, Foege Building, University of Washington, Seattle, WA, USA, 5-6 January, 2012.
<b>RoSBNNet 2011</b>	3rd RoSBNNet Synthetic Biology Workshop, St Anne's College, University of Oxford, Oxford, U.K., July 20-22, 2011.
<b>York Standards Grant Writing Retreat 2011</b>	BBSRC Synthetic Biology Standards Grant Writing Retreat, The Grange Hotel, 1 Clifton, York, U.K., July 13-15, 2011.
<b>Newcastle SynBio Standards Workshop 2011</b>	BBSRC Synthetic Biology Standards Workshop : Computational Data Standards and Synthetic Biology, School of Computing Science and Centre for Bacterial Cell Biology, Newcastle University, Newcastle, U.K., July 11-12, 2011.
<b>CSynBI workshop at LSE 2011</b>	CSynBI Workshop, Historical, Social and Philosophical Aspects of Modelling and their implications for synthetic biology, London School of Economics, London, June 28th, 2011.
<b>SB 5.0 2011</b>	The Fifth International Meeting on Synthetic Biology (SB 5.0), Stanford University, Stanford, USA, June 15-17, 2011.
<b>SBOL Workgroup 2011</b>	Synthetic Biology Open Language (SBOL) workgroup meeting, The Omni Hotel, San Diego, USA, 8 June, 2011.
<b>IWBDA 2011</b>	International Workshop on Bio-Design and Automation 2011, San Diego Convention Center, San Diego, CA, USA, June 6-7, 2011.
<b>CSynBI UK Strategy Meeting 2011</b>	CSynBI Strategy Meeting for Synthetic Biology, Imperial College London, 9-10 May, 2011.
<b>Six Acad Symposium on Syn Bio 2011</b>	Six Academies Symposium on Synthetic Biology, "The economic and social life of synthetic biology", Royal Society and Royal Academy of Engineering, London, 13-14 April, 2011.
<b>Syn Bio Sandpit Follow Up 2011</b>	NSF-EPSRC Synthetic Biology Sandpit Follow Up Event, Huxley Building, Imperial College London, 29-30 March, 2011.
<b>Syn Bio Public Dialogue Workshop 2011</b>	Workshop to further explore the messages in the synthetic biology public dialogue, Mercure Holland House Hotel, Bristol, U.K., February 10th, 2011.
<b>SBOL workshop 2011</b>	Synthetic Biology Open Language (SBOL) workshop, The Inn at Virginia Tech, Blacksburg, Virginia, USA, 7-10 January, 2011.
<b>CDC 2010</b>	49th IEEE Conference on Decision and Control (IEEE-CDC 2010), Atlanta, Georgia, USA, 15-17 December, 2010.
<b>Autum SSB Symposium 2010</b>	Autumn Symposium of the Institute of Systems and Synthetic Biology, Imperial College, London, U.K., 10-11 November, 2010.
<b>CSynBI 2010</b>	Synthetic Biology and Open Source : Normative Cultures of Biology, London School of Economics, London, U.K., 23-24 September, 2010.
<b>RoSBNNet 2010</b>	2nd RoSBNNet Synthetic Biology Workshop, St Anne's College, University of Oxford, Oxford, U.K., 12-14 July, 2010.
<b>IWBDA 2010</b>	"International Workshop on Bio-Design and Automation at the Design and Automation Conference (DAC)", Convention Center, Anaheim, CA, USA, 14-15 June 2010.
<b>SynBio Networks meeting 2010</b>	"Networks in Synthetic Biology Initiative : Meeting of the Networks", Four Pillars Hotel, Costwold Water Park, Gloucestershire, U.K., 16-17 March 2010.

- SynBio LSE Debate 2009** “Creating the organisms that evolution forgot”, Old Theatre, Old Building, London School of Economics, London, U.K., November 26th, 2009.
- SynBio Royal Society Debate 2009** “Synthetic Biology - a threat or an opportunity?”, The Royal Society, 7-9 Carlton House Terrace, London, U.K., November 18th, 2009.
- Autumn Symposium 2009** Autumn Symposium of the Institute of Systems and Synthetic Biology, Imperial College Business School, London, U.K., 11-12 November, 2009.
- Cold Spring Harbor Lab 2009** Joint Cold Spring Harbor Laboratory/Wellcome Trust Conference, “Engineering Principles in Biological Systems”, Wellcome Trust Genome Campus, Hinxton, U.K., 14-16 October, 2009.
- RoSBNNet 2009** 1st RoSBNNet Synthetic Biology Workshop, St Anne’s College, University of Oxford, Oxford, U.K., 14-16 September, 2009.
- CDC 2008** 47th IEEE Conference on Decision and Control, Fiesta Americana Grand Coral Beach, Cancun, Mexico, 9-11 December, 2008.
- MTNS 2008** 18th International Symposium on Mathematical Theory of Networks and Systems, The Inn at Virginia Tech, Blacksburg, Virginia, USA, 28 July-1 August, 2008.
- Alberto Isidori’s 65th Birthday Workshop** “Analysis and Design of Nonlinear Control Systems : A 4-day Control Event”, Imperial College and Royal Society, London, U.K., 13-16 May, 2008.
- IET Tustin Lecture 2008** The Institution of Engineering and Technology Tustin Lecture 2008, “Systems Biology and the Spirit of Tustin” by Professor Peter Wellstead, The IET, Savoy Place, London, U.K., May 1st, 2008.
- ACC 2007** 26th IEEE American Control Conference, New York City, NY, USA, 11-13 July, 2007.
- Gatsby 2007** Gatsby Computational Neuroscience Unit Workshop, “Circadian Timing in Brain Circuits”, University College London, London, U.K., 23-25 April, 2007.  
Invited by Professor Michael Hastings.
- ZIF 2007** “Mathematical Stability Analysis in Biomechanics and Robotics” Symposium, Zentrum für Interdisziplinäre Forschung (ZIF), Universität Bielefeld, Germany, 15-17 February, 2007.
- NSSPW 2006** IEEE Nonlinear Statistical Signal Processing Workshop 2006, “Classical, Unscented and Particle Filtering Methods”, University of Cambridge, U.K., 13-15 September, 2006.
- CCBI 2006** Cambridge Computational Biology Institute Annual Symposium 2006, Centre for Mathematical Sciences, University of Cambridge, U.K., May 24th, 2006.
- BENELEARN 2006** 15th Machine Learning conference of Belgium and The Netherlands, University of Ghent, Belgium, 11-12 May, 2006.
- KDECB 2006** Knowledge Discovery and Emergent Complexity in Bioinformatics Workshop, University of Ghent, Belgium, May 10th, 2006.
- Keith Glover’s 60th Birthday Workshop** “Control of Uncertain Systems : Modelling, Approximation, and Design”, a workshop on the occasion of Keith Glover’s 60th birthday, University of Cambridge, U.K., 21-22 April, 2006.
- DSP Conf. 2005** 4th Philips Conference on Digital Signal Processing, Koningshof Veldhoven, The Netherlands, 15-16 November, 2005.
- IWAENC 2005** International Workshop on Acoustic Echo and Noise Control, High-Tech Campus, Eindhoven, The Netherlands, 12-15 September, 2005.
- IAP 2005** Study Day of the IAP Network, Château de Colonster, University of Liège, Belgium, May 19th, 2005.
- SCORES 2004** Scores workshop, “Systems, Control and Optimization in Research, Education and Services”, ESAT, KUL, Heverlee, Belgium, 12-13 October, 2004.
- NOLCOS 2004** 6th IFAC Symposium on Nonlinear Control Systems, Stuttgart, Germany, 1-3 September, 2004.

<b>MTNS 2004</b>	16th International Symposium on Mathematical Theory of Networks and Systems, KUL, Heverlee, Belgium, 5-9 July, 2004.
<b>IAP 2004</b>	Study Day of the IAP Network, Het Pand, Ghent, Belgium, June 1st, 2004.
<b>ICCoS-IAP 2004</b>	Joint ICCoS-IAP Study Day, UCL, Louvain-la-Neuve, Belgium, March 24th, 2004.
<b>CDC 2003</b>	42nd IEEE Conference on Decision and Control, Maui, Hawaii, USA, 9-12 December, 2003.
<b>ICCoS-IAP 2003</b>	Joint ICCoS-IAP Study Day, UCL, Louvain-la-Neuve, Belgium, March 14th, 2003.
<b>IAP 2002-a</b>	Study Day of the IAP Network, UCL, Louvain-la-Neuve, Belgium, November 26th, 2002.
<b>Dyn. and Comp. Workshop 2002</b>	6th workshop on dynamics and computation, "From robotics to quantum control", Royal Academy of Sciences, Brussels, Belgium, 1-2 July, 2002.
<b>IAP 2002-b</b>	Study Day of the IAP Network, KUL, Heverlee, Belgium, May 15th, 2002.
<b>ICCoS-IAP 2002</b>	ICCoS-IAP Workshop, "Kalman filtering, signal processing, estimation", KUL, Heverlee, Belgium, March 6th, 2002.
<b>Dyn. and Comp. Workshop 2001</b>	5th workshop on dynamics and computation, "Dynamics and Verification", Royal Academy of Sciences, Brussels, Belgium, 16-17 July, 2001.
<b>AES 2000</b>	108th Audio Engineering Society Convention, Paris, France, 19-22 February, 2000.

## Complementary Training

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<b>3 Oct 2009</b>	CHESTERFIELD HOTEL, MAYFAIR, LONDON. MICHAEL HEPPELL - HOW TO BE BRILLIANT. 10 hours interactive course by Michael Heppell : personal development, time management, leadership development.
<b>June 2005 - Dec 2005</b>	PHILIPS LEUVEN. INTENSIVE DUTCH COURSE - ELAN. Advanced Dutch course (2 hours a week) by Pol Medaer (native speaker) : intensive conversation, vocabulary and grammar training.
<b>26-27 Oct 2005</b>	BOUGIVAL, FRANCE. DDI INTERNATIONAL - COMMUNICATING FOR RESULTS. 16 hours course by Christine Schilling : developing extraordinary leaders, key principles of efficient communication, giving and receiving feedback.
<b>4-8 July 2005</b>	LANDSHUT, GERMANY. TEXAS INSTRUMENTS C6000 OPTIMIZATION WORKSHOP. 45 hours course.
<b>Feb 2004</b>	GRADUATE SCHOOL IN SYSTEMS AND CONTROL, CESAME, UCL, BELGIUM. ANALYSIS OF FEEDBACK SYSTEMS : THEORY AND COMPUTATION. 30 hours course by Professor Ulf Jönsson (Royal Institute of Technology, Sweden), Professor Rodolphe Sepulchre (University of Liège, Belgium), and Professor Jan C. Willems (KUL, Belgium).
<b>Spring 2003</b>	GRADUATE SCHOOL IN SYSTEMS AND CONTROL, ESAT, KUL, BELGIUM. HYBRID SYSTEMS. 20 hours course by Professor Hans Schumacher (University of Tilburg, The Netherlands) and Professor Arjan Van der Schaft (University of Twente, The Netherlands).
<b>2001-2002</b>	DEPARTMENT OF APPLIED MATHEMATICS, UCL, BELGIUM. NONLINEAR PROGRAMMING. 20 hours course by Professor Yuri Nesterov (UCL, Belgium).
<b>2000-2001</b>	DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, UNIVERSITY OF LIÈGE, BELGIUM. NONLINEAR SYSTEMS THEORY AND APPLICATIONS. 60 hours course by Professor Rodolphe Sepulchre (University of Liège, Belgium).
<b>17-21 Sep 2001</b>	ÉCOLE D'ÉTÉ D'AUTOMATIQUE DE GRENOBLE, FRANCE. MODÉLISATION GÉOMÉTRIQUE ET COMMANDE DES SYSTÈMES PHYSIQUES. 5 days lectures. ▷ <i>Scientific organizers : Professors Bernhard Maschke and Arjan Van Der Schaft.</i>
<b>June 2001</b>	GRADUATE SCHOOL IN SYSTEMS AND CONTROL, ESAT, KUL, BELGIUM. CONVEX OPTIMIZATION WITH ENGINEERING APPLICATIONS. 45 hours course by Professor Stephen Boyd (University of Stanford, USA) and Professor Lieven Vandenberghe (UCLA, USA).

- May 2001** GRADUATE SCHOOL IN SYSTEMS AND CONTROL, CESAME, UCL, BELGIUM. CONTROL IN AUTOMOTIVE APPLICATIONS.  
50 hours course by Professor Stephen Yurkovich (Ohio State University, USA).
- March 2001** GRADUATE SCHOOL IN SYSTEMS AND CONTROL, CESAME, UCL, BELGIUM. MODEL PREDICTIVE CONTROL.  
20 hours course by Professor Jan Maciejowski (University of Cambridge, U.K.).
- Aug 1993** CERAN, SPA, BELGIUM. INTENSIVE LANGUAGE AND COMMUNICATION COURSE IN ENGLISH.  
(2 weeks) ▷ *Group communication.*
- Aug 1989** SIEP, LIÈGE, BELGIUM. INTENSIVE ENGLISH COURSE.  
(2 weeks) ▷ *Group communication.*

## Fields of Interest

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- Synthetic biology, Systems biology, Synthetic biology, biomedical systems, optimal control, machine learning applied to control.  
Systems biology, Analysis and Control of Biological Systems  
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Systems biology, Analysis and Control of Biological Systems
- Systems biology, Synthetic biology, biomedical systems, optimal control, machine learning applied to control.  
▷ *Analysis and design of robust, scalable networks of interconnected oscillators with application to biology and engineering; analysis of biochemical oscillator networks, application to the study of circadian networks.*  
▷ *Analysis of oscillation synchronisation and design of networks of oscillators capable of generating oscillations with predefined frequency, amplitude and phase.*  
▷ *Optimal drug-scheduling design using reinforcement learning algorithms. Application to drug-scheduling automatic design for chronic diseases : optimal drug-scheduling for HIV, cancer, obesity and depression.*  
▷ *Dynamical network reconstruction from data with direct application to biochemical network reconstruction.*  
▷ *Analysis and design of ultra-fast consensus protocols using prediction mechanisms. Application to the analysis and design of coordinated behaviours (swarming, schooling and flocking).*
- Nonlinear systems analysis, design and control  
Modelling, analysis, and control of complex dynamical networks ; nonlinear control of complex mechatronic systems, control of walking robots.  
▷ *Analysis and design of scalable oscillator networks using input-output approaches (e.g., global asymptotic stability analysis using passivity, global synchronisation analysis using incremental passivity).*  
▷ *Analysis and control of hybrid and nonlinear systems.*  
▷ *Design of numerical methods for the global asymptotic stability analysis of piecewise linear oscillators (isolated and/or interconnected).*  
▷ *Design of Central Pattern Generators for the control of nature-inspired rhythmic robots (e.g., the bipedal robot RABBIT from the “Laboratoire d’Automatique de Grenoble”, CNRS-GIPSA Lab, France).*
- Acoustics  
Impulse response measurement, loudspeaker and room equalisation, software and electronic development.  
▷ *Application to sound spatialisation, audio virtual reality, and loudspeaker design.*
- Signal processing  
Digital signal processing, adaptive signal processing, image and speech processing.  
▷ *Design of adaptive filters; real-time implementation for the the automotive industry : former coordinator of the Philips Applied Technologies R&D teams for the projects “Adaptive Noise and Echo Cancellation” and “Ubiquitous Communication” in cars.*

## Computer Skills

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- Operating Systems UNIX/Linux, MacOS X, Windows XP and Windows 7.  
Prog. and Edition L<sup>A</sup>T<sub>E</sub>X, C/C++ (Code Composer Studio), xhtml.  
Math Tools Matlab, Mathematica, Maxima.

## Languages

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- French Mother tongue.  
English Fluent.  
Dutch Fluent.  
Romanian Fluent.  
German Beginner.

## Education

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**March 2005**

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. PH.D.  
Doctor of Philosophy in Applied Sciences with honours.

Ph.D. thesis entitled “*Global analysis and synthesis of oscillations : a dissipativity approach*”.

▷ *Committee* : Dirk Aeyels (University of Ghent, Belgium), Carlos Canudas-de-Wit (CNRS, France), Jorge Gonçalves (University of Cambridge, U.K.), Henk Nijmeijer (Eindhoven University of Technology, The Netherlands), Louis Wehenkel (University of Liège, Belgium), Jacques Destin  (president, University of Liège, Belgium), Rodolphe Sepulchre (advisor, University of Liège, Belgium).

▷ *Supported by the Belgian National Fund for Scientific Research (FNRS).*

▷ *Honours* : La Plus Grande Distinction (Highest possible honour in Ph.D. evaluation).

**June 2000**

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. M.Sc.  
Masters of Science in Electrical Engineering with honours.

Masters thesis entitled “*Creation of an autonomous impulse response measurement system for rooms and transducers with different methods*”.

▷ *Supervisor* : Professor Jean-Jacques Embrechts.

▷ *Honours* : La Plus Grande Distinction avec les F licitations du Jury (average score > 92%).

▷ *Ranking* : top 1% students.

**Sep 1995 -  
June 2000**

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. UNDERGRADUATE STUDENT.

Electrical Engineer with speciality in Electronics.

Core curriculum with education in mathematics, physics, mechanics, chemistry and computer science during the first two years; and with education in electronics, signal processing, systems theory, and automatic control during the next three years. Specialisation towards a Masters of Science in Electrical Engineering since September 1999.

Honours :

▷ *June 2000* : La Plus Grande Distinction avec les F licitations du Jury (average score > 92%).

▷ *June 1999* : La Plus Grande Distinction (85% < average score ≤ 92%).

▷ *June 1998* : Grande Distinction (75% < average score ≤ 85%).

▷ *June 1997* : Grande Distinction (75% < average score ≤ 85%).

▷ *June 1996* : Grande Distinction (75% < average score ≤ 85%).

**June 1995**

UNIVERSITY OF LIÈGE, DEPARTMENT OF ELECTRICAL ENGINEERING, BELGIUM. ENTRANCE EXAMINATION AT THE FACULTY OF APPLIED SCIENCES.

▷ *Grade* : average score > 94%.

▷ *Ranking* : first over 350 candidates.

**1989-1995**

COLLÈGE SAINT-BENOIT SAINT-SERVAIS, LIÈGE, BELGIUM. SECONDARY SCHOOL STUDENT.

General humanities with Latin and Greek in the third and fourth years followed by physics and mathematics in the fifth and sixth years.

▷ *Honours* : Excellent (average score > 95%).

## Hobbies

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Sport

Swimming (national competition at the age of 15), jogging, mountain biking.

Readings

International newspapers, psychology books, technical publications in fields of interest.

Travelling

U.K., USA, Germany, France, Switzerland, Romania, Greece, Italy, Spain, Turkey, Morocco, Thailand, Venezuela.

Other

Movies, group discussions.

## Referees

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Prof Jan Maciejowski  
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Circadian Signal Transduction Lab,  
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