

# Enrique Fernández Cara

## List of Publications by Year in descending order

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140  
papers

2,373  
citations

279487

23  
h-index

243296

44  
g-index

140  
all docs

140  
docs citations

140  
times ranked

723  
citing authors

#	ARTICLE	IF	CITATIONS
1	Null and approximate controllability for weakly blowing up semilinear heat equations. <i>Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire</i> , 2000, 17, 583-616.	0.7	270
2	Local exact controllability of the Navier–Stokes system. <i>Journal Des Mathematiques Pures Et Appliquees</i> , 2004, 83, 1501-1542.	0.8	193
3	Global Carleman Inequalities for Parabolic Systems and Applications to Controllability. <i>SIAM Journal on Control and Optimization</i> , 2006, 45, 1395-1446.	1.1	131
4	On the Controllability of Parabolic Systems with a Nonlinear Term Involving the State and the Gradient. <i>SIAM Journal on Control and Optimization</i> , 2002, 41, 798-819.	1.1	115
5	Null controllability of the semilinear heat equation. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 1997, 2, 87-103.	0.7	109
6	Why viscous fluids adhere to rugose walls:. <i>Journal of Differential Equations</i> , 2003, 189, 526-537.	1.1	79
7	Null controllability of the heat equation with boundary Fourier conditions: the linear case. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2006, 12, 442-465.	0.7	72
8	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> , 1997, 35, 626-640.	1.1	62
9	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> , 2006, 45, 146-173.	1.1	61
10	Boundary controllability of parabolic coupled equations. <i>Journal of Functional Analysis</i> , 2010, 259, 1720-1758.	0.7	61
11	Semi-Galerkin approximation and strong solutions to the equations of the nonhomogeneous asymmetric fluids. <i>Journal Des Mathematiques Pures Et Appliquees</i> , 2003, 82, 1499-1525.	0.8	54
12	Communication predictors and consequences of Complementary and Alternative Medicine (CAM) discussions in oncology visits. <i>Patient Education and Counseling</i> , 2016, 99, 1519-1525.	1.0	44
13	Optimisation of aiming strategies in Solar Power Tower plants. <i>Energy</i> , 2017, 137, 285-291.	4.5	36
14	The Stokes equations with Fourier boundary conditions on a wall with asperities. <i>Mathematical Methods in the Applied Sciences</i> , 2001, 24, 255-276.	1.2	35
15	Some theoretical results for visco-plastic and dilatant fluids with variable density. <i>Nonlinear Analysis: Theory, Methods &amp; Applications</i> , 1997, 28, 1079-1100.	0.6	32
16	A heuristic method for simultaneous tower and pattern-free field optimization on solar power systems. <i>Computers and Operations Research</i> , 2015, 57, 109-122.	2.4	31
17	New results on the Stackelberg–Nash exact control of linear parabolic equations. <i>Systems and Control Letters</i> , 2017, 104, 78-85.	1.3	31
18	SOME CONTROL RESULTS FOR SIMPLIFIED ONE-DIMENSIONAL MODELS OF FLUID-SOLID INTERACTION. <i>Mathematical Models and Methods in Applied Sciences</i> , 2005, 15, 783-824.	1.7	30

#	ARTICLE	IF	CITATIONS
19	Numerical null controllability of semi-linear 1-D heat equations: Fixed point, least squares and Newton methods. <i>Mathematical Control and Related Fields</i> , 2012, 2, 217-246.	0.6	30
20	On the control of viscoelastic Jeffreys fluids. <i>Systems and Control Letters</i> , 2012, 61, 573-579.	1.3	29
21	Stackelberg-Nash exact controllability for linear and semilinear parabolic equations. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2015, 21, 835-856.	0.7	29
22	Null Controllability of Linear Heat and Wave Equations with Nonlocal Spatial Terms. <i>SIAM Journal on Control and Optimization</i> , 2016, 54, 2009-2019.	1.1	29
23	Optimization of multiple receivers solar power tower systems. <i>Energy</i> , 2015, 90, 2085-2093.	4.5	26
24	Null controllability of the Burgers system with distributed controls. <i>Systems and Control Letters</i> , 2007, 56, 366-372.	1.3	25
25	Strong convergent approximations of null controls for the 1D heat equation. <i>Boletín De La Sociedad Española De Matemática Aplicada</i> , 2013, 61, 49-78.	0.9	23
26	The convergence of two numerical schemes for the Navier-Stokes equations. <i>Numerische Mathematik</i> , 1989, 55, 33-60.	0.9	22
27	Numerical Exact Controllability of the 1D Heat Equation: Duality and Carleman Weights. <i>Journal of Optimization Theory and Applications</i> , 2014, 163, 253-285.	0.8	22
28	Controllability results for linear viscoelastic fluids of the Maxwell and Jeffreys kinds. <i>Comptes Rendus Mathématique</i> , 2000, 331, 537-542.	0.5	19
29	Numerical controllability of the wave equation through primal methods and Carleman estimates. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2013, 19, 1076-1108.	0.7	19
30	Heliostat field cleaning scheduling for Solar Power Tower plants: A heuristic approach. <i>Applied Energy</i> , 2019, 235, 653-660.	5.1	19
31	On the identification of a single body immersed in a Navier-Stokes fluid. <i>European Journal of Applied Mathematics</i> , 2007, 18, 57-80.	1.4	18
32	Local Exact Controllability of Micropolar Fluids. <i>Journal of Mathematical Fluid Mechanics</i> , 2007, 9, 419-453.	0.4	18
33	Theoretical and numerical local null controllability for a parabolic system with local and nonlocal nonlinearities. <i>Applied Mathematics and Computation</i> , 2013, 223, 483-505.	1.4	16
34	Controllability for blowing up semilinear parabolic equations. <i>Comptes Rendus Mathématique</i> , 2000, 330, 199-204.	0.5	15
35	Critical Point Approximation Through Exact Regularization. <i>Mathematics of Computation</i> , 1988, 50, 139.	1.1	14
36	On the controllability of the heat equation with nonlinear boundary Fourier conditions. <i>Journal of Differential Equations</i> , 2004, 196, 385-417.	1.1	14

#	ARTICLE	IF	CITATIONS
37	An Optimal Control Problem for a Generalized Boussinesq Model: The Time Dependent Case. <i>Revista Matemática Complutense</i> , 2007, 20, Vanishing viscosity for non-homogeneous asymmetric fluids in $\langle \text{mml:math altimg="si1.gif" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/co$	0.7	14
38	Analysis of a two-phase field model for the solidification of an alloy. <i>Journal of Mathematical Analysis and Applications</i> , 2009, 357, 25-44.	0.5	14
39	Some Controllability Results for Linear Viscoelastic Fluids. <i>SIAM Journal on Control and Optimization</i> , 2012, 50, 900-924.	1.1	14
40	Stackelberg Nash null controllability for some linear and semilinear degenerate parabolic equations. <i>Mathematics of Control, Signals, and Systems</i> , 2018, 30, 1.	1.4	14
41	On the Approximate and Null Controllability of the Navier-Stokes Equations. <i>SIAM Review</i> , 1999, 41, 269-277.	4.2	13
42	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> , 2006, 12, 466-483.	0.7	13
43	Some optimal control problems for a two-phase field model of solidification. <i>Revista Matemática Complutense</i> , 2010, 23, 49-75.	0.7	13
44	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> , 2017, 41, 1096-1107.	2.2	13
45	On the approximate controllability of a stochastic parabolic equation with a multiplicative noise. <i>Comptes Rendus Mathématique</i> , 1999, 328, 675-680.	0.5	12
46	Theoretical and Numerical Local Null Controllability of a Ladyzhenskaya-Smagorinsky Model of Turbulence. <i>Journal of Mathematical Fluid Mechanics</i> , 2015, 17, 669-698.	0.4	12
47	On the controllability of a free-boundary problem for the 1D heat equation. <i>Systems and Control Letters</i> , 2016, 87, 29-35.	1.3	12
48	On the Numerical Controllability of the Two-Dimensional Heat, Stokes and Navier-Stokes Equations. <i>Journal of Scientific Computing</i> , 2017, 70, 819-858.	1.1	12
49	Hierarchical exact controllability of semilinear parabolic equations with distributed and boundary controls. <i>Communications in Contemporary Mathematics</i> , 2020, 22, 1950034.	0.6	12
50	Boundary controllability of incompressible Euler fluids with Boussinesq heat effects. <i>Mathematics of Control, Signals, and Systems</i> , 2016, 28, 1.	1.4	11
51	Hierarchic Control for the Wave Equation. <i>Journal of Optimization Theory and Applications</i> , 2018, 178, 264-288.	0.8	11
52	Remarks on the null controllability of the Burgers equation. <i>Comptes Rendus Mathématique</i> , 2005, 341, 229-232.	0.1	10
53	Optimal control oriented to therapy for a free-boundary tumor growth model. <i>Journal of Theoretical Biology</i> , 2013, 325, 1-11.	0.8	10

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55	Controllability of linear and semilinear non-diagonalizable parabolic systems. ESAIM - Control, Optimisation and Calculus of Variations, 2015, 21, 1178-1204.	0.7	10
56	A convergence result for a parallel algorithm for solving the Navier-Stokes equations. Computers and Mathematics With Applications, 1998, 35, 71-88.	1.4	9
57	Controls Insensitizing the Observation of a Quasi-geostrophic Ocean Model. SIAM Journal on Control and Optimization, 2005, 43, 1616-1639.	1.1	9
58	Null controllability for a parabolic equation with nonlocal nonlinearities. Systems and Control Letters, 2012, 61, 107-111.	1.3	9
59	Null controllability for a parabolic-elliptic coupled system. Bulletin of the Brazilian Mathematical Society, 2013, 44, 285-308.	0.3	9
60	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.	0.6	9
61	On the Computation of Nash and Pareto Equilibria for Some Bi-objective Control Problems. Journal of Scientific Computing, 2019, 78, 246-273.	1.1	9
62	A parallel algorithm for solving the incompressible Navier-Stokes problems. Computers and Mathematics With Applications, 1993, 25, 51-58.	1.4	8
63	Convergence analysis and error estimates for a parallel algorithm for solving the Navier-Stokes equations. Numerische Mathematik, 2002, 93, 201-221.	0.9	8
64	Insensitizing controls for a large-scale ocean circulation model. Comptes Rendus Mathematique, 2003, 337, 265-270.	0.1	8
65	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.	0.8	8
66	Continuous optimisation techniques for optimal aiming strategies in solar power tower plants. Solar Energy, 2019, 190, 525-530.	2.9	8
67	On a conjecture due to J.L. Lions. Nonlinear Analysis: Theory, Methods & Applications, 1993, 21, 835-847.	0.6	7
68	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.	0.8	7
69	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.	1.7	7
70	Some geometric inverse problems for the linear wave equation. Inverse Problems and Imaging, 2015, 9, 371-393.	0.6	7
71	Local null controllability of one-phase Stefan problems in 2D star-shaped domains. Journal of Evolution Equations, 2018, 18, 245-261.	0.6	7
72	Some Geometric Inverse Problems for the Lamé System with Applications in Elastography. Applied Mathematics and Optimization, 2020, 82, 1-21.	0.8	7

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73	The Existence Of Nonhomogeneous, Viscous And Incompressible Flow In Unbounded Domains. Communications in Partial Differential Equations, 1992, 17, 1009-1012.	1.0	6
74	Global Carleman estimates for solutions of parabolic systems defined by transposition and some applications to controllability. Applied Mathematics Research EXpress, 2006, , .	1.0	6
75	Numerical null controllability of a semi-linear heat equation via a least squares method. Comptes Rendus Mathematique, 2011, 349, 867-871.	0.1	6
76	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.	0.7	6
77	Local Null Controllability of a Free-Boundary Problem for the Semilinear 1D Heat Equation. Bulletin of the Brazilian Mathematical Society, 2017, 48, 303-315.	0.3	6
78	Local Null Controllability of a 1D Stefan Problem. Bulletin of the Brazilian Mathematical Society, 2019, 50, 745-769.	0.3	6
79	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.	1.9	6
80	Remarks on exact controllability for Stokes and Navier-Stokes systems. Comptes Rendus Mathematique, 2004, 338, 375-380.	0.1	5
81	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.	1.9	5
82	Numerical null controllability of the 1D linear Schrödinger equation. Systems and Control Letters, 2014, 73, 33-41.	1.3	5
83	Optimal control of mathematical models for the radiotherapy of gliomas: the scalar case. Computational and Applied Mathematics, 2018, 37, 745-762.	1.3	5
84	Exact controllability to the trajectories for parabolic PDEs with nonlocal nonlinearities. Mathematics of Control, Signals, and Systems, 2019, 31, 415-431.	1.4	5
85	Numerical Stackelberg-Nash Control for the Heat Equation. SIAM Journal of Scientific Computing, 2020, 42, A2678-A2700.	1.3	5
86	A geometric inverse problem for the Boussinesq system. Discrete and Continuous Dynamical Systems - Series B, 2006, 6, 1213-1238.	0.5	5
87	Simultaneous directions parallel methods for elliptic and parabolic systems. Comptes Rendus Mathematique, 2004, 339, 145-150.	0.1	4
88	A simultaneous directions parallel algorithm for the Navier-Stokes equations. Comptes Rendus Mathematique, 2004, 339, 235-240.	0.1	4
89	On the controllability of the N-dimensional Navier-Stokes and Boussinesq systems with scalar controls. Comptes Rendus Mathematique, 2005, 340, 275-280.	0.1	4
90	Title is missing!. Applied Mathematics Research EXpress, 2005, 2005, 117.	1.0	4

#	ARTICLE	IF	CITATIONS
91	Motivation, analysis and control of the variable density Navier-Stokes equations. Discrete and Continuous Dynamical Systems - Series S, 2012, 5, 1021-1090.	0.6	4
92	Field-design optimization with triangular heliostat pods. AIP Conference Proceedings, 2016, , .	0.3	4
93	Local null controllability of a free-boundary problem for the viscous Burgers equation. SeMA Journal, 2017, 74, 411-427.	1.0	4
94	Non null controllability of Stokes equations with memory. ESAIM - Control, Optimisation and Calculus of Variations, 2020, 26, 72.	0.7	4
95	Null controllability of a cascade system of parabolic-hyperbolic equations. Discrete and Continuous Dynamical Systems, 2004, 11, 699-714.	0.5	4
96	A Result Concerning Controllability for the Navier-Stokes Equations. SIAM Journal on Control and Optimization, 1995, 33, 1061-1070.	1.1	3
97	Null controllability for semilinear parabolic equations with critical growth of the nonlinearity. Comptes Rendus Mathematique, 1997, 324, 1371-1375.	0.5	3
98	On the approximate controllability of stochastic stokes systems. Stochastic Analysis and Applications, 1999, 17, 563-577.	0.9	3
99	On the boundary controllability of non-scalar parabolic systems. Comptes Rendus Mathematique, 2009, 347, 763-766.	0.1	3
100	On some inverse problems arising in elastography. Inverse Problems, 2012, 28, 085001.	1.0	3
101	Uniform local null control of the Leray- $\hat{\nu}$ model. ESAIM - Control, Optimisation and Calculus of Variations, 2014, 20, 1181-1202.	0.7	3
102	Optimisation of aiming strategies in solar tower power plants. AIP Conference Proceedings, 2018, , .	0.3	3
103	Carleman Estimates for Some Two-Dimensional Degenerate Parabolic PDEs and Applications. SIAM Journal on Control and Optimization, 2019, 57, 3985-4010.	1.1	3
104	Some new results for geometric inverse problems with the method of fundamental solutions. Inverse Problems in Science and Engineering, 2021, 29, 131-152.	1.2	3
105	Bi-objective optimal control of some PDEs: Nash equilibria and quasi-equilibria. ESAIM - Control, Optimisation and Calculus of Variations, 2021, 27, 50.	0.7	3
106	On the control of some coupled systems of the Boussinesq kind with few controls. Mathematical Control and Related Fields, 2012, 2, 121-140.	0.6	3
107	Optimal control of a two-equation model of radiotherapy. Mathematical Control and Related Fields, 2018, 8, 117-133.	0.6	3
108	The smoothing effect of a simultaneous directions parallel method as applied to Poisson problems. Numerical Methods for Partial Differential Equations, 2006, 22, 414-434.	2.0	2

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109	Convergence and optimization of the parallel method of simultaneous directions for the solution of elliptic problems. <i>Journal of Computational and Applied Mathematics</i> , 2008, 222, 458-476.	1.1	2
110	Null controllability of some nonlinear degenerate 1D parabolic equations. <i>Journal of the Franklin Institute</i> , 2017, 354, 6405-6421.	1.9	2
111	On the computation of Nash and Pareto equilibria for some bi-objective control problems for the wave equation. <i>Advances in Computational Mathematics</i> , 2020, 46, 1.	0.8	2
112	Some inverse and control problems for fluids. <i>Annales Mathematiques Blaise Pascal</i> , 2013, 20, 101-138.	0.2	2
113	Controllability results for discontinuous semilinear parabolic partial differential equations. <i>Comptes Rendus Mathematique</i> , 1998, 326, 1391-1395.	0.5	1
114	Effet de la rugosité sur un fluide laminaire avec conditions de Fourier. <i>Comptes Rendus Mecanique</i> , 2000, 328, 619-624.	0.2	1
115	Uniqueness and partial identification in a geometric inverse problem for the Boussinesq system. <i>Comptes Rendus Mathematique</i> , 2006, 342, 665-670.	0.1	1
116	Some controllability results in fluid mechanics. , 0, , 64-80.		1
117	Optimal control of some simplified models of tumour growth. <i>International Journal of Control</i> , 2011, 84, 540-550.	1.2	1
118	Weak-renormalized solutions for a system that models non-isothermal solidification. <i>Boletín De La Sociedad Española De Matemática Aplicada</i> , 2012, 59, 5-18.	0.9	1
119	Analysis and optimal control of some solidification processes. <i>Discrete and Continuous Dynamical Systems</i> , 2014, 34, 3985-4017.	0.5	1
120	Remarks concerning the approximate controllability of the 3D Navier-Stokes and Boussinesq systems. <i>SeMA Journal</i> , 2017, 74, 237-253.	1.0	1
121	Remarks on the Control of Family of Equations. <i>Springer INdAM Series</i> , 2019, , 123-138.	0.4	1
122	Some inverse problems for the Burgers equation and related systems. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2022, 107, 106113.	1.7	1
123	Uniqueness and numerical reconstruction for inverse problems dealing with interval size search. <i>Inverse Problems and Imaging</i> , 2022, 16, 569.	0.6	1
124	On the Existence of Solutions and the Convergence of Approximations to Scalar Conservation Laws. <i>Studies in Applied Mathematics</i> , 1995, 94, 377-391.	1.1	0
125	Control of Weakly Blowing up Semilinear Heat Equations. , 2002, , 127-148.		0
126	On the null controllability of a one-dimensional fluid-solid interaction model. <i>Comptes Rendus Mathematique</i> , 2003, 337, 657-662.	0.1	0



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127	Title is missing!. Arbor, 2007, CLXXXIII, .	0.1	0
128	Renormalized solutions to a system of type Navier–Stokes. Journal of Mathematical Analysis and Applications, 2011, 378, 442-449.	0.5	0
129	An inverse problem in elastography involving Lamé systems. Journal of Inverse and Ill-Posed Problems, 2018, 26, 589-605.	0.5	0
130	Local Exact Controllability of Two-Phase Field Solidification Systems with Few Controls. Applied Mathematics and Optimization, 2018, 78, 267-296.	0.8	0
131	On some geometric inverse problems for nonscalar elliptic systems. Journal of Differential Equations, 2020, 269, 9123-9143.	1.1	0
132	On the uniform controllability for a family of non-viscous and viscous Burgers– $\hat{\pm}$ systems. ESAIM - Control, Optimisation and Calculus of Variations, 2021, 27, 78.	0.7	0
133	Optimal Control of Insect Populations. Mathematics, 2021, 9, 1762.	1.1	0
134	Null-exact controllability of a semilinear cascade system of parabolic-hyperbolic equations. Communications on Pure and Applied Analysis, 2006, 5, 639-658.	0.4	0
135	Remarks on the controllability of some parabolic equations and systems. Matematica Contemporanea, 2007, 32, .	0.0	0
136	Remarks on the Controllability of Some Parabolic Equations and Systems. Computational Methods in Applied Sciences (Springer), 2010, , 81-95.	0.1	0
137	Remarks on the Controllability of Some Stochastic Partial Differential Equations. , 1998, , 141-151.		0
138	On the Control of the Navier-Stokes Equations and Related Systems. RSME Springer Series, 2020, , 1-20.	0.1	0
139	Numerical solution of multi-objective optimal control and hierarchic controllability problems. Handbook of Numerical Analysis, 2022, , 165-199.	0.9	0
140	Regularity criteria for 3D MHD flows in terms of spectral components. Electronic Research Archive, 2022, 30, 3238-3248.	0.4	0