

# CURRICULUM VITAE

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## PERSONAL INFORMATION

PASQUALE CIARLETTA

Born in Reggio Calabria (Italy), April 8, 1978.

*address* Dipartimento di Matematica,  
Politecnico di Milano,  
piazza Leonardo da Vinci 33, Milan, Italy.

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*Languages*

- ITALIAN · Mothertongue
- ENGLISH · Advanced (TOEFL certificate)
- FRENCH · Advanced (DELFB2 certificate)
- SPANISH · Intermediate (conversationally fluent)
- NORWEGIAN · Basic (simple words and phrases only)

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## ACADEMIC RECORD

- 2015–present* Associate Professor, Politecnico di Milano  
Professore universitario di ruolo II Fascia, classe prima. Mathematical  
Physics (SSD MAT/07 – Fisica Matematica).
- 2014–present* Chargé de Recherche (CR) de classe 1  
Centre National de la Recherche Scientifique (CNRS) at Sorbonne  
Université, Paris, France (on leave since 01/09/2015).
- 2010–2014* CR de classe 2 CNRS, Sorbonne Université, Paris.
- 2012–2015* Group leader at the European Center for Nanomedicine (CEN)  
Foundation, Milan, Italy;  
*Mathematical modeling of nanoscale therapeutic systems.*
- 2009–2010* Research Contractor at the Laboratoire de Physique Statistique  
(LPS), Department of Physics, Ecole Normale Supérieure (ENS), Paris,  
France.
- 2007–2009* Marie Curie EIF Post-Doc Fellow, LPS, ENS, Paris, France;  
*supervisor: prof. M. Ben Amar.*
- 2006–2007* Post-doctoral fellow at Scuola Superiore Sant'Anna, Pisa, Italy.
- 2004–2005* Fulbright Scholar, University of California (UC) at San Francisco and UC  
Berkeley, USA.

08/2000-10/2000

Research Contractor at FermiLab Laboratory, IL, USA.

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**ACADEMIC QUALIFICATIONS**

- 2017 Abilitazione Scientifica Nazionale (ASN) for Full Professor (I Fascia) in Mathematical Physics (01/A4 – valid until 28/03/2023).
- 2013 ASN for Associate Professor (II Fascia) in Mathematical Physics (01/A4).
- 2009 Academic qualification for Maitre de Conference, France: Sections 28, 30, 60.

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**EDUCATION**

- 27.02.2006 PhD *summa cum laude*, Diploma di Perfezionamento, Classe Accademica di Scienze Sperimentali, Scuola Superiore Sant'Anna, Pisa, Italy.  
Thesis: *Multiscale analysis of soft tissue biomechanics*.
- 30.10.2002 Diploma Degree *summa cum laude*, Classe Accademica di Scienze Sperimentali, Scuola Superiore Sant'Anna, Pisa, Italy.  
Thesis: *Mathematical modelling of soft tissues*.
- 11.10.2001 M.Sc. in Mechanical Engineering, Università degli Studi di Pisa, Italy.
- 1996–2001 Student at Scuola Superiore Sant'Anna, Pisa, admitted after national competition (4 out of 600).

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**AWARDS**

- 2012 Prime d'Excellence Scientifique (PES) from CNRS.  
Travel Award of the Association Française de Mécanique.
- 2010 Marie Curie Reintegration Fellowship EU Grant ERG-256605.
- 2009 Visiting Professorship by Gruppo Nazionale di Fisica Matematica (Indam-GNFM).
- 2007 Marie Curie Intra-European Fellowship EU Grant EIF-042069.
- 2006 Prize "Paolo Durst" for the Ph.D. thesis.
- 2004 Fulbright Visiting Scholar Fellowship.
- 2002 Prize of the Università degli Studi di Pisa for the M.Sc. thesis.

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**SUPERVISION ACTIVITIES**
**Post-doctoral fellows**

- 2015–2020 Abramo Agosti, Politecnico di Milano;  
Subject: *Diffuse-interface models of tumour growth*.
- 2016–2019 Stefano Marchesi, Politecnico di Milano;  
Subject: *Mechanobiology of tumour growth*.
- 2013–2016 Chiara Giverso, Politecnico di Milano;  
Subject: *Free-boundary models of biological growth*. (now Assistant Professor in Mathematical Physics at Politecnico di Torino)..

2013–2015 Matteo Taffetani, Politecnico di Milano;  
*Subject: Multiscale modeling in medicine and biology. (now post-doctoral fellow at Mathematical Institute, Oxford, UK.)*

### PhD students

2019–present Giulia Pozzi, Politecnico di Milano;  
*Subject: Physical-mathematical modeling of active mechanics.*

2017–present Giulia Bevilacqua, Politecnico di Milano;  
*Subject: Biomathematics.*

2017–present Federica Bubba, Sorbonne Université, Paris;  
*Subject: Reaction–diffusion equations for living tissues. (joint supervision with prof. B. Perthame).*

2015–2018 Davide Riccobelli, Politecnico di Milano;  
*Subject: Mathematical modeling of soft and active matter. (now post-doctoral fellow in applied mathematics at SISSA, Trieste).*

2012–2015 Valentina Balbi, Sorbonne Université, Paris;  
*Subject: Mathematical modeling of morphogenesis. (now Lecturer in Industrial and Applied Mathematics, University of Limerick).*

### Master students

2010–present >20 at ENS and Sorbonne Université, Politecnico di Milano and Politecnico di Torino.

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## TEACHING

### PhD courses

2019–2020 *Differential geometry of elastic surfaces, with applications to shell theory*, 25h, Politecnico Milano (joint course with P.G. Ciarlet, City University of Hong Kong).

2016–2017 *Nanomedicine*, module on “Multiscale mathematical modelling in living systems”, 5h, Polimi.

2015–2016 *Linear and Nonlinear Waves*, 25h, Corso interdottorato in Matematica, Politecnico di Milano, Università di Milano Bicocca, Università degli Studi di Milano, Università di Pavia (with D. Ambrosi).

### Master courses

2015–present *Mathematical And Physical Modeling In Engineering*, Master of Science in Mathematical Engineering, 30h, Polimi (30 students/year)

2011–2012 Travaux Dirigés (TD) of *Nonlinear Physics and Biosystems*, 28h, International Master of Physics of Complex Systems (SISSA, ENS Paris, Torino, Paris 6 and Paris 7.)

2010–2011 TD of *Nonlinear Physics*, 28h, Master of Physique Théorique des Systèmes Complexes, ENS, Paris.

### Bachelor courses

2017–present *Rational Mechanics*, Ingegneria Biomedica, 30h, Polimi (280 students/year).

2015–present *Theoretical Mechanics*, Ingegneria dei Materiali e delle Nanotecnologie, 3oh, Polimi (160 students/year).

### Invited courses in International Summer Schools

- 2020 School on Mathematical modeling of self-organizations in medicine, biology and ecology: from micro to macro, MMSEOR2020, Cinisi (Palermo), June 15–19, 2h.
- 2014 CIME-CIRM Course on The Mathematics of Cells and Tissues, Levico Terme, Italy. Lectures on “*Mathematical modeling of morphogenesis in living materials*”, 6h.
- 2009 Ecole d’été de Physique Théorique, Les Houches, France. Lectures on “*Biorheology: from molecules to tissues*”, 3h.

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### RESEARCH INTERESTS

- Mathematics of mechano-biology.
- Mathematical modelling of soft and active matter for digital factory.
- Nonlinear analysis of pattern formation in PDEs.
- Personalised modelling, optimization techniques and numerical simulations in medicine.
- Applied mathematics for engineering, materials science and industrial processes.

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### RESEARCH FUNDING

- 2020–2023 *Unit participant* of the project “*Innovative personalised methods and materials for precision medicine - NEWMED*”, funded by EU, Regione Lombardia.  
*Funding*: 3 Million EUR (225.000 EUR to our unit)
- 2019–2022 *Local Coordinator* of the project “*Mathematics of active materials: from mechanobiology to smart devices*”, funded by MIUR–Progetti di Ricerca di Interesse Nazionale (PRIN 2017), national coordinator prof. L. Preziosi, Politecnico di Torino.  
*Funding*: 418.000 EUR (144.000 EUR to my unit)
- 2016–2019 *Principal Investigator* of the project “*Mathematical insights of glioblastoma growth: a mechano-biology approach for patient-specific clinical tools*”, funded by Associazione Italiana per la Ricerca sul Cancro, AIRC MFAG grant 17412.  
*Funding*: 201.000 EUR
- 2017 Italian grant for basic research funded by MIUR “*Finanziamento delle attività base di ricerca*”.  
*Funding*: 3.000 EUR
- 2012–2015 *Principal Investigator* of the project “*Mathematical Modeling of Nanoscale Therapeutic Systems*”, funded by Fondazione Centro Europeo di Nanomedicina (CEN) and Regione Lombardia through PAR-FSC funds.  
*Funding*: 873.000 EUR + 194.100 EUR (enhancement package).
- 2012–2014 *Local Coordinator* of the project “*Detection of early skin cancer: integrating physical/mathematical modeling and acousto-mechanical analysis*”,

funded by Institut national de la santé et de la recherche médicale, INSERM AAP PhysiCancer, national coordinator Prof. M. Ben Amar, ENS.  
*Funding:* 192.000 EUR (96.000 EUR to my unit)

- 2012–2014 *Principal Investigator* of the project “Growth, remodeling and aging: mechano-biology and biomedical applications”, funded by France–Stanford Center for Interdisciplinary Studies, FSCIS, with E. Kuhl, Stanford.  
*Funding:* 15.000 USD
- 2015 *Participant* of the project “Mathematical models and numerical simulation of morphogenesis in soft nonlinear elastic material”, funded by Istituto Nazionale di Alta Matematica “Francesco Severi” - INdAM, Mathematical Physics group GNFM.  
*Funding:* 7.000 EUR
- 2014 *Participant* of the project “Mathematical models and numerical simulation of morphogenesis in soft nonlinear elastic material”, funded by INdAM, GNFM.  
*Funding:* 5.000 EUR
- 2013 *Participant* of the project “Multi-scale mathematical models for the transport of mass in biological systems”, funded by INdAM, GNFM.  
*Funding:* 5.000 EUR
- 2011 Marie Curie Reintegration Grant ERG-256605 (collaboration with Prof. L. Preziosi, Politecnico di Torino).  
*Funding:* 55.000 EUR
- 2007 Marie Curie Intra-European Grant EIF-042069 (collaboration with Prof. M. Ben Amar, ENS, Paris, France). Project CancerBiomechanics, 2007–2009.  
*Funding:* 150.000 EUR
- 2004 Fulbright Grant - Visiting Scholarship Italian Fulbright Commission.  
*Funding:* 9.000 USD

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#### ORGANIZATION OF SCIENTIFIC MEETINGS

- 2020 Indam workshop “Mathematics of active materials: from mechanobiology to smart devices”, Cortona, Scuola Normale di Pisa, Italy (with L. Teresi).
- 2018 CIME course “*Mathematics of Mechanobiology*”, Cetraro, Italy (with D. Ambrosi, E. Kuhl).
- 2017 V International Conference on *Topical problems in continuum mechanics*, October 2–7, 2017, Tsaghkadzor, Armenia.
- 2015 workshop “Mathematical Physiology of Cardiac, Skeletal and Smooth Muscles”, Scuola Normale di Pisa, Italy (with D. Ambrosi, L. Preziosi, L. Teresi).
- 2015 mini-symposium “Cellular mechano-biology and morphogenesis of living matter” at the XX Congresso AIMETA, Genova, Italy (with D. Ambrosi, L. Preziosi).
- 2014 workshop “Mechanobiology of the cell and tissue morphogenesis”, Sept 9th, Politecnico di Milano, Italy (with D. Ambrosi).
- 2014 workshop “Rencontre du GDR MECABIO”, June 24–25, Paris (with C. Verdier).

- 2012 Cargèse Summer School “From nonlinear Physics to biology and medicine”, 9-21 July 2012 (with M. Ben Amar, L. Preziosi, M. Muller).
- 2010 workshop “Physics and Mechanics of Biological Systems”, 16-17 Dec. 2010, ESCPI Tech, Paris, France (with M. Ben Amar).

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#### EDITORIAL ACTIVITIES

1. *Editor* of the book “Mathematics of Mechanobiology”, with D. Ambrosi, containing the lecture notes of the CIME Summer School (contributors: A. DeSimone, B. Perthame, A. Quarteroni, L. Truskinovsky), Springer 2020.
2. *Guest Editor* of a Special Issue for the Philosophical Transaction of the Royal Society A, with D. Vella (Oxford University). Theme Issue: “Patterning through instabilities in complex media”, 2017.
3. *Guest Editor* of a Special Issue for the International peer-reviewed journal *Meccanica*, with A. De Simone (SISSA, Trieste). Theme Issue: “Mechanics of soft active materials and Mechanobiology”, 2017.

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#### COMMISSIONS OF TRUST AND SERVICE ACTIVITIES

- 2018–present Member of the Steering Committee of the PhD School in “Data Science and Computation” at the University of Bologna, Italy.
- 2019 Member of the selection committee at Politecnico di Torino, for a position of Associate Professor in Mathematical Physics (Professore universitario di ruolo di II fascia - S.C. 01/A4 - S.S.D. MAT/07 - codice interno 02/19/PA/RE - Bando D.R. 473/2019)
- 2018 Promoter of a Double Degree Cooperation Agreement between Politecnico di Milano and Sorbonne Université, Laboratoire Jacques-Louis Lions, in collaboration with B. Perthame.
- 2017 Member of the working group of Politecnico di Milano for the activation of the joint degree program MedTech, in collaboration with Humanitas University.
- 2015–present Member of 5 Committees for selecting research fellows at the Department of Mathematics, Politecnico di Milano, Italy.
- 2013-2017 Member of the Comité de Direction of the GDR 3570 MECABIO, CNRS, France.
- 2017 Member of a Final defence PhD committee at Institut d’Alembert, Sorbonne Université, Paris, France.
- 2012 Member of a Final defence PhD committee at Department of Mathematics, Politecnico di Torino, Italy.
- Reviewer for* Phys Rev Lett, Proc Royal Soc A, Phil Trans Royal Soc A, J Royal Soc Interface, Math Mech Solids, J Math Biology, J Theor Biology, IMA J of Applied Math, AIMS Math Biosc Eng, J Mech Phys Solids, J Fluid Mech, Scientific Rep, Biomech Modeling in Mechanobiol, Phys Rev X, Phys Rev E, Soft Matter, Int J Solids and Structures, Plos One, Plos Comp Biol, J Biomech, Biomaterials, Int J Nonlinear Mech, J Applied Mech, Appl Physics Lett, Physics Lett A, Mech Res Comm, Medical Eng and Physics, Finite Elem Anal Des, Math Reviews.
- European Space Agency, The Israel Science Foundation, UK Arthritis

Research Campaign.

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**INVITED CONFERENCES, WORKSHOPS AND SEMINARS**

**Newton Institute for Mathematical Sciences, Cambridge**

1. workshop "Optimal design of complex materials" , Jan 14–18, 2019.
2. workshop "Growth, form and self-organization", Sept 18-22, 2017, invited lecture.
3. workshop "New Mathematical and Computational Problems involved in Morphogenesis and Pattern Formation", Dec. 7-11, 2015, invited lecture.

**Oberwolfach workshops**

4. workshop "The Mathematics of Mechanobiology and Cell Signaling", Feb 25–March 3, 2018, (unable to attend.)
5. workshop "Material Theories", July 16-22, 2017, invited lecture.
6. mini-workshop "Mathematics of Differential Growth, Morphogenesis, and Pattern Selection", Nov 1–7, 2015.
7. mini-workshop "Mechanics of Cell Motion", Aug 22–28, 2010, (unable to attend).

**Institut Mittag-Leffler, Djursholm, Sweden**

8. Research Program "Mathematical Biology", Oct 21-28, 2018, invited lecture and residential stay.

**Kavli Institute for Theoretical Physics, Santa Barbara, USA**

9. Research Program "From Genes to Growth and Form", Aug 1- Sept 2, 2016, residential stay (unable to attend).
10. Research Program "Physics and Mathematics of Cancer", June 11-29, 2012, invited lecture and residential stay.

**Meetings of Mathematical Societies**

11. XXI Congresso Unione Matematica Italiana – UMI, Pavia, Sep 3-7, 2019, semiplenary lecture.
12. meeting "Mathematics for biomedicine", Accademia Nazionale dei Lincei, Rome, Oct 8-11, 2018, invited talk.
13. meeting of the Indam Italian Group of Mathematical Physics (Indam–GNFM), Montecatini, Oct 4-6, 2018, invited keynote lecture.
14. Diderot Mathematical Forum "Biomedical Applications of Mathematics", European Mathematical Society, Mar 15, 2016, invited lecture.

**others (in chronological order)**

15. workshop "The mechanics of cell aggregates: experiments and models", Politecnico di Torino , Sept 3-6, 2019. invited talk (upcoming).
16. Seminar at Institut d’Alembert, Sorbonne Université, Paris, July 11, 2019.
17. workshop "Maths from the Body II", Venice, June 7-8, 2019, invited lecture.
18. III One Day Workshop on Applied Mathematics, Politenico di Bari, June 6, 2019, invited lecture.
19. workshop "Recent advances in Phase-Field modeling: from Engineering to Biology", Università di Pavia, May 8-10, 2019, invited lecture.
20. Indam workshop "Mathematical modeling and analysis of degradation and restoration in cultural heritage" MACH, CNR and Università Sapienza, Rome, Mar 26–29, 2019, invited lecture.
21. workshop "Mathematical modeling of growth and tissue repair", Les Treilles Foundation, Tourtour, France, Nov 12-17, 2018, invited lecture.
22. European Solid Mechanics Conference, Bologna, Italy, July 4-8, 2018, invited talk.
23. "International Conference on Applied Mathematics 2018", City University of Hong Kong, 4-7 June, 2018, invited lecture.

24. Seminar at LMS, Ecole Polytechnique, Paris, Sept 10, 2018.
25. Séminaire Générale at Institut de Recherche sur les Phénomènes Hors Equilibre IRPHE, Marseille, June 27, 2018.
26. Seminar at City University of Hong Kong, Dept. of Mathematics, Apr 18, 2018.
27. Seminar of the series "Industrial and Applied Mathematics Seminar", Mathematical Institute, Oxford, Oct 19, 2017.
28. workshop "Mathematical Physics of Living Systems" Cortona, Scuola Normale Superiore, Aug 27 – Sep 2, 2017, invited talk.
29. workshop "Modelling of Nonlinear Continua", Castro Urdiales, Spain), June 26-30, 2017, invited talk.
30. workshop "Maths from the body", Università Cattolica di Brescia, May 29-30, 2017, invited talk.
31. Indam Symposium, "Innovative Mathematical Models and Methods for Industrial Applications", Rome, Italy, May 15-19, 2017, invited talk.
32. Workshop "Pattern Formation in Soft Materials" Tianjin, China, June 1-5, 2015 (unable to attend).
33. Nanomedicine Symposium CEN@Regione Lombardia ,Milan, Ital, Sep 21, 2015, invited talk..
34. Workshop "Modelling across the Biology–Mechanics Interface", Castro Urdiales, Spain, Sep 1-5, 2015.
35. Rencontres Franciliennes de Mécanique 2015,Fontainebleau, France.
36. IUTAM Symposium on growing solids, Moscow, Russia, June 23-27, 2015, keynote lecture.
37. US National Congress on Computational Mechanics; Symposium: Folds, Twists and Bends: Differential Growth-Induced Morphology in Biology and Physics,San Diego, USA, July 20-25, 2015 (unable to attend).
38. Nanomedicine Symposium CEN, Politecnico di Milano, Nov 14, 2014, session Chair.
39. World Congress on Computational Mechanics and European Conference on Computational Mechanics,Barcelona, Spain, July 20-25, 2014..
40. workshop "The Mathematics of cells and tissues", Indam, Cortona, Italy, Sept 2–6, 2013, invited talk.
41. workshop "Synthesis of nano-biomaterials, modelling, and applications", Nanomedicine Seminar Series. Politecnico di Milano, Italy, Oct 24, 2013.
42. workshop "Dynamique des Systèmes complexes" – DYSCO, Allevard, France, Jan 13-14, 2013, invited talk.
43. International Conference of Theoretical and Applied Mechanics ICTAM, Beijing, China, Aug 19-24, 2012, invited talk and session Chair.
44. Seminar at Department of Mathematics, Politecnico di Torino, Italy, 2011.
45. 7th EUROMECH Solid Mechanics Conference, Lisbon, Portugal, Sept 7-11, 2011.
46. Seminar at MOX Laboratory, Politecnico di Milano, Italy, 2010.
47. Seminar at University Paris 6, 2009.
48. Seminar at Laboratory MSC, University Paris 7,2009.
49. workshop "Self-organization and dynamics of active matter", Institut Henri Poincaré, Paris, Jan 29, 2009, invited talk.
50. Seminar at Department of Physics, ENS, Paris, 2009.
51. Seminar at IGBC, Strasbourg, 2008.
52. Seminar at Laboratory LMS, Ecole Polytechnique, Paris, 2008.
53. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, June 18-21, 2008, Woods Hole, MA, USA, invited talk.



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**RESEARCH VISITS ABROAD**

- July 2019* Sorbonne Université, Paris, invited by C. Maurini.
- November 2018* Residential Stay at the Les Treilles Foundation, Tourtour, France, invited by L. Almeida and B. Perthame.
- October 2018* Residential Stay at Institut Mittag–Leffler, Djursholm, Sweden, invited by R. Merks.
- March 2018* École Supérieure de Physique et de Chimie Industrielles ESPCI, Paris, invited by L. Truskinovsky.
- July 2017* Laboratoire Jacques–Louis Lions, Sorbonne Université, collaboration with L. Almeida and B. Perthame.
- July 2015* Department of Mathematics, NUI Galway, Ireland, invited by M. Destrade.
- June 2014* FSCIS Visiting Professor at Stanford University, Mechanical Engineering, Palo Alto, USA, invited by E. Kuhl.
- June 2012* Residential stay at Kavli Institute for Theoretical Physics, Santa Barbara, USA, invited by J-F. Joanny.
- December 2009* Indam–GNFM Visiting Professor at Politecnico di Torino, invited by L. Preziosi.

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**PUBLICATIONS**
**A. PEER-REVIEWED INTERNATIONAL JOURNALS****2020**

1. Ciarletta, P, Dai, H-H, Taffetani, M, " Elastic fingering of a bonded soft disc in traction: interplay of geometric and physical nonlinearities", *SIAM Journal of Applied Mathematics*, 80(2), 690-705.
2. Agosti, A, Marchesi, S, Scita, G, Ciarletta, P, "The self-organised, non-equilibrium dynamics of spontaneous cancerous buds", *Journal of Theoretical Biology*, 492, 110203.
3. Ciarletta, P, "On the controllability of a creasing singularity in a nonlinear elastic circular sector", *Mechanics of Materials* 141, 103264.

**2019**

4. Ciarletta, P, Truskinovsky, L, "Soft Nucleation Of An Elastic Crease", *Physical Review Letters*, 122, 248001.
5. Riccobelli, D, Agosti, A, Ciarletta, P, "On The Existence Of Elastic Minimizers For Initially Stressed Materials", *Philosophical Transactions Of The Royal Society Of London Series A: Mathematical Physical And Engineering Sciences* 377 (2144), 20180074.
6. Pozzi, G, Marchesi, S, Scita, G, Ambrosi, A, Ciarletta, P, "Mechano-Biological Model Of Glioblastoma Cells In Response To Osmotic Stress". *Mathematical Biosciences And Engineering* 16(4): 2795-2810.

**2018**

7. Ciarletta, P, "Matched Asymptotic Solution For Crease Nucleation In Soft Solids", *Nature Communications*, 9(1),496.
8. Riccobelli, D, Ciarletta, P, "Morpho-Elastic Model of The Tortuous Tumour Vessels", *International Journal Of Nonlinear Mechanics* 107, 1-9.
9. Riccobelli, D, Ciarletta, P, "Shape Transitions In A Soft Incompressible Sphere With Residual Stresses", *Mathematics And Mechanics Of Solids* 23 (12), 1507-1524.
10. Agosti, A, Cattaneo, C, Giverso, C, Ambrosi, D, Ciarletta, P, "A Computational Tool For The Personalized Clinical Treatment Of Glioblastoma Multiforme", *Zamm-Journal Of Applied Mathematics And Mechanics/Zeitschrift Für Angewandte Mathematik Und Mechanik* 98(12), 2307-2327.
11. Agosti, A, Giverso, C, Faggiano, E, Stamm, A, Ciarletta, P, "A Personalized Mathematical Tool For Neuro-Oncology: A Clinical Case Study", *International Journal Of Nonlinear Mechanics* 107, 170-181.
12. Agosti, A, Gower, AL, Ciarletta, P, "The Constitutive Relations Of Initially Stressed Incompressible Mooney-Rivlin Materials", *Mechanics Research Communications* 93, 4-10.

**2017**

13. Agosti, A, Antonietti, PF, Ciarletta, P, Grasselli, M, Verani, M, "A Cahn-Hilliard-Type Equation With Application To Tumor Growth Dynamics", *Mathematical Methods In Applied Science*, 40, 7598-762.
14. Gower, AL, Shearer, T, Ciarletta, P, "A New Restriction For Initially Stressed Elastic Solids", *Quarterly Journal Of Mechanics And Applied Mathematics*, 70(4), 455-478.
15. Ambrosi, D, Pezzuto, S, Riccobelli, D, Stylianopoulos, T, Ciarletta, P, "Solid Tumours Are Poroelastic Solids With A Chemo-Mechanical Feedback On Growth", *Journal Of Elasticity*, 129(1)2, 107-124.
16. Ambrosi, D, Belousov, LM, Ciarletta, P, "Mechanobiology And Morphogenesis In Living Matter: A Survey", *Meccanica*, 52(14), 3371-3387.
17. Riccobelli, D, Ciarletta, P, "Rayleigh Taylor Instability In Soft Elastic Layers", *Philosophical Transactions Of The Royal Society Of London Series A: Mathematical Physical And Engineering Sciences* , A375, 20160421.
18. Ciarletta, P, Vella, D, "Patterning Through Instabilities In Complex Media: Theory And Applications", *Philosophical Transactions Of The Royal Society Of London Series A: Mathematical Physical And Engineering Sciences*, A375, 20160442.

19. DeSimone, A, Noselli, G, Lucantonio, A, Ciarletta, P, "Preface Of The Special Issue On 'Active Behavior In Soft Matter And Mechanobiology'", *Meccanica*, 52(14), 3271–3272.  
**2016**
20. Givero, C, Ciarletta, P, "Tumour Angiogenesis As A Chemo-Mechanical Surface Instability", *Scientific Reports*, 6, 22610.
21. Givero, C, Ciarletta, P, "On The Morphological Stability Of Multicellular Tumour Spheroids Growing In Porous Media", *The European Physical Journal E, Soft Matter*, 39, 92-102.
22. Monticelli, M, Conca, DV, Petti, D, Albisetti, E, Torti, A, Kidiyoor, G, Barozzi, S, Parazzoli, D, Ciarletta, P, Lupi, M, Sharma, PP, Bertacco, R, "Magnetic Domain Wall Tweezers: A New Tool For Mechanobiology Studies On Individual Target Cells", *Lab On A Chip*, 16, 2882-2889.
23. Ciarletta, P, Destrade, M, Gower, AL, Taffetani, M, "Morphology Of Residually Stressed Tubular Tissues: Beyond The Elastic Multiplicative Decomposition", *Journal Of The Mechanics And Physics Of Solids*, 90, 242-253.
24. Ciarletta, P, Destrade, M, Gower, AL, "On Residual Stresses And Homeostasis: An Elastic Theory Of Functional Adaptation In Living Matter", *Scientific Reports*, 6, 24390.
25. Pettinati, V, Ambrosi, D, Ciarletta, P, Pezzuto, S, "Finite Element Simulations Of The Active Stress In The Imaginal Disc Of The Drosophila Melanogaster", *Computer Methods In Biomechanics And Biomedical Engineering*, 19(12), 1241-1253.
26. Givero, C, Verani, M, Ciarletta, P, "Emerging Morphologies In Round Bacterial Colonies: Comparing Volumetric Versus Chemotactic Expansion", *Biomechanical Modelling In Mechanobiology*, 15, 643-661.  
**2015**
27. Colombo, MC, Givero, C, Faggiano, E, Boffano, C, Acerbi, F, Ciarletta, P, "Towards The Personalized Treatment Of Glioblastoma: Integrating Patient-Specific Clinical Data In A Continuous Mechanical Model", *Plos One* 10(7), e0132887.
28. Taffetani, M, Ciarletta, P, "Beading Instability In Soft Cylindrical Gels With Capillary Energy: Weakly Non-Linear Analysis And Numerical Simulations", *Journal Of The Mechanics And Physics Of Solids* 81, 91-120.
29. Gower, AL, Ciarletta, P, Destrade, M, "Initial Stress Symmetry And Its Applications In Elasticity", *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, A471, 20150448.
30. Balbi, V, Kuhl, E, Ciarletta, P, "Morphoelastic Control Of Gastrointestinal Morphogenesis: Theoretical Predictions And Numerical Insights", *Journal Of The Mechanics And Physics Of Solids*, 78, 493-510.
31. Ciarletta, P, Fu, Y, "A Semi-Analytical Approach To Biot Instability: Strain Gradient Correction, Weakly Nonlinear Analysis And Imperfection Sensitivity", *International Journal Of Nonlinear Mechanics*, 75, 38–45.
32. Taffetani, M, Ciarletta, P, "Elastocapillarity Can Control The Formation And The Morphology Of Beads-On-String Structures In Solid Fibers", *Physical Review E*, 91, 032413.
33. Givero, C, Verani, M, Ciarletta, P, "Mechanically Driven Branching Of Bacterial Colonies", *Asme Journal Of Biomechanical Engineering*, 137, 071003-1.
34. Fu, Y, Ciarletta, P, "Buckling Of A Coated Elastic Half-Space When The Coating And The Half-Space Have Similar Material Properties", *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, A471, 20140979.
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## B. BOOK CHAPTERS

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## C. PEER-REVIEWED CONFERENCE PROCEEDINGS

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## D. PRE-PRINTS

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4. Bevilacqua, G, Ciarletta, P., Ambrosi, D, "Geometry and mechanics may control the orientation of the mitotic spindle in embryo".

## E. BIBLIOGRAPHIC INDICES

	Scopus	Web of Science	Google Scholar
# articles	76	78	87
total # citations	1215	1151	1641
h-index	21	21	26
i-10 index	35	33	43

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I declare to be aware of the criminal sanctions in case of false declarations, of preparation and use of false documents recalled in art.763 of Presidential Decree 445 of 28 December 2000, as well as the additional sanctions pursuant to art. 754 of said Presidential Decree 445 of 28 December 2000, consisting of loss of any benefits ensuing from the provision issued based on the false declaration.

I declare to be aware, pursuant to and by effect of Legislative Decree no.196 of 30 June 2003, that the data collected will be processed, also by means of information technology tools, exclusively within the scope of the procedure for which this declaration is given.

March 24, 2020

Pasquale Ciarletta