

# Enrique Fernandez Cara

## List of Publications by Citations

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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	Null and approximate controllability for weakly blowing up semilinear heat equations. <i>Annales De L'Institut Henri Poincaré (C) Analyse Non Linéaire</i> , <b>2000</b> , 17, 583-616	1.6	205
134	Local exact controllability of the Navier-Stokes system. <i>Journal Des Mathématiques Pures Et Appliquées</i> , <b>2004</b> , 83, 1501-1542	1.7	154
133	Global Carleman Inequalities For Parabolic Systems and Applications to Controllability. <i>SIAM Journal on Control and Optimization</i> , <b>2006</b> , 45, 1395-1446	1.9	101
132	On the Controllability of Parabolic Systems with a Nonlinear Term Involving the State and the Gradient. <i>SIAM Journal on Control and Optimization</i> , <b>2002</b> , 41, 798-819	1.9	92
131	Null controllability of the semilinear heat equation. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>1997</b> , 2, 87-103	1	77
130	Why viscous fluids adhere to rugose walls:: A mathematical explanation. <i>Journal of Differential Equations</i> , <b>2003</b> , 189, 526-537	2.1	70
129	Null controllability of the heat equation with boundary Fourier conditions: the linear case. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2006</b> , 12, 442-465	1	56
128	The Differentiability of the Drag with Respect to the Variations of a Lipschitz Domain in a Navier-Stokes Flow. <i>SIAM Journal on Control and Optimization</i> , <b>1997</b> , 35, 626-640	1.9	49
127	Some Controllability Results for the N-Dimensional Navier-Stokes and Boussinesq systems with N-1 scalar controls. <i>SIAM Journal on Control and Optimization</i> , <b>2006</b> , 45, 146-173	1.9	47
126	Boundary controllability of parabolic coupled equations. <i>Journal of Functional Analysis</i> , <b>2010</b> , 259, 1720-1758	1.7	46
125	Semi-Galerkin approximation and strong solutions to the equations of the nonhomogeneous asymmetric fluids. <i>Journal Des Mathématiques Pures Et Appliquées</i> , <b>2003</b> , 82, 1499-1525	1.7	43
124	The Stokes equations with Fourier boundary conditions on a wall with asperities. <i>Mathematical Methods in the Applied Sciences</i> , <b>2001</b> , 24, 255-276	2.3	30
123	Some theoretical results for visco-plastic and dilatant fluids with variable density. <i>Nonlinear Analysis: Theory, Methods &amp; Applications</i> , <b>1997</b> , 28, 1079-1100	1.3	28
122	Communication predictors and consequences of Complementary and Alternative Medicine (CAM) discussions in oncology visits. <i>Patient Education and Counseling</i> , <b>2016</b> , 99, 1519-25	3.1	28
121	A heuristic method for simultaneous tower and pattern-free field optimization on solar power systems. <i>Computers and Operations Research</i> , <b>2015</b> , 57, 109-122	4.6	27
120	Optimisation of aiming strategies in Solar Power Tower plants. <i>Energy</i> , <b>2017</b> , 137, 285-291	7.9	25
119	SOME CONTROL RESULTS FOR SIMPLIFIED ONE-DIMENSIONAL MODELS OF FLUID-SOLID INTERACTION. <i>Mathematical Models and Methods in Applied Sciences</i> , <b>2005</b> , 15, 783-824	3.5	24

118	Numerical null controllability of semi-linear 1-D heat equations: Fixed point, least squares and Newton methods. <i>Mathematical Control and Related Fields</i> , <b>2012</b> , 2, 217-246	1.5	22
117	Null Controllability of Linear Heat and Wave Equations with Nonlocal Spatial Terms. <i>SIAM Journal on Control and Optimization</i> , <b>2016</b> , 54, 2009-2019	1.9	22
116	Optimization of multiple receivers solar power tower systems. <i>Energy</i> , <b>2015</b> , 90, 2085-2093	7.9	21
115	On the control of viscoelastic Jeffreys fluids. <i>Systems and Control Letters</i> , <b>2012</b> , 61, 573-579	2.4	21
114	Null controllability of the Burgers system with distributed controls. <i>Systems and Control Letters</i> , <b>2007</b> , 56, 366-372	2.4	21
113	The convergence of two numerical schemes for the Navier-Stokes equations. <i>Numerische Mathematik</i> , <b>1989</b> , 55, 33-60	2.2	21
112	Stackelberg-Nash exact controllability for linear and semilinear parabolic equations. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2015</b> , 21, 835-856	1	20
111	Strong convergent approximations of null controls for the 1D heat equation. <i>Boletín De La Sociedad Española De Matemática Aplicada</i> , <b>2013</b> , 61, 49-78		19
110	Controllability results for linear viscoelastic fluids of the Maxwell and Jeffreys kinds. <i>Comptes Rendus Mathématique</i> , <b>2000</b> , 331, 537-542		18
109	Local Exact Controllability of Micropolar Fluids. <i>Journal of Mathematical Fluid Mechanics</i> , <b>2007</b> , 9, 419-453	3.4	17
108	New results on the Stackelberg-Nash exact control of linear parabolic equations. <i>Systems and Control Letters</i> , <b>2017</b> , 104, 78-85	2.4	16
107	Numerical Exact Controllability of the 1D Heat Equation: Duality and Carleman Weights. <i>Journal of Optimization Theory and Applications</i> , <b>2014</b> , 163, 253-285	1.6	15
106	On the identification of a single body immersed in a Navier-Stokes fluid. <i>European Journal of Applied Mathematics</i> , <b>2007</b> , 18, 57-80	1	15
105	Numerical controllability of the wave equation through primal methods and Carleman estimates. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2013</b> , 19, 1076-1108	1	14
104	Vanishing viscosity for non-homogeneous asymmetric fluids in . <i>Journal of Mathematical Analysis and Applications</i> , <b>2007</b> , 332, 833-845	1.1	14
103	An optimization tool to design the field of a solar power tower plant allowing heliostats of different sizes. <i>International Journal of Energy Research</i> , <b>2017</b> , 41, 1096-1107	4.5	13
102	Critical Point Approximation Through Exact Regularization. <i>Mathematics of Computation</i> , <b>1988</b> , 50, 139	1.6	13
101	Some Controllability Results for Linear Viscoelastic Fluids. <i>SIAM Journal on Control and Optimization</i> , <b>2012</b> , 50, 900-924	1.9	12

100	Some optimal control problems for a two-phase field model of solidification. <i>Revista Matemática Complutense</i> , <b>2010</b> , 23, 49-75	0.8	12
99	On the approximate controllability of a stochastic parabolic equation with a multiplicative noise. <i>Comptes Rendus Mathématique</i> , <b>1999</b> , 328, 675-680		12
98	On the Approximate and Null Controllability of the Navier–Stokes Equations. <i>SIAM Review</i> , <b>1999</b> , 41, 269-277	7.4	12
97	Theoretical and numerical local null controllability for a parabolic system with local and nonlocal nonlinearities. <i>Applied Mathematics and Computation</i> , <b>2013</b> , 223, 483-505	2.7	11
96	Exact controllability to the trajectories of the heat equation with Fourier boundary conditions: the semilinear case. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2006</b> , 12, 466-483	1	11
95	Controllability for blowing up semilinear parabolic equations. <i>Comptes Rendus Mathématique</i> , <b>2000</b> , 330, 199-204		10
94	Heliostat field cleaning scheduling for Solar Power Tower plants: A heuristic approach. <i>Applied Energy</i> , <b>2019</b> , 235, 653-660	10.7	10
93	On the controllability of the heat equation with nonlinear boundary Fourier conditions. <i>Journal of Differential Equations</i> , <b>2004</b> , 196, 385-417	2.1	9
92	Remarks on the null controllability of the Burgers equation. <i>Comptes Rendus Mathématique</i> , <b>2005</b> , 341, 229-232	0.4	9
91	Theoretical and Numerical Local Null Controllability of a Ladyzhenskaya–Smagorinsky Model of Turbulence. <i>Journal of Mathematical Fluid Mechanics</i> , <b>2015</b> , 17, 669-698	1.4	8
90	On the Numerical Controllability of the Two-Dimensional Heat, Stokes and Navier–Stokes Equations. <i>Journal of Scientific Computing</i> , <b>2017</b> , 70, 819-858	2.3	8
89	Controllability of linear and semilinear non-diagonalizable parabolic systems. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2015</b> , 21, 1178-1204	1	8
88	Analysis of a two-phase field model for the solidification of an alloy. <i>Journal of Mathematical Analysis and Applications</i> , <b>2009</b> , 357, 25-44	1.1	8
87	A convergence result for a parallel algorithm for solving the Navier-Stokes equations. <i>Computers and Mathematics With Applications</i> , <b>1998</b> , 35, 71-88	2.7	8
86	Boundary controllability of incompressible Euler fluids with Boussinesq heat effects. <i>Mathematics of Control, Signals, and Systems</i> , <b>2016</b> , 28, 1	1.3	7
85	Some geometric inverse problems for the linear wave equation. <i>Inverse Problems and Imaging</i> , <b>2015</b> , 9, 371-393	2.1	7
84	An Optimal Control Problem for a Generalized Boussinesq Model: The Time Dependent Case. <i>Revista Matemática Complutense</i> , <b>2007</b> , 20,	0.8	7
83	Controls Insensitizing the Observation of a Quasi-geostrophic Ocean Model. <i>SIAM Journal on Control and Optimization</i> , <b>2005</b> , 43, 1616-1639	1.9	7

82	Convergence analysis and error estimates for a parallel algorithm for solving the Navier-Stokes equations. <i>Numerische Mathematik</i> , <b>2002</b> , 93, 201-221	2.2	7
81	SOME EXISTENCE AND UNIQUENESS RESULTS FOR A TIME-DEPENDENT COUPLED PROBLEM OF THE NAVIER-STOKES KIND. <i>Mathematical Models and Methods in Applied Sciences</i> , <b>1998</b> , 08, 603-622	3.5	7
80	On a conjecture due to J.L. Lions. <i>Nonlinear Analysis: Theory, Methods &amp; Applications</i> , <b>1993</b> , 21, 835-847	1.3	7
79	A parallel algorithm for solving the incompressible Navier-Stokes problems. <i>Computers and Mathematics With Applications</i> , <b>1993</b> , 25, 51-58	2.7	7
78	Missed Opportunities: A Mixed-Methods Analysis of CAM Discussions and Practices in the Management of Pain in Oncology. <i>Journal of Pain and Symptom Management</i> , <b>2016</b> , 52, 719-726	4.8	7
77	Optimal control oriented to therapy for a free-boundary tumor growth model. <i>Journal of Theoretical Biology</i> , <b>2013</b> , 325, 1-11	2.3	6
76	Null controllability for a parabolic-elliptic coupled system. <i>Bulletin of the Brazilian Mathematical Society</i> , <b>2013</b> , 44, 285-308	1.2	6
75	Numerical null controllability of a semi-linear heat equation via a least squares method. <i>Comptes Rendus Mathematique</i> , <b>2011</b> , 349, 867-871	0.4	6
74	Hierarchic Control for the Wave Equation. <i>Journal of Optimization Theory and Applications</i> , <b>2018</b> , 178, 264-288	1.6	5
73	Exact controllability to the trajectories for parabolic PDEs with nonlocal nonlinearities. <i>Mathematics of Control, Signals, and Systems</i> , <b>2019</b> , 31, 415-431	1.3	4
72	Optimal control of mathematical models for the radiotherapy of gliomas: the scalar case. <i>Computational and Applied Mathematics</i> , <b>2018</b> , 37, 745-762		4
71	On the controllability of a free-boundary problem for the 1D heat equation. <i>Systems and Control Letters</i> , <b>2016</b> , 87, 29-35	2.4	4
70	Null controllability for a parabolic equation with nonlocal nonlinearities. <i>Systems and Control Letters</i> , <b>2012</b> , 61, 107-111	2.4	4
69	Motivation, analysis and control of the variable density Navier-Stokes equations. <i>Discrete and Continuous Dynamical Systems - Series S</i> , <b>2012</b> , 5, 1021-1090	2.8	4
68	Fictitious domains and level sets for moving boundary problems. Applications to the numerical simulation of tumor growth. <i>Journal of Computational Physics</i> , <b>2011</b> , 230, 1335-1358	4.1	4
67	Global Carleman estimates for solutions of parabolic systems defined by transposition and some applications to controllability. <i>Applied Mathematics Research Express</i> , <b>2006</b> ,		4
66	Remarks on exact controllability for Stokes and Navier-Stokes systems. <i>Comptes Rendus Mathematique</i> , <b>2004</b> , 338, 375-380	0.4	4
65	Simultaneous directions parallel methods for elliptic and parabolic systems. <i>Comptes Rendus Mathematique</i> , <b>2004</b> , 339, 145-150	0.4	4

64	A simultaneous directions parallel algorithm for the Navier-Stokes equations. <i>Comptes Rendus Mathematique</i> , <b>2004</b> , 339, 235-240	0.4	4
63	Insensitizing controls for a large-scale ocean circulation model. <i>Comptes Rendus Mathematique</i> , <b>2003</b> , 337, 265-270	0.4	4
62	The Existence Of Nonhomogeneous, Viscous And Incompressible Flow In Unbounded Domains. <i>Communications in Partial Differential Equations</i> , <b>1992</b> , 17, 1009-1012	1.6	4
61	Stackelberg-Nash null controllability for some linear and semilinear degenerate parabolic equations. <i>Mathematics of Control, Signals, and Systems</i> , <b>2018</b> , 30, 1	1.3	4
60	Continuous optimisation techniques for optimal aiming strategies in solar power tower plants. <i>Solar Energy</i> , <b>2019</b> , 190, 525-530	6.8	3
59	Local null controllability of one-phase Stefan problems in 2D star-shaped domains. <i>Journal of Evolution Equations</i> , <b>2018</b> , 18, 245-261	1.2	3
58	On the Computation of Nash and Pareto Equilibria for Some Bi-objective Control Problems. <i>Journal of Scientific Computing</i> , <b>2019</b> , 78, 246-273	2.3	3
57	On the Theoretical and Numerical Control of a One-Dimensional Nonlinear Parabolic Partial Differential Equation. <i>Journal of Optimization Theory and Applications</i> , <b>2017</b> , 175, 652-682	1.6	3
56	On the approximate controllability of stochastic stokes systems. <i>Stochastic Analysis and Applications</i> , <b>1999</b> , 17, 563-577	1.1	3
55	Null controllability of a cascade system of parabolic-hyperbolic equations. <i>Discrete and Continuous Dynamical Systems</i> , <b>2004</b> , 11, 699-714	2	3
54	A geometric inverse problem for the Boussinesq system. <i>Discrete and Continuous Dynamical Systems - Series B</i> , <b>2006</b> , 6, 1213-1238	1.3	3
53	On the control of some coupled systems of the Boussinesq kind with few controls. <i>Mathematical Control and Related Fields</i> , <b>2012</b> , 2, 121-140	1.5	3
52	Non null controllability of Stokes equations with memory. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2020</b> , 26, 72	1	3
51	Controlling linear and semilinear systems formed by one elliptic and two parabolic PDEs with one scalar control. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2016</b> , 22, 1017-1039	1	3
50	Some Geometric Inverse Problems for the Lamé System with Applications in Elastography. <i>Applied Mathematics and Optimization</i> , <b>2020</b> , 82, 1-21	1.5	3
49	Hierarchical exact controllability of semilinear parabolic equations with distributed and boundary controls. <i>Communications in Contemporary Mathematics</i> , <b>2020</b> , 22, 1950034	1.1	3
48	Some new results for geometric inverse problems with the method of fundamental solutions. <i>Inverse Problems in Science and Engineering</i> , <b>2021</b> , 29, 131-152	1.3	3
47	Numerical null controllability of the 1D linear Schrödinger equation. <i>Systems and Control Letters</i> , <b>2014</b> , 73, 33-41	2.4	2

46	Null controllability of some nonlinear degenerate 1D parabolic equations. <i>Journal of the Franklin Institute</i> , <b>2017</b> , 354, 6405-6421	4	2
45	On the boundary controllability of non-scalar parabolic systems. <i>Comptes Rendus Mathematique</i> , <b>2009</b> , 347, 763-766	0.4	2
44	On some inverse problems arising in elastography. <i>Inverse Problems</i> , <b>2012</b> , 28, 085001	2.3	2
43	Null controllability for semilinear parabolic equations with critical growth of the nonlinearity. <i>Comptes Rendus Mathematique</i> , <b>1997</b> , 324, 1371-1375		2
42	Existence and uniqueness results for a coupled problem related to the stationary Navier-Stokes system. <i>Journal Des Mathematiques Pures Et Appliquees</i> , <b>1997</b> , 76, 307-319	1.7	2
41	Convergence and optimization of the parallel method of simultaneous directions for the solution of elliptic problems. <i>Journal of Computational and Applied Mathematics</i> , <b>2008</b> , 222, 458-476	2.4	2
40	The smoothing effect of a simultaneous directions parallel method as applied to Poisson problems. <i>Numerical Methods for Partial Differential Equations</i> , <b>2006</b> , 22, 414-434	2.5	2
39	On the controllability of the N-dimensional Navier-Stokes and Boussinesq systems with scalar controls. <i>Comptes Rendus Mathematique</i> , <b>2005</b> , 340, 275-280	0.4	2
38	Stability and convergence of a parallel fractional step method for the solution of linear parabolic problems. <i>Applied Mathematics Research Express</i> , <b>2005</b> , 2005, 117		2
37	A Result Concerning Controllability for the Navier-Stokes Equations. <i>SIAM Journal on Control and Optimization</i> , <b>1995</b> , 33, 1061-1070	1.9	2
36	Optimal control of a two-equation model of radiotherapy. <i>Mathematical Control and Related Fields</i> , <b>2018</b> , 8, 117-133	1.5	2
35	Numerical Stackelberg-Nash Control for the Heat Equation. <i>SIAM Journal of Scientific Computing</i> , <b>2020</b> , 42, A2678-A2700	2.6	2
34	Theoretical and numerical local null controllability of a quasi-linear parabolic equation in dimensions 2 and 3. <i>Journal of the Franklin Institute</i> , <b>2021</b> , 358, 2846-2871	4	2
33	Optimisation of aiming strategies in solar tower power plants <b>2018</b> ,		2
32	Remarks concerning the approximate controllability of the 3D Navier-Stokes and Boussinesq systems. <i>SeMA Journal</i> , <b>2017</b> , 74, 237-253	1.2	1
31	Local Null Controllability of a 1D Stefan Problem. <i>Bulletin of the Brazilian Mathematical Society</i> , <b>2019</b> , 50, 745-769	1.2	1
30	Remarks on the Control of Family of $b$ -Equations. <i>Springer INdAM Series</i> , <b>2019</b> , 123-138	0.4	1
29	Analysis and optimal control of some solidification processes. <i>Discrete and Continuous Dynamical Systems</i> , <b>2014</b> , 34, 3985-4017	2	1

28	Local null controllability of a free-boundary problem for the viscous Burgers equation. <i>SeMA Journal</i> , <b>2017</b> , 74, 411-427	1.2	1
27	Local Null Controllability of a Free-Boundary Problem for the Semilinear 1D Heat Equation. <i>Bulletin of the Brazilian Mathematical Society</i> , <b>2017</b> , 48, 303-315	1.2	1
26	Uniform local null control of the Leray-Hénon model. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2014</b> , 20, 1181-1202	1	1
25	Weak-renormalized solutions for a system that models non-isothermal solidification. <i>Boletín De La Sociedad Española De Matemática Aplicada</i> , <b>2012</b> , 59, 5-18		1
24	Optimal control of some simplified models of tumour growth. <i>International Journal of Control</i> , <b>2011</b> , 84, 540-550	1.5	1
23	Some controllability results in fluid mechanics 64-80		1
22	Controllability results for discontinuous semilinear parabolic partial differential equations. <i>Comptes Rendus Mathématique</i> , <b>1998</b> , 326, 1391-1395		1
21	Uniqueness and partial identification in a geometric inverse problem for the Boussinesq system. <i>Comptes Rendus Mathématique</i> , <b>2006</b> , 342, 665-670	0.4	1
20	Uniqueness and numerical reconstruction for inverse problems dealing with interval size search. <i>Inverse Problems and Imaging</i> , <b>2021</b> ,	2.1	1
19	On the computation of Nash and Pareto equilibria for some bi-objective control problems for the wave equation. <i>Advances in Computational Mathematics</i> , <b>2020</b> , 46, 1	1.6	1
18	Field-design optimization with triangular heliostat pods <b>2016</b> ,		1
17	Carleman Estimates for Some Two-Dimensional Degenerate Parabolic PDEs and Applications. <i>SIAM Journal on Control and Optimization</i> , <b>2019</b> , 57, 3985-4010	1.9	1
16	Bi-objective optimal control of some PDEs: Nash equilibria and quasi-equilibria. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , <b>2021</b> , 27, 50	1	1
15	Some inverse problems for the Burgers equation and related systems. <i>Communications in Nonlinear Science and Numerical Simulation</i> , <b>2021</b> , 107, 106113	3.7	0
14	On some geometric inverse problems for nonscalar elliptic systems. <i>Journal of Differential Equations</i> , <b>2020</b> , 269, 9123-9143	2.1	
13	An inverse problem in elastography involving Lamé systems. <i>Journal of Inverse and Ill-Posed Problems</i> , <b>2018</b> , 26, 589-605	1.3	
12	Local Exact Controllability of Two-Phase Field Solidification Systems with Few Controls. <i>Applied Mathematics and Optimization</i> , <b>2018</b> , 78, 267-296	1.5	
11	Renormalized solutions to a system of type Navier-Stokes. <i>Journal of Mathematical Analysis and Applications</i> , <b>2011</b> , 378, 442-449	1.1	



- 10 On the null controllability of a one-dimensional fluid-solid interaction model. *Comptes Rendus Mathematique*, **2003**, 337, 657-662 0.4
- 9 Control of Weakly Blowing up Semilinear Heat Equations **2002**, 127-148
- 8 Effet de la rugosité sur un fluide laminaire avec conditions de Fourier. *Comptes Rendus Mécanique*, **2000**, 328, 619-624
- 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 the Control of the Navier-Stokes Equations and Related Systems. *RSME Springer Series*, **2020**, 1-20 0.1
- 5 Remarks on the Controllability of Some Stochastic Partial Differential Equations **1998**, 141-151
- 4 Remarks on the Controllability of Some Parabolic Equations and Systems. *Computational Methods in Applied Sciences (Springer)*, **2010**, 81-95 0.4
- 3 Optimal Control of Insect Populations. *Mathematics*, **2021**, 9, 1762 2.3
- 2 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
- 1 Numerical solution of multi-objective optimal control and hierarchic controllability problems. *Handbook of Numerical Analysis*, **2022**, 165-199 1