Jean Bernard Lasserre Curriculum Vitae

1. General

Last name and given name: LASSERRE Jean Bernard Birth date and place: May 11th 1953, France Professional address: LAAS-CNRS, 7 Avenue du Colonel Roche 31077, Toulouse Cédex 4, France. Tél: 33 561 33 64 15; Email: lasserre@laas.fr; web: http://homepages.laas.fr/lasserre/

Fields of expertise: Operations Research, Machine Learning, Scientific Computing. Disciplines: Optimization, Applied Mathematics, Probability, Real Algebraic Geometry,

2. Professional Experience:

1978-1979: Visiting Scholar with INRIA fellowship at the *Electrical Engineering and* Computer Science Department, University of California at Berkeley.

1979-1980: Military Service

1980-1983: Attaché de Recherche au CNRS (LAAS, Toulouse)

1983-1991: Chargé de Recherche au CNRS, (LAAS, Toulouse)

1985-1986: NSF Research Fellow at the Electrical Engineering and Computer Science Department, University of California at Berkeley.

1992 \rightarrow **present:** *Directeur de Recherche au CNRS*, (LAAS, Toulouse). **2004**: 1ère Classe; **2014**: Classe Exceptionnelle.

3. Education:

1973-1976: Ingénieur ENSIMAG, Grenoble

1976-1978: Docteur Ingénieur de l'Université Paul Sabatier, Toulouse, France. 1984: Docteur d'Etat (Sciences), Université Paul Sabatier, Toulouse, France

3. International recognition

3.1 Distinctions

- 2021 Grand prix INRIA-Académie des Sciences
- Simons CRM Professor ate the CRM center in Montreal (October 2019)

• Invited Speaker at the International Congress of Mathematicians (ICM 2018),

Rio de Janeiro, August 2018: Section 16: Optimal Control & Optimization

- 2015 John von Neumann Theory prize of the INFORMS society
- 2015 Khachiyan Prize of the Optimization Society of INFORMS.
- 2009 Lagrange Prize in Continuous optimization.
- ERC-Advanced Grant Laureate in 2014 (TAMING project).
- SIAM Fellow (class of 2014)

• Proposed in 2004 for the CNRS silver medal.

• Visiting Fellow of the Isaac Newton Institute (Cambridge, UK), 2013

• Visiting Research Fellow of UNSW (University of New South Wales, Sydney, Australia), March 2013.

• **CARMA Associate member** (a Priority Research Centre for Computer-Assisted Research Mathematics and its Applications, University of Newcastle, Australia)

• **Distinguished Lecture** at the 90th anniversary of the Mathematics Department of National University of Singapore (NUS, September 2019)

• Distinguished Speaker in the *High Performance Computing in Engineered Systems* (HPCES) program at MIT, April 2003, at the **MATEMATICKÉ KOLOKVIUM**, Prague, April 2017, and the CERMICS Colloquium (Ecole des Ponts, Paris, France, 2022)

• Committee member of prize jury: 2021 Moreau Prize of the french Academy of Sciences, 2018 Fermat Prize, 2019 and 2020 Sephora Berrebi prize, and 2019 Khachiyan Prize, 2014 Farkas Prize of INFORMS society.

• INRIA Post-Doc Fellowship (EECS Dept., UC Berkeley, 1978-1979)

• NSF Research Fellow (EECS Dept., UC Berkeley, 1985-1986)

• **ISSAC'2019 Best paper Award** (with Florent Bréhard and Mioara Joldes) at the ISSAC 2019 conference in Beijing, July 2019.

• Paper Pricing a class of exotic options via moments and SDP relaxations, Math. Finance 16 (2006), 469–494, with T. Prieto-Rumeau and M. Zervos, nominated by the Europlace Institute of Finance (Paris) for the 2006 Best paper in Mathematical Finance.

• Paper A sum of squares approximation of nonnegative polynomials, SIAM J. Optim. 16 (2006), 751–765, selected in the SIGEST section of SIAM Review (SIAM Review 49 (2007), 651–669, December 2007).

3.2 Co-organizer of international programs:

• with D. Bertsimas, B. Helton, J. DeLoera, P. Parrilo and M. Putinar, of the theme *Optimisation and Control* for the Winter Quarter 2007 of the 2006-2007 year *Applications of Algebraic Geometry* at the *Institute of Mathematics and its Applications* (IMA, Minneapolis).

• with M. Putinar (UCSB, Santa Barbara), M. Charina and J. Stöcher (Dortmund). *Structured Function Systems and Applications* du **Oberwolfach Institute** (Allemagne), February 2013.

• with A.Letchford (Lancaster), M.Schweighofer (Konstanz), and G.Fliege (Southampton). *Polynomial Optimization* program at the Isaac Newton Institute (Cambridge, UK) (July-August 2013)

• with S. Robins and D. Pasechnik (Nanyang Technological University, Singapore). 3-month program *Inverse Moment Problems* of the **Institute for Mathematical Sciences** (IMS, Singapour), Décember 2013 - February 2014.

- **3.3 Invited member of Research Institutes** (financial support from the Institute) • Simons Institute for the Theory of Computing (University of California at Berkeley) Plenary speaker (2014) and long-term visitor in 2017. • Isaac Newton **Institute for the Mathematical Sciences** (Cambridge, UK). Visiting Fellow, July-August 2013. • Fields Institute for Research in Mathematical Sciences (Toronto). Long term visitor in May 2002, in October 2009, and in July 2017. • Mathematical Sciences Research Institute (MSRI, Berkeley, USA) in 2002 and 2004. • Institute of Mathematical Sciences and its Applications (IMA, Minneapolis, USA). Long term visitor in 2007 and invited speaker in 2003, 2005 and 2016. • Institute of Pure and Applied Mathematics (IPAM, UCLA, Los Angeles). CORE participant in 2010, 2019 and 2025. • American Institute of Mathematics (AIM, Palo Alto, USA). Invited speaker in 2005, 2009 and in a **SQUARE** Program in 2020. • **Banff International Research Station** (BIRS, Canada and BIRS-CMO, Oaxaca, Mexico), in 2006, 2010, 2016, 2017 and 2019. Centre International de Rencontres Mathématiques (CIRM, Marseille). in 2005, 2010, and 2013. • Institute for Mathematical Sciences (IMS, Singapour) in 2006, 2012, and 2013. • Oberwolfach Institute (Germany) in 1994, 2002, 2013, 2014, 2015 and 2019. • Institut Henri Poincaré (IHP, Paris). An Advanced course in 2011 in the program Metric Geometry, Algorithms and Groups. • Centre de **Recerca Matemática** (CRM, Barcelona). Advanced course **Optimization** in July 2009 and invited in November 2010. • Institut de Recherche Mathématique de l'Université de Séville (IMUS, Séville, Espagne) in 2010 and 2015. • Vietnam Institute for Advanced Studies in Mathematics (VIASM, Hanoi) in 2014, 2016, and 2019. • Institute for Computational and Experimental Research in Mathematics (ICERM, Brown University, USA) in 2014 (twice) and 2018. Chern Institute of Mathematics (Tianjin, China) in 2016.
- **3.3 Plenary, semi-plenary or Keynote speaker** at about 26 International Conferences, symposia and workshops, including: • 19th International Symposium on Mathematical Programming (ISMP2006), Rio de Janeiro (2006) (semi-plenary). New Algorithmic Paradigms in Optimization (Summer School and Workshop), ETH Zurich, June 2008. (Plenary). • SMF-VMS Joint Congress (Société Mathématique de France et Société Mathématique Vietnamienne), Hué, 2012 (Plenary). • 2013 International Linear Algebra Society (ILAS) Meeting, 2013 (Plenary). • Optimization for Machine Learning Workshop of the Neural Information Processing Systems Foundation (NIPS 2014) conference (Plenary). • Non convex Optimization in Machine Learning workshop of the Neural Information Processing Systems Foundation (NIPS 2016) (Keynote). • SIAM Conference on Control & its Applications (SIAM CT17), Pittsburgh, July 2017 (Plenary). • CaP 2018 (Plenary) • Modern Topics in Quantum Information Conference and Workshop, International Institute of Physics, Natal, Brasil (August 2018) (Keynote) • 8th French-Israeli Workshop on Foundation of Computer Science, Tel Aviv, November 2019 • French-German Machine Learning Symposium, May 2021, (Zoom) • IEEE CASE 21, Lyon, 2021 (Plenary) • Keynote

lecture, Curves and Surfacesconference, Arcachon, June 2022 • IFAC CAO 2022, Gif-sur-Yvette, (Plenary) • ICCOPT 2022, Lehigh University (Plenary) (cancelled)

3.4 Speaker at invited courses at several Winter and Summer schools including: • AMS short course on Optimization in 2004. • Invited Course Positive Polynomials and Optimization in the MASTER 2 OPTIMIZATION of the Paris-Orsay University, March 2016. • 2017 Grid Science Winter School & Conference in Los Alamos, 2017. • Semi-algebraic geometry and applications, at VIASM in Hanoi, Vietnam (2023). • Optimization-Conscious Econometrics Summer School, University of Chicago, 2021, 2023.) • Mini-course Moment-SOS hierarchy and the Christoffel function at the Math. Department of NUS (Singapore, 2023).

4. Publications:

About 200 publications in international journals and author/co-author of 10 books (Cambridge University Press, Springer, Imperial college Press, World Scientific). For a detailed list see https://homepages.laas.fr/lasserre/