Curriculum vitae.

Alessio Porretta

Personal data

Place and date of birth: Roma, 8/2/1973.
Personal address: Via Tommaso Gulli 11, 00195 Roma (Italy).
Professional address: Università di Roma Tor Vergata, Dipartimento di Matematica, Via della Ricerca Scientifica 1, 00133 Roma (Italy). Tel. +390672594686
Spoken languages: italian, english (Cambridge Proficiency Exam), french (excellent).

Education

- **Bachelor degree (Laurea) in Mathematics, 14/7/1995, Università degli studi di Roma La Sapienza, 110/110 cum laude.**

- **PH.D in Mathematics, Università degli studi di Roma La Sapienza, 3/3/2000**, PHD thesis "Elliptic and Parabolic Equations with natural growth terms and measure data", advisor Prof. L. Boccardo.

Academic positions

- **Full Professor** in Mathematical Analysis since 2016 at Università Tor Vergata di Roma.

- Previous positions:
  - "Associate Professor" at Università Tor Vergata di Roma since 2005 until 2016.
  - "Ricercatore Universitario" at Università Tor Vergata di Roma since 1999 until 2004.

Visiting positions.

2015

- *Invited Professor* at Université Paris Dauphine, 2 months.

- *Invited Professor* at Université Paris Diderot (Paris VII), 1 month.

- *Invited Professor* at Université Paris XIII, 1 month.

2014

- *Invited Professor* at Labex CIMI, Université Paul Sabatier (Toulouse), 1 month.

2012

- *Invited Professor* at Université Pierre et Marie Curie (Paris VI), 1 month.

2011

- *Visiting Fellow* at BCAM (Basque Research Center in Mathematics), Bilbao, 1 month.

- *Invited Professor* at Université Paris Dauphine, 1 month.

2008

- *Invited Professor* at Université Pierre et Marie Curie (Paris VI), 1 month.

- *Invited Professor* at Université Francois Rabelais (Tours), 1 month.

2001

- *Maitre de Conference Invité* at Université de la Provence, Marseille, 1 month.

Further long term research invitations

2005

- *Invited researcher* (RTN European funds) at Université Francois Rabelais di Tours, 1 month.

2003

- *Invited researcher* (RTN European funds) at Université Francois Rabelais di Tours, 1 month.

2002

- *Post-doc research position* at Université Pierre et Marie Curie (Paris VI) (advisor H. Brezis), 2 months.

- Short invited visits (1–2 weeks) for scientific collaborations at Université Dauphine (Paris, Prof. P. Cardaliaguet and P.-L. Lions), Université Paris VI (Prof. F. Murat), Université Paris VII (Prof. Y. Achdou), EHSS (Paris, Prof. H. Berestycki and L. Rossi), Université de Provence (Marseille, Prof. T. Gallouët), Université de Tours (Prof. L. Véron, Prof. G. Barles), Universidad Autonoma di Madrid (Prof. I. Peral), Universidad de Sevilla (Prof. J. Casado Diaz), Universidad de Valencia (Prof. S. Segura de Leon, Prof. J. Mazon), Universidad de Granada (Prof. D. Arcoya), BCAM Research Center (Bilbao, Prof. E. Zuazua), IAS Princeton (Dr. A. Ponce), Technische Universität Berlin (Prof. P. Wittbold), Waseda University (Tokyo).

Highlights

- In 2019, I have won the Prize "Gaetano Fichera" for my article *Weak solutions to Fokker-Planck equations and mean field games*, Arch. Rat. Mech. Anal. 216 (2015), 1–62. This article is also a **highly cited paper** (Isi Web of Science) in 2015-2016.

- In the first national Norwegian Meeting on PDEs, held in 2019, I was invited as one of the three international special guests (together with E. Fereisl and L. Vega).

- In 2016, I was invited by **ETH Zurich** to give a short course at FIM about *mean field games*. In 2017-2019 I also gave courses on mean field games at the **Chicago University**, at **GSSI** (L'Aquila) and at **University of Kaust** (Saudi Arabia).

- In 2015 I was classified in second place for the Junior Chair of the **Fondation Science Mathematique de Paris** and I was invited by the **FSMP** and the **Chaire Finance et Developpment Durable** to give a course at IHP (Institute Henri Poincaré) dedicated to *mean field games*.

- At XX Conference of UMI 2015 (Siena) I was invited to give a general conference of 25' .

- During 2014-2015 I was appointed as **Professeur Invité** by 4 different universities in France.

- In 2013 I got the italian national qualification as Professore Ordinario. According to the ANS committee *the works of the candidate had an extraordinary impact on the scientific community.*

- In 2009 I was invited to give a **conference at Collège de France**, Paris (title: *Solutions explosives, contrainte sur l'etat et comportement asymptotique des solutions d'equations de Hamilton-Jacobi*).

Prizes

- **Prize "Carlo Miranda"** for young researchers in Mathematical Analysis (Italy) for the year 2002.

- **Prize "Gaetano Fichera"** 2018 given by the Unione Matematica Italiana.

Invited talks at international conferences

2019

-Long time behavior of mean field games, New trends in Hamilton-Jacobi equations, Shanghai (Cina).

Mean field games: at the crossroad between optimal control and optimal transport, First Norwegian Meeting on PDE, Trondheim (Norvegia).

2018

-On the turnpike property in mean field games, MINAKE (Microlocal and numerical Analysis, Kinetic equations and Control), Madrid (Spagna).

-Long time behavior of mean-field games, Interaction Models: mean field games, pattern formation and related topics, Padova (Italia).

2017

-Stability and trend to equilibrium in mean-field games systems, VAEMSEP, Napoli (Italia).

2016

-The role of convexity in mean field games systems, Advances in convex analysis and optimization, Centro E. Majorana, Erice (Italia).

-Weak solutions of mean field games systems, Hamilton-Jacobi equations, new trends and applications, Rennes (Francia).

-Nonlinear PDEs: Optimal Control, Asymptotic Problems and Mean Field Games, Padova (Italia).

2015

-On the weak theory for mean field games systems with local coupling, 3rd Conference on Mean-field Games and related topics, Paris (Francia).

-On the weak theory for mean field games system, Workshop on Control of PDEs, joint meeting GDRE-CONEDP and GSSI, L'Aquila (Italia).

-Natural growth and beyond, Three days in PDEs and calculus of variations between Italy and Spain, Roma (Italia).

2014

Weak solutions to Fokker-Planck equations and mean field games, 8th European Conference on Elliptic and Parabolic Problems, Gaeta (Italia).

2013

-Long time average of Mean Field Games, Equadiff 13, Praga (Czech Republic).

-Controllability issues in Mean Field Games theory, Partial differential equations, optimal design and numerics, Benasque (Spagna).

-Controllability of Fokker-Planck equations and the planning problem for mean field games, Mathematical Control in Trieste, SISSA (Italia).

-*Weak solutions to Fokker-Planck equations and Mean Field Games*, 15ème Rencontres Mathématiques de Rouen (a la memoire de Dominique Blanchard), Rouen (Francia).

- *Null controllability of viscous Hamilton-Jacobi equations*, Differential Equations, Inverse problems and control theory, Cortona (Italia).

2012

-*Long time behavior of Mean Field Games*, Trilateral Meeting Australia-Taiwan-Italy, Wollongong (Australia).

-*Long time average of Mean Field Games*, IMA Workshop on Mean Field Games, Minneapolis (USA).

- *Lipschitz estimates, coupling method and doubling variables*, Mostly Maximum Principle, Rome (Italia).

- *Null controllability of viscous Hamilton-Jacobi equations*, Quasilinear equations and singular problems, Tours (Francia).

2010

- *On the construction of p-harmonic functions in a cone*, Nonlinear Conference on PDEs with measure data, Technion Haifa, (Israël).

2009

- *The ergodic limit and asymptotic behavior for viscous H-J equations*, International Workshop on Homogenization and Optimal Design, Seville (Spain).

2008

- *Gradient estimates for boundary blow-up solutions and applications*, AIMS Conference, Arlington Texas (USA).

2007

- *Hölder estimates for degenerate viscous Hamilton–Jacobi equations*, special session "Viscosity solutions and applications to PDE", ICIAM conference, ETH Zurich (Svizzera), 2007.

- *Elliptic equations with boundary blow-up arising from a state constraint problem*, Journées de mathématiques appliquées à l'occasion du 60ème anniversaire de François Murat, Paris (Francia)

2006

- *The boundary behaviour of blow–up solutions related to a state constraint problem*, New trends in viscosity solutions and nonlinear PDEs, Lisbon (Portogallo).

2005

- *On a class of viscous Hamilton–Jacobi equations*, Nonlinear equations with infinite energy solutions, Cortona (Italia)

2004

- *Nonlinear Stefan problems with convection*, RTN Mid–Term conference in Leiden (Olanda).

2002

- *Measures and capacity in elliptic and parabolic equations*, Journées d'Analyse Nonlinéaire, Fez (Marocco).

- *Absorption effects in a class of nonlinear equations*, Recent Advances on Calculus of Variations and PDEs, Pisa (Italia).

- Invited seminars have been given in several italian and foreign universities, among which *Rutgers University (New York)*, *Waseda University* (Tokyo), *Technische Universität Berlin*, *Université Paris VI*, *Université Paris Dauphine*, *CMAP Ecole Polytechnique (Paris)*, *Université F. Rabelais (Tours)*, *Université Versailles St. Quentin*, *Université de Rennes*, *Université de Provence (Marseille)*, *Université de Besançon*, *Universidad Autonoma Madrid*, *Universidad de Sevilla*, *Universidad de Valencia*, *Universidad de Granada*, *BCAM Research Center (Bilbao)*.

- Invited to give a course: "Elliptic equations with first order terms" at the *Ecole CIMPA at Alexandria (Egypt)*, 2009.

- Invited to give a course: "Théorie des équations elliptiques et paraboliques non linéaires " at the *Ecole CIMPA* in Tangeri (Marocco), 2014.

- Invited to give a conference (30') at the XVII Congresso de l'Unione Matematica Italiana (Milano) in 2003, title: *Effetti locali e globali in equazioni ellittiche con assorbimento.*

Editorial activities

- **Member of the Editorial Board** of the review *Ann. Henri Lebesgue* (ENS Rennes and Henri Lebesgue Center), France.

- **Member of the Editorial Board** of the review *Acta Applicandae Mathematicae*, Springer ed., Netherlands.

- **Member of the Editorial Board** of the review *Mathematical Control & Related Fields*, AIMS ed., USA.

- **Referee** for several reviews, among which Arch. Rat. Mech. Anal., Ann. IHP, Siam J. Math. Anal., Siam. J. Control Optim., Calc. Var. PDEs, Ann. Scuola Normale Sup. Pisa, Indiana Univ. Journal, J. Diff. Equations, J. Functional Anal., Comm. P.D.E., Comptes Rendus de l'Acad. Sci. Paris, Math. Methods and Models for Appl. Sci, Nonlinear Analysis, NoDea Diff. Eq.

Funding ID.

2018 - P.I. of the project *Dynamic Optimization in Multi-Agents phenomena*, Tor Vergata 2018-2021.

2018 - P.I. of INDAM (GNAMPA) project "Sistemi di equazione nella teoria mean field games ".

2015 - P.I. of INDAM (GNAMPA) project "Processi di diffusione degeneri o singolari legati al controllo di dinamiche stocastiche ".

2013 - P.I. of INDAM (GNAMPA) project "Modelli di campo medio nelle dinamiche di popolazioni e giochi differenziali ".

2011 - P.I. of INDAM (GNAMPA) project "Teoria dei giochi nel limite di campo medio ".

2010 - P.I. of INDAM (GNAMPA) project "Proprietà di regolarità in Equazioni alle Derivate Parziali nonlineari legate a problemi di controllo ".

2008 - P.I. of INDAM (GNAMPA) project "Problemi di diffusione degeneri".

- *Short listed* for ERC Starting Grants projects in 2012.

Organization of Meetings and Conferences

- *Mean Field Games*, CIME school (Cetraro), 2019.
- *New trends in control theory and PDE*, INDAM (Roma), 2017.
- *Mean field games and related topics - 4*, Roma, 2017.
- *PDE methods for multi-agents phenomena*, INDAM (Roma), 2016.

Advisor and committees

- **Advisor** of the PHD thesis of Dr. M. Magliocca in Rome, 2017.

- **Advisor** of the PHD thesis of Dr. T. Leonori in Rome, 2005.

  Contribution, through scientific collaboration, to the PhD Theses of J. Droniou (PHD in Marseille), J. Vovelle (PHD in Marseille), C. Cancès (PHD in Marseille), T. Tabet Tchamba (PHD in Tours).

- Member of the jury of the *Thèse d'Habilitation a diriger des recherches* for Boris Andreianov (Université Besançon, 2011) and Emmanuel Chasseigne (Université di Tours, 2014).

  Member of the jury of the PHD Thesis of Charles Bertucci (Univ. Paris Dauphine, France, 2018), Eero Ruosteenoja (Univ. Jyvaskyla - Finland - 2017), Alexandro

Pozo (Univ. Bilbao - Spain- 2014), Amal Attouchi (Université di Paris XIII - France - 2014), Phuoc Tai Nguyen (Univ. Tours - France - 2012).

Main fields of research and pursued themes.

- *Mean field games.* Long time behavior of mean field games and the connections with turnpike properties of optimality systems. Weak theory to mean field games systems with local coupling. Optimal transport of the distribution law and well-posedness of the planning problem. PDE approaches to the master equation.

- *Viscous Hamilton-Jacobi equations and gradient bounds.*
  Global Lipschitz bounds for equations with singular drifts at the boundary. Connections between the viscosity solutions' doubling variable approach and the probabilistic coupling methods for Lipschitz bounds.
  A priori estimates for divergence form elliptic equations with superlinear first order terms. Uniqueness results for unbounded weak solutions of viscous Hamilton–Jacobi equations. Hölder estimates for subsolutions in case of superquadratic Hamiltonians. Large time behavior of parabolic Dirichlet problems and ergodic limit in connection with singular state constraint problems. Null controllability properties for viscous H-J.

- *Nonlinear PDEs with singularities.* Elliptic and parabolic equations with L^1 data or measures, compactness and removable singularities issues, renormalized formulations, sharp conditions for existence of *weak minima* for functionals in the Calculus of Variations with source measures.

- *Degenerate parabolic convection-diffusion equations.* Formulations and techniques to handle mixed parabolic-hyperbolic diffusions with specific attention to boundary conditions; well-posedness and L^1–contraction principles for nonlinear Stefan-type problems.

- *Boundary blow-up solutions for elliptic problems.* Symmetry results for boundary blow-up solutions (extension of the celebrated Gidas-Ni-Nirenberg result), related gradient estimates and reformulations of Hopf lemma. Asymptotic expansions and mean curvature effects in the boundary blow-up controls of viscous H-J equations related to state constrained Brownian motion. Construction of p-harmonic functions in cones through the study of boundary blow-up solutions and ergodic problems for quasilinear operators on the sphere.

- **MathSciNet Citations** (at 20/08/2019)**: cited 1200 times by 625 authors**.

- **h-index** (MathSciNet)**: 21**

List of publications

[1] C. Leone, A. Porretta, *Entropy solutions for nonlinear elliptic equations in L^1*, **Nonlinear Anal. T.M.A.** 32, n. 3, pp. 325–334 (1998).

[2] A. Porretta, *Regularity for entropy solutions of a class of parabolic equations with non regular initial datum*, **Dynam. Systems Appl.** 7, pp. 53–72 (1998).

[3] A. Porretta, *Uniqueness and homogenization for a class of non coercive operators in divergence form*, **Atti Sem. Mat. Fis. Univ. Modena**, Supplemento al Volume XLVI (1998), pp. 915–936.

[4] A. Porretta, *Asymptotic behaviour of elliptic variational inequalities with measure data*, **Appl. Anal.** 73 (1999), pp. 359–377.

[5] A. Porretta, *Existence results for nonlinear parabolic equations via strong convergence of truncations*, **Ann. Mat. Pura Appl.** (IV) 177 (1999), pp. 143–172.

[6] A. Porretta, *Existence for elliptic equations in L^1 having lower order terms with natural growth*, **Portugal. Math.** 57 (2000), pp. 179–190.

[7] A. Porretta, *Some remarks on the regularity of solutions for a class of elliptic equations with measure data*, **Houston J. Math.** 26 (2000), pp. 183–213.

[8] A. Porretta, *Local existence and uniqueness of weak solutions for nonlinear parabolic equations with superlinear growth and unbounded initial data*, **Adv. Differential Equations** 6 (2001), pp. 73–128.

[9] L. Orsina, A. Porretta, *Strong stability results for nonlinear elliptic equations with respect to very singular perturbation of the data*, **Commun. Contemp. Math.** 3 (2001), pp. 259–285.

[10] D. Blanchard, A. Porretta, *Nonlinear parabolic equations with natural growth terms and measure initial data*, **Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4)** 30 (2001), no. 3-4, 583–622.

[11] A. Porretta, *A note on the bifurcation of solutions for an elliptic sublinear problem*, **Rend. Sem. Mat. Univ. Padova** 107 (2002), n.2, 153–164.

[12] C. Mascia, A. Porretta, A. Terracina, *Nonhomogeneous Dirichlet problems for degenerate parabolic–hyperbolic equations*, **Arch. Ration. Mech. Anal.** 163 (2002), 87–124.

[13] F. Murat, A. Porretta, *Stability properties, existence and nonexistence of renormalized solutions for elliptic equations with measure data*, **Comm. Partial Differential Equations** 27, n. 11 & 12 (2002), 2267–2310.

[14] A. Porretta, *Nonlinear equations with natural growth terms and measure data*, 2002-Fez Conference on Partial Differential Equations, **Electron. J. Diff. Eqns. Conf. 09** (2002), 183-202.

[15] J. Droniou, A. Porretta, A. Prignet, *Parabolic capacity and soft measures for nonlinear equations*, **Potential Analysis** 19 (2003), 99-161.

[16] J. Casado–Diaz, A. Porretta, *Existence and comparison of maximal and minimal solutions for pseudomonotone elliptic problems in L^1*, **Nonlinear Anal. T.M.A.** 53 (2003), 351–373.

[17] A. Porretta, J. Vovelle, *L^1 solutions to first order hyperbolic equations in bounded domains*, **Comm. Partial Differential Equations** 28, 1 & 2, (2003), 381–408.

[18] A. Porretta, *Uniqueness of solutions for some nonlinear Dirichlet problems*, **NODEA, Nonlin. Anal. Diff. Eq. and Appl.** 11 (2004).

[19] A. Porretta, *Some uniqueness results for elliptic equations without condition at infinity*, **Commun. Contemporary Mathematics** 5, n. 5 (2003), 705–717.

[20] L. Boccardo, L. Orsina, A. Porretta *Some noncoercive parabolic equations with lower order terms in divergence form*, **Journal of Evolution Equations** 3 (2003), 407–418.

[21] J. Casado–Diaz, F. Murat, A. Porretta, *Uniqueness of the Neumann condition and comparison results for Dirichlet pseudomonotone problems*, in *The first 60 years of nonlinear analysis of Jean Mawhin*, 27–40, World Sci. Publishing, River Edge, NJ, 2004.

[22] A. Porretta, *Local estimates and large solutions for some elliptic equations with absorption*, **Advances in Diff. Equations** 9, n. 3–4 (2004), 329–351.

[23] A. Porretta, *Absorption effects for some elliptic equations with singularities*, in "Atti del Convegno UMI di Milano 2003", Boll. UMI Sez. B (8) 8 (2005), 369–395.

[24] A. Porretta, L. Véron, *Symmetry properties of solutions of semilinear elliptic equations in the plane*, **Manuscripta Math.** 115 (2004), no. 2, 239–258.

[25] D. Blanchard, A. Porretta, *Stefan problems with nonlinear diffusion and convection*, **J. Differential Equations** 210 (2005), no. 2, 383–428.

[26] A. Porretta, S. Segura de Leon, *Nonlinear elliptic equations having a gradient term with natural growth*, **J. Math. Pures et Appl.** 85, n.3 (2006), 465-492.

[27] N. Grenon, F. Murat, A. Porretta, *Existence and a priori estimate for elliptic problems with subquadratic gradient dependent terms*, **C. R. Acad. Sci. Paris, Ser. I** 342 (2006), 23–28.

[28] G. Barles, A. Porretta, *Uniqueness for unbounded solutions to stationary viscous Hamilton–Jacobi equations*, **Ann. Scuola Norm. Sup. di Pisa Cl. Sci. (5)** 5 (2006), 107–136.

[29] A. Porretta, L. Véron, *Symmetry of large solutions of nonlinear elliptic equations in a ball*, **J. Functional Analysis** 236 (2006), 581–591.

[30] L. Dupaigne, A.C. Ponce, A. Porretta, *Elliptic equations with vertical asymptotes in the nonlinear term*, **J. Anal. Math.** 98 (2006), 349–396.

[31] C. Mascia, A. Porretta, A. Terracina, *Qualitative behaviour for one-dimensional strongly degenerate parabolic problems*, **Interfaces and Free Boundaries** 8 (2006), 263–280.

[32] A. Porretta, L. Véron, *Asymptotic behaviour for the gradient of large solutions to some nonlinear elliptic equations*, **Advanced Nonlinear Studies** 6 (2006), 351–378.

[33] J. Casado–Diaz, F. Murat, A. Porretta, *Uniqueness results for pseudomonotone problems with $p > 2$*, **C. R. Math. Acad. Sci. Paris** 344 (2007), no. 8, 487–492.

[34] A. Porretta, *Remarks on existence or loss of minima of infinite energy*, **Asymptot. Anal.** 52 (2007), no. 1-2, 53–94.

[35] T. Leonori, A. Porretta, *The boundary behavior of blow-up solutions related to a stochastic control problem with state constraint*, **Siam J. Math. Anal.** 39 (2007/08), n. 4, 1295–1327.

[36] F. Petitta, A.C. Ponce, A. Porretta, *Approximation of diffuse measures for parabolic capacities*, **C.R. Acad. Sci. Paris, Ser. I**, 346 (2008), 161–166.

[37] L. Boccardo, L. Orsina, A. Porretta *Existence of finite energy solutions for elliptic systems with L^1 valued nonlinearities*, **Math. Models and Methods in Applied Sci.** 18, n. 5 (2008), 669–687.

[38] A. Porretta, *On the comparison principle for p-Laplace type operators with first order terms*, in "On the notions of solution to nonlinear elliptic problems: results and developments", 459–497, Quad. Mat. **23**, Dept. Math., Seconda Univ. Napoli, Caserta (2008).

[39] C. Cancès, T. Gallouët, A. Porretta, *Two-phase flows involving capillary barriers in heterogeneous porous media*, **Interfaces and Free Boundaries** 11, n. 2 (2009), 239–258.

[40] A. Porretta, L. Véron, *Separable p-harmonic functions in a cone and related quasilinear equations on manifolds*, **J. European Math. Soc.** 11 (2009), 1285–1305.

[41] I. Capuzzo Dolcetta, F. Leoni, A. Porretta, *Hölder estimates for degenerate elliptic equations with coercive Hamiltonians*, **Trans. Amer. Math. Soc.** 362 (2010), 4511–4536.

[42] A. Porretta, *The "ergodic limit" for a viscous Hamilton-Jacobi equation with Dirichlet conditions*, **Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl.** 21 (2010), 59–78.

[43] D. Arcoya, L. Boccardo, T. Leonori, A. Porretta, *Some elliptic problems with singular natural growth lower order terms*, **J. Differential Equations** 249 (2010), 2771–2795.

[44] G. Barles, A. Porretta, T. Tabet Tchamba, *On the Large Time Behavior of Solutions of the Dirichlet problem for Subquadratic Viscous Hamilton-Jacobi Equations*, **J. Math. Pures Appl.** 94 (2010), 497–519.

[45] F. Petitta, A.C. Ponce, A. Porretta, *Diffuse measures and nonlinear parabolic equations*, **J. Evol. Equ.** 11 (2011), 861–905.

[46] T. Leonori, A. Porretta, *Gradient bounds for elliptic problems singular at the boundary*, **Arch. Rat. Mech. Anal.** 202 (2011), n.2, 663–705.

[47] A. Porretta, E. Zuazua, *Null controllability of viscous Hamilton-Jacobi equations*, **Ann. I.H.P. Analyse Nonlinèaire** 29 (2012), 301–333.

[48] P. Cardaliaguet, J.-M. Lasry, P.-L. Lions, A. Porretta, *Long time average of mean field games*, **Network Heterogeneous Media** 7 (2012), n.2, 279–301.

[49] A. Porretta, L. Véron, *Separable solutions of quasilinear Lane-Emden equations*, **J. Europ. Math. Soc.** 15 (2013), 755–774.

[50] L. Boccardo, A. Porretta, *Uniqueness for elliptic problems with Hölder–type dependence on the solution*, **Comm. Pure Appl. Anal.** 12 (2013), 1569–1585.

[51] P. Cardaliaguet, J.-M. Lasry, P.-L. Lions, A. Porretta, *Long time average of mean field games with a nonlocal coupling*, **Siam J. Control Optimization** 51 n. 5 (2013), 3558–3591.

[52] A. Porretta, E. Priola, *Global Lipschitz regularizing effects for linear and nonlinear parabolic equations*, **J. Math. Pures Appl. (9)** 100 (2013), no. 5, 633–686.

[53] A. Porretta, *On the planning problem for a class of Mean Field Games.* **C. R. Math. Acad. Sci. Paris** 351 (2013), no. 11-12, 457–462.

[54] A. Porretta, E. Zuazua, *Long time versus steady state optimal control*, **Siam J. Control Optimization** 51 n. 6 (2013), 4242–4273.

[55] N. Grenon, F. Murat, A. Porretta, *A priori estimates and existence for elliptic equations with gradient dependent terms*, **Ann. Scuola Normale Sup. Pisa Cl. Sci. (V)** XIII (2014), 137–205.

[56] A. Porretta, *On the planning problem for the Mean Field Games system*, **Dynamic Games and Applications** 4, n.2 (2014), 231–256.

[57] A. Dall'Aglio, A. Porretta, *Local and global regularity of weak solutions of elliptic equations with superquadratic Hamiltonian*, **Trans. Amer. Math. Soc.** 367 (2015), 3017-3039.

[58] H. Berestycki, I. Capuzzo Dolcetta, A. Porretta, L. Rossi, *Maximum Principle and generalized principal eigenvalue for degenerate elliptic operators*, **J. Math. Pures Appl.** 103 (2015), no. 5, 1276-1293.

[59] F. Petitta, A.Porretta, On the notion of renormalized solution to nonlinear parabolic equations with general measure data, **J. of Elliptic and Parabolic Equations** 1 (2015), 201-214.

[60] A. Porretta, *Weak solutions to Fokker-Planck equations and Mean Field Games*, **Arch. Rational Mech. Anal.** 216 (2015), 1-62.

[61] P. Cardaliaguet, J. Graber, A. Porretta, D. Tonon, *Second order mean field games with degenerate diffusion and local coupling*, **NoDEA** 22 (2015), 1287-1317.

[62] P. Cardaliaguet, A. Porretta, D. Tonon, *Sobolev regularity for the first order Hamilton-Jacobi equation*, **Calc. Var. Partial Differential Equations** 54 (2015), 3037-3065.

[63] T. Leonori, A. Porretta, G. Riey, *Comparison principles for p-Laplace equations with lower order terms*, **Ann. Mat. Pura Appl.** (2016), 1-27.

[64] L. Boccardo, L. Orsina, A. Porretta, *Strongly coupled elliptic equations related to mean-field games systems*, **J. Differential Equations** 12 (2016), 1796-1834.

[65] Y. Achdou, A. Porretta, *Convergence of a finite difference scheme to weak solutions of the system of partial differential equation arising in mean field games*, **SIAM J. Numer. Anal.** 54 (2016), 161-186.

[66] T. Leonori, A. Porretta, *Large solutions and gradient bounds for quasilinear elliptic equations*, **Comm. Partial Differential Equations**, 41 (2016), 952-998.

[67] A. Porretta, P. Souplet, *The Profile of Boundary Gradient Blowup for the Diffusive Hamilton-Jacobi Equation*, **International Mathematics Research Notices** (2016), 1-42.

[68] A. Porretta, *On the weak theory for mean field games systems*, Boll. Unione Mat. Ital. 10 (2017), 411-439.

[69] A. Porretta, P. Souplet, *Analysis of the loss of boundary condition for a viscous Hamilton-Jacobi equation*, **Ann. I. H. Poincaré -AN** 34 (2017), 1913-1923.

[70] A. Porretta, E. Zuazua, *Numerical hypocoercivity for the Kolmogorov equation*, **Math. of Comp.** 86 (2017), 97-119.

[71] Y. Achdou, A. Porretta, *Mean field games with congestion*, **Ann. I. H. Poincaré -AN** 35 (2018), 443-480.

[72] M. Magliocca, A. Porretta, *Local and global time decay for parabolic equations with superlinear first order terms*, **Proc. of the London Math. Soc.** 118 (2018), 473-542.

[73] A. Porretta, *On the turnpike property in mean field games*, **Minimax Theory and Appl.** 3 (2018), 285-312.

[74] P. Cardaliaguet, A. Porretta, *Long time behavior of the master equation in mean field games*, **Analysis and PDE** 12 (2019), 1397-1454.

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