

# Xiong Zhang

## List of Publications by Year in descending order

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110  
papers

3,230  
citations

147801

31  
h-index

175258

52  
g-index

111  
all docs

111  
docs citations

111  
times ranked

1814  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Peridynamic modeling of elastic bimaterial interface fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 390, 114458.  | 6.6  | 21        |
| 2  | A peridynamic model for contact problems involving fracture. <i>Engineering Fracture Mechanics</i> , 2022, 267, 108436.   | 4.3  | 11        |
| 3  | An adaptive peridynamics material point method for dynamic fracture problem. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 393, 114786.  | 6.6  | 10        |
| 4  | An immersed finite element material point (IFEMP) method for free surface fluid-structure interaction problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 393, 114809.         | 6.6  | 10        |
| 5  | An immersed MMALE material point method for FSI problems with structure fracturing. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 396, 115099.                                     | 6.6  | 5         |
| 6  | Peridynamic analysis of materials interface fracture with thermal effect. <i>Theoretical and Applied Fracture Mechanics</i> , 2022, 120, 103420.  | 4.7  | 4         |
| 7  | Combining peridynamics and generalized interpolation material point method via volume modification for simulating transient responses. <i>Computational Particle Mechanics</i> , 2021, 8, 337-347.        | 3.0  | 4         |
| 8  | Extended material point method for the three-dimensional crack problems. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 3044-3069.  | 2.8  | 11        |
| 9  | A novel material point method (MPM) based needle-tissue interaction model. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2021, 24, 1393-1407.                                      | 1.6  | 6         |
| 10 | A critical assessment and contact algorithm for the staggered grid material point method. <i>International Journal of Mechanics and Materials in Design</i> , 2021, 17, 743-766.                          | 3.0  | 9         |
| 11 | A new peridynamic mixed-mode bond failure model for interface delamination and homogeneous materials fracture analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 379, 113728. | 6.6  | 23        |
| 12 | A transport point method for complex flow problems with free surface. <i>Computational Particle Mechanics</i> , 2020, 7, 377-391.   | 3.0  | 11        |
| 13 | A precise critical time step formula for the explicit material point method. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 4989-5016.                                    | 2.8  | 15        |
| 14 | A non-penetration FEM-MPM contact algorithm for complex fluid-structure interaction problems. <i>Computers and Fluids</i> , 2020, 213, 104749.  | 2.5  | 10        |
| 15 | Continuous preparation of itraconazole nanoparticles using droplet-based microreactor. <i>Chemical Engineering Journal</i> , 2020, 393, 124721.   | 12.7 | 31        |
| 16 | An efficient staggered grid material point method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 352, 85-109.  | 6.6  | 39        |
| 17 | A predicted-Newton's method for solving the interface positioning equation in the MoF method on general polyhedrons. <i>Journal of Computational Physics</i> , 2019, 384, 60-76.                          | 3.8  | 11        |
| 18 | Preparation of smectic itraconazole nanoparticles with tunable periodic order using microfluidics-based anti-solvent precipitation. <i>CrystEngComm</i> , 2019, 21, 2362-2372.                            | 2.6  | 3         |

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|----|--|------|-----------|
| 19 | A coupled MMALE-FE method for solving 3D fluid-solid interaction problems with multi-material flow. <i>Engineering Computations</i> , 2019, 36, 2766-2786.   | 1.4  | 3         |
| 20 | Numerical simulation of liquid mixing inside soft droplets with periodic deformation by a lattice Boltzmann method. <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2019, 98, 37-44.                      | 5.3  | 16        |
| 21 | Coupled Shell-Material Point Method for Bird Strike Simulation. <i>Acta Mechanica Solida Sinica</i> , 2018, 31, 1-18.  | 1.9  | 12        |
| 22 | Simulation of reactive mixing behaviors inside micro-droplets by a lattice Boltzmann method. <i>Chemical Engineering Science</i> , 2018, 181, 79-89.   | 3.8  | 27        |
| 23 | Improved Incompressible Material Point Method Based on Particle Density Correction. <i>International Journal of Computational Methods</i> , 2018, 15, 1850061.   | 1.3  | 11        |
| 24 | An augmented incompressible material point method for modeling liquid sloshing problems. <i>International Journal of Mechanics and Materials in Design</i> , 2018, 14, 141-155.  | 3.0  | 13        |
| 25 | Enhancement of the material point method using B-spline basis functions. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 113, 411-431.   | 2.8  | 91        |
| 26 | A material point method model and ballistic limit equation for hyper velocity impact of multi-layer fabric coated aluminum plate. <i>International Journal of Mechanics and Materials in Design</i> , 2018, 14, 511-526. | 3.0  | 17        |
| 27 | Preparation of itraconazole nanoparticles by anti-solvent precipitation method using a cascaded microfluidic device and an ultrasonic spray drier. <i>Chemical Engineering Journal</i> , 2018, 334, 2264-2272.           | 12.7 | 21        |
| 28 | v-p material point method for weakly compressible problems. <i>Computers and Fluids</i> , 2018, 176, 170-181.  | 2.5  | 19        |
| 29 | Experimental Study on Thermal and UV-enhanced Gas-Solid Chlorination of High-Density Polyethylene. <i>International Journal of Chemical Reactor Engineering</i> , 2018, 16, .  | 1.1  | 3         |
| 30 | Mesoscopic modeling and simulation of 3D orthogonal woven composites using material point method. <i>Composite Structures</i> , 2018, 203, 425-435.  | 5.8  | 13        |
| 31 | A Coupled Finite Element Material Point Method for Large Deformation Problems. <i>Computational and Experimental Methods in Structures</i> , 2018, , 251-288.  | 0.3  | 1         |
| 32 | A robust and efficient polyhedron subdivision and intersection algorithm for three-dimensional MMALE remapping. <i>Journal of Computational Physics</i> , 2017, 338, 1-17.   | 3.8  | 13        |
| 33 | A frictional contact algorithm for implicit material point method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 321, 124-144.  | 6.6  | 19        |
| 34 | Material point method with enriched shape function for crack problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 322, 541-562.  | 6.6  | 37        |
| 35 | Seamless coupling of molecular dynamics and material point method via smoothed molecular dynamics. <i>International Journal for Numerical Methods in Engineering</i> , 2017, 112, 380-400.                               | 2.8  | 14        |
| 36 | An improved 2D MoF method by using high order derivatives. <i>Journal of Computational Physics</i> , 2017, 349, 176-190.   | 3.8  | 15        |

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|----|--|-----|-----------|
| 37 | Incompressible material point method for free surface flow. Journal of Computational Physics, 2017, 330, 92-110.   | 3.8 | 83        |
| 38 | Constitutive Models. , 2017, , 175-219.  |     | 3         |
| 39 | Computer Implementation of the MPM. , 2017, , 103-142.   |     | 0         |
| 40 | Multiscale MPM. , 2017, , 221-229.   |     | 0         |
| 41 | Applications of the MPM. , 2017, , 231-263.  |     | 1         |
| 42 | The Material Point Method. , 2017, , 37-101.   |     | 39        |
| 43 | Coupling of the MPM with FEM. , 2017, , 143-173.   |     | 0         |
| 44 | Governing Equations. , 2017, , 11-36.  |     | 0         |
| 45 | Multiscale computation based on material point method. Scientia Sinica: Physica, Mechanica Et Astronomica, 2017, 47, 070014.   | 0.4 | 0         |
| 46 | UVâ€Enhanced Gasâ€Solid Chlorination ofâ€Polyvinyl Chloride for Cleaner Production of Chlorinated Polyvinyl Chloride. Chemical Engineering and Technology, 2016, 39, 834-840.                                      | 1.5 | 9         |
| 47 | Extended layerwise method for laminated composite plates with multiple delaminations and transverse cracks. Computational Mechanics, 2016, 58, 657-679.  | 4.0 | 29        |
| 48 | An improved 3D MoF method based on analytical partial derivatives. Journal of Computational Physics, 2016, 326, 156-170.   | 3.8 | 12        |
| 49 | Molecular dynamicsâ€smoothed molecular dynamics (MDâ€SMD) adaptive coupling method with seamless transition. International Journal for Numerical Methods in Engineering, 2016, 108, 233-251.                       | 2.8 | 9         |
| 50 | Simulation of hyper-velocity impact on double honeycomb sandwich panel and its staggered improvement with internal-structure model. International Journal of Mechanics and Materials in Design, 2016, 12, 241-254. | 3.0 | 25        |
| 51 | Response of Woodpecker's Head during Pecking Process Simulated by Material Point Method. PLoS ONE, 2015, 10, e0122677.   | 2.5 | 37        |
| 52 | Improved coupling of finite element method with material point method based on a particle-to-surface contact algorithm. Computer Methods in Applied Mechanics and Engineering, 2015, 293, 1-19.                    | 6.6 | 41        |
| 53 | An extended Layerwise method for composite laminated beams with multiple delaminations and matrix cracks. International Journal for Numerical Methods in Engineering, 2015, 101, 407-434.                          | 2.8 | 55        |
| 54 | Improved shielding structure with double honeycomb cores for hyper-velocity impact. Mechanics Research Communications, 2015, 69, 34-39.  | 1.8 | 15        |

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|----|--|------|-----------|
| 55 | A mesh-grading material point method and its parallelization for problems with localized extreme deformation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 289, 291-315.                     | 6.6  | 23        |
| 56 | An improved smoothed molecular dynamics method by alternating with molecular dynamics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 296, 273-294.  | 6.6  | 5         |
| 57 | Investigation on high-velocity impact of micron particles using material point method. <i>International Journal of Impact Engineering</i> , 2015, 75, 241-254.   | 5.0  | 24        |
| 58 | Internal-structure-model based simulation research of shielding properties of honeycomb sandwich panel subjected to high-velocity impact. <i>International Journal of Impact Engineering</i> , 2015, 77, 120-133.    | 5.0  | 41        |
| 59 | Coupling of membrane element with material point method for fluid-membrane interaction problems. <i>International Journal of Mechanics and Materials in Design</i> , 2014, 10, 199-211.                              | 3.0  | 28        |
| 60 | The Sandia Fracture Challenge: blind round robin predictions of ductile tearing. <i>International Journal of Fracture</i> , 2014, 186, 5-68.   | 2.2  | 115       |
| 61 | Improved decohesion modeling with the material point method for simulating crack evolution. <i>International Journal of Fracture</i> , 2014, 186, 177-184.   | 2.2  | 24        |
| 62 | Tied interface grid material point method for problems with localized extreme deformation. <i>International Journal of Impact Engineering</i> , 2014, 70, 50-61.   | 5.0  | 24        |
| 63 | Sloshing impact simulation with material point method and its experimental validations. <i>Computers and Fluids</i> , 2014, 103, 86-99.  | 2.5  | 55        |
| 64 | Low-velocity impact responses of the stiffened composite laminated plates based on the progressive failure model and the layerwise/solid-elements method. <i>Composite Structures</i> , 2014, 110, 249-275.          | 5.8  | 42        |
| 65 | Numerical investigation of influences of porous density and strain-rate effect on dynamical responses of aluminum foam. <i>Computational Materials Science</i> , 2014, 91, 223-230.                                  | 3.0  | 27        |
| 66 | Free vibration analysis of corrugated-core sandwich plates using a meshfree Galerkin method based on the first-order shear deformation theory. <i>International Journal of Mechanical Sciences</i> , 2014, 78, 8-18. | 6.7  | 40        |
| 67 | Accurate modelling of the crush behaviour of thin tubular columns using material point method. <i>Science China: Physics, Mechanics and Astronomy</i> , 2013, 56, 1209-1219.   | 5.1  | 5         |
| 68 | A multiscale framework for high-velocity impact process with combined material point method and molecular dynamics. <i>International Journal of Mechanics and Materials in Design</i> , 2013, 9, 127-139.            | 3.0  | 40        |
| 69 | Linear statics and free vibration sensitivity analysis of the composite sandwich plates based on a layerwise/solid-element method. <i>Composite Structures</i> , 2013, 106, 175-200.                                 | 5.8  | 24        |
| 70 | A layerwise/solid-element method of the linear static and free vibration analysis for the composite sandwich plates. <i>Composites Part B: Engineering</i> , 2013, 52, 187-198.                                      | 12.0 | 42        |
| 71 | NUMERICAL SIMULATION OF HUMAN HEAD IMPACT USING THE MATERIAL POINT METHOD. <i>International Journal of Computational Methods</i> , 2013, 10, 1350014.  | 1.3  | 16        |
| 72 | Coupling between finite element method and material point method for problems with extreme deformation. <i>Theoretical and Applied Mechanics Letters</i> , 2012, 2, 021003.  | 2.8  | 17        |

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|----|---|-----|-----------|
| 73 | An adaptive finite element material point method and its application in extreme deformation problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2012, 241-244, 275-285.            | 6.6 | 63        |
| 74 | The carbon nanotube composite simulation by material point method. <i>Computational Materials Science</i> , 2012, 57, 23-29.  | 3.0 | 8         |
| 75 | Application of material point methods for cutting process simulations. <i>Computational Materials Science</i> , 2012, 57, 102-110.  | 3.0 | 41        |
| 76 | Coupling of finite element method with material point method by local multi-mesh contact method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 3482-3494.                   | 6.6 | 75        |
| 77 | Contact algorithms for the material point method in impact and penetration simulation. <i>International Journal for Numerical Methods in Engineering</i> , 2011, 85, 498-517.                           | 2.8 | 124       |
| 78 | A FEMP method and its application in modeling dynamic response of reinforced concrete subjected to impact loading. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 1659-1670. | 6.6 | 59        |
| 79 | Numerical simulation of explosively driven metal by material point method. <i>International Journal of Impact Engineering</i> , 2011, 38, 238-246.  | 5.0 | 33        |
| 80 | Numerical Study of Dynamic Compression Process of Aluminum Foam with Material Point Method. <i>CMES - Computer Modeling in Engineering and Sciences</i> , 2011, 82, 195-214.                            | 1.1 | 1         |
| 81 | Comparison study of MPM and SPH in modeling hypervelocity impact problems. <i>International Journal of Impact Engineering</i> , 2009, 36, 272-282.  | 5.0 | 163       |
| 82 | Plastic zone of semi-infinite crack in planar kagome and triangular lattices. <i>Acta Mechanica Sinica</i> , 2009, 22, 213-225.   | 1.9 | 4         |
| 83 | Adaptive smoothed molecular dynamics for multiscale modeling. <i>Computational Materials Science</i> , 2009, 46, 713-715.   | 3.0 | 7         |
| 84 | Three-Dimensional Multi-mesh Material Point Method for Solving Collision Problems. <i>Communications in Theoretical Physics</i> , 2008, 49, 1129-1138.  | 2.5 | 27        |
| 85 | Equivalent parameter study of the mechanical properties of super carbon nanotubes. <i>Nanotechnology</i> , 2007, 18, 295708.  | 2.6 | 19        |
| 86 | A membrane-spring model for carbon nanotubes with van der Waals interaction between non-bonded atoms. <i>Nanotechnology</i> , 2007, 18, 375706.   | 2.6 | 3         |
| 87 | Mechanical properties of super honeycomb structures based on carbon nanotubes. <i>Nanotechnology</i> , 2007, 18, 075711.  | 2.6 | 36        |
| 88 | Energy absorption of axially compressed thin-walled square tubes with patterns. <i>Thin-Walled Structures</i> , 2007, 45, 737-746.  | 5.3 | 129       |
| 89 | An explicit material point finite element method for hyper-velocity impact. <i>International Journal for Numerical Methods in Engineering</i> , 2006, 66, 689-706.                                      | 2.8 | 87        |
| 90 | Effect of defects on resonance of carbon nanotubes as mass sensors. <i>Applied Physics Letters</i> , 2006, 88, 113513.  | 3.3 | 6         |

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|-----|--|-----|-----------|
| 91  | A New Approach of Piping Dynamic Response Considering Plastic Effect. , 2006, , .  |     | 0         |
| 92  | A MESHLESS METHOD BASED ON LEAST-SQUARES APPROACH FOR STEADY- AND UNSTEADY-STATE HEAT CONDUCTION PROBLEMS. Numerical Heat Transfer, Part B: Fundamentals, 2005, 47, 257-275. | 0.9 | 71        |
| 93  | Fluid-structure interaction analysis of a hypothetical core disruptive accident in LMFBs. Nuclear Engineering and Design, 2005, 235, 701-712.                                | 1.7 | 1         |
| 94  | Dynamic wave-structure interaction analysis in the time domain. Computers and Structures, 2005, 83, 2206-2214.   | 4.4 | 33        |
| 95  | Meshless Galerkin least-squares method. Computational Mechanics, 2005, 35, 182-189.  | 4.0 | 21        |
| 96  | Meshless least-squares method for solving the steady-state heat conduction equation. Tsinghua Science and Technology, 2005, 10, 61-66.                                       | 6.1 | 21        |
| 97  | Numerical simulation and analysis of an electroactuated beam using a radial basis function. Smart Materials and Structures, 2005, 14, 1163-1171.                             | 3.5 | 35        |
| 98  | Nonlinear membrane-spring model for carbon nanotubes. Physical Review B, 2005, 72, .   | 3.2 | 10        |
| 99  | Meshless method based on collocation with consistent compactly supported radial basis functions. Acta Mechanica Sinica/Lixue Xuebao, 2004, 20, 551-557.                      | 3.4 | 10        |
| 100 | Elasto-plastic behavior of pipe subjected to steady axial load and cyclic bending. Nuclear Engineering and Design, 2004, 229, 189-197.                                       | 1.7 | 5         |
| 101 | Inelastic Behavior of Pipe Subjected to Steady Extension and Cyclic Bending. , 2003, , .   |     | 0         |
| 102 | Free-vibration analysis of a three-dimensional soil-structure system. Earthquake Engineering and Structural Dynamics, 2001, 30, 43-57.                                       | 4.4 | 21        |
| 103 | Least-squares collocation meshless method. International Journal for Numerical Methods in Engineering, 2001, 51, 1089-1100.  | 2.8 | 189       |
| 104 | Imposition of essential boundary conditions by displacement constraint equations in meshless methods. Communications in Numerical Methods in Engineering, 2001, 17, 165-178. | 1.3 | 30        |
| 105 | A 2-D meshless model for jointed rock structures. International Journal for Numerical Methods in Engineering, 2000, 47, 1649-1661.   | 2.8 | 35        |
| 106 | Meshless methods based on collocation with radial basis functions. Computational Mechanics, 2000, 26, 333-343.   | 4.0 | 212       |
| 107 | Three-dimensional dynamic soil-structure interaction analysis in the time domain. Earthquake Engineering and Structural Dynamics, 1999, 28, 1501-1524.                       | 4.4 | 68        |
| 108 | Slope stability analysis based on the rigid finite element method. Geotechnique, 1999, 49, 585-593.  | 4.0 | 34        |

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| 109 | Rigid finite element and its applications in engineering. Acta Mechanica Sinica/Lixue Xuebao, 1995, 11, 44-50.                    | 3.4 | 20        |
| 110 | Recent Advances in Simulating Failure Evolution with the Material Point Method. Applied Mechanics and Materials, 0, 784, 193-199. | 0.2 | 0         |