

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;

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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 → 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** at 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).
- **Proposed** in 2004 for the CNRS silver medal.

- **Senior Fellow** of the IPAM Institute (UCLA, Spring 2025)
- **SIAM Fellow** (class of 2014)
- **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), Décembre 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 Matemàtica** (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 Surfaces* conference, 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://www.laas.fr/en/homepages/lasserre/>