

Paolo Maria Mariano's list of publications

October 11th, 2024

1 Monographs

1.1 Monographs on Theoretical and Applied Mechanics

1. Mariano P. M., Galano L. (2015), *Fundamentals of the Mechanics of Solids*, Birkhäuser, Boston, pp. 445. [An Italian enlarged edition *Fondamenti di Meccanica dei Solidi* has been published in 2017 by Bollati-Boringhieri.]

1.2 Monographs on Philosophy of Science

1. Mariano P. M. (2016), *Teatro d'ombre e di luci. Cosa facciamo quando descriviamo il mondo?*, Castelvechi, Roma, pp. 136.
2. Mariano P. M. (2023), *Quando la bellezza - Estetica nella rappresentazione matematica della natura*, Aesthetica, Milano, pp. 168.

1.3 Monographs under way

1. Mariano P. M. (2023), *Mathematical Representation of Plasticity and other Material Mutations*, Amer. Math. Soc. (under completion).
2. Mariano P. M. (2023), *Elements of Multi-Field Theories for Complex Materials*, Birkhäuser-Springer, (under completion).

2 Journal Papers

1. Mariano P. M. (1994), Discussion on J. M. Zhang and K. Y. Lam, "On material symmetry and deformation-induced anisotropy", *Meccanica*, **29**, 217-220.
2. Mariano P. M. (1995), Fracture in structured continua, *Int. J. Damage Mech.*, **4**, 283-289.
3. Augusti G., Mariano P. M. (1996), Introduction to computational methods of damage dynamics under stochastic actions, *Prob. Eng. Mech.*, **11**, 107-112.
4. Mariano P. M. (1996), Nöther's theorem in the elastic dynamics of microcracked bodies, *Mech. Res. Comm.*, **23**, 233-238.
5. Mariano P. M., Augusti G. (1997), Some axioms and theorems in damage mechanics and fatigue of materials, *Int. J. Solids Struct.*, **34**, 3337-3350.
6. Mariano P. M. (1997), Natural entropies in the state space of damaged bodies, *ZAMP - Zeit. angew. Math. Phys.*, **48**, 1002-1011.
7. Mariano P. M. (1998), On the axioms of plasticity, *Int. J. Solids Struct.*, **35**, 1313-1324.
8. Mariano P. M., Bernardini D. (1998), Flow rules for porous elastic-plastic materials, *Mech. Res. Comm.*, **25**, 443-448.
9. Mariano P. M., Augusti G. (1998), Multifield description of microcracked continua. A local model, *Math. Mech. Solids*, **3**, 237-254.
10. Mariano P. M., Augusti G. (1998), Ordering and transport in generalized continua with arbitrary order parameters, *J. de Phys.*, **IV Pr8**, 223-230.
11. Augusti G., Mariano P. M. (1999), Stochastic evolution of microcracks in continua, *Comp. Meth. Appl. Mech. Eng.*, **168**, 155-171.
12. Mariano P. M. (1999), Some remarks on the variational description of microcracked bodies, *Int. J. Non-Linear Mech.*, **34**, 633-642.
13. Mariano P. M., Trovalusci P. (1999), Constitutive relations for elastic microcracked bodies: from a lattice model to a multifield continuum description, *Int. J. Damage Mech.*, **8**, 153-173.
14. Mariano P. M. (2000), Configurational forces in continua with microstructure, *ZAMP - Zeit. angew. Math. Phys.*, **51**, 752-791.
15. Mariano P. M., Sabatini L. (2000), Homothermal acceleration waves in multifield theories of continua, *Int. J. Non-Linear Mech.*, **35**, 963-977.
16. Mariano P. M. (2001), Coherent interfaces with junctions in continua with microstructure, *Int. J. Solids Struct.*, **38**, 1243-1267.
17. Mariano P. M., Augusti G. (2001), Basic topics on damage pseudo-potentials, *Int. J. Solids Struct.*, **38**, 1963-1974.
18. Mariano P. M., Stazi F. L. (2001), Strain localization in elastic microcracked bodies, *Comp. Meth. Appl. Mech. Eng.*, **190**, 5657-5677.

19. Davì F., Mariano P. M. (2001), Evolution of domain walls in ferroelectric solids, *J. Mech. Phys. Solids*, **49**, 1701-1726.
20. Mariano P. M. (2002), Multifield theories in mechanics of solids, *Adv. Appl. Mech.*, **38**, 1-93.
21. Mariano P. M. (2002), A note on Ceradini-Capurso-Maier's theorem in plasticity, *Int. J. Plast.*, **18**, 1749-1773.
22. Mariano P. M., Giofrè, Stazi F. L., Augusti G. (2002), Microcracked bodies with random properties: a preliminary investigation on localization phenomena, *Comp. Struct.*, **80**, 1027-1047.
23. Mariano P. M. (2003), Cancellation of vorticity in steady-state non-isentropic flows of complex fluids, *J. Phys. A*, **36**, 9961-9972.
24. Capriz G., Mariano P. M. (2003), Symmetries and Hamiltonian formalism for complex materials, *J. Elasticity*, **72**, 57-70. [Reprinted in *The Rational Spirit in Modern Continuum Mechanics (Essays and Papers Dedicated to the Memory of Clifford Ambrose Truesdell III)*, C.-S. Man, R. Fosdick Ed.s, Kluwer-Springer, 127-140.]
25. Mariano P. M. (2004), Consequences of "changes" of material metric in simple bodies, *Meccanica*, **39**, 77-79.
26. Mariano P. M. Giofrè, Stazi F. L., Augusti G. (2004), Elastic microcracked bodies with random properties, *Prob. Eng. Mech.*, **19**, 127-143.
27. Mariano P. M., Casciola C. M., De Angelis E. (2004), Substructural interactions and transport in polymer flows, *Int. J. Non-Linear Mech.*, **39**, 457-465.
28. Mariano P. M., Stazi F. L. (2004), Strain localization due to crack- microcrack interactions: X-FEM for a multifield approach, *Comp. Meth. Appl. Mech. Eng.*, **193**, 5035-5062.
29. Mariano P. M. (2004), Some thermodynamical aspects of the solidification of two-phase flows, *Meccanica*, **4**, 369-382.
30. Mariano P. M., Stazi F. L., Augusti G. (2004), Phason effects around a crack in Al- Pb - Mn quasicrystals: stochastic aspects of the phonon-phason coupling, *Comp. Struct.*, **82**, 971-983.
31. Mariano P. M. (2005), Influence of material substructure on crack propagation: a unified treatment, *Proc. Royal Soc. A*, **461**, 371-395.
32. de Fabritiis C., Mariano P. M. (2005), Geometry of interactions in complex bodies, *J. Geom. Phys.*, **54**, 301-323.
33. Mariano P. M. (2005), SO(3) invariance and covariance in mixtures of simple bodies, *International Int. J. Non-Linear Mech.*, **40**, 1023-1030.
34. Mariano P. M., Stazi F. L. (2005), Computational aspects of the mechanics of complex materials, *Arch. Comp. Meth. Eng.*, **12**, 391-478.
35. Mariano P. M. (2005), Migration of substructures in complex fluids, *J. Phys. A*, **38**, 6823-6839.

36. Mariano P. M. (2005), Walk of a line defect in quasicrystals, *Meccanica*, **40**, 511-525.
37. Mariano P. M. (2006), Mechanics of quasi-periodic alloys, *J. Nonlinear Sci.*, **16**, 45-77.
38. Mariano P. M., Stazi F. L., Gioffrè (2006), Stochastic clustering and self-organization of gross deformation and phason activity in quasicrystals: modeling and simulations, *J. Comp. Theor. Nanosci.*, **3**, 478-486. [This paper has been highlighted on the pertinent issue cover.]
39. Mariano P. M. (2007), Geometry and balance of hyperstresses, *Rend. Lincei*, **18**, 311-331.
40. Capriz G., Mariano P. M. (2007), Symmetries and Poisson structures for complex materials, *J. Mech. Behav. Mat.*, **18**, 89-96.
41. Mariano P. M. (2007), Thermodynamic stability for materials with substructure, *J. Mech. Behav. Mat.*, **18**, 97-104.
42. Mariano P. M. (2007), Representation of material elements and geometry of substructural interactions, *Quad. Mat.*, **20**, 80-100.
43. Mariano P. M. (2008), Cracks in complex bodies: covariance of tip balances, *J. Nonlinear Sci.*, **18**, 99-141.
44. Mariano P. M. (2008), Mechanics of complex bodies: commentary on the unified modelling of material substructures, *Theor. Appl. Mech.*, **35**, 233-251.
45. Focardi M., Mariano P. M. (2008), Convergence of asynchronous variational integrators in linear elastodynamics, *Int. J. Num. Meth. Eng.*, **75**, 755-769.
46. Augusti G., Mariano P. M., Stazi F. L. (2009), Semi-dense and concentrated fullerene-based composites: microdeformation and strain gradient effects, *J. Mech. Behav. Mat.*, **19**, 125-133.
47. Mariano P. M., Modica G. (2009), Ground states in complex bodies, *ESAIM - Contr. Optim. Calc. Var.*, **15**, 377-402.
48. Focardi M., Mariano P. M. (2009), Discrete dynamics of complex bodies: variational integrators and convergence, *Disc. Cont. Dyn. Syst. B*, **11**, 109-130.
49. Mariano P. M., Paoletti P. (2009), Complex bodies with memory: linearized setting, *Math. Meth. Appl. Sci.*, **32**, 1041-1067.
50. Mariano P. M. (2009), The relative power and its invariance, *Rend. Lincei*, **20**, 227-242.
51. Mariano P. M. (2010), Physical significance of the curvature varifold-based description of crack nucleation, *Rend. Lincei*, **21**, 215-233.
52. Giaquinta M., Mariano P. M., Modica G., Mucci D. (2010), Ground states of simple bodies that may undergo brittle fracture, *Physica D*, **239**, 1485-1502.
53. Radi E., Mariano P. M. (2010), Stationary straight cracks in quasicrystals, *Int. J. Frac.*, **166**, 105-120.
54. Giaquinta M., Mariano P. M., Modica G. (2010), A variational problem in the mechanics of complex materials, *Disc. Cont. Dyn. Syst. A*, **28**, 519-537.

55. Mariano P. M. (2010), Spin field topological linear defects in quasicrystals with magnetic order, *Phys. Lett. A*, **375**, 80-83.
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58. Radi E., Mariano P. M. (2011), Steady-state propagation of dislocations in quasicrystals, *Proc. Royal Soc. A*, **467**, 3490-3508.
59. Mariano P. M. (2012), Crystal plasticity: the Hamilton-Eshelby stress in terms of the metric in the intermediate configuration, *Theor. Appl. Mech.*, **39**, 55-69.
60. Mariano P. M. (2012), Line defect evolution in finite-dimensional manifolds, *Disc. Cont. Dyn. Syst. B*, **17**, 575-596.
61. Mariano P. M., Planas J. (2013), Self-actions in quasicrystals, *Physica D*, **249**, 46-57.
62. Mariano P. M. (2013), Covariance in plasticity, *Proc. Royal Soc. A*, **469**, art. n. 20130073 (1-17).
63. Bacci M., Mariano P. M. (2014), Protein dynamics: an approach based on the Cauchy-Born rule, *Physica E*, **61**, 69-82.
64. Mariano P. M. (2014), Mechanics of material mutations, *Adv. Appl. Mech.*, **47**, 1-91.
65. Capriz G., Mariano P. M. (2014), Objective fluxes in a multi-scale continuum description of sparse medium dynamics, *Physica A*, **415**, 354-365.
66. Mariano P. M., Salvatori L. (2015), Spatial decay of the phason field in quasicrystal linear elasticity, *Mod. Sim. Mat. Sci. Eng.*, **23**, art. n. 045004 (1-19).
67. Focardi M., Mariano P. M., Spadaro E. N. (2015), Multi-value microstructural descriptors for complex materials: analysis of ground states, *Arch. Rational Mech. Anal.*, **215**, 899-933.
68. Giaquinta M., Mariano P. M., Modica G. (2015), Stress constraints in simple bodies undergoing large strain: a variational approach, *Proc. Royal Soc. Edinburgh*, **145A**, 1-32.
69. Mariano P. M. (2016), Trends and challenges in the mechanics of complex materials: a view, *Phil. Trans. Royal Soc. A*, **374**, art. n. 20150341 (1-31).
70. Mariano P. M. (2017), Second-neighbor interactions in classical field theories: invariance of the relative power and covariance, *Math. Meth. Appl. Sci.*, **40**, 1316-1332.
71. Bisconti L., Mariano P. M. (2017), Existence results in the linear dynamics of quasicrystals with phason diffusion and non-linear gyroscopic effects, *SIAM Multiscale Mod. Sim.*, **15**, 745-767.
72. Mariano P. M. (2017), Finite-speed heat propagation as a consequence of microstructural events, *Cont. Mech. Thermodyn.*, **29**, 1241-1248.

73. Bisconti L., Mariano P. M., Vespri V. (2018), Existence and regularity for a model of viscous oriented fluids regularized by second-neighbor spin-to-spin interactions, *J. Math. Fluid Mech.*, **20**, 655-682.
74. Mariano P. M. (2018), Equilibrium configurations of mixture thin films undergoing large strains, *Math. Meth. Appl. Sci.*, **41**, 479-489.
75. Capriz G., Mariano P. M. (2018), Multi-scale kinetic description of granular clusters: invariance, balance, and temperature, *Cont. Mech. Thermodyn.*, **30**, 1323-1342.
76. Masi F., Mariano P. M., Vannucci P. (2018), Blast actions in aircrafts: an integrated methodology for designing protection devices, *Eng. Struct.*, **175**, 895-911.
77. Mariano P. M. (2019), Mechanics of dislocations and metadislocations in quasicrystals and their approximants: power invariance and balance, *Cont. Mech. Thermodyn.*, **31**, 373-399.
78. Bisconti L., Mariano P. M., Markenscoff X. (2019), A model of isotropic damage with strain-gradient effects: existence and uniqueness of weak solutions for progressive damage processes, *Math. Mech. Solids*, **24**, 2726-2741.
79. Capriz G., Mariano P. M. (2019), Interactions in a multi-scale representation of sparse media: from mechanics to thermodynamics, *J. Elasticity*, **135**, 91-115.
80. Bisconti L., Mariano P. M. (2020), Global existence and regularity for the dynamics of viscous oriented fluids, *AIMS Math.*, **5**, 79-95.
81. Mariano P. M. (2020), Flows of suspended grains: mixing a sparse phase with simple and complex continua, *Int. J. Solids Struct.*, **187**, 141-161.
82. Capriz G., Mariano P. M. (2020), Preamble to the analysis of thermodynamic processes in sparse phases, *AAPP Atti Accad. Peloritana Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali*, **97**, art. n. A5 (1-8).
83. Bacci M., Mariano P. M. (2021), Discrete-to-continuum description of protein dynamics: models and comparative simulations, *Mech. Mat.*, **154**, art. n. 103711 (1-13).
84. Bosi A., Mariano P. M., Salvatori L. (2021), Micro-to-macro interactions in complex bodies: wavelet-based post-processing detection, *Math. Meth. Appl. Sci.*, **44**, 10541-10563.
85. Capriz G., Wilmanski K., Mariano P. M. (2021), Exact and approximate Maxwell-Cattaneo-type descriptions of heat conduction: A comparative analysis, *Int. J. Heat Mass Trasf.*, **175**, art. n. 121362 (1-10).
86. Bisconti L., Mariano P. M. (2021), Exact controllability of Faedo-Galerkin's scheme for the dynamics of fluids with spin-type structure, *J. Opt. Theory Appl.*, **193**, 737-759.
87. Bisconti L., Mariano P. M. (2022), Moving vesicles in elastic tissues: a model with existence and uniqueness of weak solutions, *Physica D*, **430**, art. n. 133079 (1-11).

88. Mariano P. M., Polikarpus J., Spadini M. (2022), Solutions of linear and non-linear schemes for non-Fourier heat conduction, *Int. J. Heat Mass Transf.*, **183**, 122193 (1-11).
89. Kruzik M., Mariano P. M., Mucci D. (2022), Crack occurrence in bodies with gradient polyconvex energies, *J. Nonlinear Sci.*, **32**, art. n. 16 (1-26).
90. Mariano P. M., Spadini M. (2022), Sources of finite speed temperature propagation, *J. Non-Equil. Thermodyn.*, **47**, 165-178.
91. Mariano P. M., Bacci M. (2022), A discrete-to-continuum model of protein complexes, *Biomech. Mod. Mechanobiology*, **21** 871-884.
92. Zeka D., Catapano A., Mariano P. M., Montemurro M., Poupart R., Mondain-Monval O., Delcroix J., Rublon P. (2022), Non-linear homogenization of polymer composites with porous inclusions, *Mech. Mat.*, **168**, art. n. 104276 (1-12).
93. Mariano P. M. (2022), Homogenization of complex lattices for metamaterials: open problems and conjectures, *Crystals*, **12**, art. n. 612 (1-13).
94. Mariano P. M. (2022), Models and meta-models for interacting phenomena with social factors: a conceptual perspective, *AAPP Atti Accad. Peloritana Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali*, **100**, 2, LC2(1-11).
95. Bisconti L., Mariano P. M. (2022), Global weak attractors and energy decay in the dynamics of bodies with vector-type microstructures, *Zeit. angew. Math. Phys. - ZAMP*, **73**, art. n. 248 (1-17).
96. Berti D., Bisconti L., Mariano P. M. (2022), Energy decay in the dynamics of complex bodies with spreading microstructures represented by 3D vectors, *J. Elasticity*, **155** (2024), 133–157.
97. Mariano P. M., Spadini M. (2023), Periodic solutions to perturbed nonlinear oscillators with memory, *Physica D*, **445**, art. n. 133635 (1-8).
98. Berti D., Bisconti L., Mariano P. M. (2023), Dynamics of complex bodies with memory: existence and uniqueness, *Physica D*, **446**, art. n. 133683 (1-9).
99. Mariano P. M., Mucci D. (2023), Micro-slip-induced multiplicative plasticity: existence of energy minimizers, *Arch. Rational Mech. Anal.*, **247**, art. n. 43 (1-33).
100. Mariano P. M., Mucci D. (2023), Equilibrium of thin shells under large strains without through-the-thickness shear and self-penetration of matter, *Math. Eng.*, **5**, 1-21.
101. Mariano P. M., Mucci D. (2023), Crack nucleation in shells with through-the-thickness microstructure, *SIAM J. Math. Anal.*, **55**, 4977-4999.
102. Mariano P. M. (2023), A certain counterpart in dissipative setting of the Noether theorem with no dissipation pseudo-potentials, *Phil. Trans. Royal Soc.*, **381**, art. n. 20220275 (1-24).
103. Goldshtein V., Mariano P. M., Mucci D., Segev R. (2023), Continuum kinematics with incompatible-compatible decomposition, *Phil. Trans. Royal Soc.*, **381**, art. n. 20220272 (1-15).

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105. Mariano P. M., Spadini M. (2024), Evolution of neuron firing and connectivity in neuronal plasticity with application to Parkinson's disease, *Physica D*, **458**, art. n. 133993 (1-10).
106. Mariano P. M. (2024), From clusters of moving molecules to continua: material elements as open systems, *Eur. J. Mech. A/Solids*, **106**, art. n. 105310 (1-15).
107. Giovine P., Mariano P. M., Mugnaioni F. (2024), Acceleration waves in thermoelastic complex media with temperature-dependent phase fields, *Meccanica*, in print.
108. Mariano P. M. (2024), Conducting viscous bodies with phase transitions: deriving Gurtin's postulate from the second law structure invariance, *Physica D*, **467**, art. n. 134258 (1-10).
109. Mariano P. M. (2024), Topological features in continuum mechanics: from simple to complex bodies, *Proc. Royal Soc. A*, in print.

3 Preprints

1. Bisconti L., Mariano P. M. (2024), Regularized dynamics of sparse phases with internal constraints, *preprint*.
2. Mariano P. M., Mucci D. (2024), Large folds of filaments with possibly irrecoverable corners, *preprint*.
3. Mariano P. M. (2024), Objectivity of the relative power and covariance of the Clausius-Duhem inequality in fracture dynamics, *submitted*.
4. Mariano P. M., Mucci D. (2024), Thin shell deformations with possibly irrecoverable sharp folds and cusps, *preprint*.
5. Bisconti L., Mariano P. M. (2024), Complex fluids with microstructure-induced finite speed heat propagation, non-local effects and non-linear Darcy-type damping: existence result, *preprint*.
6. Benzi M., La Pegna D., Mariano P. M. (2024), Role of pseudospectra in the evaluation of material stability, *preprint*.
7. La Pegna D., Mariano P. M. (2024), Finite speed heat propagation due to microstructural effects, *preprint*.
8. Galano L., Spadini M., Mariano P. M. (2024), Coupled oscillators: non-linearity incidence, *preprint*.
9. Spadini M., Mariano P. M. (2024), Fermi-Pasta-Ulam-Tsingou lattices under periodic forcing, *preprint*.
10. Mariano P. M. (2024), Progressive non-locality in multi-scale descriptions of bodies with director-type microstructure, *preprint*.
11. Mariano P. M., Mucci D. (2024), Topological changes in birods and rings with application to DNA helicase and supercoiling, *preprint*.

4 Book chapters

1. Capurso M., Augusti G., Mariano P. M. (1999), Meccanica dei solidi, in *Manuale di Ingegneria Civile*, Zanichelli, Bologna, vol. 2, SC1-SC19.
2. Mariano P. M. (2000), Premises to a multifield approach to stochastic damage evolution, in *Damage and Fracture in Disordered Materials*, D. Krajcinovic, J. van Mier Ed.s, Springer Verlag, Berlin, 217-263.
3. Augusti G., Mariano P. M., Stazi F. L. (2002), Laws of evolution of cracks in plates in terms of stress resultants, in *New Approaches to Structural Mechanics, Shells and Biological Structures*, H. R. Drew, S. Pellegrino Ed.s, Kluwer Academic Publishers, Dordrecht, 43-56.
4. De Angelis E., Casciola C. M., Mariano P. M., Piva R. (2004), Microstructure and turbulence in dilute polymer solutions, in *Advances in Multifield Theories of Continua with Substructure*, G. Capriz, P. M. Mariano Ed.s, Birkhäuser Verlag, Basel, 127-149.
5. Capriz G., Mariano P. M. (2004), Balance at a junction among coherent interfaces in materials with substructure, in *Advances in Multifield Theories for Continua with Substructure*, G. Capriz, P. M. Mariano Ed.s, Birkhäuser, Boston, 243-263.
6. Mariano P. M. (2004), Lectures on substructural randomness in complex bodies, in *Random Material Microstructures*, K. Sobczyk Ed., Centre of Excellence for Advanced Materials and Structures, IPPT, Warsaw, 155-221.
7. Capriz G., Mariano P. M. (2004), Symmetries and Hamiltonian formalism for complex materials, in *The Rational Spirit in Modern Continuum Mechanics (Essays and Papers Dedicated to the Memory of Clifford Ambrose Truesdell III)*, C.-S. Man, R. Fosdick Ed.s, Kluwer-Springer, 127-140.
8. Mariano P. M. (2007), Continua with spin structure, in *Material Substructures in Complex Bodies: From Atomic Level to Continuum*, G. Capriz, P. M. Mariano Ed.s, Elsevier, Amsterdam, 314-334.
9. Mariano P. M. (2008), Slow motion in granular matter, in *Mathematical Models of Granular Matter*, P. M. Mariano, G. Capriz, P. Giovine Ed.s, Lecture Notes in Mathematics, **1937**, Springer Verlag, Berlin, 193-210.
10. Giaquinta M., Mariano P. M., Modica G., Mucci D. (2010), Currents and curvature varifolds in continuum mechanics, in *Nonlinear Partial Differential Equations and Related Topics: A Volume Dedicated to Nina N. Ural'ceva*, Trans. Am. Math. Soc., Adv. Math. Series, **229**, 97-117.
11. Angotti F., Frosali G., Mariano P. M. (2014), Meccanica Razionale . . . quae per demonstrationes accurate procedit, in *E. Fermi, Meccanica Razionale, the first print of Fermi's lectures on Rational Mechanics in Florence University*, FUP, Firenze, 17-26.
12. Mariano P. M. (2015), Hyperstresses, relative power and invariance in second-grade classical field theories, in *Geometry, Integrability, Mechanics and Quantization*, I. Mladenov, M. Hadzhilazova, V. Kovalchuk Ed.s, Avangard Prima, Sofia, 280-305.

13. Mariano P. M. (2016), On the origin of balance equations in simple and complex continua: unified view, in *Continua with Microstructure 2*, B. Albers, M. Kuczma Ed., Springer Verlag, 53-76.
14. Mariano P. M. (2020), A multi-scale continuum view on granular matter, in *Views on Microstructures in Granular Materials*, P. Giovine, P. M. Mariano, G. Mortara Edts, Birkhäuser Springer, Boston, 251-280.

5 Didactic books in Italian

1. Angotti F., Mariano P. M. (2011), *Meccanica dei Solidi Elasto-Plastici*, Pitagora Editrice, Bologna.
2. Galano L., Mariano P. M. (2011), *Eserciziario di Meccanica delle Strutture*, COMPOMAT, Rieti.

6 Books and special issues edited

1. Capriz G., Mariano P. M. (2001), Multifield Theories, *Int. J. Solids Struct.*, **38**, issues 6-7, 939-1263.
2. Augusti G., Mariano P. M., Sepe V., Lacagnina M. (2001), *Proceeding of the XV AIMETA Congress of Theoretical and Applied Mechanics*, Taormina, September 26-29.
3. Capriz G., Mariano P. M. (2004), *Advances in Multifield Theories for Continua with Substructure*, Birkäuser, Boston, pp. 263.
4. Capriz G., Mariano P. M. (2005), Mechanics from Nano to Macroscopic Level, *Meccanica*, **40**, issues 4-6, 327-528.
5. Capriz G., Mariano P. M. (2007), *Material Substructures in Complex Bodies: from Atomic Level to Continuum*, Elsevier, Amsterdam, pp. 342.
6. Capriz G., Giovine P., Mariano P. M. (2008), Modeling Granularity, *Comp. Math. Appl.*, **55**, issue 2, 131-318.
7. Capriz G., Giovine P., Mariano P. M. (2008), *Mathematical Models of Granular Matter*, Lecture Notes in Mathematics, **1937**, pp. 232.
8. Mariani S., Mariano P. M., Venini P. (2009), Numerical Simulation of Discontinuities in Mechanics, *Algorithms*, MDPI, printed along all the 2009 issues.
9. Frosali G., Mariano P. M., Modica G. (2010), Evolution Equations in Pure and Applied Sciences, *Physica D*, **239**, issue 15, 1379-1502.
10. Focardi M., Mariano P. M. (2012), Analytical and Geometrical Problems in Continuum Mechanics, *Disc. Cont. Dyn. Sys. B*, **17**, issue 2, 445-733.

11. Mariano P. M. (2012), Perspectives in Continuum Mechanics, *Math. Meth. Appl. Sci.*, **35**, issue 15, 1737–1929.
12. Mariano P. M. (2016), Trends and Challenges in the Mechanics of Complex Materials, *Phil. Trans. Royal Soc. London A*, **374**, issue 2066.
13. Giovine P., Mariano P. M., Mortara G., Soga K. (2018), Progresses in Mechanics of Soils and General Granular Flows, *Meccanica*, **54**, issues 4-5, 595-748.
14. Giovine P., Mariano P. M., Mortara G. (2019), *Micro-to-MACRO Mathematical Modeling in Soil Mechanics*, Birkhäuser, Boston, pp. 418.
15. Di Prisco G., Giovine P., Kyriakides S., Mariano P. M., Mortara G. (2020), Micromechanics of Granular Matter, *Int. J. Solids Struct.*, **187**, 1-162.
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17. Mariano P. M. (2017), La meccanica e il mondo, *Prometeo*, Mondadori, **139**, 30-37.
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15. Augusti G., Gioffrè M., Mariano P. M., Stazi F. L. (2002), Elastic bodies with random distribution of microcracks, *Proceedings of IFIP WG7.5 Conference*, Osaka, March 25th - 27th (**invited lecture**).
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20. Augusti G., Mariano P. M., Stazi F. L. (2004), Stochastic effects in complex construction materials with cracks, *Proceedings of 9th ASCE Conference on Probabilistic Mechanics and Structural Reliability*, Los Alamos Laboratories, Albuquerque, July 26th - 28th (**invited lecture**).
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29. Radi E., Mariano P. M. (2009), Propagation of dislocations in 2D quasicrystals, *Proceedings of AIMETA 2009*, Ancona, September 14th – 17th.
30. Giaquinta M., Mariano P. M., Modica G., Mucci D. (2008), Stratified energies: ground states with cracks, *Proceedings of the IUTAM Symposium Progress in the Theory and Numerics of Configurational Mechanics*, Erlangen-Nuremberg, Germany, October 20th–24th, Springer Verlag, Berlin, 159-168 (**invited lecture**).
31. Planas J., Radi E., Stickle M. M., Mariano P. M. (2010), Mechanics of interfacial cracks between dissimilar quasicrystals, *Proceedings of CIFIE 2010*, Porto, Portugal, March 17th – 19th (**invited lecture**).
32. Radi E., Mariano P. M. (2011), Steady-state moving dislocations in quasicrystals, *Proceedings of AIMETA 2011*, Bologna, September 12th – 15th.
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9 Editorials

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15. Mariano P. M. (2022), Variational views in mechanics: a preface, in *Variational Views in Mechanics*, Advances in Continuum Mechanics series, Birkhäuser, Boston, 1-7.
16. Mariano P. M., Schlömerkemper A. (2023), Foundational issues, analysis, and geometry in continuum mechanics: introduction, *Phil. Trans. Royal Soc.*, **381**, art. n. :20220376 (1-8).

10 Extended Abstracts

1. Augusti G., Mariano P. M. (1994), Microstructural models of damage and some non-local aspects, *2nd European Solid Mechanics Conference*, Genova, September 12nd – 16th, Abstracts Book F2.
2. Mariano P. M., Augusti G. (1994), Thermomechanical non-local models of Continuum Damage Mechanics, *ASME Summer Annual Meeting at Los Angeles (Symposium on Recent Development on Damage Mechanics)*, Los Angeles, June 28th – 30th, Abstract Book, 80.
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4. Trovalusci P., Mariano P. M., Augusti G. (1997), On derivation of constitutive equations for elastic microcracked bodies from a discrete model, *3rd EUROMECH-Solid Mechanics Conference*, August 18th – 22nd, Royal Institute of Technology KTH, Stockholm.
5. Mariano P. M., Augusti G. (1997), Remarks on foundations of damage mechanics, *3rd EUROMECH-Solid Mechanics Conference*, August 18th – 22nd, Royal Institute of Technology KTH, Stockholm.
6. Mariano P. M. (1998), Entropies and topological pressure using actions, *Secondo Microsimposio Microstrutture*, Scuola Normale Superiore, November 30th - December 1st, Pisa (**invited lecture**).
7. Mariano P. M. (1998), Crack propagation in structured continua, *Thirteenth U.S. National Congress of Applied Mechanics Conference (Symposium on Damage in Materials and Structures Subjected to High Strain Rate Loading)*, University of Florida, Gainesville, June 21st – 26th (**invited lecture**).
8. Augusti G., Mariano P. M. (1998), Stochastic mechanical behavior of microcrack clusters in brittle materials, *Proceedings of Third International Conference on Computational Stochastic Mechanics*, Island of Santorini, June 14th – 17th.
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10. Mariano P. M., Augusti G., Stazi F. L., (2000), Finite elements for a multifield model of microcracked bodies, *20th IUTAM General Congress, ICTAM 2000*, August 27th - September 2nd, Chicago.
11. Capriz G., Mariano P. M. (2000), An interpretation of multivariable theory of nematics, *SIMAI 2000*, June 5th -9th, Ischia (**invited lecture**).
12. Capriz G., Mariano P. M. (2003), Hamiltonian structures in multifield theories of complex materials, *Convegno Unione Matematica Italiana*, September 8th – 12th, Milano.
13. Mariano P. M., Venini P. (2003), The optimal shape of complex bodies: influence of the modeling of material substructure, *Fifth World Congress of Structural and Multidisciplinary Optimization*, Venezia, May 19th – 23rd (**invited lecture**).

14. Mariano P. M., Stazi F. L., Augusti G. (2003), Semi-dense and concentrated fullerene-based composites: microdeformation and strain gradient effects, *5th European Solid Mechanics Conference*, August 17th – 21st, Thessaloniki.
15. Mariano P. M., Capriz G. (2003), Symmetries and Poisson structures for complex materials, *5th European Solid Mechanics Conference*, August 17th-21st, Thessaloniki.
16. Mariano P. M. (2004), Dissipative changes of substructures in complex bodies, 21st IUTAM Congress, Warsaw, August 15th – 21st.
17. Capriz G., Mariano P. M. (2004), Geometric structures for the mechanics of complex bodies, *VII Congresso SIMAI*, Venezia, September 20th-24th.
18. Capriz G., Mariano P. M. (2004), A continuum Hamiltonian point of view on spin glasses, *STAMM 2004*, August 22nd-28th, Darmstadt.
19. Mariano P. M. (2005), Clustering and self-organization of phonon and phason modes in quasi-periodic alloys, *Euromech 474: Material Instabilities in Coupled Problems*, August 30th -31st, Troyes (**invited lecture**).
20. Mariano P. M., Stazi F. L. (2006), Computing crack growth in quasi-periodic alloys, *Symposium on 'Computational Fracture Mechanics' within the European Conference of Fracture, ECF 16*, Alexandroupolis, Greece, July 3rd – 7th (**invited lecture**).
21. Mariano P. M. (2006), Representation of material elements and geometry of substructural interactions, *International Congress of Mathematicians, ICM 2006*, Madrid, August 22nd-30th.
22. Bosi A., Salvatori L., Mariano P. M. (2007), Gross scale effects of atomic rearrangements in quasicrystals: numerical simulation and wavelet analysis, *Proceedings of "Numerical Analysis: Multiscale Methods, Adaptivity and Complexity*, Bath Institute for Complex Systems, September 4th – 7th.
23. Radi E., Mariano P. M. (2008), Effects of atomic rearrangements on steady crack propagation in quasicrystals, 45th Technical Meeting of the Society of Engineering Science, October 12th – 15th, Urbana.
24. Mariano P. M. (2009), Ground states of quasicrystals with magnetic order, *Workshop on Calculus of Variations and Partial Differential Equations*, Firenze, January 23rd – 24th.
25. Mariano P. M. (2009), Energies stratified over low-dimensional defects, *XIX Convegno Nazionale di Calcolo delle Variazioni*, Levico, February 8th – 13th.
26. Mariano P. M. (2010), Foundational aspects of the mechanics of complex materials, *9th GAMM Seminar on Microstructures*, Stuttgart, January 22nd – 23rd (**key-note lecture**).
27. Mariano P. M. (2010), Observers in classical field theories, *CPEA-2010*, Rackeve, June 3rd – 7th (**plenary talk**).
28. Mariano P. M. (2010), Cracks in complex materials: varifold -based description, *STAMM 2010*, August 29th - September 2nd (**plenary talk**).

29. Bacci M., Mariano P. M. (2011), Protein translocation across nanopores, *COMPLAS XI*, September 7th – 9th, Barcellona.
30. Bacci M., Mariano P. M. (2011), Transport of macromolecules: discrete dynamics and continuum modeling, *Proceedings of AIMETA 2011*, Bologna, September 12th – 15th.
31. Mariano P. M. (2021), Bridging foundational views in thermodynamics, 16th *Joint European Thermodynamics Conference*, Prague, June 14th~18th.
32. Mariano P. M., Spadini M. (2022), Nonlinear oscillators with memory: solutions with the same period of perturbations, *COMPENG22*, Firenze, July 18th – 20th.
33. Kruzik M., Mariano P. M., Mucci D. (2022), Crack occurrence in bodies with gradient polyconvex energies, *SNP Meeting*, Pisa, September 21th – 24th.
34. Mariano P. M. (2023), Microstructure-driven non-Fourier heat propagation, *JETC 2023*, Salerno, June 12th – 17th (**invited lecture**).
35. Mariano P. M. (2023), Measure-valued plastic factors and related energy minimization in *SBV* spaces, *SNP Meeting*, Paris, October 16th – 18th (**invited lecture**).
36. La Pegna D., Mariano P. M. (2024), Microstructure-induced finite speed heat propagation in polarizable ceramics, *PhHydro*, Palermo, July 4th – 5th.
37. Mariano P. M. (2024), Incidence of geometric measure theory in continuum mechanics, *GAMM Geometric Aspects in Mathematical Modeling*, August 21st – 23rd (**plenary talk**).

11 Published reviews

- I have published **131** reviews of books and journal papers on the **Mathematical Review**.
- Below there is the list of scientific books that I have reviewed on journals different from MathRev and the review bibliographic reference:
 1. Dusan Krajcinovic (1996), *Damage Mechanics*, North Holland, Amsterdam (*Meccanica*, **35**, 1998, 105-106).
 2. Miroslav Šilhavý (1997), *The Mechanics and Thermodynamics of Continuous Media*, Springer Verlag, Berlin (*Meccanica*, **34**, 1999, 469-470).
 3. Andrea Braides (2002), *Γ -Convergence for Beginners*, Oxford University Press, Oxford (*Meccanica*, **42**, 2007, 211-212).
 4. Tomáš Roubíček (2004), *Nonlinear Partial Differential Equations with Applications*, Birkhäuser, Basel (*Meccanica*, **42**, 2007, 615-616).
 5. Constantine M. Dafermos (2005), *Hyperbolic Conservation Laws in Continuum Physics*, Springer Verlag, Berlin (*Meccanica*, **44**, 2009, 103-104).
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7. Eberhard Zeidler (2009), *Quantum Field Theory. I: Basics in Mathematics and Physics*, Springer, Berlin (*Meccanica*, **46**, 2011, 881-883).

12 PhD Thesis

1. Mariano P. M. (1997), *Modelli Meccanici di Continui Danneggiati: Formulazioni ed Analisi Critiche*, Università di Roma “La Sapienza”.

13 Books for Public Engagements

1. Mariano P. M. (2020), *Del Fiume e degli Alberi*, Thedotcompany, Reggio Emilia, pp. 82.
2. Mariano P. M. (2020), *Gli Occhi di Eulero*, Mimesis, Milano, pp. 174.
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14 Articles for Public Engagements

1. Mariano P. M. (2006), Un matematico (giovane) alle prese con matematici (anziani). Storia di un convegno, *Corriere della Sera* (section *Corriere del Mezzogiorno*), September 13rd.
 2. Mariano P. M. (2007), Quella passione per i numeri, *la Repubblica* (section *la Repubblica di Bari*), September 1st.
 3. Mariano P. M. (2008), La materia e il colore: riflessioni sull’itinerario artistico di Luigi Mariano, *Misc. Franc. Salentina*, **24**, 73-94.
 4. Mariano P. M. (2012), L’impegno francese per la ricerca (ma a casa nostra), *Il Riformista*, March 11th, 4.
 5. Mariano P. M. (2012), Un dialogo d’arte, *Il Galatino*, **XLV**, 9, 3.
 6. Mariano P. M. (2013), La penisola di una penisola, in *L’Umanesimo della Terra - Studi in Memoria di Donato Moro*, G. Caramascio, M. Spedicato, V. Zacchino Ed.s, Edizioni del Grifo, Montepulciano, 117-128.
- Further regular contributions to Cultural Magazines like “Graphie” (16 novels since 2021) and the Culture Sections of newspapers like
 - *Il Galatino* (collaboration ended in 2020)
 - *Il Riformista* (collaboration ended in 2012)
 - *Il Paese Nuovo* (now closed)

- *Il Sole 24ore* (collaboration ended in 2020)
- *Il Quotidiano di Puglia* - Il Messaggero Group (71 papers published in the cultural page since 2017, each article (but two) more than 6500 characters long; they are not listed here).
- *Avvenire* - collaboration with the cultural pages started in 2023.