# JosÃ© M Cela

## List of Publications by Year
## in descending order

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|---|---|---|---|
| **69** papers | **1,053** citations | 516561<br>**16** h-index | 434063<br>**31** g-index |
| **72** all docs | **72** docs citations | **72** times ranked | **1002** citing authors |

| # | Article | IF | Citations |
|---|---------|----|-----------|
| 1 | Alya: Multiphysics engineering simulation toward exascale. Journal of Computational Science, 2016, 14, 15-27. | 1.5 | 144 |
| 2 | A parallel finite-element method for three-dimensional controlled-source electromagnetic forward modelling. Geophysical Journal International, 2013, 193, 678-693. | 1.0 | 126 |
| 3 | Mimetic seismic wave modeling including topography on deformed staggered grids. Geophysics, 2014, 79, T125-T141. | 1.4 | 85 |
| 4 | Stability of three-dimensional relativistic jets: implications for jet collimation. Astronomy and Astrophysics, 2010, 519, A41. | 2.1 | 80 |
| 5 | A massively parallel fractional step solver for incompressible flows. Journal of Computational Physics, 2009, 228, 6316-6332. | 1.9 | 78 |
| 6 | Programming Grid Applications with GRID Superscalar. Journal of Grid Computing, 2003, 1, 151-170. | 2.5 | 63 |
| 7 | Assessing Accelerator-Based HPC Reverse Time Migration. IEEE Transactions on Parallel and Distributed Systems, 2011, 22, 147-162. | 4.0 | 49 |
| 8 | PETGEM: A parallel code for 3D CSEM forward modeling using edge finite elements. Computers and Geosciences, 2018, 119, 123-136. | 2.0 | 43 |
| 9 | Simulating archaeologists? Using agent-based modelling to improve battlefield excavations. Journal of Archaeological Science, 2012, 39, 347-356. | 1.2 | 31 |
| 10 | A review of block Krylov subspace methods for multisource electromagnetic modelling. Geophysical Journal International, 2015, 202, 1241-1252. | 1.0 | 31 |
| 11 | An efficient implementation of a QM–MM method in SIESTA. Theoretical Chemistry Accounts, 2011, 128, 825-833. | 0.5 | 29 |
| 12 | Algebraic multigrid preconditioning within parallel finite-element solvers for 3-D electromagnetic modelling problems in geophysics. Geophysical Journal International, 2014, 197, 1442-1458. | 1.0 | 29 |
| 13 | Parallel 3-D marine controlled-source electromagnetic modelling using high-order tetrahedral Nédélec elements. Geophysical Journal International, 2019, 219, 39-65. | 1.0 | 29 |
| 14 | Finite-difference staggered grids in GPUs for anisotropic elastic wave propagation simulation. Computers and Geosciences, 2014, 70, 181-189. | 2.0 | 26 |
| 15 | Radiation-Induced Error Criticality in Modern HPC Parallel Accelerators. , 2017, , . | | 26 |
| 16 | 3D Seismic Imaging through Reverse-Time Migration on Homogeneous and Heterogeneous Multi-Core Processors. Scientific Programming, 2009, 17, 185-198. | 0.5 | 25 |
| 17 | Modulated phase matching and high-order harmonic enhancement mediated by the carrier-envelope phase. Physical Review A, 2010, 81, . | 1.0 | 16 |
| 18 | Some useful strategies for unstructured edge–based solvers on shared memory machines. International Journal for Numerical Methods in Engineering, 2011, 85, 537-561. | 1.5 | 14 |

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|---|---------|----|-----------|
| 19 | High-Performance Reverse Time Migration on GPU. , 2009, , . | | 10 |
| 20 | The development of new infantry tactics during the early eighteenth century: a computer simulation approach to modern military history. Journal of Simulation, 2013, 7, 170-182. | 1.0 | 10 |
| 21 | Performance of computationally intensive parameter sweep applications on Internet-based Grids of computers: the mapping of molecular potential energy hypersurfaces. Concurrency Computation Practice and Experience, 2007, 19, 463-481. | 1.4 | 8 |
| 22 | Introducing the Semi-stencil Algorithm. Lecture Notes in Computer Science, 2010, , 496-506. | 1.0 | 8 |
| 23 | Approaching parallel computing to simulating population dynamics in demography. Parallel Computing, 2016, 59, 151-170. | 1.3 | 7 |
| 24 | 3D reverse–time migration with hybrid finite difference–pseudospectral method. , 2008, , . | | 5 |
| 25 | Improvements of the particle-in-cell code EUTERPE for petascaling machines. Computer Physics Communications, 2011, 182, 2047-2051. | 3.0 | 5 |
| 26 | Acceleration strategies for elastic full waveform inversion workflows in 2D and 3D. Computational Geosciences, 2017, 21, 31-45. | 1.2 | 5 |
| 27 | HPC Geophysical Electromagnetics: A Synthetic VTI Model with Complex Bathymetry. Energies, 2022, 15, 1272. | 1.6 | 5 |
| 28 | Evaluation of 3D RTM on HPC platforms. , 2008, , . | | 4 |
| 29 | Linear and Nonlinear Simulations Using the EUTERPE Gyrokinetic Code. IEEE Transactions on Plasma Science, 2010, 38, 2119-2128. | 0.6 | 4 |
| 30 | A European Infrastructure for Fusion Simulations. , 2010, , . | | 4 |
| 31 | Optimization of atmospheric transport models on HPC platforms. Computers and Geosciences, 2016, 97, 30-39. | 2.0 | 4 |
| 32 | Smoothed Particle Hydrodynamics Simulations of Water Flow in a 90° Pipe Bend. Water (Switzerland), 2021, 13, 1081. | 1.2 | 4 |
| 33 | A Parallel Tool for Numerical Approximation of 3D Electromagnetic Surveys in Geophysics. Computacion Y Sistemas, 2016, 20, . | 0.2 | 4 |
| 34 | Modeling of wide–azimuth towed–streamer surveys with high–performance computing. , 2007, , . | | 3 |
| 35 | Edge-based electric field formulation in 3D CSEM simulations: A parallel approach. , 2015, , . | | 3 |
| 36 | High Performance Computing on Boundary Element Simulations. Lecture Notes in Computer Science, 2000, , 572-575. | 1.0 | 3 |

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|---|---------|-----|-----------|
| 37 | Parallel computing aided design of earthing systems for electrical substations in non-homogeneous soil models. , 0, , . | | 2 |
| 38 | A parallel iterative solver based on the Schur complement system. , 0, , . | | 2 |
| 39 | Coherent Stark nonlinear spectroscopy with chirped pulses. Physical Review A, 2007, 75, . | 1.0 | 2 |
| 40 | Real-space density functional theory and time dependent density functional theory using finite/infinite element methods. Computer Physics Communications, 2012, 183, 2581-2588. | 3.0 | 2 |
| 41 | First experience with particle-in-cell plasma physics code on ARM-based HPC systems. Journal of Physics: Conference Series, 2015, 640, 012064. | 0.3 | 2 |
| 42 | Toward an automatic full-wave inversion: Synthetic study cases. The Leading Edge, 2016, 35, 1047-1052. | 0.4 | 2 |
| 43 | A Parallel Computing Model for the Acceleration of a Finite Element Software. Lecture Notes in Computer Science, 2002, , 449-456. | 1.0 | 2 |
| 44 | A Domain Decomposition Strategy for GRID Environments. Lecture Notes in Computer Science, 2004, , 353-361. | 1.0 | 2 |
| 45 | Large-Scale Social Simulation, Dealing with Complexity Challenges in High Performance Environments. Advances in Human and Social Aspects of Technology Book Series, 2014, , 106-123. | 0.3 | 2 |
| 46 | Overview on Agent-Based Social Modelling and the Use of Formal Languages. , 0, , 333-377. | | 2 |
| 47 | PLS: A parallel linear solvers library for Domain Decomposition methods. Lecture Notes in Computer Science, 1996, , 319-322. | 1.0 | 1 |
| 48 | Particle-in-Cell Algorithms for Plasma Simulations on Heterogeneous Architectures. , 2011, , . | | 1 |
| 49 | Generalized Elastic Staggered Grids on Multi-GPU Platforms. , 2012, , . | | 1 |
| 50 | Parallel and numerical issues of the edge finite element method for 3D controlled-source electromagnetic surveys. , 2015, , . | | 1 |
| 51 | Fostering Collaboration in Energy Research and Technological Developments Applying New Exascale HPC Techniques. , 2016, , . | | 1 |
| 52 | Using power-model based preconditioners for 3D acoustic full waveform inversion. , 2013, , . | | 1 |
| 53 | Data Distribution Strategies for Domain Decomposition Applications in Grid Environments. Lecture Notes in Computer Science, 2005, , 214-224. | 1.0 | 1 |
| 54 | Performance Analysis of Domain Decomposition Applications Using Unbalanced Strategies in Grid Environments. Lecture Notes in Computer Science, 2005, , 1031-1042. | 1.0 | 1 |

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| 55 | Parallelization of the SPAI preconditioner in a master-slave configuration. Lecture Notes in Computer Science, 1996, , 150-157. | 1.0 | 0 |
| 56 | A parallel algebraic preconditioner for the schur complement system. , 0, , . | | 0 |
| 57 | Exploring a Novel Gathering Method for Finite Element Codes on the Cell/B.E. Architecture. , 2010, , . | | 0 |
| 58 | Comparison of irregular cartesian finite difference methods for acoustic RTM. , 2011, , . | | 0 |
| 59 | 3D seismic modelling with topography using mimetic finite differences. , 2013, , . | | 0 |
| 60 | Efficient parallel solutions to 3D electromagnetic problems using potentials. , 2013, , . | | 0 |
| 61 | Improving edge finite element assembly for geophysical electromagnetic modelling on shared-memory architectures. , 2016, , . | | 0 |
| 62 | Elastic Full Waveform Inversion (FWI) of Reflection Data with a Phase Misfit Function. Communications in Computer and Information Science, 2016, , 277-284. | 0.4 | 0 |
| 63 | Supercritical-Order Mimetic Operators on Higher-Dimensional Staggered Grids. Lecture Notes in Computational Science and Engineering, 2017, , 669-679. | 0.1 | 0 |
| 64 | Hybrid MPI-OpenMP performance in massively parallel computational fluid dynamics. Lecture Notes in Computational Science and Engineering, 2010, , 293-297. | 0.1 | 0 |
| 65 | A parallel finite‐element method for 3‐D marine controlled‐source electromagnetic forward modeling. , 2011, , . | | 0 |
| 66 | Computational Issues in Optimizing Ophthalmic Lens. Lecture Notes in Computer Science, 1999, , 173-182. | 1.0 | 0 |
| 67 | Unveiling WARIS Code, a Parallel and Multi-purpose FDM Framework. Lecture Notes in Computational Science and Engineering, 2015, , 591-599. | 0.1 | 0 |
| 68 | Three-Dimensional CSEM Modelling on Unstructured Tetrahedral Meshes Using Edge Finite Elements. Communications in Computer and Information Science, 2017, , 247-256. | 0.4 | 0 |
| 69 | Enhancing Energy Production with Exascale HPC Methods. Communications in Computer and Information Science, 2017, , 233-246. | 0.4 | 0 |