Enrique Fernndez Cara

List of Publications by Year in Descending Order

135 papers	1,777 citations	21 h-index	38 g-index
140 ext. papers	2,025 ext. citations	1.8 avg, IF	4.95 L-index

#	Paper	IF	Citations
135	Numerical solution of multi-objective optimal control and hierarchic controllability problems. *Handbook of Numerical Analysis*, **2022**, 165-199	1	
134	Some inverse problems for the Burgers equation and related systems. *Communications in Nonlinear Science and Numerical Simulation*, **2021**, 107, 106113	3.7	0
133	Uniqueness and numerical reconstruction for inverse problems dealing with interval size search. *Inverse Problems and Imaging*, **2021**,	2.1	1
132	Theoretical and numerical local null controllability of a quasi-linear parabolic equation in dimensions 2 and 3. *Journal of the Franklin Institute*, **2021**, 358, 2846-2871	4	2
131	Optimal Control of Insect Populations. *Mathematics*, **2021**, 9, 1762	2.3	
130	Some new results for geometric inverse problems with the method of fundamental solutions. *Inverse Problems in Science and Engineering*, **2021**, 29, 131-152	1.3	3
129	Bi-objective optimal control of some PDEs: Nash equilibria and quasi-equilibria. *ESAIM - Control, Optimisation and Calculus of Variations*, **2021**, 27, 50	1	1
128	On the uniform controllability for a family of non-viscous and viscous Burgers-systems. *ESAIM - Control, Optimisation and Calculus of Variations*, **2021**, 27, 78	1	
127	On some geometric inverse problems for nonscalar elliptic systems. *Journal of Differential Equations*, **2020**, 269, 9123-9143	2.1	
126	On the Control of the Navier-Stokes Equations and Related Systems. *RSME Springer Series*, **2020**, 1-20	0.1	
125	Non null controllability of Stokes equations with memory. *ESAIM - Control, Optimisation and Calculus of Variations*, **2020**, 26, 72	1	3
124	On the computation of Nash and Pareto equilibria for some bi-objective control problems for the wave equation. *Advances in Computational Mathematics*, **2020**, 46, 1	1.6	1
123	Numerical Stackelberg--Nash Control for the Heat Equation. *SIAM Journal of Scientific Computing*, **2020**, 42, A2678-A2700	2.6	2
122	Some Geometric Inverse Problems for the Lamsystem with Applications in Elastography. *Applied Mathematics and Optimization*, **2020**, 82, 1-21	1.5	3
121	Hierarchical exact controllability of semilinear parabolic equations with distributed and boundary controls. *Communications in Contemporary Mathematics*, **2020**, 22, 1950034	1.1	3
120	Exact controllability to the trajectories for parabolic PDEs with nonlocal nonlinearities. *Mathematics of Control, Signals, and Systems*, **2019**, 31, 415-431	1.3	4
119	Continuous optimisation techniques for optimal aiming strategies in solar power tower plants. *Solar Energy*, **2019**, 190, 525-530	6.8	3

118	On the Computation of Nash and Pareto Equilibria for Some Bi-objective Control Problems. *Journal of Scientific Computing*, **2019**, 78, 246-273	2.3	3
117	Local Null Controllability of a 1D Stefan Problem. *Bulletin of the Brazilian Mathematical Society*, **2019**, 50, 745-769	1.2	1
116	Remarks on the Control of Family of b Equations. *Springer INdAM Series*, **2019**, 123-138	0.4	1
115	Carleman Estimates for Some Two-Dimensional Degenerate Parabolic PDEs and Applications. *SIAM Journal on Control and Optimization*, **2019**, 57, 3985-4010	1.9	1
114	Heliostat field cleaning scheduling for Solar Power Tower plants: A heuristic approach. *Applied Energy*, **2019**, 235, 653-660	10.7	10
113	An inverse problem in elastography involving Lam systems. *Journal of Inverse and Ill-Posed Problems*, **2018**, 26, 589-605	1.3	
112	Hierarchic Control for the Wave Equation. *Journal of Optimization Theory and Applications*, **2018**, 178, 264-288	1.6	5
111	Optimal control of mathematical models for the radiotherapy of gliomas: the scalar case. *Computational and Applied Mathematics*, **2018**, 37, 745-762		4
110	Local Exact Controllability of Two-Phase Field Solidification Systems with Few Controls. *Applied Mathematics and Optimization*, **2018**, 78, 267-296	1.5	
109	Local null controllability of one-phase Stefan problems in 2D star-shaped domains. *Journal of Evolution Equations*, **2018**, 18, 245-261	1.2	3
108	Optimal control of a two-equation model of radiotherapy. *Mathematical Control and Related Fields*, **2018**, 8, 117-133	1.5	2
107	Optimisation of aiming strategies in solar tower power plants **2018**,		2
106	StackelbergNash null controllability for some linear and semilinear degenerate parabolic equations. *Mathematics of Control, Signals, and Systems*, **2018**, 30, 1	1.3	4
105	An optimization tool to design the field of a solar power tower plant allowing heliostats of different sizes. *International Journal of Energy Research*, **2017**, 41, 1096-1107	4.5	13
104	Remarks concerning the approximate controllability of the 3D NavierStokes and Boussinesq systems. *SeMA Journal*, **2017**, 74, 237-253	1.2	1
103	New results on the StackelbergNash exact control of linear parabolic equations. *Systems and Control Letters*, **2017**, 104, 78-85	2.4	16
102	Null controllability of some nonlinear degenerate 1D parabolic equations. *Journal of the Franklin Institute*, **2017**, 354, 6405-6421	4	2
101	On the Theoretical and Numerical Control of a One-Dimensional Nonlinear Parabolic Partial Differential Equation. *Journal of Optimization Theory and Applications*, **2017**, 175, 652-682	1.6	3

100	Optimisation of aiming strategies in Solar Power Tower plants. *Energy*, **2017**, 137, 285-291	7.9	25
99	Local null controllability of a free-boundary problem for the viscous Burgers equation. *SeMA Journal*, **2017**, 74, 411-427	1.2	1
98	On the Numerical Controllability of the Two-Dimensional Heat, Stokes and Navier–Stokes Equations. *Journal of Scientific Computing*, **2017**, 70, 819-858	2.3	8
97	Local Null Controllability of a Free-Boundary Problem for the Semilinear 1D Heat Equation. *Bulletin of the Brazilian Mathematical Society*, **2017**, 48, 303-315	1.2	1
96	Boundary controllability of incompressible Euler fluids with Boussinesq heat effects. *Mathematics of Control, Signals, and Systems*, **2016**, 28, 1	1.3	7
95	On the controllability of a free-boundary problem for the 1D heat equation. *Systems and Control Letters*, **2016**, 87, 29-35	2.4	4
94	Communication predictors and consequences of Complementary and Alternative Medicine (CAM) discussions in oncology visits. *Patient Education and Counseling*, **2016**, 99, 1519-25	3.1	28
93	Field-design optimization with triangular heliostat pods **2016**,		1
92	Controlling linear and semilinear systems formed by one elliptic and two parabolic PDEs with one scalar control. *ESAIM - Control, Optimisation and Calculus of Variations*, **2016**, 22, 1017-1039	1	3
91	Missed Opportunities: A Mixed-Methods Analysis of CAM Discussions and Practices in the Management of Pain in Oncology. *Journal of Pain and Symptom Management*, **2016**, 52, 719-726	4.8	7
90	Null Controllability of Linear Heat and Wave Equations with Nonlocal Spatial Terms. *SIAM Journal on Control and Optimization*, **2016**, 54, 2009-2019	1.9	22
89	Optimization of multiple receivers solar power tower systems. *Energy*, **2015**, 90, 2085-2093	7.9	21
88	Theoretical and Numerical Local Null Controllability of a Ladyzhenskaya–Smagorinsky Model of Turbulence. *Journal of Mathematical Fluid Mechanics*, **2015**, 17, 669-698	1.4	8
87	A heuristic method for simultaneous tower and pattern-free field optimization on solar power systems. *Computers and Operations Research*, **2015**, 57, 109-122	4.6	27
86	Stackelberg–Nash exact controllability for linear and semilinear parabolic equations. *ESAIM - Control, Optimisation and Calculus of Variations*, **2015**, 21, 835-856	1	20
85	Controllability of linear and semilinear non-diagonalizable parabolic systems. *ESAIM - Control, Optimisation and Calculus of Variations*, **2015**, 21, 1178-1204	1	8
84	Some geometric inverse problems for the linear wave equation. *Inverse Problems and Imaging*, **2015** , 9, 371-393	2.1	7
83	Numerical Exact Controllability of the 1D Heat Equation: Duality and Carleman Weights. *Journal of Optimization Theory and Applications*, **2014**, 163, 253-285	1.6	15

82	Analysis and optimal control of some solidification processes. *Discrete and Continuous Dynamical Systems*, **2014**, 34, 3985-4017	2	1
81	Numerical null controllability of the 1D linear Schr□inger equation. *Systems and Control Letters*, **2014**, 73, 33-41	2.4	2
80	Uniform local null control of the Leray-□model. *ESAIM - Control, Optimisation and Calculus of Variations*, **2014**, 20, 1181-1202	1	1
79	Optimal control oriented to therapy for a free-boundary tumor growth model. *Journal of Theoretical Biology*, **2013**, 325, 1-11	2.3	6
78	Strong convergent approximations of null controls for the 1D heat equation. *Boletín De La Sociedad Española De Matemática Aplicada*, **2013**, 61, 49-78		19
77	Null controllability for a parabolic-elliptic coupled system. *Bulletin of the Brazilian Mathematical Society*, **2013**, 44, 285-308	1.2	6
76	Theoretical and numerical local null controllability for a parabolic system with local and nonlocal nonlinearities. *Applied Mathematics and Computation*, **2013**, 223, 483-505	2.7	11
75	Numerical controllability of the wave equation through primal methods and Carleman estimates. *ESAIM - Control, Optimisation and Calculus of Variations*, **2013**, 19, 1076-1108	1	14
74	Null controllability for a parabolic equation with nonlocal nonlinearities. *Systems and Control Letters*, **2012**, 61, 107-111	2.4	4
73	On the control of viscoelastic Jeffreys fluids. *Systems and Control Letters*, **2012**, 61, 573-579	2.4	21
72	Some Controllability Results for Linear Viscoelastic Fluids. *SIAM Journal on Control and Optimization* , **2012**, 50, 900-924	1.9	12
71	Motivation, analysis and control of the variable density Navier-Stokes equations. *Discrete and Continuous Dynamical Systems - Series S*, **2012**, 5, 1021-1090	2.8	4
70	Weak-renormalized solutions for a system that models non-isothermal solidification. *Boletín De La Sociedad Española De Matemática Aplicada*, **2012**, 59, 5-18		1
69	On some inverse problems arising in elastography. *Inverse Problems*, **2012**, 28, 085001	2.3	2
68	On the control of some coupled systems of the Boussinesq kind with few controls. *Mathematical Control and Related Fields*, **2012**, 2, 121-140	1.5	3
67	Numerical null controllability of semi-linear 1-D heat equations: Fixed point, least squares and Newton methods. *Mathematical Control and Related Fields*, **2012**, 2, 217-246	1.5	22
66	Numerical null controllability of a semi-linear heat equation via a least squares method. *Comptes Rendus Mathematique*, **2011**, 349, 867-871	0.4	6
65	Optimal control of some simplified models of tumour growth. *International Journal of Control*, **2011** , 84, 540-550	1.5	1

64	Renormalized solutions to a system of type Navier-Stokes. *Journal of Mathematical Analysis and Applications*, **2011**, 378, 442-449	1.1	
63	Fictitious domains and level sets for moving boundary problems. Applications to the numerical simulation of tumor growth. *Journal of Computational Physics*, **2011**, 230, 1335-1358	4.1	4
62	Some optimal control problems for a two-phase field model of solidification. *Revista Matematica Complutense*, **2010**, 23, 49-75	0.8	12
61	Boundary controllability of parabolic coupled equations. *Journal of Functional Analysis*, **2010**, 259, 1720-1758	1.7	46
60	Remarks on the Controllability of Some Parabolic Equations and Systems. *Computational Methods in Applied Sciences (Springer)*, **2010**, 81-95	0.4	
59	Analysis of a two-phase field model for the solidification of an alloy. *Journal of Mathematical Analysis and Applications*, **2009**, 357, 25-44	1.1	8
58	On the boundary controllability of non-scalar parabolic systems. *Comptes Rendus Mathematique*, **2009**, 347, 763-766	0.4	2
57	Convergence and optimization of the parallel method of simultaneous directions for the solution of elliptic problems. *Journal of Computational and Applied Mathematics*, **2008**, 222, 458-476	2.4	2
56	An Optimal Control Problem for a Generalized Boussinesq Model: The Time Dependent Case. *Revista Matematica Complutense*, **2007**, 20,	0.8	7
55	Null controllability of the Burgers system with distributed controls. *Systems and Control Letters*, **2007**, 56, 366-372	2.4	21
54	Vanishing viscosity for non-homogeneous asymmetric fluids in . *Journal of Mathematical Analysis and Applications*, **2007**, 332, 833-845	1.1	14
53	Local Exact Controllability of Micropolar Fluids. *Journal of Mathematical Fluid Mechanics*, **2007**, 9, 419-453	3.4	17
52	On the identification of a single body immersed in a Navier-Stokes fluid. *European Journal of Applied Mathematics*, **2007**, 18, 57-80	1	15
51	The smoothing effect of a simultaneous directions parallel method as applied to Poisson problems. *Numerical Methods for Partial Differential Equations*, **2006**, 22, 414-434	2.5	2
50	Global Carleman estimates for solutions of parabolic systems defined by transposition and some applications to controllability. *Applied Mathematics Research EXpress*, **2006**,		4
49	Exact controllability to the trajectories of the heat equation with Fourier boundary conditions: the semilinear case. *ESAIM - Control, Optimisation and Calculus of Variations*, **2006**, 12, 466-483	1	11
48	Null controllability of the heat equation with boundary Fourier conditions: the linear case. *ESAIM - Control, Optimisation and Calculus of Variations*, **2006**, 12, 442-465	1	56
47	Global Carleman Inequalities for Parabolic Systems and Applications to Controllability. *SIAM Journal on Control and Optimization*, **2006**, 45, 1395-1446	1.9	101

46	Some Controllability Results forthe N-Dimensional Navier--Stokes and Boussinesq systems with N-1 scalar controls. *SIAM Journal on Control and Optimization*, **2006**, 45, 146-173	1.9	47
45	Uniqueness and partial identification in a geometric inverse problem for the Boussinesq system. *Comptes Rendus Mathematique*, **2006**, 342, 665-670	0.4	1
44	A geometric inverse problem for the Boussinesq system. *Discrete and Continuous Dynamical Systems - Series B*, **2006**, 6, 1213-1238	1.3	3
43	Controls Insensitizing the Observation of a Quasi-geostrophic Ocean Model. *SIAM Journal on Control and Optimization*, **2005**, 43, 1616-1639	1.9	7
42	On the controllability of the N-dimensional Navier Stokes and Boussinesq systems with scalar controls. *Comptes Rendus Mathematique*, **2005**, 340, 275-280	0.4	2
41	Remarks on the null controllability of the Burgers equation. *Comptes Rendus Mathematique*, **2005**, 341, 229-232	0.4	9
40	Stability and convergence of a parallel fractional step method forthe solution of linear parabolic problems. *Applied Mathematics Research EXpress*, **2005**, 2005, 117		2
39	SOME CONTROL RESULTS FOR SIMPLIFIED ONE-DIMENSIONAL MODELS OF FLUID-SOLID INTERACTION. *Mathematical Models and Methods in Applied Sciences*, **2005**, 15, 783-824	3.5	24
38	On the controllability of the heat equation with nonlinear boundary Fourier conditions. *Journal of Differential Equations*, **2004**, 196, 385-417	2.1	9
37	Local exact controllability of the Navier Stokes system. *Journal Des Mathematiques Pures Et Appliquees*, **2004**, 83, 1501-1542	1.7	154
36	Remarks on exact controllability for Stokes and Navier Stokes systems. *Comptes Rendus Mathematique*, **2004**, 338, 375-380	0.4	4
35	Simultaneous directions parallel methods for elliptic and parabolic systems. *Comptes Rendus Mathematique*, **2004**, 339, 145-150	0.4	4
34	A simultaneous directions parallel algorithm for the Navier Stokes equations. *Comptes Rendus Mathematique*, **2004**, 339, 235-240	0.4	4
33	Null controllability of a cascade system of parabolic-hyperbolic equations. *Discrete and Continuous Dynamical Systems*, **2004**, 11, 699-714	2	3
32	Semi-Galerkin approximation and strong solutions to the equations of the nonhomogeneous asymmetric fluids. *Journal Des Mathematiques Pures Et Appliquees*, **2003**, 82, 1499-1525	1.7	43
31	On the null controllability of a one-dimensional fluid olid interaction model. *Comptes Rendus Mathematique*, **2003**, 337, 657-662	0.4	
30	Why viscous fluids adhere to rugose walls:: A mathematical explanation. *Journal of Differential Equations*, **2003**, 189, 526-537	2.1	70
29	Insensitizing controls for a large-scale ocean circulation model. *Comptes Rendus Mathematique*, **2003**, 337, 265-270	0.4	4

28	Convergence analysis and error estimates for a parallel algorithm for solving the Navier-Stokes equations. *Numerische Mathematik*, **2002**, 93, 201-221	2.2	7
27	Control of Weakly Blowing up Semilinear Heat Equations **2002**, 127-148		
26	On the Controllability of Parabolic Systems with a Nonlinear Term Involving the State and the Gradient. *SIAM Journal on Control and Optimization*, **2002**, 41, 798-819	1.9	92
25	The Stokes equations with Fourier boundary conditions on a wall with asperities. *Mathematical Methods in the Applied Sciences*, **2001**, 24, 255-276	2.3	30
24	Effet de la rugosité sur un fluide laminaire avec conditions de Fourier. *Comptes Rendus Mecanique*, **2000**, 328, 619-624		
23	Null and approximate controllability for weakly blowing up semilinear heat equations. *Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire*, **2000**, 17, 583-616	1.6	205
22	Controllability for blowing up semilinear parabolic equations. *Comptes Rendus Mathematique*, **2000**, 330, 199-204		10
21	Controllability results for linear viscoelastic fluids of the Maxwell and Jeffreys kinds. *Comptes Rendus Mathematique*, **2000**, 331, 537-542		18
20	On the approximate controllability of stochastic stokes systems. *Stochastic Analysis and Applications*, **1999**, 17, 563-577	1.1	3
19	On the approximate controllability of a stochastic parabolic equation with a multiplicative noise. *Comptes Rendus Mathematique*, **1999**, 328, 675-680		12
18	On the Approximate and Null Controllability of the Navier--Stokes Equations. *SIAM Review*, **1999**, 41, 269-277	7.4	12
17	Controllability results for discontinuous semilinear parabolic partial differential equations. *Comptes Rendus Mathematique*, **1998**, 326, 1391-1395		1
16	A convergence result for a parallel algorithm for solving the Navier-Stokes equations. *Computers and Mathematics With Applications*, **1998**, 35, 71-88	2.7	8
15	SOME EXISTENCE AND UNIQUENESS RESULTS FOR A TIME-DEPENDENT COUPLED PROBLEM OF THE NAVIER–STOKES KIND. *Mathematical Models and Methods in Applied Sciences*, **1998**, 08, 603-622	3.5	7
14	Remarks on the Controllability of Some Stochastic Partial Differential Equations **1998**, 141-151		
13	Null controllability of the semilinear heat equation. *ESAIM - Control, Optimisation and Calculus of Variations*, **1997**, 2, 87-103	1	77
12	The Differentiability of the Drag with Respect to the Variations of a Lipschitz Domain in a Navier--Stokes Flow. *SIAM Journal on Control and Optimization*, **1997**, 35, 626-640	1.9	49
11	Null controllability for semilinear parabolic equations with critical growth of the nonlinearity. *Comptes Rendus Mathematique*, **1997**, 324, 1371-1375		2

10	Some theoretical results for visco-plastic and dilatant fluids with variable density. *Nonlinear Analysis: Theory, Methods & Applications*, **1997**, 28, 1079-1100	1.3	28
9	Existence and uniqueness results for a coupled problem related to the stationary Navier-Stokes system. *Journal Des Mathematiques Pures Et Appliquees*, **1997**, 76, 307-319	1.7	2
8	A Result Concerning Controllability for the Navier Stokes Equations. *SIAM Journal on Control and Optimization*, **1995**, 33, 1061-1070	1.9	2
7	On the Existence of Solutions and the Convergence of Approximations to Scalar Conservation Laws. *Studies in Applied Mathematics*, **1995**, 94, 377-391	2.1	
6	On a conjecture due to J.L. Lions. *Nonlinear Analysis: Theory, Methods & Applications*, **1993**, 21, 835-847	1.3	7
5	A parallel algorithm for solving the incompressible Navier-Stokes problems. *Computers and Mathematics With Applications*, **1993**, 25, 51-58	2.7	7
4	The Existence Of Nonhomogeneous, Viscous And Incompressible Flow In Unbounded Domains. *Communications in Partial Differential Equations*, **1992**, 17, 1009-1012	1.6	4
3	The convergence of two numerical schemes for the Navier-Stokes equations. *Numerische Mathematik*, **1989**, 55, 33-60	2.2	21
2	Critical Point Approximation Through Exact Regularization. *Mathematics of Computation*, **1988**, 50, 139	1.6	13
1	Some controllability results in fluid mechanics64-80		1