

# Jean Bernard Lasserre

## A.1 Curriculum Vitae

**Nom et Prénom:** LASSERRE Jean Bernard

**Date et lieu de Naissance:** 11 Mai 1953 à Quillan (11)

**Adresse Professionnelle:** Laboratoire d'Analyse et d'Architecture des Systèmes du CNRS, 7 Avenue du Colonel Roche 31077 Toulouse Cedex.

**Tél:** 33 5 61 33 64 15; **Mobile:** 33 6 88 52 25 88; **Fax:** 33 5 61 33 69 36

**Email:** [lasserre@laas.fr](mailto:lasserre@laas.fr); **web:** <http://homepages.laas.fr/lasserre/>

**Domaines de compétence:** Gestion de Production, Recherche Opérationnelle, Optimisation, Mathématiques Appliquées, Probabilité, Géométrie Algébrique réelle, Machine Learning.

### A.1.1 Titres et diplômes:

**1973-1976:** Ingénieur ENSIMAG

**1976-1978:** Docteur Ingénieur de l'Université Paul Sabatier, Toulouse.

**1984:** Docteur d'Etat (Sciences). Thèse soutenue au LAAS le 1er Octobre 1984. Mention très honorable.

### A.1.2 Experience professionnelle:

**1978-1979:** Visiting Scholar au *Electrical Engineering and Computer Science Department* de l'Université de Californie à Berkeley. Bourse de l'INRIA.

**1979-1980:** Service militaire comme appelé scientifique à Sup'Aéro.

**1980-1983:** Attaché de Recherche au CNRS au LAAS.

**1983-1991:** Chargé de Recherche au CNRS au LAAS (CR1).

**1985-1986:** *Research Fellow* de la National Science Foundation (NSF) au *Electrical Engineering and Computer Science Department* de l' Université de Californie à Berkeley.

**1992-2004:** Directeur de Recherche au CNRS 2ième classe au LAAS (DR2)

**2004-2014:** Directeur de Recherche CNRS 1ère classe au LAAS (DR1)

**2014→ 2019:** Directeur de Recherche CNRS Classe Exceptionnelle (DRCE1, DRCE2)

**2019→ present:** Directeur de Recherche émérite CNRS.

### A.1.3 Responsabilités Scientifiques et Administratives

**2003-2006: Adjoint du responsable** du pôle MOCOSY du LAAS (44 chercheurs permanents de 4 groupes de recherche)

**1986-1990: Responsable** de l'équipe "Modélisation Analyse et Conduite des Systèmes de Production" (9 permanents (5 CNRS et 4 ES) et 3 doctorants)

**2006 →: Responsable Scientifique** du projet stratégique MOGA du LAAS (Moments Optimisation et Géométrie Algébrique).

**2006 →: Membre** du Comité Scientifique du GDR *Recherche Opérationnelle*

**2008 →: Membre** du Conseil Scientifique du GDR *MOA* (et à partir de 2013 un des 4 responsables scientifiques)

**2001-2002: Responsable Scientifique** STIC d'une action MATH-STIC (appel d'offre 2002) *Programmation semidéfinie positive en optimisation et automatique.*

**2013 → 2017:** Représentant français au **Management Committee** (MC) de l'**ICT COST Action TD1207** *Mathematical Optimization in the Decision Support Systems for Efficient and Robust Energy Networks.*

COST est un cadre inter-gouvernemental pour la coopération Européenne en Science et Technologie, qui permet la coordination à un niveau européen de recherches financées au niveau national. [http://www.cost.eu/domains\\_actions/ict/Actions/TD1207?management](http://www.cost.eu/domains_actions/ict/Actions/TD1207?management)

**2001-2003: Responsable Scientifique** français d'une action intégrée franco-britannique (British Council, Programme Alliance) entre le département de Mathématiques de l'Université de Liverpool, le LAAS-CNRS, l'Université de Bordeaux et INRIA-Sophia, sur le thème *Commande optimale de processus stochastiques.*

**1998-2003: Responsable Scientifique** français du projet ECOS-NORD (LAAS-IPN Mexico)

**1985-2008: Responsable scientifique** français d'une coopération CNRS-CONACYT avec le département de Mathématiques de l'IPN de Mexico sur les différents thèmes: *Horizons de Planification en Commande Optimale, Commande de Systèmes Interconnectés, Processus de Décision Markoviens, Système d'équations en dimension infinie (Application en Automatique et Probabilité), Fonctions Génératrices et Optimisation Discrète.*

### A.1.4 Encadrement de thèses et Jurys.

**Directeur** d'une HDR et de 15 thèses de Doctorat (C. Bès, G. Faure, S. Dauzère-Péres, C. Builles, W. Roux, V. Boyer, M. Claeys, Tung Phan Thanh, F. Bugarin, R. Hess, T. Weisser, M. Tacchi, Hoang Mai, Q. Vila, Tong Chen) et co-encadrement de 3 PhD de l'IPN de Mexico (J.R.Gabriel Arguelles, R.R. Lopez Martinez, G. Carrasco Licea).

**Encadrement de post-docs** (V. Magron, S. Marx, E. Pauwels, N. Augier, J. Wang)

**Rapporteur** de 14 thèses et HDR. **Membre du Jury** 24 thèses et HDR.

### A.1.5 Reconnaissance Internationale

#### Distinctions

- **2021 Grand prix INRIA-Académie des Sciences**

- **Simons CRM Professor** (at *Centre de Recherche Mathématiques* (CRM), Montreal), October 2019
- **Invited Speaker** au *International Congress of Mathematicians* (ICM 2018<sup>1</sup>, Rio de Janeiro) : Section 16: Optimal Control & Optimization.
- **2015 John von Neumann Theory Prize** de l'*INFORMS<sup>2</sup> Society*  
<https://www.informs.org/Recognize-Excellence/INFORMS-Prizes-Awards/John-von-Neumann-Theory-Prize>
- **2015 Khachiyan Prize** de l'*INFORMS Optimization Society* (for Lifetime Achievement in Optimization)  
[www.informs.org/Community/Optimization-Society/Optimization-Society-Prizes/Khachiyan-Prize](http://www.informs.org/Community/Optimization-Society/Optimization-Society-Prizes/Khachiyan-Prize).
- **Lauréat de l'ERC** in 2014: ERC-Advanced Grant (ERC-ADG) (pour le projet TAMING 2015 → 2018)
- **2009 Lagrange Prize**, décerné tous les 3 ans conjointement par les sociétés savantes *SIAM* et *Mathematical Optimization Society*.  
 cf. <http://www.mathprog.org/?nav=lagrange>
- **Proposé** en 2004 par la Section 07 pour la médaille d'argent du CNRS.
- Membre du groupe (animé par D. Henrion) qui a reçu le prix de la **Fondation Simone et Cino del Duca** de l'**Institut de France** en 2011.  
[www.cnrs.fr/insis/recherche/actualites/fondation-duca.htm](http://www.cnrs.fr/insis/recherche/actualites/fondation-duca.htm)
- **SIAM Fellow** (classe 2014)
- Membre du jury du **Prix Moreau 2021**, **Prix Fermat 2018**, du **Prix Sephora Berrebi 2019 et 2020**, du **Khachiyan Prize 2019** et **Farkas Prize 2014** de l'*INFORMS society*.
- **Visiting Fellow** du *Isaac Newton Institute* (Cambridge, UK), July-August 2013
- **Visiting Research Fellow** of UNSW (University of New South Wales, Sydney, Australie) en Mars 2013.
- Représentant français au **Management Committee** (MC) de l'**ICT COST Action TD1207** "Mathematical Optimization in the Decision Support Systems for Efficient and Robust Energy Networks" (2013-2017)  
[http://www.cost.eu/domains\\_actions/ict/Actions/TD1207?management](http://www.cost.eu/domains_actions/ict/Actions/TD1207?management)
- **Associate member** CARMA (a Priority Research Centre for Computer-Assisted Research Mathematics and its Applications, University of Newcastle, Australia)  
<http://carma.newcastle.edu.au/people/>
- **Distinguished Lecture** at the 90th anniversary of the Mathematics Department of National University of Singapore (NUS, September 2019)
- **Speaker** at the *Mathematical Colloquium* of Charles University (Praha, 2017)
- **NSF Research Fellow** 1985-1986. Au *EECS Dept.*, University of California, Berkeley (USA).
- **Bourse de recherche INRIA** 1978-1979. Au *EECS Dept.*, University of California, Berkeley (USA).
- **ISSAC'2019 Best paper Award** (with Florent Bréhard and Mioara Joldes) at

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<sup>1</sup><http://www.icm2018.org/portal/en/>

<sup>2</sup>Institute for Operations Research and Management Sciences

the ISSAC 2019 conference in Beijing, July 2019.

• **L'Article de J.B. Lasserre, T. Priéto-Rumeau et M. Zervos**, *Pricing a class of exotic options via moments and SDP relaxations*, publié dans *Math. Finance* **16** (2006), 469–494, a été nommé avec 5 autres articles par l'**Europlace Institute of Finance** (Paris), pour le *2006 Best paper in Mathematical Finance*.

• **L'Article de J.B. Lasserre**, *A sum of squares approximation of nonnegative polynomials*, publié dans *SIAM J. Optim.* **16** (2006), 751–765, a été sélectionné dans la section SIGEST de la revue *SIAM Review* (*SIAM Review* **49** (2007), pp. 651–669).

### Co-organisateur de programmes internationaux

- (avec D. Bertsimas (MIT), B. Helton (UCSD) et M. Putinar (UCSB)) du thème *Optimisation and Control* pour le trimestre d'Hiver 2007 de l'année thématique 2006-2007 *Applications of Algebraic Geometry* au **Institute of Mathematics and its Applications** (IMA, Minneapolis).  
<http://www.ima.umn.edu/AlgGeom/>
- (avec M. Putinar (UCSB, Santa Barbara), M. Charina and J. Stöcher (Dortmund)) du programme *Structured Function Systems and Applications* du **Oberwolfach Institute** (Allemagne) en Février-Mars 2013.
- (avec A. Letchford (Lancaster), M. Schweighofer (Konstanz), et G. Fliege (Southampton)) du programme *Polynomial Optimization* au **Isaac Newton Institute** (Cambridge, UK) (Juillet-Aout 2013)  
[www.newton.ac.uk/programmes/POP/index.html](http://www.newton.ac.uk/programmes/POP/index.html)
- (avec S. Robins and D. Pasechnik (Nanyang Technological University, Singapore)) du programme de 3 mois *Inverse Moment Problems: the Crossroads of Analysis, Algebra, Discrete Geometry and Combinatorics* (11 Nov 2013 - 25 Jan 2014) l'**Institute for Mathematical Sciences** (IMS, Singapour), 11 Novembre 2013 - 25 Janvier 2014.

### Membre invité d'Instituts de Recherche (avec financement de l'Institut)

- **Simons Institute for the Theory of Computing** (University of California at Berkeley): Plenary speaker aux workshops *Solving Polynomial Equations*, October 2014, <http://simons.berkeley.edu/workshops/algebraicgeometry2014-2> et *Hierarchies, Extended Formulations and Matrix-Analytic Techniques*, November 2017 <https://simons.berkeley.edu/workshops/optimization2017-3> *Hyperbolic Polynomials and Hyperbolic Programming*, April-May 2019.
- **Isaac Newton Institute for the Mathematical Sciences** (Cambridge, UK). Visiting Fellow, Juillet-Août 2013. [www.newton.ac.uk](http://www.newton.ac.uk)
- **Fields Institute for Research in Mathematical Sciences** (Toronto). **Long term visitor** en May 2002 (Thematic year *Computational Challenges in Science and Engineering*), et en Octobre 2009 (Fall Thematic Program on *Foundations of Computational Mathematics*). <http://www.fields.utoronto.ca>

- **Mathematical Sciences Research Institute** (MSRI, Berkeley, USA). **Key Senior Scientist** du programme *Topological Aspects of Real Algebraic Geometry* (2004) (Séjour d'un mois en Avril 2004). Ainsi qu'**Invited speaker** au workshop *Semidefinite Programming and Applications* 2002. <http://www.msri.org>.
- **Institute of Mathematical Sciences and its Applications** (IMA, Minneapolis, USA). **Long term visitor** du programme *Applications of Algebraic Geometry*, 2006-2007. Ainsi qu'**Invited speaker** aux workshops *Semidefinite Programming and Robust Optimization*, Mars 2003, *Mixed-Integer Programming*, Juillet 2005, et *Optimization & Parsimonious Modeling* in January 2016. <http://www.ima.umn.edu>
- **Institute of Pure and Applied Mathematics** (IPAM, UCLA, Los Angeles). **CORE participant** du programme: *Modern Trends in Optimization and Its Applications*, September 13 - December 17, 2010 <http://www.ipam.ucla.edu/programs/yearly.aspx?year=2010> invited speaker at the workshop *Operator Theoretic Methods in Dynamic Data Analysis and Control* (February 2019)
- **American Institute of Mathematics** (AIM, Palo Alto, USA). Participation (sur invitation uniquement) aux workshops *Theory and Algorithms of Linear Matrix Inequalities* en 2005, et *Convex Algebraic Geometry, Optimization and Applications* en 2009,
- **Banff International Research Station** (BIRS, Canada, [www.birs.ca](http://www.birs.ca)). Participation (sur invitation uniquement) aux workshops *Positive Polynomials and Optimization* en 2006 , *Convex Algebraic Geometry* en 2010, *Optimization and Inference for Physical Flows on Networks*, en 2017, *Geometry of Real Polynomials, Convexity and Optimization*, en 2019
- **Banff International Research Station** (BIRS-CMO, Oaxaca, Mexico). Participation (sur invitation uniquement) au workshop *Sparse Interpolation, Rational Approximation and Exponential Analysis*, Novembre 2016.
- **Centre International de Rencontres Mathématiques** (CIRM, Marseille). Participation (sur invitation uniquement) aux workshops *Polynômes Positifs* en 2005 et *Mixed Integer Nonlinear Programming* en 2010, et *Géométrie et algèbre des inégalités matricielles linéaires* en 2013.
- **Institute for Mathematical Sciences** (IMS, Singapour). Participation (sur invitation uniquement) aux workshops *Semidefinite Programming and Applications*, Janvier 2006 et *Large Scale Conic Optimization*, Décembre 2012. Ainsi que **Tutorial speaker** du programme *Optimization: Computation, Theory and Modeling* (1 Nov - 23 Dec 2012). <http://www.ims.nus.edu.sg> et co-organisateur du programme *Inverse Moment Problems: the Crossroads of Analysis, Algebra, Discrete Geometry and Combinatorics* (11 Nov 2013 - 25 Jan 2014)

- **Oberwolfach Institute** (Germany). Participation (sur invitation uniquement) aux workshops *Applied Probability* (December 1994), *Positive Polynomials* (2002), *Structured Function Systems and Applications* (2013), *Real Algebraic Geometry with a view towards Systems Control and Free Positivity* (2014), *Combinatorial Optimization* (2014), and *Mixed-Integer Nonlinear Optimization: A Hatchery for Modern Mathematics* (2015).
- **Institut Henri Poincaré** (IHP, Paris). Pour donner un **cours avancé** en Janvier 2011 dans le programme *Metric Geometry, Algorithms and Groups*. <http://www.ihp.fr/fr/node/331>
- **Centre de Recerca Matemática** (CRM, Barcelona). Cours avancé d'**Optimisation** en Juillet 2009 et séjour d'un mois en Novembre 2010.
- **Institut de Recherche Mathématique de l'Université de Séville** (IMUS, Séville, Espagne). **Invited speaker** au *Exploratory Workshop on Mixed Integer NonLinear Programming*, Décembre 2010, et Cours doctoral en Mars 2015.
- **Vietnam Institute for Advanced Studies in Mathematics** (VIASM, Hanoi). Séjour invité de 2 semaines en Septembre-Octobre 2014 et Mars 2016.
- **Institute for Computational and Experimental Research in Mathematics** (ICERM, Brown University, USA). **Invited speaker** au workshop *Semidefinite Programming and Graph Algorithms* en Février 2014 et au workshop *Computational Non Linear Algebra* in June 2014 (sur invitation uniquement).
- **Chern Institute of Mathematics** (Tianjin, China). **Invited speaker** au workshop *Tensors, Matrix and their Applications* en Mai 2016.
- **International Institute of Physics** (IIP, Natal, Brésil). **Invited speaker** au workshop *Convexity and Quantum Information* du programme "MODERN TOPICS IN QUANTUM INFORMATION" (July 30th - August 17th, 2018)

**Distinguished Speaker** du programme *High Performance Computing in Engineered Systems* (HPCES) du MIT, Avril 2003)

**Associate Member** de **CARMA**, Université de Newcastle (Australie). CARMA est un centre prioritairement financé pour la recherche en Mathématiques (Priority Research Centre for Computer-Assisted Research Mathematics and its Applications). <http://carma.newcastle.edu.au/>

**Conférencier Plénier ou semi-plénier** aux conférences:

- *12th French-German-Spanish Conference on Optimization*, Avignon, September 2004 (plénier)
- *3rd Sino-Japanese Optimization Meeting*, National University of Singapore, Octobre 2005. (semi-plénier)
- *Conférence Internationale sur les Mathématiques de l'Optimisation et la Décision*, Université Antilles-Guyane, Avril 2006. (plénier)

- *19th International Symposium on Mathematical Programming (ISMP2006)*, Rio de Janeiro (2006) (semi-plénier). Conférence tri-annuelle la plus importante en Programmation Mathématique
- *2nd International Conference on Mathematical Software (ICMS 2006)*, Castro-Urdiales, Spain, Septembre 2006 (plénier).
- *2nd International Conference on Algorithmic Operations Research (AlgOR 2007)*, Simon Fraser University, BC, Canada, Janvier 2007 (plénier).
- *International Symposium on Symbolic and Algebraic Computation (ISSAC 2007)*, Waterloo, Ontario, July 2007 (plénier). Conférence annuelle la plus importante pour le calcul symbolique
- *The International Conference on Nonconvex Programming: Local and Global Approaches. Theory, Algorithms and Applications (NCP07)*, Rouen, France, Décembre 2007 (plénier).
- *Australian Postgraduate Workshop on Stochastic Processes and Modelling (AP-WSPM 2008)*, University of South Australia, Adelaide, Février 2008. (plénier).
- *New Algorithmic Paradigms in Optimization (Ecole d'été et Workshop)*, ETH Zurich et Ascona, June 2008.
- *Modeling and Optimization: Theory and Applications 2008 (MOPTA 08)*, University of Guelph, Ontario, Août 2008 (plénier)
- *6th International Conference on Computational Management Science (CMS 2009)*, Genève (plénier)
- *Congrès bi-annuel de la SMAI, La-Colle-sur-Loup*, Mai 2009 (plénier)
- *XXXII Congreso Nacional de Estadística e Investigación Operativa y VI Jornadas de Estadística Pública*, La Coruna, Spain, 2010 (plénier)  
<http://dm.udc.es/seio2010/>
- Conférence annuelle du GDR *MOA*, Octobre 2010 (plénier)
- *The 8th International Conference on Optimization: Techniques and Applications (ICOTA 8)*, Shanghai, Chine, Décembre 2010 (plénier)  
[www.fdsf.fudan.edu.cn/icota8/](http://www.fdsf.fudan.edu.cn/icota8/)
- *Optimization 2011*, Lisbon, Portugal, 2011 (plénier)  
[www.fct.unl.pt/optimization2011/](http://www.fct.unl.pt/optimization2011/)  
<http://www4.fct.unl.pt/optimization2011/pages/conference/plenary-speakers>
- *36th Conference on the Mathematics of Operations Research*, Lunteren (Pays Bas), Janvier 2011 (International Speaker) <http://www.lnmb.nl/conferences/2011/>
- *SMF-VMS Joint Congress* (Société Mathématique de France et Société Mathématique Vietnamienne), Hué, Août 2012 (plénier)  
<http://smf.emath.fr/content/smf-vms-joint-congress>
- *2013 International Linear Algebra Society (ILAS) Meeting*, Juin 2013, Providence, RI, USA (plénier). <http://www.math.drexel.edu/hugo/2013ilas/>
- *IEEE MSC 2013 Conference*, Hyderabad, India, Août 2013 (plénier).  
<http://www.msc2013.org/index.php/plenaries>
- au workshop *Solving Polynomial Equations* (Octobre 2014) du *Simons Institute for*

- the Theory of Computing* de l'Université de Californie à Berkeley. (Plenary speaker)
- à la Conférence tri-annuelle PGMO-COPI'14 (*Conference on Optimisation and Practices in Industry* (Plénier) <http://www.fondation-hadamard.fr/pgmo-copi-14>
  - au workshop *Optimization for Machine Learning* de la *Neural Information Processing Systems Foundation* (NIPS 2014) conference, Montréal, Décembre 2014. (Plénier)
  - au workshop *Hybrid Methodologies for Symbolic-Numeric Computation* (part of ICIAM 2015), Beijing Août 2015. <http://mmrc.iss.ac.cn/HMSNC2015/>
  - à la *International conference on NETWORK Games, CONTROL and OPTimization* (NETCOOP), Avignon, November 23–25, 2016 (Plénier)
  - au workshop *Non convex Optimization in Machine Learning* de la *Neural Information Processing Systems Foundation* (NIPS 2016) conference, Barcelona, Décembre 2016. (Invited) <https://sites.google.com/site/nonconvexnips2016/invited-speakers>
  - à la Conférence Internationale *SIAM Conference on Control and Its Applications* (CT17), Pittsburgh, USA, July 2017. <http://www.siam.org/meetings/ct17/>
  - *Sums of Squares - Real Algebraic Geometry and its Applications* Conference, Innsbruck, August 2017 (Main Speaker).
  - *CAP 2018* (French Machine Learning conference), Rouen, 2018 (Keynote)
  - *Modern Topics in Quantum Information Conference and Workshop*, International Institute of Physics (IIP), UFRN, Natal, Brasil (August 2018) (Keynote)
  - *8th French-Israeli Workshop on Foundation of Computer Science*, Tel Aviv University, November 2019.
  - *French-German Machine Learning Symposium*, May 2021, (Zoom)
  - *IEEE CASE 21*, Lyon, France, August 2021 (Plenary)
  - Keynote lecture, *Curves and Surfaces* conference, Arcachon, France, June 2022.
  - *IFAC CAO 2022*, Gif-sur-Yvette, France (Plenary)
  - *ICCOPT 2022*, Lehigh University, USA (Plenary)

**Cours invité** et/ou Ecoles d'été ou d'hiver:

- à l'*AMS short course on Optimization* du meeting annuel de l'American Mathematical Society (AMS), Phoenix (Janvier 2004).
- à la *Summer School in Optimization* de la "7th French-Latin American Congress in Applied Mathematics", Santiago, Chile, Janvier 2005.
- à la *Doctorate School on : Optimization over Polynomials and Semidefinite Programming*, University of Klagenfurt (Austria), September 2005.
- au *3ème cycle romand de Recherche Opérationnelle*, Zinal, Suisse (Mars 2007).
- à l'Ecole d'été NAPIO 08 (*New Algorithmic Paradigms in Optimization*), ETH Zurich et Ascona, Juin 2008.
- à la *Advanced Course on Optimization: Theory, Methods and Applications* au CRM (Centre de Recerca Matemàtica) de Barcelone, Juillet 2009.
- à la *VI Escuela de Verano en Matemáticas Discretas*, Valparaiso, Chili, Janvier 2011
- **Cours avancé** durant le trimestre *Metric Geometry, Algorithms and Groups* de



l'Institut Henri Poincaré (IHP), Janvier 2011 - Avril 2011.

[www.math.ens.fr/metric2011/](http://www.math.ens.fr/metric2011/)

• à l'Ecole d'hiver **AMSI 2011** (Australian Mathematical Sciences Institute), Brisbane, Juin-Juillet 2011

<http://www.maths.uq.edu.au/AMSI-AGTP/>

• à la *Postgraduate Winter School* **DICOP 2012**, Juillet 2012, Piura (Pérou).

• à la *Doctoral School* **Applied Mathematics and Optimization** de l'Institut de Mathématiques de Séville (IMUS), Mars 2015.

[http://www.imus.us.es/DC/2014\\_OPT/](http://www.imus.us.es/DC/2014_OPT/).

• à la *4th Summer School on Symbolic Computation* (SSSC 2015), Beijing, Août 2015.

• à la *MINO/COST PhD school on Mixed Integer Nonlinear Optimization*, CNAM, Paris, Avril 2016

• Cours invité *Positive Polynomials and Optimization* dans la cadre du **MASTER 2 OPTIMIZATION** de l'Université Paris-Orsay, March 2016.

<https://www.polytechnique.edu/fr/content/serie-de-conferences-de-jean-bernard-lasserre>

• à la **Winter School** of the *2nd Biennial Grid Science*, Los Alamos Laboratory, USA, January 2017.

**Editeur Associé** des revues internationales:

- *International Journal of Production Research*, 1992 – 1994.
- *IEEE Transactions on Automatic Control* 1992 – 1997.
- *SIAM Journal on Control and Optimization*, 1997 → 2002.
- *AUTOMATICA*, 1998 → 2002.
- *Investigación Operativa*, 1996 → 2002.
- *Electronic Journal of Mathematical and Physical Sciences*, 2002 → présent.
- *RAIRO Operations Research*, 2004 → 2011.
- *SIAM Journal on Optimization*, 2006 → 2011.
- *Mathematics of Operations Research*, 2015 → 2018.
- *SIAM Journal on Applied Algebra & Geometry*, 2016 → 2019.

**Contacté** en 1997 pour être un des trois Editeurs de la revue **European Journal of Operational Research**.

**Invitations avec support financier de l'institution d'accueil**

- **Lecturer** à la *AMS short course on Optimization* of the AMS annual meeting in Phoenix (2004)
- **Invited speaker** à la Joint AMS-IMS-SIAM Summer Research Conference, *Integer Points in Polyhedra, Geometry, Number Theory, Algebra, Optimization*, Snowbird, 2003.

- **Distinguished speaker** du programme HPCES au MIT, et **Séminaire Invité** au “Operations Research Center” du MIT (Avril 2003).
- **Invited speaker** au workshop *Large Scale Nonlinear and Semidefinite Programming*, University of Waterloo, Canada, Mai 2004.
- **Invited Speaker** au *International Workshop on High Performance Optimization Techniques* (HPOPT 2008 et HPOPT 2010, Tilburg, Pays-Bas)
- **Invited seminar** au *Optimization and Applications Seminar*, ETH Zurich and University of Zurich, March 2007.
- **Invited speaker** au *13-th Workshop on Well-posedness of Optimization Problems and Related Topics*, Borovets (Bulgarie, 2011). [www.math.bas.bg/wwpop2011/](http://www.math.bas.bg/wwpop2011/)
- **Invited speaker** au workshop *Real Algebra, Geometry and Convexity*, Université de Leipzig, 2011.
- **Invited speaker** aux *Rencontres Interdisciplinaires autour de l’Optimisation*, Valenciennes, Octobre 2012.  
<http://www.univ-valenciennes.fr/evenement/rio2012/invited-speakers>
- **Invited Speaker** au **Colloquium** du Département *Operations Research & Financial Engineering* (ORFE) de l’**Université de Princeton**, Octobre 2016.  
<https://orfe.princeton.edu/events/colloquia>
- **Invited Speaker** at the **MATEMATICKÉ KOLOKVIUM**, Prague, April 2017. <https://iuuk.mff.cuni.cz/events/colloquia/index.html>

**Invited Research Scientist** (avec séjour financé par l’institution d’accueil) au:

- Dept. of Mathematics, University of Queensland, Brisbane (Prof. P. Pollet) 2008, 2009, 2011
- Operations Research Center, MIT (2003, 2005, 2007 Prof. D. Bertsimas)
- Lab. for Manufacturing and Productivity, MIT, Cambridge (Dr. S. Gershwin).
- Math. Dept. of the University of Leiden (Netherlands) (Prof. A. Hordijk)
- Tinbergen Institute in Amsterdam (Netherlands) (Prof. H.C. Tijms)
- *Operations Research Department* de Stanford University (USA) (Professeurs Glynn et Veinott)
- Center for Industrial and Applied Mathematics, University of South Australia, Adelaide (Prof. J. Filar) and the Applied Mathematics Department of the University of Adelaide (Prof. C.E.M. Pearce)
- Math. Dept. de l’Université d’Ulm, Germany (Prof. U. Rieder).
- Math. Dept. de l’Université de Newcastle, Australie, (Prof. J. Borwein)
- Math. Dept. de l’Université de New South Wales (UNSW), Sydney, Australie, (Prof. J. Jeyakumar).

**Key External Collaborator** *Center for Industrial and Applicable Mathematics*, University of South Australia, Adelaide

**Associate member** CARMA (a Priority Research Centre for Computer-Assisted Research Mathematics and its Applications, University of Newcastle, Australia)  
<http://carma.newcastle.edu.au/people/>

**Expertise** pour la NSF (USA), NSERC (Canada), ARC (Australia), ISF (Israel), NWO (Netherlands), SFI (Science Foundation Ireland), DFG (Allemagne) et ANR (France)

**Représentant français** à la *Euro Summer Institute on Production Planning and Control*, Eindhoven, The Netherlands, June 17-July 3rd 1988.

**Représentant français** au *Comité technique: Stochastic Systems* de l'IFAC.

**Membre des Comités de Programme** des conférences: 34th et 35th IEEE CDC, IEEE EFTA'99, International Workshop on Markov Processes and Controlled Markov Chains, Changsha, Hunan (China), 1999, CIFA 2000, 2008 International Workshop on Applied Probability (IWAP 2008), 5-th International Conference on Computational Management Science (2008), ICCOPT 2010 (Chile), ICMS 2010 (Japan), AFG'11 (Toulouse), SIAM Conference on Applications of Algebraic Geometry 2011.

**Reviewer** for *Mathematical Reviews*.

**Chairman, co-Chairman or co-organizer** de sessions à des conférences, dont: **Optimization Days, EURO/TIMS, IEEE CDC, ORSA/TIMS, World IFAC Congress, SIAM Optimization.**

**Co-organisateur** du *Production Planning and Scheduling* workshop held at Paris, July 5th 1988 (EURO working group on Production and Inventory Control).

**Co-Editeur** - des ouvrages ages *Markov Decision Processes*, vol 28 and 29 in the series **Annals of Operations Research**, 1991, et du *Handbook on Semidefinite, Conic and Polynomial Optimization*, Springer, 2011.

### A.1.6 Mobilité géographique

**Longs séjours ( $\approx 1$  an):**

- **Octobre 1978-Juillet 1979: Post-Doc INRIA** au *EECS Department*, University of California at Berkeley (USA): Professor E. Polak and P. Varaiya. *Optimization*.
- **Aout 1985-Avril 1986: Research Fellow** de la National Science Foundation (NSF) au *EECS Department*, University of California at Berkeley (USA): Professors J. Walrand and P. Varaiya. *Stochastic Control*

**Courts séjours ( $\approx 1$  à 2 mois):**

- **Aout-Septembre 1987:** PUC University at Rio de Janeiro (Brazil) (Professor P. Mahey)
- **Mai 1989:** *Faculty of Commerce*, University of British Columbia at Vancouver, Canada: Professor M. Queyranne. *Combinatorial Optimization*
- **Aout 1989 - Octobre 10th 1989:** *Laboratory for Manufacturing and Productivity* du MIT (Cambridge USA): Dr. S.B. Gershwin. *Control Theory in Manufacturing Systems*
- 16 visites d'un mois au *Département de Mathématiques* de l'Institut Polytechnique de

Mexico (IPN) dans une coopération Franco-Mexicaine (CNRS-CONACYT): Professor O. Hernández-Lerma. *Markov Decision Processes*

- **Avril 1993:** Mathematics Department, University of Leiden (A. Hordijk)
- **Novembre 1993:** Tinbergen Institute à Amsterdam (H.C. Tijms)
- **Avril-Mai 1996 and 1998:** Operations Research Department, Stanford University (USA) (P. Glynn, A.F. Veinott)
- **Janvier - Février 1997, 1998, 1999, November-Décembre 2000, January 2002, February 2008:** Center for Industrial and Applied Mathematics, University of South Australia, Adelaide (Prof. J. Filar), et au Dept. of Applied Mathematics, University of Adelaide (Prof. C. Pearce).
- **Avril 2002 et Octobre 2009:** Fields Institute for Research in the Mathematical Sciences, Totonto (long-term visitor)
- **Octobre 2002 and April 2004:** Mathematical Sciences Research Institute (MSRI, Berkeley)
- **Janvier 2007** Institute for Mathematics and its Applications (Minneapolis) (long-term visitor)
- **Octobre 2008 et 2009** Département de Mathématiques de l'Université du Queensland, Brisbane, Australie.
- **Septembre-Octobre 2010** Institute of Pure and Applied Mathematics (IPAM) à UCLA, USA. Senior Scientist.
- **Novembre 2010** Centra de Recerca Matemática (CRM), Barcelone
- **Juin-Juillet 2011** University of Queensland, Brisbane, Australie. A l'occasion d'une école d'hiver où j'étais un des deux intervenants.
- **Juillet-Aout 2013** au **Isaac Newton Institute** comme *Visiting Fellow* du Programme *Polynomial Optimization* dont j'étais l'un des 4 organisateurs.

ainsi que diverses visites plus courtes à MIT, Berkeley, Stanford, University of Michigan at Ann Arbor, Georgia-Tech at Atlanta, Mathematics Center at the University of Leiden, ETH Zurich, University of Newcastle (Australia), NTU and NUS University (Singapore)

### A.1.7 Mobilité thématique

J'ai débuté mon activité de recherche dans le domaine de la **Gestion de Production** (Planification et Ordonnancement) lors de ma thèse de doctorat et ensuite à mon entrée au CNRS. En étudiant les Horizons de Planification (thèse d'Etat), j'ai été amené à m'intéresser depuis 1985 aux **Processus de Décision Markoviens** ce qui est devenu un thème important de mon activité. J'ai en parallèle continué une activité de recherche en **Automatique, Recherche Opérationnelle**, particulièrement en **Optimisation** (statique) et depuis 1992 j'ai entamé une activité de recherche en **Mathématiques Appliquées et Probabilité** avec notamment, depuis 2000, l'utilisation de techniques récentes de géométrie algébrique non seulement pour pour l'optimisation mais aussi pour la résolution du *Problème Généralisé des Moments* (GPM) (cf. notice). Enfin, en collaboration avec E. Pauwels (IRIT, Toulouse) nous avons commencé en 2016 une activité de recherche en **Machine Learning**, qui utilise aussi certains outils de Géométrie Algébrique

eta d'Analyse des données. Finalement, en 2016 nous avons aussi commencé une activité de recherche qui consiste à développer et promouvoir la fonction de Christoffel pour la résolution de certains problèmes en analyse de données.

### A.1.8 Réalisation de logiciels

- Nous avons réalisé un logiciel prototype pour le **calcul du volume d'un polytope convexe** qui est utilisé dans des applications variées (en Economie, analyse de Complexité en informatique, en modélisation de systèmes linéaires, en VLSI design, en Statistiques...). Depuis, plusieurs personnes travaillant dans ces domaines m'ont demandé le code de cet algorithme qui semble bien marcher. Il a été ré-écrit et amélioré depuis par B. Bueeler de l'ETH Zurich qui l'a inséré dans une boîte à outils VINCI avec d'autres algorithmes de volume (cf. le Logiciel **VINCI** au laboratoire LIX de l'X

<http://www.lix.polytechnique.fr/Labo/Andreas.Enge/vinci/manual/manual.html>).

Par la suite il a été utilisé dans de nombreuses applications très différentes. Par exemple en EDP, utilisé comme élément de base dans une nouvelle méthode (*the Natural Element Method*) de résolution d'équations aux dérivées partielles sur des grilles hautement irrégulières (article de Braun et Sambridge, dans *Nature* **376** (1995), pp. 655-660), en Géophysique pour l'analyse de tremblements de terre<sup>3</sup>, et plus récemment en Analyse Numérique<sup>4</sup>, en Physique Quantique<sup>5</sup> ainsi qu'en Médecine et Biologie<sup>6</sup>.

- En collaboration avec D. Henrion (LAAS) et J. Lofberg (Suède), nous avons mis au point la deuxième version du logiciel **GloptiPoly** (<http://www.laas.fr/~henrion/software>) gratuit et accessible via internet. Il est à notre connaissance le premier logiciel dédié à la résolution du **Problème Généralisé des Moments**. Sa première version disponible sur le site du MATLAB Central file exchange

[www.mathworks.com/matlabcentral/fileexchange/loadCategory.do](http://www.mathworks.com/matlabcentral/fileexchange/loadCategory.do)

était initialement dédiée à l'optimisation globale uniquement. Elle est annoncée et décrite aussi sur la page web de l'IEEE Control Systems Society Public Information. GloptiPoly est déjà référencé sur de nombreux sites dédiés à l'optimisation et a fait partie des 30 finalistes (sur 160 participants) de l'EASA (European Academic Software Award) à Le Locle (Suisse, Septembre 2004), [www.easa-award.net/llab/easa.nsf/](http://www.easa-award.net/llab/easa.nsf/).

### A.1.9 Information scientifique et valorisation

- **Cours de formation** de trois jours à Dassault Aviation (Toulouse) intitulé *Panorama des Techniques de Recherche Opérationnelle* en 1997.

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<sup>3</sup>T. Nicholson, M. Sambridge, O. Gudmundsson, *On entropy and clustering in earthquake hypocentre distributions*, Geophys. J. Int. **142** (2000), pp. 37–51.

<sup>4</sup>Zhiqiang Xu, *Multivariate splines and polytopes*, J. Approximation Theory **163** (2011), pp. 377–387.

<sup>5</sup>E. Bianchi, P. Doná, S. Speziale, *Polyhedra in loop quantum gravity*, arXiv:1009.3402v2, 2011.

<sup>6</sup>E. Heath, F. Tessier, I. Kawrakov, *Investigation of voxel warping and energy mapping approaches for fast 4D Monte Carlo dose calculations in deformed geometries using VMC++*, Phys. Med. Biol. **56** (2011), pp. 5187–5202.

- **Cours** d'Optimisation à une *AMS short course* lors de la conférence annuelle de l'AMS (American Mathematical Society) à Phoenix, en Janvier 2004.
- **Cours** à la *Summer School in Optimization* de la 7th French-Latin American Congress in Applied Mathematics, Santiago du Chili, Janvier 2005
- **Cours** à la *Doctorate School on : Optimization over Polynomials and Semidefinite Programming*, University of Klagenfurt (Austria), Septembre 2005.
- **Cours** au *3ième Cycle Romand de Recherche Opérationnelle*, Zinal, Suisse (Mars 2007).
- **Cours** à l'école d'été *NAPIO 2008*, ETH Zurich et Ascona, Juin 2008.
- **Cours** à la *Advanced Course on Optimization: Theory, Methods and Applications* au CRM (Centre de Recerca Matemàtica) de Barcelone, Juillet 2009.
- **Cours** à la *VI Escuela de Verano en Matemáticas Discretas*, Valparaiso, Chili, Janvier 2011
- **Cours** à la *Lunteren Conference on the Mathematics of Operations Research*, Lunteren (Pays Bas), Janvier 2011 [www.lnmb.nl/conferences](http://www.lnmb.nl/conferences)
- **Cours avancé** durant le trimestre *Metric Geometry, Algorithms and Groups* de l'Institut Henri Poincaré (IHP), Janvier 2011 - Avril 2011.  
[www.math.ens.fr/metric2011/](http://www.math.ens.fr/metric2011/)
- **Cours** à l'Ecole d'hiver **AMSI 2011** (Australian Mathematical Sciences Institute), Brisbane, Juin-Juillet 2011
- **Cours** à la *Postgraduate Winter School DICOP 2012*, Juillet 2012, Piura (Pérou).
- à la *Doctoral School Applied Mathematics and Optimization* de l'Institut de Mathématiques de Séville (IMUS), Mars 2015.  
[http://www.imus.us.es/DC/2014\\_OPT/](http://www.imus.us.es/DC/2014_OPT/).
- **Cours** à la *4th Summer School on Symbolic Computation* (SSSC 2015), Beijing, Août 2015.

#### A.1.10 Enseignement

- **Cours et TD** d'Optimisation en 4ème année de l'INSA de Toulouse (1997).
- **Cours avancé** d'Optimisation du **Master: M2: Mathématiques et Applications**, Spécialité: *Mathématiques de la Modélisation*, cohabilité par l'Université Pierre et Marie Curie, l'Université Paris X, et l'Ecole Polytechnique, 2003, 2004, 2008, 2009.
- **Cours** d'Optimisation du **Master: M2R: Informatique et Télécommunications**, parcours *M2RIT-RO* (Recherche Opérationnelle) de l'Université Paul Sabatier, Toulouse. (à partir de 2012)
- **Cours Moments, Positive Polynomials and LMIs for Optimal Control** (avec D. Henrion), à la *International Graduate School on Control of EECI* (European Embedded Control Institute), 2014 et 2016
- **Advanced Course in Nonlinear Optimization** (avec E. Carrizosa et J. Puerto), à la *Doctoral course Applied Mathematics and Optimization* de l'Institut de Mathématiques de Séville (IMUS), Mars 2015. [http://www.imus.us.es/DC/2014\\_OPT/courses.htm](http://www.imus.us.es/DC/2014_OPT/courses.htm)
- **Cours Invité Positive Polynomials and Optimization** dans la cadre du **MASTER 2 OPTIMIZATION** de l'Université Paris-Orsay, March 2016.

### A.1.11 Responsabilités contractuelles

- **Expertise** de dossier FAMOS pour projet EUREKA.
- **Expertise** du contrat 18036 Etat-Région Pole Productique régional (Pays de la Loire, 2002)
- **Expertise** à University College Cork (Irlande) du projet *Probability and its Applications to the Development of ICT* pour SFI (Science Foundation Ireland), Février 2007.
- **Responsable** d'un contrat *Un logiciel pour la Planification et l'Ordonnancement en gestion de production* avec la Région Midi-Pyrénées (1989-1991).
- **Responsable** d'un contrat *Planification et Ordonnancement Intégrés*, avec la société SYSECA et le MRT (1991-1993)
- **Co-Responsable** d'une convention CIFRE avec la société AEROSPATIALE de Toulouse (1993-1995, thèse de Mr. Builles)
- **Expert** du contrat Etat-région 18036 (Pays de la Loire) Pôle Productique Régional (2002-2006).
- **Participation** à une étude contractuelle avec la société EBC sur *Planification et Ordonnancement Intégrés* (2001-2002)
- **Responsable** du contrat ANR **MOGA** (*Moments, Optimisation et Géométrie algébrique*) (2006-2008).
- **Responsable du projet** *Autour de l'Optimisation Polynomiale* (2013-2015) du *Gaspard Monge Program for Optimization and Operations Research* (PGMO).
- **Responsable du projet** *Taming Non Convexity?* dans le cadre de l'ERC-ADVANCED GRANT **TAMING #666981** (2015-2019).

**J.B. LASSERRE, DR CNRS émérite**  
**PRODUCTION**

**I. OUVRAGES: Co-Auteur.**

1. **J.B. Lasserre, E. Pauwels, M. Putinar**  
*The Christoffel-Darboux Kernel for Data Analysis*, Cambridge University Press, Cambridge, 2022 (In press)
2. **D. Henrion, M. Korda, J.B. Lasserre**  
*The Moment-SOS Hierarchy: Lectures in Probability, Statistics, Computational Geometry, Control and nonlinear PDEs*, World Scientific, Singapore, 2020
3. **Jean B. Lasserre**  
*An Introduction to Polynomial and Semi-Algebraic Optimization*, Cambridge University Press, Cambridge, 2014.
4. **R. Cominetti, F. Facchinei, J.B. Lasserre**  
*Modern Optimization Modelling Techniques*, Birkhäuser Verlag, Berlin, 2012
5. **Jean B. Lasserre**  
*Moments, Positive Polynomials and Their Applications*, Imperial College Press, London, 2010; (Cf. Review dans la revue *Foundations of Computational Mathematics* à la fin du rapport.)
6. **Jean B. Lasserre**  
*Linear and Integer Programming vs Linear Integration and Counting*, Springer-Verlag, New York, 2009. (Cf. Review dans MathSciNet (AMS) par J. Borwein à la fin du rapport.)
7. **Hernández-Lerma O. and J.B. Lasserre**  
*Markov Chains and Invariant Probabilities*, Birkhäuser-Verlag, Basel, 2003.
8. **Hernández-Lerma O. and J.B. Lasserre**  
*Further Topics on Discrete-Time Markov Control Processes*, Springer-Verlag, New-York, 1999.
9. **Hernández-Lerma O. and J.B. Lasserre**  
*Discrete-Time Markov Control Processes: Basic Optimality Criteria*, Springer-Verlag, New-York, 1996.
10. **Dauzère-Péres S. and J.B. Lasserre**  
*An Integrated Approach to Production Planning and Scheduling*. Lecture Notes in Economics and Mathematical Systems, Springer-Verlag, 1994.

**II. OUVRAGES: co-Editeur.**



1. **J.P. Laumond, N. Mansard and J.B. Lasserre**  
*Geometric and Numerical Foundations of Movements*, Springer Tracts in Advanced Robotics, 2017
2. **Anjos M. and J.B. Lasserre**  
*Handbook on Semidefinite, Conic and Polynomial Optimization*, Springer, 2011
3. **Hernández-Lerma O. and J.B. Lasserre**  
*Markov Decision Processes*, volumes 28 and 29 in *Annals of Operations Research*, 1991.

### III. OUVRAGES: Contributions.

1. **Pauwels E., Henrion D., Lasserre J.B.** *Positivity Certificates in Optimal Control*, in : Geometric and Numerical Foundations of Movements, J.-P. Laumond, N. Mansard and J.B. Lasserre (Eds.) Springer Tracts in Advanced Robotics, 2017.
2. **Anjos M. and J.B. Lasserre.**  
*Introduction to Semidefinite, Conic and Polynomial Optimization*, in : Handbook on Semidefinite, Conic and Polynomial Optimization, M. Anjos and J.B. Lasserre (Eds.), Springer 2012, pp. 1–22.
3. **Lasserre J.B.**  
*A “joint+marginal” approach in optimization*, in : Handbook on Semidefinite, Conic and Polynomial Optimization, M. Anjos and J.B. Lasserre (Eds.), Springer 2012, pp. 271–296.
4. **Lasserre J.B. and M. Putinar.**  
*Positivity and Optimization: Beyond Polynomials*, in : Handbook on Semidefinite, Conic and Polynomial Optimization, M. Anjos and J.B. Lasserre (Eds.), Springer 2012, pp. 407–434.
5. **Lasserre J.B.**  
*Duality and a Farkas lemma for integer programs*, in : Optimization : Structure and Applications, E. Hunt and C.E.M. Pearce, Editors, Kluwer Academic Publishers, 2009.
6. **Lasserre J.B., Laurent M. and P. Rostalski.**  
*A unified approach to computing real and complex zeros of zero-dimensional ideals*, in: Emerging Applications of Algebraic Geometry, M. Putinar and S. Sullivant, Editors, IMA Volumes in Mathematics and its Applications, Springer-Verlag, 2008
7. **Lasserre J.B., E.S. Zeron**  
*Simple explicit formula for counting lattice points of polyhedra*, Lecture Notes in Computer Science 4513, Springer Verlag, pp. 367–381, 2007

8. **Lasserre J.B.**  
*SDP versus LP Relaxations in Polynomial Programming* in : Novel Approaches to Hard Discrete Optimization, P. Pardalos and H. Wolkowicz, Editors, *Fields Institute Communications*, American Mathematical Society, 2003.
9. **Lasserre J.B.**  
*New positive semidefinite relaxations for nonconvex quadratic programs*, in : Advances in Convex Analysis and Global Optimization, N. Hadjisavvas and P. Pardalos (Editors), Kluwer Academic Publishers, Dordrecht, 2001.
10. **Hernández-Lerma O. and J.B. Lasserre**  
*The Linear Programming Approach* in : Handbook on Markov Decision Processes, E. Feinberg and A. Shwartz (Editors), Kluwer Academic Publishers, 2001.
11. **Lasserre J.B. and S. Dautère-Péres**  
*Planification et Ordonnancement Intégrés*, in: Concepts et Outils pour les Systèmes de Production, J.C. Hennet (Coordinator), Cépaduès-Editions, Toulouse, 1997.
12. **Roux W, S. Dautère-Péres and J.B. Lasserre**  
*Ordonnancement avec Allocation de Ressources*, in: Concepts et Outils pour les Systèmes de Production, J.C. Hennet (Coordinator), Cépaduès-Editions, Toulouse, 1997.
13. **Lasserre J.B. and F. Roubellat**  
*Measuring Decision Flexibility in Production Planning*, in: Modeling and Control of Automated Manufacturing Systems, Alan A. Desrochers (Editor), IEEE Computer Society Press Tutorial, 1990.
14. **Lasserre J.B., Bès C. and F. Roubellat**  
*Some New Planning Horizons Results in Inventory Management*, in: Production Management: Methods and Studies, B. Lev (Editor), Elsevier Science Publishers, North Holland, 1986.

#### IV. REVUES INTERNATIONALES

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- [1] **Henrion D., Lasserre J.B.** Graph recovery from incomplete moment information, *Constructive Approximation*, to appear.
- [2] **Tacchi M., Weisser T., Lasserre J.B., Henrion D.** Exploiting sparsity in semi-algebraic set volume computation, *Found. Comput. Math.*, 2021 to appear.
- [3] **Marx S., Pauwels E., Weisser T., Henrion D. Lasserre J.B.** Semi-Algebraic approximation using Christoffel-Darboux kernel, *Constructive Approximation*, 2021 to appear

- [4] **Lasserre J.B.** Connecting optimization with spectral analysis of tri-diagonal matrices, *Math. Program. Sér. A*, 2021 to appear
- [5] **Lasserre J.B.** The moment-SOS hierarchy and the Christoffel-Darboux kernel, *Optim. Letters*, 2021, to appear
- [6] **Hoang Mai, Lasserre J.B., Magron V.** Positivity certificates and polynomial optimization on non-compact semialgebraic sets, *Math. Program. Sér. A.* , 2021 to appear
- [7] **Wang Jie, Magron V., Lasserre J.B.** TSSOS: A Moment-SOS hierarchy that exploits term sparsity, *SIAM J. Optim* 31(1), pp. 30–58, 2021
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- [17] **Foucart S., Lasserre J.B.** Computation of Chebyshev polynomials on unions of intervals, *Comput. Methods & Function Theory* 19, pp. 625–641, 2019
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- [44] **Lasserre J.B.** Moments and Legendre-Fourier Series for Measures supported on Curves, *SIGMA* 11, No 077, 10 pages, 2015
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