


## INFORMAZIONI PERSONALI

## Stefano Zapperi

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## COMPETENZE PERSONALI

Lingua madre italiano

## Lingue straniere

	COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
	Ascolto	Lettura	Interazione	Produzione orale	
inglese	C2	C2	C2	C2	C2
francese	C2	C2	C2	C2	C2
tedesco	C1	C1	B2	B2	B2

Livelli: A1 e A2: Utente base - B1 e B2: Utente autonomo - C1 e C2: Utente avanzato  
Quadro Comune Europeo di Riferimento delle Lingue

## ALLEGATI

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### Titoli di studio:

- Ph. D. in Physics, Boston University (USA), 1998
- Laurea in Fisica, Università di Roma “La Sapienza”, 1994

### Carriera accademica:

- Professore ordinario, Università degli Studi di Milano, 2015-
- Coordinatore Centro per la Complessità e i Biosistemi, Università degli Studi di Milano, 2015-
- Primo ricercatore CNR-IENI, Milano, 2010-2015
- Ricercatore CNR-INFN, S3, Univ. Modena Reggio Emilia, 2008-2009
- Ricercatore INFN, SMC, Univ. Roma “La Sapienza”, 2000-2007
- Postdoctoral fellow, ESPCI, Paris, Francia, 1998-1999.
- Research assistant, Boston University, USA, 1995-1997
- Teaching fellow, Boston University, USA, 1994-1995

### Posizioni di visitatore:

- Research leader, ISI Foundation, Torino, Italy 2012-2017
- FiDiPro, Aalto University 2014
- Associate research scientist, ISI Foundation, Torino, Italy 2007-2011
- Visiting professor, UPMC, Paris, France 07/2014
- Visiting professor, Aalto University, Finland, 07/2013
- Visiting scientist, Cornell University, USA (07/2009, 07/2010-08/2010, 07/2011-08/2011, 08-2013)
- Visiting scientist, Harvard University, USA, (06/2008-08/2008)
- Visiting scholar, Boston College, USA, (06/2007-08/2007)
- Visiting professor, Helsinki University of Technology, Finland (09/2006)
- Visiting fellow, KITP, University of California Santa Barbara, USA (10/2005)
- Visiting professor, UFC, Fortaleza, Brazil (12/1997, 12/1999, 02/2002)

### Premi e finanziamenti:

#### Premi e riconoscimenti:

- Fellow of the American Physical Society, 2015
- Elected member of the Executive Committee, Complex Systems Society, 2015-2018
- Chairman of the Steering Committee, Conference on Complex Systems, 2015-2017
- Elected member of the Council, Complex Systems Society, 2015-2017
- European Research Council (ERC) Advanced Grant 2011, “Size effects in fracture and plasticity” (grant of 2500000€ for 5 years).
- Marie Curie Excellence Award, EU, 2004 (personal award of 50000€).
- Materials Research Society, Graduate Student Award 1997
- Boston University, Goldhaber Prize 1995

#### Finanziamenti alla ricerca:

- PI: European Research Council (ERC) Proof-of Concept grant, METADESIGN (15000€)
- PI: Progetto Italia-Israele (MAECI), DISORDER, con I. Procaccia, the Weizmann Institute of Science (100000€)
- PI: Auxetic metamaterials, Contratto conto terzi, Samsung Design (25000€)
- PI: Unità CNR-IENI, Progetto Bandiera, La Fabbrica del Futuro, “Surface Nano-structured Coating for Improved Performance of Axial Piston Pumps SNAPP” 2013-2014 (50000€)
- PI: Unità CNR-IENI, Progetto Bandiera, La Fabbrica del Futuro, CHINA 2014 (26500€)
- PI: Materials World Network: Cooperative Activity in Materials Research between US Investigators and their Counterparts Abroad (MWN), NSF-CNR 09/2013-08/2016, with J. P. Sethna (Cornell), Materials World Network: Crackling noise (180000€).
- Grant from CECAM (Centre Européen de Calcul Atomique et Moléculaire) for the workshop on Computational Physics Methods for Cancer, Lausanne, Switzerland June 27-29, 2012 (with C. La Porta) (14400 CHF).

- Grant for European Science Foundation: Exploratory Workshop 2012: Physics of cancer Varenna 13-15 September 2012 (29 funded project on 250) (with C. La Porta) (14000€).
- Coordinator of ERANET Complexity pilot project, LOCAT “Localizing signatures of catastrophic failures”, with 3 EU partners, total grant of 500000€ (2011-2012).
- Local PI of the italian PRIN 2008 project “Tribology of nanoclusters”, 64 000€ (2010-2011).
- Coordinator of STREP in the EU NEST Pathfinder initiative, TRIGS “Triggering of instabilities in materials and geosystems”, with six EU partner, total grant of 1700000€ (2007-2009).
- Grant for ESF- Exploratory Workshop 2006: “Crackling noise”, 14000€.
- Grant from ESF network SPHYNX for the workshop on “Depinning transition” 22000€ (2002)
- Grant from VolkswagenStiftung for the workshop on “Statistical mechanics of plasticity” 20000€ (2001)
- PAIS project, INFM, “Hysteresis in disordered ferromagnets” 38 000€ (2000-2002)

#### Attività professionali:

- Membro del comitato editoriale Journal of Statistical Mechanics (JSTAT) 2003-oggi
- Guest Editor European Physics Journal B, for the proceeding of Statphys 23, 2007
- Referee for Phys. Rev. Lett., Phys. Rev. B/E, Nature, Nature Phys., Nature Comm., Science, Sci. Rep., PlosOne, Geoph. Res. Lett., Physica A/D, J. Phys. A/C, Europhys. Lett., Eur. J. Phys. B/E, Comp. Mat. Model, Int. J. Fracture and more.
- Referee per ANR (France), INSERM (France), NSF (USA), Hungarian Academy of Science (Hungary), Alberta Ingenuity Funds (Canada), Swiss Nat. Sci. Found. (CH), European Science Foundation, European Research Council.
- Membro dell’American Physical Society (USA). 1994-1997, 2008-oggi
- Membro della Materials Research Society (USA). 1994-1998

#### Trasferimento tecnologico:

- Socio fondatore dello spinoff Complexdata SRL, 2018

#### Organizzazione conferenze:

##### Organizzazione:

- 2019 Second Summer School on “Advances in Complex Systems: from ecology to economics”, Lake Como School of Advanced Studies, Como Italy, July 22-26 2017 (with J. P. Bouchaud and C. La Porta).
- 2018 Workshop: “Physicists working on cancer” Weizmann Institute of Science July 1-12 2018, Rehovot, Israel 2017 (with E. Domany, H. Levine and C. La Porta).
- 2017 Second Summer School on “Advances in Complex Systems”, Lake Como School of Advanced Studies, Como Italy, July 3-7 2017, (with M. J. Alava, C. La Porta and A. Vespignani)
- 2015 Summer School on “Advances in Complex Systems”, Lake Como School of Advanced Studies, Como Italy, June 29, July 3 2015, (with M. J. Alava, C. La Porta and A. Vespignani)
- 2012 European Science Foundation: Exploratory Workshop 2012: Physics of cancer, Varenna 13-15 September 2012 (with C. A. M. La Porta)
- 2012 CECAM (Centre Européen de Calcul Atomique et Moléculaire) workshop: Computational Physics Methods for Cancer, Lausanne, Switzerland June 27-29, 2012 (with C. A. M. La Porta)
- 2008 Symposium on “Statistical methods for materials deformation and failure”, in “Multiscale Material Modeling 2008”, Talahassee, USA, 27-31 October 2008 (with M. J. Alava, I. Groma, M.-C. Miguel).
- 2007 STATPHYS 23, Genova, July 2007 (Conference Secretary)
- 2006 Symposium on “Statistical approaches to irreversible deformation and failure of materials”, in “Multiscale Material Modeling 2006”, Freiburg, D, 18-22 September 2006 (with M. J. Alava, H. J. Herrmann, M. Zaiser).
- 2006 ESF Exploratory Workshop on "Crackling Noise", IEN, Torino 24-27 May 2006 (with G. Durin).
- 2004 Workshop on “Depinning transitions in disordered media: theory and applications”, Nordita, Copenhagen DK, 22-24 April 2004 (with M. J. Alava).
- 2002 Research Workshop on "Statistical Mechanics of Plastic Deformation", ICTP, Trieste 4-7 march 2002 (with E. Aifantis, A. El Azab, P. Haener, H. Neuhauser, A. Vespignani).
- 2002 Workshop on Statistical aspects of hysteresis, Roma, 4-6 April 2002 (with G. Durin).

**Partecipazione comitati scientifici:**

- Conference on Unsolved Problems On Noise - UPON 2015 (2015, Barcelona)
- Program on “Avalanches, intermittency, and nonlinear response in far-from-equilibrium solids” at KITP (2014, Santa Barbara, USA)
- Conference on Unsolved Problems On Noise - UPON 2012 (2012, Calcutta, India)
- Conference on Unsolved Problems On Noise - UPON 2008 (2008, Lyon, France)
- XIX Sitges Conference on Statistical Mechanics (2004, Sitges, Spain)
- ICSMPR (2005, Bangalore, India).

**Relazioni a congressi**

1. CECAM Workshop “Emergence of surface and interface structure from friction, fracture and deformation”, Lausanne – CH 24-27 July 2018 “Atomic-Scale Front Propagation at the Onset of Frictional Sliding”
2. 9th Nordic Workshop on Statistical Physics: Biological, Complex and Non-Equilibrium Systems, 21-23 March 2018 “How glasses break”.
3. Workshop on Physicists working on Cancer, Weizmann Institute of Science, Rehovot, Israel, 1-12 July 2018. “Tackling phenotypic plasticity in Cancer” (with C. La Porta)
4. Second International Conference on exaptation and inverse question-driven innovation, 26-28 April 2018 Palazzo Feltrinelli, Lake Garda, Italy. “Exaptation for the good and the bad: regeneration and cancer” (with C. La Porta)
5. The 20th European Conference on Mathematics for industry, Budapest, Hungary 18-22 June 2018 “Integrative analysis of pathway deregulation in obesity”.
6. CECAM-Node workshop on Phase Transformations and Plasticity in Crystals: Atomistic to Continuum Models”, Milano 3-4 September 2018. “Excitation spectra in crystal plasticity.”
7. Cell Physics 2017, Saarbrücken, Germany 11-13 October 2017. “Tackling cell deformation, division and migration by a combination of experiments and computational models” (with C. La Porta)
8. 4th Mini-Symposium on Bioimage Informatics, Rennes, France, 27 June 2017. “Bursts of activity in collective cell migration”
9. Congresso Nazionale SIF, Trento 13 September 2017, “Bursts of activity in collective cell migration”
10. Multiscale Materials Modeling October 9-14 2016, Dijon, France, Plenary talk “Size effects in fracture and plasticity”
11. Statphys 26, Lyon, July 18-22 2016. Invited talk “Size effects in fracture and plasticity”
12. Summer School on Advanced in Complex Systems, Lake Como School of Advanced Studies, Como Italy, June 29-July 3 2015. Talk on “Size effects in fracture”.
13. Workshop on Statistical Mechanics of forms and shapes” 27–30 May 2015, Mariehamn, Åland. Talk on “Deformation and fracture of graphene”
14. COMP Full Day seminar, Espoo, Finland, 24 February 2015, Plenary talk “Tackling fluctuations in materials and biosystems”
15. CLINAM 2014 Basel, June 23-25 2014. Invited talk on “Population dynamics of cancer stem cells”.
16. European Conference on Complex Systems, Barcelona, Spain 16-20 September 2013. Keynote Speaker “Crackling noise: the sound of complex systems”.
17. SES 50th Annual Technical Meeting and ASME-AMD Annual Summer Meeting Providence, USA, July 28 - 31 2013, Keynote contribution to the symposium on Slip avalanches in amorphous plasticity.
18. DPG Spring Meeting, Regensburg, Germany 10-15 March 2013. Invited talk “Elasticity and disorder for fracture size effects”
19. Aspen Center for Physics, workshop on Large Fluctuations and Collective Behavior in Solids, Aspen (USA) July 29-Aug 19 2012. “Size effect in fracture and plasticity”.
20. American Physical Society, March meeting, Boston (USA) Feb. 27-March 2 2012, “Avalanches and Clusters in crack front propagation”.
21. Keynote Lecture, Workshop on Rapid Mass Movements, Monte Verità, Ascona, CH, April 11-15 2010 “Triggering frictional slip”
22. Joint ICTP-FANAS Conference on Trends in Nanotribology, Trieste, Italy 19-24 10 2009. “Triggering frictional slip”

23. 22nd General Conference of the Condensed Matter Division of the European Physical Society, Roma, Italy 2008 "Dislocation Avalanches, Strain Bursts, and the Problem of Plastic Forming at the Micrometer Scale"
24. 8th Multimaterial Workshop, Roma, Italy 2008. "Dislocation Avalanches, Strain Bursts, and the Problem of Plastic Forming at the Micrometer Scale"
25. Conference on size effects and scaling in fracture, Monte Verità, Ascona, Switzerland 2008. "Role of disorder in the size scaling of material strength".
26. Workshop on Fluctuations and Scaling in Materials, Todi, Italy, 2007. "Role of disorder in the size scaling of materials strength"
27. Workshop on complex systems, Barcelona, Spain, 2007, "Vortex polycrystals in type II superconductors".
28. The 11th International Workshop on Vortex Matter, Wroclaw, Poland, 2006. "Vortex polycrystals in type II superconductors".
29. Workshop on Statistical Physics in Mechanics, Grasse, France, 2006. "Crack morphology in two dimensions"
30. Program on: From the Atomic to the Tectonic: Friction, Fracture and Earthquake Physics. KITP Santa Barbara, 2005. "Inertial Effects in Crackling Noise: From Magnets to Granular Media"
31. GDR: Systemes elastiques: du Desordre a la Plasticite, Vigue, France, 2005. "Grain boundaries in vortex matter".
32. ICF XIX, International conference on Fracture, Torino, March 2005. "Crack roughness and avalanche precursors in the random fuse model"
33. Ecole Thematique CNRS, Systemes complexes en Astrophysique : L'emergence de structures en milieux dilues. Chateau de Goutelas 2004. Series of lectures on "Self-organized criticality".
34. XIX SITGES CONFERENCE on Statistical Mechanics, Sitges, Spain 2004. "Jamming and depinning of interacting dislocations"
35. LANNP 03, Salvador, Brasil, 2003 "Non-linear vortex diffusion and flux-front invasion in disordered type II superconductors"
36. Invited Lecture, Plasticity 03, Quebec, Canada, 2003. "Depinning of a dislocation pileup"
37. GDR: Systemes elastiques: du Desordre a la Plasticite, Carcassonne, France, 2002. "Collective dynamics of dislocations"
38. Workshop on Disordered systems at low temperatures and their topological properties, Helsinki, Finland 2002. "Collective dynamics of dislocations"
39. Horizons on complex systems, Messina, Italia, 2001, "Statistical models for acoustic emission"
40. JEMS'01 (Joint European Magnetic Symposia EMMA-MRM), Grenoble, France, 2001, "Microscopic foundations of the Rayleigh law of hysteresis"
41. EURESCO conference on Plasticity of Materials, Acquafredda di Maratea, Italy, 2000, "Complex dynamics of dislocation systems".
42. International Workshop on Scaling in Disordered Systems, ESPCI, Paris, Francia, 2000, "Planar cracks in the fuse model"
43. Workshop on SOC and phase transitions, ICTP, Trieste, Italia, 2000, "Driving modes in avalanching systems"
44. Workshop on nonequilibrium dynamic systems, Porto, Portugal, 1999, "Driving and dissipation in avalanche transport phenomena"
45. VIII Workshop on computational material science, S. Margherita di Pula, Sardegna, 1998, "The Barkhausen effect: A new perspective for an old problem"
46. Conference on the Dynamics of Complexity, ICTP, Trieste, Italy, 1997, "Dynamics of a ferromagnetic domain wall and the Barkhausen effect".

#### **Lezioni a scuole internazionali e programmi di Ph.D/M. D.**

1. Summer School: From nonlinear Physics to Biology and Medicine, Cargèse, Corsica (France) 9-21 July 2012.
2. Joint Master on Computational and Applied Physics, Technical University of Catalonia (UPC)/ University of Barcelona (UB), Spain. Lectures on "Elasticity and disorder". Feb 16-19, 2010.
3. IGERT program, Cornell University, Lecture on "Dislocation avalanches" Nov. 17-20, 2009.
4. Ph. D. school in Physics, Helsinki University of Technology, Finland, Lectures on "Depinning"

- Transition”, 2006.
5. Summer school CNRS, Complex systems in Astrophysics, Chateau de Goutelas, France. Lectures on "Self-organized criticality". Sep. 23-26, 2004
  6. Ph. D. school in Physics, Federal University of Cearà, Brasil. Lectures on “Hysteresis”. Feb 15-28, 2002.

**Didattica:****Corsi tenuti:**

- Corso di Laurea Triennale “Introduzione alla fisica statistica”, Università di Milano, 2016-2018
- Corso di Laurea Magistrale, “Fisica delle proteine 2”, Università di Milano, 2016-2018
- Corso di Laurea Magistrale, “Biofisica”, Università di Milano, 2015-2018
- Corso di formazione on “Statistical data analysis”, Università di Modena e Reggio Emilia, 2008
- Corso di dottorato “Statistical mechanics”, Università di Modena e Reggio Emilia, 2008
- Corso di dottorato “Physics of complex materials”, Univ. Roma “La Sapienza” 2006
- Corso di dottorato “Theory of Elasticity”, Univ. Roma “La Sapienza”, 2003
- Corso di dottorato “Theory of Elasticity”, Univ. Roma “La Sapienza”, 2002
- Grader, Statistical Mechanics, Boston University 1997
- Teaching fellow, Modern physics (1 semester), Environmental physics (1 semester), Boston University 1994-1995

**Membro di comitati di Ph.d internazionali :**

- F. P. Landes (Université Paris-Sud, 2014)
- A. Dobrinevski (Ecole Normale Supérieure, Paris, France, 2013)
- G. Mourot (Université de Bordeaux, France, 2007)
- P. Moretti (University of Edinburgh, UK, 2006),
- F. Lahaie (Université de Grenoble, France, 2000),
- A. Alencar (UFC, Fortaleza, Brazil, 1999).

**Supervisione di studenti e postdocs:**

- Correlatore di Laurea triennale:
  - E. Distante (2007); Univ. Milano
- Correlatore di Laurea magistrale:
  - P. Moretti (2003); Univ. Roma “La Sapienza”
  - M. Minozzi (2001); Univ. Roma “La Sapienza”
  - L. Dante (2001); Univ. Roma “La Sapienza”
  - M. Baraldi (2012); Univ. Milano.
- Tutor di studenti di dottorato:
  - C. Manzato (2008-2010); Univ. Modena e Reggio Emilia.
  - F. Leoni (2006-2008); Univ. Roma “La Sapienza”,
  - B. Cerruti (2003-2006); Univ. Roma “La Sapienza”
  - L. Dante (2001-2003); Univ. Roma “La Sapienza”
- Supervisione di postdoc/assegnisti:
  - ¥ S. Bonfanti (2016-present) University of Milano
  - ¥ F. Font-Clos (2015-present) University of Milano
  - ¥ C. Pedersen (2015-2017) Aalto University
  - ¥ O. Chepizhko (2015-2017) Aalto University
  - ¥ P. Jana (2015-2017) Aalto University
  - ¥ A. L. Sellerio (2013-2016) Univ. Milano.
  - ¥ C. Negri (2013-2016) Univ. Milano.
  - ¥ G. Costantini (2012-2017) Univ. Milano

- ¥ Z. Budrikis (2012-2017) ISI, Torino.
- ¥ A. Taloni (2011-2016) Univ. Milano.
- ¥ Z. Bertalan (2012-2015) ISI, Torino, presently developer at Medizinkraft, Vienna.
- ¥ U. Salman (2013-2014) CNR, Milano, presently researcher at CNRS, Paris.
- ¥ D. Vilone (2012-2013) CNR, Milano, Presently postdoctoral fellow, CNR Roma.
- ¥ A. Benassi (2011-2012) CNR, Milano. Presently research associate, TU Dresden.
- ¥ L. Laurson (2009-2010); ISI, Torino. Academy fellow, Aalto University.
- ¥ A. Mughal (2008-2009); ISI, Torino. Presently tenured lecturer Aberystwyth University(UK).
- ¥ R. Capozza (2008-2009); CNR-INFN, Modena. Presently postdoctoral fellow at SISSA
- ¥ V. Beato (2006-2009); CNR-INFN, Roma. Presently employed at Deep Blue consulting and research (Italy).
- ¥ A. Baldassarri (2003-2004); INFN, Roma. Presently tenured researcher at CNR-ISC, Roma (Italy).
- ¥ F. Colaioni (2002-2003); INFN Roma. Presently tenured researcher at CNR-ISC Roma, (Italy).

## PUBBLICAZIONI

### Mongrafie:

1. C. A. M. La Porta and S. Zapperi, Physics of Cancer, Cambridge University Press (2017).

### Capitoli:

1. S. Zapperi, C. A. M. La Porta Cancer Stem Cells Biomarkers Chapter 15 pag.305-316 in: Principles of Stem Cell Biology and Cancer: Future Applications and Therapeutics, By Tarik Regad, Thomas Sayers, Robert Rees, John Wiley & Sons, Ltd 2015.
2. S. Zapperi, C.A.M. La Porta Cancer stem cells in melanoma: biomarkers and mathematical models Chapter 10, pp 133-142, Cancer Stem Cells, edited by V.K. Rajasekhar (Wiley Press, 2013).
3. G. Durin and S. Zapperi, "The Barkhausen effect" in The Science of Hysteresis", edited by G. Bertotti and I. Mayergoyz, vol. II pp 181-267 (Academic Press, Amsterdam, 2006).
4. S. Zapperi, M. C. Miguel, P. Moretti and M. Zaiser, "Jamming and Yielding of Dislocations": from Crystal Plasticity to Superconducting Vortex Flow" in "Jamming, Yielding and Irreversible Deformation in Condensed Matter", M. C. Miguel and M. Rubi (eds), Lect. Notes in Physics 688, 189 (Springer, Heidelberg-Berlin, 2006)
5. A. Baldassarri, F. Dalton, A. Petri, L. Pietronero, G. Pontuale and S. Zapperi "Granular shearing and Barkhausen noise", in "Traffic and Granular Flow'05", 91 (Springer, Heidelberg-Berlin, 2007)

### Volumi:

- V. Loreto, L. Pietronero and S. Zapperi, Topical issue dedicated to Statphys 23, Eur. Phys. J. B 64, 301- 636 (2009)

### Rassegne:

1. A. Taloni, M. Vodret, G. Costantini and S. Zapperi. Size effects on the fracture of microscale and nanoscale materials, Nat. Rev. Materials 3, 211 (2018).
2. C. A. M. La Porta and S. Zapperi. Explaining the dynamics of tumor aggressiveness: At the crossroads between biology, artificial intelligence and complex systems Seminars in Cancer Biology 2018 July 11.
3. James P Sethna, Matthew K Bierbaum, Karin A Dahmen, Carl P Goodrich, Julia R Greer, Lorien X Hayden, Jaron P Kent-Dobias, Edward D Lee, Danilo B Liarte, Xiaoyue Ni, Katherine N Quinn, Archishman Raju, D Zeb Rocklin, Ashivni Shekhawat, Stefano Zapperi, "Deformation of crystals: Connections with statistical physics" Annual Review of Materials Research 47, 2017 (2017).
4. C. A. M. La Porta and S. Zapperi, Complexity in cancer stem cells and tumor evolution: towards precision medicine, Seminars in Cancer published online (2017).
5. A. Taloni, M. Ben Amar, S. Zapperi and C. A.M. La Porta, The role of pressure in cancer growth EPJ Plus, 130 224 (2015)
6. A. Vanossi, N. Manini, M. Urbakh, S. Zapperi, and E. Tosatti, "Modeling friction: from nano to meso scales", Rev. Mod. Phys. 85, 529-552 (2013)

7. S. Zapperi. "Current challenges for statistical physics in fracture and plasticity", *Eur. Phys. J. B* 85 329 (2012).
8. C.A.M. La Porta, S. Zapperi Human breast and melanoma cancer stem cells biomarkers, *Cancer Letters* 338, 69–73. (2013)
9. M. J. Alava, P. K. V. V. Nukala and S. Zapperi, "Size effects in statistical fracture" *J. Phys. D* 42, 214012 (2009).
10. M. J. Alava, P. K. V. V. Nukala and S. Zapperi, "Statistical models for fracture", *Adv. Phys.* 55, 349-476 (2006).
11. M. C. Miguel, J. S. Andrade Jr. and S. Zapperi, "Deblocking of Interacting Particle Assemblies: from Pinning to Jamming", *Braz. J. Phys.* 33, 557 (2003).
12. R. Dickman, M. A. Munoz, A. Vespignani and S. Zapperi, "Paths to Self-organized criticality" *Braz. J. Phys.* 30, 27 (2000)

**Editoriali:**

13. C.A.M. La Porta and S. Zapperi, "Biophysical processes in fibrosis", *Physics of Life Reviews*, 17 103 (2016).
14. S. Zapperi, "Looking at how things slip", *Science* 330, 184 (2010).
15. M.-C. Miguel and S. Zapperi, "Fluctuations in plasticity at the microscale", *Science* 312, 1151 (2006).
16. F. Sylos Labini and S. Zapperi, "Reverse age discrimination", *Nature Physics* 3, 582 (2007).

**Articoli:**Soft matter:

17. P. K. Jana, M. J. Alava, and Stefano Zapperi, reversible transition of amorphous and polycrystalline colloidal solids under cyclic deformation *Phys. Rev. E* 98, 062607 (2018).
18. A. Ghosh, Z. Budrikis, V. Chikkadi, A. L. Sellerio, S. Zapperi, and P. Schall, "Direct Observation of Percolation in the Yielding Transition of Colloidal Glasses". *Phys. Rev. Lett.* 118, 148001 (2017).
19. P. K. Jana, M. J. Alava and S. Zapperi, Irreversibility transition of colloidal polycrystals under cyclic deformation, *Scientific Reports* 7, Article number: 45550 (2017)
20. M. Ovaska, Z. Bertalan, A. Miksic, M. Sugni, C. Di Beedetto, C. Ferrario, L. Leggio, L. Guidetti, M. J. Alava, C. A.M. La Porta, S. Zapperi, "Deformation and fracture of echinoderm collagen networks", *Journal of the Mechanical Behavior of Biomedical Materials*, (2016)
21. C. Negri, A. L. Sellerio, S. Zapperi, M. C. Miguel, "Deformation and failure of curved colloidal crystal shells", *Proceedings of National Academy of Science (PNAS)* 112, 14545 (2015)
22. F. Leoni, A. Baldassarri, F. Dalton, A. Petri, G. Pontuale, S. Zapperi, "Friction memory in the stick-slip of a sheared granular bed", *Journal of Non-Crystalline Solids* 357 749–753 (2011).
23. A. Imperio, L. Reatto, and S. Zapperi, "Rheology of colloidal microphases in a model with competing interactions" *Phys. Rev. E* 78, 021402 (2008).
24. A. Petri, A. Baldassarri, F. Dalton, G. Pontuale, L. Pietronero, and S. Zapperi, "Stochastic dynamics of a sheared granular medium" *Eur. Phys. J. B* 64, 531 (2008).
25. A. Baldassarri, F. Dalton, A. Petri, S. Zapperi, G. Pontuale, and L. Pietronero, "Brownian Forces in Sheared Granular Matter" *Phys. Rev. Lett.* 96, 118002 (2006)
26. F. Lacombe, H. J. Herrmann and S. Zapperi, "Dilatancy and friction in granular media" *E. Phys. J. E* 2, 181 (2000).
27. Y. Grasselli, H. J. Herrmann, G. Oron and S. Zapperi, "Effect of impact energy on the shape of granular heaps", *Granular Matter* 2, 97 (2000).

Biological Physics:

28. O. Chepizhko, M. C. Lionetti, C. Malinverno, C. Giampietro, G. Scita, S. Zapperi and C. A. M. La Porta. From jamming to collective cell migration through a boundary induced transition. *Soft matter*. 2018 May 1; 14:3774.
29. F. Font-Clos, S. Zapperi and C. A. M. La Porta Gene expression signature of obesity in monozygotic twins. *Physiol. Meas.* 2018 Apr 26; 39:044008.



30. F Font-Clos, S Zapperi, CAM La Porta Topography of epithelial–mesenchymal plasticity *Proceedings of the National Academy of Sciences* 115 (23), 5902-5907 (2018)
31. M. R. Fumagalli, S. Zapperi and C. A. M. La Porta Impact of the cross-talk between circular and messenger RNAs on cell regulation *J. Theor. Biol.* 2018 June 30; 454:386.
32. A Taloni, F Font-Clos, L Guidetti, S Milan, M Ascagni, C Vasco, ME Pasini, MR Gioria, E Ciusani, S Zapperi, CAM La Porta, “Probing spermiogenesis: a digital strategy for mouse acrosome classification” *Scientific Reports* 7 (1), 3748 (2017)
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