

CURRICULUM VITAE

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February 29th, 1980
in Saint André les Vergers (10), France
Nationality :French.
Married.

Education

- 2003 – 2006 Ph.D. in Automatic Control at LAGIS (CNRS) / “*École Centrale de Lille*” (France).
2002 – 2003 Master Degree in Automatic Control and Computer Sciences from *USTL*, Rank 1st.
2000 – 2003 Engineering studies at *École Centrale de Lille* (French “Grande École”), and MST University of Lille in Automatic Control and Industrial Computer Science

Professional Experience

- From 2012 CNRS Junior Researcher CNRS (CR1) at LAAS, Toulouse, France.
2008–2012 CNRS Junior Researcher CNRS (CR2) at GIPSA-Lab, Grenoble, France.
2007–2008 Post-doc Position at the Royal Institute of Technology (KTH), Stockholm Sweden.
2006–2007 Post-doc Position at the University of Leicester, Leicester, UK.

Research Interests

Stability and stabilization of time-delay systems, sampled-data systems, networked control systems, linear matrix inequality, sum of squares, sliding mode control and observation, multi-agents systems, consensus algorithms

Awards

- 2007 Best French PhD Awards from the “GDR MACS” and the “EEA Club” (National award).
2006 Best Student Paper Award at the conference CIFA’06, Bordeaux, France.

Responsabilities

- 2007-2008 Leader of the ‘Workpackage’ WP4d of the Network of Excellence **HYCON**.
2008-2012 Leader of the ‘Workpackage’ WP1 Of the European project (EU STREP) **FeedNetBack**.
Since 2009 Co-leader of the French Working Group on Time-Delay Systems **GT SAR** of the French Association of Control **GdR MACS**.
2009 Member of the International Program Committee of
“**Conference on Control and Applications**”, IEEE CCA’09, Saint-Petersburg, Russia.
“**IFAC Workshop on Time-Delay Systems**”, TDS’10, Prague, Czech Republic
“**IFAC Workshop on Distributed Control and Estimation of Networked Systems**”, NecSys’12, Santa Barbara, USA.
“**9th International Conference on Electrical Engineering, Computing Science and Automatic Control**”, CCE-2012, Mexico, Mexico.
“**1rst International Conference on Systems and Computer Science**”, ICSCS-2012, Lille, France.
“**IFAC Workshop on Distributed Control and Estimation of Networked Systems**”, NecSys’12, Koblenz, Germany.
“**European Control Conference**”, ECC’2014, Strasbourg, France.
2012 Co-Chair of the International Program Committee of the Conference VALUETOOLS, 2012.
Since 2012 Member of IFAC Technical Committee on Networked Systems (TC 1.5.)

Miscellaneous

Languages *French* : Mother tongue , *English* : Good, *Spanish* : beginner.

Scientific Events

	General Chair of the Int. Summer School of Automatic Control of Grenoble
2010	<i>"Distributed control and estimation of networked control systems"</i> with S. Zampieri from Univ. Padova, Italy (50 participants).
2011	<i>"Robust and LPV Control : application to vehicle dynamics"</i> , with O. Sename, GIPSA-Lab, Grenoble, France (60 participants).
2012	<i>"Modélisation et Contrôle de systèmes à paramètres distribués"</i> with C. Prieur GIPSA-Lab, Grenoble, France (70 participants).
2013	<i>"Stability Analysis of Time-Delay Systems and its Applications"</i> with A. Seuret, LAAS, Grenoble, France (50 participants).
2010	Vice-General Chair of the 2nd IFAC Workshop on Distributed Estimation and Control of Networked Systems , Necsys'10, (100 participants).
2012	General Chair of the 1st Delsys Workshop on Observers and controllers for complex systems emphasizing low-order controller, Supéléc Paris November, 2012. (80 participants).
2013	Publication Chair of the 11th IFAC Workshop on Time-Delay Systems , TDS'13.
2013	General Chair of the 2nd Delsys Workshop on Observers and controllers for complex systems emphasizing Networked Control Systems, Toulouse, Nov., 2013. (50 participants).

Research projects

2005–2006	ARCIL Robocoop , Leader : W. Perruquetti ;
2006–2007	EPSRC Platform Control of Complex Systems , Leader : S.K. Spurgeon ;
2007–2008	Network of Excellence HYCON , Leader : F. Lamnabhi-Lagarrigue ;
2007–2011	ANR Connect , Leader C. Canudas de Wit ;
2008–2011	EU STREP FeedNetBack , Leader : C. Canudas de Wit ;
2011–2013	PEPS CNRS SeDiff , Leader : A. Seuret ;
2011–2015	European Group of Research on Time delay systems (Delsys), Leader : A. Seuret ;
2012–2015	ANR Limicos , Leader : S. Tarbouriech.
2013–2014	Carnot LAAS Mdrones Commande collaborative de drones : Leader : A. Seuret
2013–2014	Stic-AmSud ADNEC : Leader : S. Tarbouriech.
2013–2014	Math-AmSud COSIP Control Systems and Identification Problems : Leader : C. Prieur, F. Araruna and E. Cerpa
2014–2015	Region Midi-Pyrénée UPTRIP Control a Tripod System : Leader : A. Seuret
2014–2015	Toulouse Tech Tranfer : Logiciel de Synthèse de Contrôleurs Robustes : Leader : A. Seuret

Master and PhD. Supervision

PhD.

2008-2011	<i>L. Briñon Arranz</i> , Control of Multi-agent systems under communication constraints, INRIA .
2009-2012	<i>G. Rodrigues de Campos</i> , Cooperative controlled systèmes under wireless communication, MENRT .
2010-2012	<i>P. Andrianainaina</i> , Worst Case Execution Time (WCET) : Analysis and prospectives related to novel architectures and technologies of processors, in collaboration with Airbus .
2014-2017	<i>F. Niel</i> , Distributed control and estimation : application to load carrying control.
Masters	
2009	<i>F. Stevenin</i> , Matlab Simulator for multi-agent systems, M1, UJF.
2011	<i>N. Mokrani</i> , Asynchronous Control of complexe systems, M2R, INP.
2011	<i>E. Davit</i> , Formation Control of quadrirotors, M2 ESISAR.
2012	<i>A. Mannisi</i> , Control of multi-agent systems, M2 Univ. Rome.

Participation to committees for PhD and Assistant Professor Positions

PhD.

11/2012	<i>P.R. Deshpande</i> , Performance Based Coordination Control of Multi-Agent Systems Subject to Time Delays, Leicester Univ. , Leicester, UK.
03/2013	<i>D.L. Orihuela Espina</i> , Model-based Estimation and Control for Systems over Communication Networks, University of Sevilla , Sevilla, Spain.
10/2013	<i>H. Lu</i> , Approximation and Applications of Distributed Delay, Ampère , Lyon, France.
12/2014	<i>U.K. Premaratne</i> , Network Traffic Reduction Strategies for Packet Switched Networked Control Systems, University of Melbourne , Melbourne, Australia.
12/2014	<i>S. Aoues</i> , Schémas d'intégration dédiés à l'étude, l'analyse et la synthèse dans le formalisme hamiltonien à ports, Ampère , Lyon, France.

APP

2012	Poste de Maître de Conférences n. 61MCF0202 (L2S, Gif-sur-Yvette, France)
2013	Poste de Maître de Conférences n. 61MCF1496 (LAGIS, Lille, France)

Summary of the publications

- 18(1) publications in international (national) journals ;
- 57(6) publications in international (national) conferences ;
- 9 and chapters in collective books and editor of 1 collective book.
- 3 projects deliverables.
- 1 Patent

Publications

(1) Articles published in Journals (since 2012)

International Journals :

- 1.5 **A. Seuret**, “*A novel stability analysis of linear systems under asynchronous samplings*”, in **Automatica**, Vol. 48(1), pp. 177-182, 2012.
- 1.6 C. Briat and **A. Seuret**, “*Convex dwell-time characterizations for uncertain linear impulsive systems*”, in **IEEE Trans. on Automatic Control**, Vol. 57(12), pp. 3241-3246, 2012.
- 1.7 C. Briat and **A. Seuret**, “*A boundary-constrained-functional approach for robust stability analysis of linear impulsive systems*”, in **Systems & Control Letters**, Vol. 61(10), pp. 980-988, 2012.
- 1.8 **A. Seuret** and J.M. Gomes Da Silva, “*Taking into account period variations and actuators saturation in sampled-data systems*”, in **Systems control & Letters**, Vol. 61(12), pp. 1286-1293, 2012.
- 1.9 W. Jiang and **A. Seuret**, “*Stability Analysis for Sampled-Data Systems with Input Delay*”, in **Advanced Science Letters**, Vol.11(1), pp. 456-461, 2012.
- 1.10 **A. Seuret** and M.M. Peet, “*Stability analysis of sampled-data systems using Sum of Squares*”, in **IEEE Trans. on Automatic Control** Vol. 58(6), pp. 1620-1625, 2013.
- 1.11 C. Briat and **A. Seuret**, “*Affine characterizations of minimal and mode-dependent dwell-times for uncertain linear switched systems*”, in **IEEE Transactions on Automatic Control**, Vol. 58(5), pp. 1304-1310, 2013.
- 1.12 **A. Seuret** and F. Gouaisbaut, “*Wirtinger-based integral inequality : application to time-delay systems*”, **Automatica**, Vol. 49(9), pp. 2860-2866, 2013.
- 1.13 **A. Seuret**, C. Prieur and N. Marchand “*Stability of nonlinear systems by means of event-triggered sampling algorithms*”, **IMA Journal of Mathematical Control and Information**, published June 12 2013.
- 1.14 L. Brinon Arranz, **A. Seuret** and C. Canudas de Wit, “*Cooperative Control Design for Time-varying Formations of Multi-Agent Systems*”, **IEEE Trans on Automatic Control**, Vol 59(8), pp. 2283-2288, 2014.
- 1.15 J.-F. Trégouët, **A. Seuret** and M. Di Loreto, “*A periodic approach for input-delay problems : application to network controlled systems affected by polytopic uncertainties*”, provisionally accepted in **International Journal of Robust and Nonlinear Control**, 2014.
- 1.16 L. Brinon Arranz, L. Schenato and **A. Seuret**, “*Distributed Source-seeking via a Circular Formation of Agents under Communication Constraints*”, provisionally accepted in **IEEE Trans. on Control of Network Systems**, 2014.
- 1.17 **A. Seuret**, F. Gouaisbaut and E. Fridman “*Stability of discrete-time systems with time-varying delays via a novel summation inequality*”, conditionally accepted in **IEEE Trans. on Automatic Control**, 2014.
- 1.18 **A. Seuret** and C. Briat, “*Stability analysis of uncertain sampled-data systems with incremental delay using looped-functionals*”, provisionally accepted in **Automatica**, 2014.
- 1.(19) G. Rodrigues de Campos, D.V. Dimarogonas, **A. Seuret** and K.H. Johansson, “*Distributed control strategy for MAS compact formations*”, submitted to **IMA Journal of Mathematical Control and Information**, 2014 (1st review).
- 1.(20) C. Briat and **A. Seuret**, “*On the necessity of looped-functionals arising in the analysis of pseudo-periodic, sampled-data and hybrid systems*”, submitted to **Automatica**, 2014. (2nd review).
- 1.(21) Y. Ariba, F. Gouaisbaut and **A. Seuret**, “*Robust Stability Analysis of Time Delay Systems via Bessel Inequality*”, submitted to **Systems & Control Letters**, 2014 (1st review).
- 1.(22) **A. Seuret** and F. Gouaisbaut, “*Hierarchy of LMI conditions for the stability analysis of time-delay systems*”, submitted to **Systems & Control Letters**, 2014. (1st review)
- 1.(23) **A. Seuret**, C. Prieur, S. Tarbouriech and L. Zaccarian, “*LQ-based event-triggered co-design for saturated linear systems*”, submitted to **Automatica**, 2014. (1st review).
- 1.(24) **A. Seuret**, F. Gouaisbaut and Y. Ariba, “*Complete Quadratic Lyapunov functionals for distributed delay systems*”, submitted to **Automatica**, 2014. (1st review).

National Journals (French)

- 1.f1 **A. Seuret**, T. Floquet et J.-P. Richard, “*Observateurs pour systèmes à retard variable et inconnu*”, **e-STA, Sciences et Technologies de l’Automatique**, revue électronique du GdR MACS, <http://www.e-sta.see.asso.fr/accueil.php>, article invité (sélectionné de CIFA2006), Vol. 3, No 3, SEE Edt., 2006.

(2) Conference articles (since 2012) :

In international conferences :

- 2.40 C. Briat and **A. Seuret**, “*Robust stability of impulsive systems : A functional-based approach*”, in the **4th IFAC Workshop on Analysis and Design of Hybrid Systems, ADHS’12**, Eindhoven, NL, 2012.
- 2.41 **A. Seuret** and F. Gouaisbaut, “*On the Use of the Wirtinger Inequalities for Time-Delay Systems*”, in the **10th IFAC Workshop on Time Delay Systems, TDS’12**, Boston, USA, 2012.
- 2.42 G. Rodrigues de Campos, L. Briñon Arranz, **A. Seuret** and S.I. Niculescu, “*On the Consensus of Heterogeneous Multi-Agent Systems : a Decoupling Approach*”, in the **3rd Workshop on control and estimation of Networked Systems**, Santa-Barbara, USA, 2012.
- 2.43 D. Simon, **A. Seuret** and O. Sename, “*On real-time feedback control systems : requirements, achievements and perspectives*”, in the **1st International Conference on Systems and Computer Science, ICSCS’12**, Lille, France, 2012.
- 2.44 F. Gouaisbaut, Y. Ariba and **A. Seuret**, “*Bessel inequality for robust stability analysis of time-delay system*”, in the **Proceedings of the 51th IEEE Conference on Decision and Control, CDC’13**, Florenz, Italy, 2013.
- 2.45 **A. Seuret**, F. Gouaisbaut and E. Fridman, “*Stability of systems with fast-varying delay using improved Wirtinger’s inequality*”, in the **Proceedings of the 51th IEEE Conference on Decision and Control, CDC’13**, Florenz, Italy, 2013.
- 2.46 **A. Seuret**, P. Menon and C. Edwards, “*LQR performance for multi-agent systems : Benefits of introducing delayed inter-agents measurements*”, in the **Proceedings of the 51th IEEE Conference on Decision and Control, CDC’13**, Florenz, Italy, 2013.
- 2.47 **A. Seuret** and F. Gouaisbaut, “*Jensen’s and Wirtinger’s inequalities for time-delay systems*”, in the **11th IFAC Workshop on Time Delay Systems, TDS’13**, Grenoble, France, 2013.
- 2.48 **A. Seuret** and F. Gouaisbaut, “*Integral inequality for time-varying delay systems*”, in the **Proceedings of the IEEE European Control Conference, ECC’13**, Zurich, Switzerland, 2013.
- 2.49 L. Briñon Arranz, and **A. Seuret**, “*Cooperative Translation Control based on Consensus with Reference Velocity : a Source-seeking Application with a Fleet of AUVs*”, in the **Proceedings of the IEEE European Control Conference, ECC’13**, Zurich, Switzerland, 2013.
- 2.50 **A. Seuret**, C. Prieur, S. Tarbouriech and L. Zaccarian, “*Event-triggered control with LQ optimality guarantees for saturated linear systems*”, in the **Proceedings of the IFAC Workshop on Nonlinear Control, Nolcos’13**, Toulouse, France, 2013.
- 2.51 **A. Seuret**, C. Prieur, S. Tarbouriech and L. Zaccarian, “*Jensen’s and Wirtinger’s inequalities for time-delay systems*”, in the **Proceedings of the IFAC Workshop on Time-delay Systems, TDS’13**, Grenoble, France, 2013.
- 2.52 **A. Seuret** and F. Gouaisbaut, “*Complete Quadratic Lyapunov functionals using Bessel-Legendre inequality*”, in the **Proceedings of the IEEE European Control Conference, ECC’14**, Strasbourg, France 2014.
- 2.53 P. Menon, **A. Seuret** and C. Edwards, “*Consensus Control Laws with Guaranteed Performance in Presence of Fixed Delays*”, in the **Proceedings of the IEEE European Control Conference, ECC’14**, Strasbourg, France 2014.
- 2.54 C. Albea, **A. Seuret** and L. Zaccarian, “*Hybrid control of a three-agent network cluster*”, in the **Proceedings of the IEEE Conference on Decision and Control, CDC’14**, San Francisco, USA, 2014.
- 2.55 **A. Seuret**, C. Briat and F. Gouaisbaut, “*Stability analysis of asynchronous sampled-data systems with discrete-time constant input delay*”, in the **Proceedings of the IEEE Conference on Decision and Control, CDC’14**, San Francisco, USA, 2014.

- 2.56** S. Aoues, W. Lombardy, D. Eberard and **A. Seuret**, “*Robust stability for delayed port-Hamiltonian systems using improved Wirtinger-based inequality*”, in the **Proceedings of the IEEE Conference on Decision and Control, CDC’14**, San Francisco, USA, 2014.
- 2.57** J.M. Gomes Da Silva Jr., I. Queinnec, **A. Seuret** and S. Tarbouriech, “*Stability Analysis of Dynamic Output Controllers under Aperiodic Sampling and Input Saturation*”, in the **Proceedings of the 21st International Symposium on Mathematical Theory of Networks and Systems (MTNS 2014)**, Groningen, The Netherlands, 2014.
- In national conferences (French speaking) :*
- 2f.5** C. Briat and **A. Seuret**, “*Sur la stabilité des systèmes linéaires impulsifs par fonctionnelles de Lyapunov*”, **7e IEEE Conférence Internationale Francophone d’Automatique**, CIFA 2012, Grenoble, France.
- 2f.6** P.J. Andrianiaina, **A. Seuret** and Daniel Simon, “*Commande Robuste Avec Relâchement Des Contraintes Temps-Réel (I)*”, **7e IEEE Conférence Internationale Francophone d’Automatique**, CIFA2012, Grenoble, France.

(3) Books and Chapters in collective books (since 2012) :

- 3.5** **A. Seuret** and K.H. Johansson. “*Networked control under time-synchronization errors*”, **Time Delay Systems : Methods, Applications and New Trends**, by Sipahi, R. ; Vyhlídal, T. ; Niculescu, S.-I. ; Pepe, P. in **Lecture Notes in Control and Information Sciences**, Springer Verlag, vol. 423, pp. 369-383, 2012.
- 3.6** M.M. Peet and **A. Seuret**. “*Global Stability Analysis of Nonlinear Sampled-Data Systems using Convex Methods*”, in **Time Delay Systems : Advances in Delays and Dynamics**, by Vyhlídal, T. ; J.-F Lafay, J.-F ; Sipahi, R. ; Niculescu, S.-I. Springer Verlag, pp. 215-227, 2014.
- 3.7** **A. Seuret** and F. Gouaisbaut. “*New Integral Inequality and Its Application to Time-Delay Systems*”, in **Time Delay Systems : Advances in Delays and Dynamics**, by Vyhlídal, T. ; J.-F Lafay, J.-F ; Sipahi, R. ; Niculescu, S.-I., Springer Verlag, pp. 31-44, 2014.
- 3.8** **A. Seuret**, H. Özbay, C. Bonnet and H. Mounier. “*Low Complexity Controllers for Time-Delay Systems*”, Springer Verlag, April 2014.
- 3.9** **A. Seuret** and F. Gouaisbaut. “*Integral Inequality for Time-Varying Delay Systems and its Application to Output-Feedback Control*”, in **Low Complexity Controllers for Time-Delay Systems**, by **A. Seuret**, H. Özbay, C. Bonnet and H. Mounier, Springer Verlag, pp. 155-168, 2014.
- 3.10** B. Saldivar, S. Mondié and **A. Seuret**. “*Suppressing Stick-slip Oscillations in Oilwell Drillstrings*”, in **Low Complexity Controllers for Time-Delay Systems**, by **A. Seuret**, H. Özbay, C. Bonnet and H. Mounier, Springer Verlag, pp. 189-203, 2014.
- 3.(11)** **A. Seuret**, L. Hetel, J. Daafouz and K.H. Johansson. “*Delays and Networked Control Systems*”, submitted to Springer Verlag, 2014.
- 3.(12)** **A. Seuret** and C. Briat *On the stability analysis of sampled-data systems with delays* in “**Delays and Networked Control Systems**”, submitted to Springer Verlag, by **A. Seuret**, L. Hetel, J. Daafouz and K.H. Johansson. 2014.
- 3.(13)** A. Arce Rubio, **A. Seuret**, Y. Ariba and A. Manisi *Optimal control strategies for load carrying drones* in “**Delays and Networked Control Systems**”, submitted to Springer Verlag, by **A. Seuret**, L. Hetel, J. Daafouz and K.H. Johansson. 2014.

(4) Internal reports and deliverables :

- 4.1** D4d.5.3 - Final report on results on the industrial test case, HyCON.
- 4.2** D01.1 - Classification of networked control systems, FeedNetBack.
- 4.3** D04.03 - Design of robust variable rate controllers, FeedNetBack.