XAVIER TREPAT CURRICULUM VITAE

Date: January 3rd, 2022

PERSONAL DATA

Date of birth: 28/03/1976
Gender: Male
Nationality: Spanish

Researcher ID: I-3912-2015
ORCID: 0000-0002-7621-5214
Google Scholar: Xavier Trepat

CURRENT PROFESSIONAL POSITION

ICREA Research Professor / Group Leader

Institute for Bioengineering of Catalonia
C/ Baldiri i Reixac 10-12
08028, Barcelona
Spain

Starting Date: 01/01/2011

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RESEARCH INTERESTS

Bioengineering – Mechanobiology - Cell biophysics - Cell mechanics - Cell migration - Cell adhesion - Collective phenomena - Nanobiotechnology

EDUCATION AND TRAINING

B.S in Physics (Llicenciat en Física), Universitat de Barcelona, Spain, 08/02/2000.
B.S in Electronic Engineering (Enginyer Superior en Electrònica), Universitat de Barcelona, Spain, 20/11/2002.
PhD, Facultat de Medicina, Universitat de Barcelona, 14/06/2004.

RESEARCH EXPERIENCE

Predoctoral Fellow, Facultat de Medicina, Universitat de Barcelona, Barcelona (Spain)	2000 - 2004
Visiting Fellow, School of Biomedical Engineering, Dalhousie University (Canada)	2002
Research Fellow, School of Public Health, Harvard University, Boston MA (USA)	2004 - 2006
Research Associate, School of Public Health, Harvard University, Boston MA (USA)	2006 - 2008
Ramon y Cajal Researcher, Facultat de Medicina, Universitat de Barcelona (Spain)	2008 - 2011
Visiting Scientist, School of Public Health, Harvard University, Boston MA (USA)	2008 – 2018
ICREA Research Professor	2011 - present
Group Leader, Institute for Bioengineering of Catalonia, Barcelona (Spain)	2011 - present

RESEARCH PROJECTS

Project title: Mechanisms of stretch-induced disruption of the alveolar epithelial barrier
Funding agency: Ministerio de Ciencia e Innovación
Program: Programa Ramón y Cajal
Grant number: RYC 200700793
Funding period: 2008-2012
Principal investigator: **Xavier Trepat**
Amount received: 189,000 €

Project title: Study of the physical forces driving collective cell migration during lung epithelial repair
Funding agency: Ministerio de Ciencia e Innovación
Program: Proyecto de Investigación Fundamental no orientada
Grant number: BFU2009-07595
Funding period: 2009-2012
Principal investigator: **Xavier Trepat**
Amount received: 115,000 €

Project title: Physical forces driving collective cell migration: From genes to mechanism
Funding agency: European Research Council
Program: IDEAS Starting Grants
Grant number: 242993
Funding period: 2009-2014
Principal investigator: **Xavier Trepat**
Amount received: 1,749,745 €

Project title: Mechanics of monolayer migration
Funding agency: National Institutes of Health
Programa: Bioengineering Research Partnership
Grant number: RO1 HL107561
Funding period: 2011-2016
Principal investigator: **Jeffrey J Fredberg**
Amount received (Trepat): $212,365

Project title: The mechanome of epithelial adhesion: unveiling the mechanisms of intercellular force detection, resistance, and transmission
Funding agency: Ministerio de Economía y Competitividad
Program: Proyecto de Investigación Fundamental no orientada
Grant number: BFU2012-38146
Funding period: 2013-2015
Principal investigator: **Xavier Trepat**
Amount received: 210,000 €

Project title: Physical forces driving fibroblast-led cancer cell migration (CAFFORCE)
Funding Agency: European Union
Program: Marie Curie Intra-European Fellowships, FP7-PEOPLE-2012-IEF
Grant Number: 328664
Funding Period: 2013-2015
Principal Investigator: **Xavier Trepat** (Fellow: Anna Labernadie)
Amount Received: 166,336.20 €.

Project title: Multiscale regulation of epithelial tension
Funding agency: European Research Council
Program: IDEAS Consolidator Grants
Grant number: ERC-2013-CoG - 616480
Funding period: 2015-2019
Principal investigator: **Xavier Trepat**
Amount received: 1,981,762 €

Project title: Micro Gradient Polyacrylamide Gels for High Throughput Electrophoresis Analysis
Funding agency: European Research Council
Program: ERC Proof of Concept (ERC-2013-PoC-2)
Grant Number: 632269
Funding Period: 2014-2015
Principal Investigator: **Xavier Trepat**
Amount Received: 148.962,65 €

Project title: Coordination And Migration of Cells during 3D Vasculogenesis (CAMVAS)
Funding agency: European Union
Program: Marie Curie Actions (IOF)
Grant Number: PIOF-GA-2013-625500
Funding Period: 2014-2017
Principal Investigator: **Xavier Trepat / Roger Kamm**
Amount Received: 254,474.10€

Project title: Biomecànica Cel·lular i Integrativa
Funding agency: Generalitat de Catalunya
Program: Suport als Grups de Recerca de Catalunya SGR 2014 – 2016.
Grant Number: 2014 SGR 927
Funding Period: 2014-2015
Principal Investigator: **Xavier Trepat**
Amount Received: 55,000€

Project title: Integrative Cell and Tissue Mechanics
Funding agency: Instituto de Salud Carlos III (Ministerio de Sanidad).
Program: Centro de Investigación Biomédica en Red en el área temática de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN).
Grant Number: CB15/00153
Funding Period: 2016-
Principal Investigator: **Xavier Trepat**
Amount Received: 65,000€

Project title: Mechanobiology of durotaxis: from single cells to tissues
Funding agency: Ministerio de Economía y Competitividad
Program: Proyecto de Investigación Fundamental no orientada
Grant number: BFU2015-65074-P
Funding period: 2016-2018
Principal investigator: **Xavier Trepat**
Amount received: 264,600 €

Project title: Mechanical control of biological function (MECHANO-CONTROL)
Funding agency: European Union
Program: Future and Emerging Technologies (FET) - Boosting emerging technologies H2020FETPROACT-2016-2017. Topic: FETPROACT-01-2016
Grant number: 731957
Funding period: 2017-2021
Principal investigator: **Pere Roca-Cusachs**
Amount received: 7,134,928.75€ (consortium), 1,763,750€ (IBEC)

Project title: Understanding and measuring mechanical tumor properties to improve cancer diagnosis, treatment and survival: Application to liquid biopsies.
Funding agency: Fundació La Caixa (charity organisation, Spain)
Principal Investigator: **Xavier Trepat**
Funding Period: 2017-2020
Amount received: 1.275.000€

Project title: Mechanobiology of the cellular circadian clock (MECHADIAN).
Funding agency: European Union
Program: Marie Curie Actions (IOF)
Grant Number: 750557
Principal Investigator: **Xavier Trepat**
Funding Period: 2018-2020
Amount received: 158.121,60€

Project title: Optogenetic control of leader cell mechanobiology during collective cell migration (OPTOLEADER).
Funding agency: European Union
Program: Marie Curie Actions (IOF)
Grant Number: 796883
Principal Investigator: **Xavier Trepat**
Funding Period: 2019-2021
Amount received: 158.121,60€

Project title: Mechanobiology of collective cell migration during haptotaxis and durotaxis: application to intestinal organoids (MGRADIENT)
Funding agency: Ministerio de Ciencia, Innovación y Universidades
Program: Proyecto de Investigación Fundamental no orientada
Grant number: PGC2018-099645-B-I00
Funding period: 2019-2021
Principal investigator: **Xavier Trepat**

Amount received: 375.100 €

Project title: Cellular and Integrative Biomechanics
Funding agency: Catalan Agency for Management of University and Research GrantsProgram: Suport als Grups de Recerca de Catalunya SGR 2017 – 2020.
Grant Number: 2017 SGR 1602
Funding Period: 2017-2020
Principal Investigator: **Xavier Trepat**
Amount Received: 65,848€

Project title: T cell exclusion during cancer immune evasion and immunotherapy failure: cell types, transcriptional programs and biomechanics.
Funding agency: Fundació La Marató de TV3 (Spanish Private Foundation)
Grant Number: -
Funding Period: 2020-2023
Principal Investigator: **Eduard Batlle**
Role: Co-PI
Amount Received: 400,000€ (133.125€ to XT)

Project title: Engineering epithelial shape and mechanics: from synthetic morphogenesis to biohybrid devices (EpiFold)
Funding agency: European Research Council, Advanced Grant
Grant Number: 883739
Funding Period: 2021-2025
Principal Investigator: **Xavier Trepat**
Role: PI
Amount Received: 2,499,470.00€

Project title: Enabling technologies to map nuclear mechanosensing: from organoids to tumors (Mech4cancer)
Funding agency: “La Caixa” Banking Foundation
Funding Period: 2020-2023
Principal Investigator: **Xavier Trepat**
Role: PI
Amount Received: 984,630.00€

PUBLICATIONS

Original Research Articles

1. Farre R, Montserrat JM, Rigau J, **Trepat X**, Pinto P, Navajas D. Response of automatic continuous positive airway pressure devices to different sleep breathing patterns: A bench study. *Am J Respir Crit Care Med* 166 (4), 469 (2002).

2. Alcaraz J, Buscemi L, Grabulosa M, **Trepat X**, Fabry B, Farre R, Navajas D. Microrheology of human lung epithelial cells measured by atomic force microscopy. *Biophys J* 84 (3), 2071 (2003).

3. **Trepat X**, Grabulosa M, Buscemi L, Rico F, Fabry B, Fredberg JJ, Farre R. Oscillatory magnetic tweezers based on ferromagnetic beads and simple coaxial coils. *Rev Sci Instrum* 74 (9), 4012 (2003).

4. Rigau J, Farre R, **Trepat X**, Shusterman D, Navajas D. Oscillometric assessment of airway obstruction in a mechanical model of vocal cord dysfunction. *J Biomech* 37 (1), 37 (2004).

5**. Trepat X**, Grabulosa M, Puig F, Maksym GN, Navajas D, Farre R. Viscoelasticity of human alveolar epithelial cells subjected to stretch. *Am J Physiol Lung Cell Mol Physiol* 287 (5), L1025 (2004).

6. **Trepat X**, Grabulosa M, Buscemi L, Rico F, Farre R, Navajas D. Thrombin and histamine induce stiffening of alveolar epithelial cells. *J Appl Physiol* 98 (4), 1567 (2005).

7. An SS, Fabry B, **Trepat X**, Wang N, Fredberg JJ. Do biophysical properties of the airway smooth muscle in culture predict airway hyperresponsiveness? *Am J Respir Cell Mol Biol* 35 (1), 55 (2006).

8. Deng L, **Trepat X**, Butler JP, Millet E, Morgan KG, Weitz DA, Fredberg JJ. Fast and slow dynamics of the cytoskeleton. *Nature Materials* 5 (8), 636 (2006).

9. **Trepat X**, Puig F, Gavara N, Fredberg JJ, Farre R, Navajas D. Effect of stretch on structural integrity and micromechanics of human alveolar epithelial cell monolayers exposed to thrombin. *Am J Physiol Lung Cell Mol Physiol* 290 (6), L1104 (2006).

10. Bursac P, Fabry B, **Trepat X**, Lenormand G, Butler JP, Wang N, Fredberg JJ, An SS. Cytoskeleton dynamics: Fluctuations within the network. *Biochem Biophys Res Commun* 355 (2), 324 (2007).

11. **Trepat X**, Deng L, An SS, Navajas D, Tschumperlin DJ, Gerthoffer WT, Butler JP, Fredberg JJ. Universal physical responses to stretch in the living cell. *Nature* 447 (7144), 592 (2007).

    Highlighted in: A stretch in the cells, *Nature* 447, 2007.
    More than lip service, *Nature*, 448:969, 2007.

12. An SS, Kim J, Ahn K, **Trepat X**, Drake KJ, Kumar S, Ling G, Purington C, Rangasamy T, Kensler TW, Mitzner W, Fredberg JJ, Biswal S. Cell stiffness, contractile stress and the role of extracellular matrix. *Biochem Biophys Res Commun* 382(4):697-703 (2009).
    Impact Factor: 2.035 (ISI)

13. Sunyer R, **Trepat X**, Fredberg JJ, Farre R, Navajas D. The temperature dependence of cell mechanics measured by atomic force microscopy. *Phys Biol* 6 (2), 25009 (2009).
    Impact Factor: 3.086 (ISI)

14. Krishnan R, Park CY, Lin YC, Mead J, Jaspers RT, **Trepat X**, Lenormand G, Tambe D, Smolensky AV, Knoll AH, Butler JP, Fredberg JJ. Reinforcement versus fluidization in cytoskeletal mechanoresponsiveness. *PLoS ONE* 4 (5), e5486 (2009).
    Impact Factor: 4.351 (ISI)

15. **Trepat X***, Wasserman MR, Angelini TE, Millet E, Weitz DA, Butler JP, Fredberg JJ*. Physical forces during collective cell migration. *Nature Physics* 5, 426-30 (2009).
    Impact Factor: 15.491 (ISI)
    *Corresponding authors

    Highlighted in: Ladoux B. Cells guided on their journey, *Nature Phys* 5:377, 2009.
    How Cells Move: Cooperative Forces Boost Collective Mobility Of Cells. *Science Daily*, 2009.

16. Zhou EH, **Trepat X**, Park CY, Lenormand G, Oliver MN, Mijailovich SM, Hardin C, Weitz DA, Butler JP, Fredberg JJ. Universal behavior of the osmotically compressed cell and its analogy to the colloidal glass transition. *Proc Natl Acad Sci U S A* 106, 10632 (2009).
Impact Factor: 9.432 (ISI)

17. Park CY, Tambe D, Alencar AM, **Trepat X**, Zhou EH, Millet E, Butler JP, and Fredberg JJ. Mapping the cytoskeletal prestress. *Am J Physiol Cell Physiol*. 298(5):C1245-52 (2010)
Impact Factor: 3.817 (ISI)

18. Angelini, TE, Hannezo E, **Trepat X**, Fredberg JJ, and D. A. Weitz. Cell migration driven by cooperative substrate deformation patterns. *Phys Rev Lett* 104(16):168104 (2010).
Impact Factor: 7.621 (ISI)

19. Lin YC, Tambe DT, Park CY, Wasserman MR, **Trepat X**, Krishnan R, Lenormand G, Fredberg JJ, and Butler JP. Mechanosensing of substrate thickness. *Physical review E* 82: 041918 (2010).
Impact Factor: 2.352 (ISI)

20. Krishnan R, Klumpers DD, Park CY, Rajendran K, **Trepa**t X, van Bezu J, van Hinsbergh VW, Carman CV, Brain JD, Fredberg JJ, Butler JP, and van Nieuw Amerongen GP. Substrate stiffening promotes endothelial monolayer disruption through enhanced physical forces. *Am J Physiol Cell Physiol* 300: C146-154 (2011).

21. Angelini TE, Hannezo E, **Trepat X**, Marquez M, Fredberg JJ, Weitz DA. Glass-like dynamics of collective cell migration. *Proc Natl Acad Sci U S A*, 108(12) 4714-9 (2011).

Highlighted in: Garrahan JP, Dynamic heterogeneity comes to life. *PNAS* 108 (12) 4701 (2011)

22. Tambe DT, Hardin CC, Angelini TE, Rajendran K, Park CY, Serra-Picamal X, Zhou EH, Zaman MH, Butler JP, Weitz DA, Fredberg JJ, **Trepat X**. Collective cell guidance by cooperative intercellular forces. *Nature Materials*, 10(6):469-75 (2011).

Highlighted in: Gov N. Cell mechanics: Moving under peer pressure, *Nature Materials*, 10:412 (2011)

23. Nocentini S, Reginensi D, Garcia S, Carulla P, Moreno-Flores MT, Wandosell F, **Trepat X**, Bribian A, Del Río JA. Myelin-associated proteins block the migration of olfactory ensheathing cells: an in vitro study using single-cell tracking and traction force microscopy. *Cell Mol Life Sci*. 69(10):1689-703 (2012).

24. Anon E, Serra-Picamal X, Hersen P, Gauthier N, Sheetz MP, **Trepat X***, Ladoux B*. Cell crawling mediates collective cell migration to close undamaged epithelial gaps. *Proc Natl Acad Sci U S A* 109(27): 10891–896 (2012).
* Corresponding authors

25. Serra-Picamal X, Conte V, Vincent R, Anon E, Tambe DT, Bazellieres E, Butler JP, Fredberg JJ, **Trepat X**. Mechanical waves during tissue expansion. *Nature Physics* 8, 628–634 (2012).

Highlighted in: Théry M. Cell mechanics: Wave of migration, *Nature Physics* 8:583, 2012.

McCarthy N. Mechanotransduction: Catching the X-waves. *Nat Rev Cancer* 12:510, (2012).

Biophysics: Cells ride on stress waves. *Nature* 487:142 (2012).

26. Chen ZZ, Lessey E, Berginski ME, Cao L, Li J , **Trepat X**, Itano M, Gomez SM, Kapustina M, Huang H, Burridge K, Truskey G , Jacobson K. Gleevec, an Abl family inhibitor, produces a profound change in cell shape and migration. *PLoS One*, 8(1):e52233 (2013).

27. Tambe DT, Croutelle U, **Trepat X**, Park CY, Kim JH, Millet E, Butler JP, Fredberg JJ. Monolayer stress microscopy: limitations, artifacts, and accuracy of recovered intercellular stresses. *PLoS One* 8(2):e55172 (2013).

28. Theveneau E, Steventon B, Scarpa E, Garcia S, **Trepat X**, Streit A, Mayor R. Chase-and-run between adjacent cell populations promotes directional collective migration. *Nature Cell Biology*. 15(7):763-72 (2013).

29. Kim JH, Serra-Picamal X, Tambe DT, Zhou EH, Park CY, Sadati M, Park JA, Krishnan R, Gweon B, Millet E, Butler JP, **Trepat X**, Fredberg JJ. Propulsion and navigation within the advancing monolayer sheet. *Nature Materials.* 12(9):856-63 (2013).

Highlighted in: Dufresne ER, Schwartz M. Cell migration: Towards the void. *Nature Materials* 12:783–784 (2013)

30. Vedula SR, Hirata H, Nai MH, Brugués A, Toyama Y, **Trepat X**, Lim CT, Ladoux B. Epithelial bridges maintain tissue integrity during collective cell migration. *Nature Materials*. 13(1):87-96 (2014).

31. Elosegui-Artola A, Bazellières E, Allen MD, Andreu I, Oria R, Sunyer R, Gomm JJ, Marshall1 JF, Jones JL, **Trepat X***, Roca-Cusachs P*. Rigidity sensing and adaptation through regulation of integrin types. *Nature Materials* 13(6):631-7 (2014).
* Corresponding authors

Highlighted in: García JR, García AJ. Cellular mechanotransduction: sensing rigidity. *Nature Materials* 13(6):539-40 (2014).

32. Brugués A, Anon E, Conte V, Veldhuis JH, Gupta M, Colombelli J, Muñoz JJ, Brodland GW, Ladoux B, **Trepat X.** Forces driving epithelial wound healing. *Nature Physics* 10, 683–690 (2014).

Highlighted in: Hunter M, Fernandez-Gonzalez R. Cell migration: A force to be reckoned with. *Nature Physics* 10, 626–627 (2014)

33. Mrkonjić S, Garcia-Elias A, Pardo-Pastor C, Bazellières E, **Trepat X**, Vriens J, Ghosh D, Voets T, Vicente R, Valverde MA. TRPV4 participates in the establishment of trailing adhesions and directional persistence of migrating cells. *Pflugers Arch*. (2015).

34. Vedula SR, Peyret G, Cheddadi I, Chen T, Brugués A, Hirata H, Lopez-Menendez H, Toyama Y, Neves de Almeida L, **Trepat X**, Lim CT, Ladoux B. Mechanics of epithelial closure over non-adherent environments. *Nature Commun*. Jan 22;6:6111 (2015).

35. Casares L, Vincent R, Zalvidea D, Campillo N, Navajas D, Arroyo M, **Trepat X**. Hydraulic fracture during epithelial stretching. *Nature Mater.* 14(3):343-51 (2015).

Highlighted in: Moeendarbary E, Charras G. Cell mechanics: Hydraulic cracking. *Nature Mater*. 14(3):268-9 (2015)

36. Reginensi D, Carulla P, Nocentini S, Seira O, Serra-Picamal X, Torres-Espín A, Matamoros-Angles A, Gavín R, Moreno-Flores MT, Wandosell F, Samitier J, **Trepat X**, Navarro X, Del Río JA. Increased migration of olfactory ensheathing cells secreting the Nogo receptor ectodomain over inhibitory substrates and lesioned spinal cord. *Cell Mol Life Sci.* 72(14):2719-37 (2015).

37. Bazellières E, Conte V, Elosegui-Artola A, Serra-Picamal X, Bintanel-Morcillo M, Roca-Cusachs P, Muñoz JJ, Sales-Pardo M, Guimerà R, **Trepat X**. Control of cell-cell forces and collective cell dynamics by the intercellular adhesome. *Nature Cell Biology.* 27;17(4):409-20 (2015).

38. Ravasio A, Cheddadi I, Chen T, Pereira T, Ong HT, Bertocchi C, Brugues A, Jacinto A, Kabla AJ, Toyama Y, **Trepat X**, Gov N, Neves de Almeida L, Ladoux B. Gap geometry dictates epithelial closure efficiency. *Nature Commun.* 9;6:7683 (2015).

39. Kosmalska AJ, Casares L, Elosegui-Artola A, Thottacherry JJ, Moreno-Vicente R, González-Tarragó V, Del Pozo MA, Mayor S, Arroyo M, Navajas D, **Trepat X**, Gauthier NC, Roca-Cusachs P. Physical principles of membrane remodelling during cell mechanoadaptation. *Nature Commun*. 6:7292 (2015).

40. García S, Sunyer R, Olivares A, Noailly J, Atencia J, **Trepat X.** Generation of stable orthogonal gradients of chemical concentration and substrate stiffness in a microfluidic device. *Lab Chip.* 15(12):2606-14 (2015).

41. Brask JB, Singla-Buxarrais G, Uroz M, Vincent R, **Trepat X**. Compressed sensing traction force microscopy. *Acta Biomater*. 15 (26):286-94 (2015).

42. Vizoso M, Puig M, Carmona FJ, Maqueda M, Velásquez A, Gómez A, Labernadie A, Lugo R, Gabasa M, Rigat-Brugarolas LG, **Trepat X**, Ramírez J, Moran S, Vidal E, Reguart N, Perera A, Esteller M, Alcaraz J. Aberrant DNA methylation in non-small cell lung cancer-associated fibroblasts. *Carcinogenesis* 36(12):1453-63 (2015).

43. Perrault CM, Brugues A, Bazellieres E, Ricco P, Lacroix D, **Trepat X**. Traction Forces of Endothelial Cells under Slow Shear Flow. *Biophys J*. 109(8):1533-6 (2015).

44. Lucantonio A, Noselli G, **Trepat X**, DeSimone A, Arroyo M. Hydraulic Fracture and Toughening of a Brittle Layer Bonded to a Hydrogel. *Phys Rev Lett*. 115(18):188105 (2015).

45. Zaritsky A, Welf ES, Tseng YY, Angeles Rabadán M, Serra-Picamal X, **Trepat X**, Danuser G. Seeds of Locally Aligned Motion and Stress Coordinate a Collective Cell Migration. *Biophys J*. 109(12):2492-500. (2015).

46. Vincent R, Bazellières E, Pérez-González C, Uroz M, Serra-Picamal X, **Trepat X**. Active Tensile Modulus of an Epithelial Monolayer. *Phys Rev Lett.* 115, 248103 (2015).

47. Przybyla L, Lakins JN, Sunyer R, **Trepat X**, Weaver VM. Monitoring developmental force distributions in reconstituted embryonic epithelia. *Methods.* S1046-2023(15)30074-8 (2016).

48. Plutoni C, Bazellieres E, Le Borgne-Rochet M, Comunale F, Brugues A, Séveno M, Planchon D, Thuault S, Morin N, Bodin S, **Trepat X**, Gauthier-Rouvière C. P-cadherin promotes collective cell migration via a Cdc42-mediated increase in mechanical forces. *J Cell Biol.* 212(2):199-217 (2016).

49. Elosegui-Artola A, Oria R, Chen Y, Kosmalska A, Pérez-González C, Castro N, Zhu C, **Trepat X**, Roca-Cusachs P. Mechanical regulation of a molecular clutch defines force transmission and transduction in response to matrix rigidity. *Nat Cell Biol.* 18(5):540-8 (2016).

    Highlighted in: Swaminathan V, Waterman CM. The molecular clutch model for mechanotransduction evolves. *Nat Cell Biol.* 18(5):459-6 (2016).

50. Sunyer R, Conte V, Escribano J, Elosegui-Artola A, Labernadie A, Valon L, Navajas D, García-Aznar JM, Muñoz JJ, Roca-Cusachs P, **Trepat X**. Collective cell durotaxis emerges from long-range intercellular force transmission. *Science* 353 (6304):1157-1161 (2016).

51. Alencar AM, Ferraz MS, Park CY, Millet E, **Trepat X**, Fredberg JJ, Butler JP. Non-equilibrium cytoquake dynamics in cytoskeletal remodeling and stabilization. *Soft Matter* 12(41):8506-8511 (2016).

52. Tekeli I, Aujard I, **Trepat X**, Jullien L, Raya A, Zalvidea D. Long-term in vivo single-cell lineage tracing of deep structures using three-photon activation. *Light: Science & Applications*. 5(6):e16084 (2016).

53. Asadipour N, **Trepat X**, Muñoz JJ. Porous-based rheological model for tissue fluidisation. *Journal of the Mechanics and Physics of Solids*, 96: 535-549 (2016).

54. Castellanos MI, Mas-Moruno C, Grau A, Serra-Picamal X, **Trepat X**, Albericio F, Joner M, Gil FJ, Ginebra MP, Manero JM, Pegueroles M. Functionalization of CoCr surfaces with cell adhesive peptides to promote HUVECs adhesion and proliferation. *App Surf Science* 393: 82-92 (2017).

55. Malinverno C, Corallino S, Giavazzi F, Bergert M, Li Q, Leoni M, Disanza A, Frittoli E, Oldani A, Martini E, Lendenmann T, Deflorian G, Beznoussenko GV, Poulikakos D, Haur K, Uroz M, **Trepat X**, Parazzoli D, Maiuri P, Yu W, Ferrari A, Cerbino R, Scita G. Endocytic re-awakening of motility in jammed epithelia. *Nature Materials* 16(5):587-596 (2017).

56. Valon L, Marín-Llauradó A, Wyatt T, Charras G, **Trepat X**. Optogenetic control of cell forces and mechanotransduction. *Nat Commun.* 10;8:14396 (2017)

57. Labernadie A, Kato T, Brugués A, Serra-Picamal X, Derzsi S, Arwert E, Weston A, González-Tarragó V, Elosegui-Artola A, Albertazzi L, Alcaraz J, Roca-Cusachs P, Sahai E, **Trepat X**. A mechanically active heterotypic E-cadherin/N-cadherin adhesion enables fibroblasts to drive cancer cell invasion. *Nature Cell Biology* 19(3):224-237 (2017).

Highlighted in: Ewald AJ. Pulling cells out of tumours. *Nat Cell Biol.* 19(3):147-149 (2017).

58. Rodríguez-Franco P, Brugués A, Marín-Llauradó A, Conte V, Solanas G, Batlle E, Fredberg JJ, Roca-Cusachs P, Sunyer R, **Trepat X**. Long-lived force patterns and deformation waves at repulsive epithelial boundaries. *Nature Materials*, 16(10):1029-1037 (2017).

Highlighted in: Schwarz US, Ziebert F. Cell mechanics: When tissues collide. Nat Mater. 16(10):972-973b (2017).

59. Elosegui-Artola A, Andreu I, Beedle AEM, Lezamiz A, Uroz M, Kosmalska AJ, Oria R, Kechagia JZ, Rico-Lastres P, Le Roux AL, Shanahan CM, **Trepat X**, Navajas D, Garcia-Manyes S, Roca-Cusachs P. Force Triggers YAP Nuclear Entry by Regulating Transport across Nuclear Pores. *Cell*, 30;171(6):1397-1410.e14 (2017).

60. Oria R, Wiegand T, Escribano J, Elosegui-Artola A, Uriarte JJ, Moreno-Pulido C, Platzman I, Delcanale P, Albertazzi L, Navajas D, **Trepat X**, García-Aznar JM, Cavalcanti-Adam EA, Roca-Cusachs P. Force loading explains spatial sensing of ligands by cells. *Nature*. 14;552(7684):219-224 (2017).

61. Pardo-Pastor C, Rubio-Moscardo F, Vogel-González M, Serra SA, Afthinos A, Mrkonjic S, Destaing O, Abenza JF, Fernández-Fernández JM, **Trepat X**, Albiges-Rizo C, Konstantopoulos K, Valverde MA. Piezo2 channel regulates RhoA and actin cytoskeleton to promote cell mechanobiological responses. *Proc Natl Acad Sci USA.* 20;115(8):1925-1930 (2018).

62. Kuipers AJ, Middelbeek J, Vrenken K, Pérez-González C, Poelmans G, Klarenbeek J, Jalink K, **Trepat X**, van Leeuwen FN. TRPM7 controls mesenchymal features of breast cancer cells by tensional regulation of SOX4. *Biochim Biophys Acta.* S0925-4439(18)30149-2 (2018).

63. Dix CL, Matthews HK, Uroz M, McLaren S, Wolf L, Heatley N, Win Z, Almada P, Henriques R, Boutros M, **Trepat X**, Baum B. The Role of Mitotic Cell-Substrate Adhesion Re-modeling in Animal Cell Division. *Dev Cell.* 9;45(1):132-145.e3. (2018).

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63. Oria R, Wiegand T, Escribano J, Elosegui-Artola A, Uriarte J.J, Moreno-Pulido C, García-Aznar J.M, Navajas D, **Trepat X**, Cavalcanti-Adam A, Roca-Cusachs P. Force loading explains how substrate rigidity and ligand nano-distribution regulate cell response. *presented at* Mechanical forces in physiology and disease, Madrid (Spain), 4/11/2016-5/11/2016. (Oral and Poster)

64. Zalvidea D, Castaño O, Baker S, Castro N, Gonzalez A, Arroyo M, Engel E, **Trepat X**, Measuring forces during in vivo remodelling of vessel network in the chorioallantoic membrane of the chicken embryo. *presented at* Mechanical forces in physiology and disease, Madrid (Spain), 5/11/2016 (Poster)

65. Labernadie A, Kato T, Brugués A, Serra-Picamal X, Derzsi S, González-Tarragó V, Elosegui-Artola A, Alcaraz J, Roca-Cusachs P, Sahai E, Trepat X. A mechanically active heterotypic E-cadherin/N-cadherin adhesion enables fibroblasts to drive cancer cell invasion. *presented at* Mechanobiology of Disease, Singapore (Singapore), 30/09/2016.

66. Labernadie A, Kato T, Brugués A, Serra-Picamal X, Derzsi S, Arwert E, Weston A, González- Tarragó V, Elosegui-Artola A, Albertazzi L, Alcaraz J, Roca-Cusachs P, Sahai E, **Trepat X**, A mechanically active heterotypic E-cadherin/N-cadherin adhesion enables fibroblasts to drive cancer cell invasión. *presented at* Gordon Research Seminar on Directed Cell Migration, Galveston TX, (United States), 21-22/01/2017. (poster&talk)

67. Labernadie A, Kato T, Brugués A, Serra-Picamal X, Derzsi S, Arwert E, Weston A, González- Tarragó V, Elosegui-Artola A, Albertazzi L, Alcaraz J, Roca-Cusachs P, Sahai E, **Trepat X**, A mechanically active heterotypic E-cadherin/N-cadherin adhesion enables fibroblasts to drive cancer cell invasión. *presented at* Gordon Research Conference on Directed Cell Migration, Galveston TX (United States), 22-27/01/2017. (poster&talk)

68. Elosegui-Artola A, Andreu I, Beedle A,Lezamiz A, Uroz M, Kosmalska A, Oria R, **Trepat X**, Navajas D, Garcia-Manyes S, and Roca-Cusachs P. Force triggers YAP nuclear entry by mechanically regulating transport across nucleopores. *presented at* European Cell Mechanics Meeting, Windermere (UK). 22/06/2017. (oral)

69. Oria R, Wiegand T, Escribano J, Elosegui-Artola A, Uriarte J.J, Moreno-Pulido C, García-Aznar J.M, Navajas D, **Trepat X**, Cavalcanti-Adam A, Roca-Cusachs P. Molecular force loading explains cell sensing of extracellular ligand density and distribution. *presented at* Biology for Physics, Barcelona (Spain), 15/01/2017-18/01/2017 (Poster)

70. Latorre E, Casares L, Gomez-Gonzalez M, Uroz M, Arroyo M, **Trepat X**. Forces and dynamics in epithelial domes of controlled size and shape. *presented at* APS March Meeting 2017, New Orleans (USA), 15/03/2017. (oral)

71. Uroz M, Garcia Puig A, Tekeli I, Raya A, **Trepat X**. Traction forces at the cytokinetic ring regulate cell division and polyploidy in the migrating zebrafish epicardium. *presented at* European Cell Mechanics Meeting, Windermere (UK), 22/06/2017. (oral)

72. Uroz M, Garcia Puig A, Tekeli I, Elosegui-Artola A, Roca-Cusachs P, Albertazzi L, Raya A, **Trepat X**. Mechanical control of cell division and polyploidy. *presented at* American Society for Cell Biology, San Diego (USA), 9/12/2018. (oral)

73. Latorre E, Kale S, Casares L, Gómez-González M, Uroz M, Valon L, Nair RV, Garreta E, Montserrat N, del Campo A, Ladoux B, Arroyo M, **Trepat X**. Active superelasticity revealed by three-dimensional epithelial sheets of controlled size and shape. *presented at* Curvature & Biology workshop, CURVOBIO 2019, University of Salzburg, Salzburg (Austria), 06-08/02/2019. (oral presentation)

74. Latorre E, Kale S, Casares L, Gómez-González M, Uroz M, Valon L, Nair RV, Garreta E, Montserrat N, del Campo A, Ladoux B, Arroyo M, **Trepat X**. Active superelasticity revealed by three-dimensional epithelial sheets of controlled size and shape. *presented at* Physical Biology Circle Meeting 2019, Saarbrücken (Germany), 27-29/03/2019. (oral presentation)

75. Latorre E, Kale S, Casares L, Gómez-González M, Uroz M, Valon L, Nair RV, Garreta E, Montserrat N, del Campo A, Ladoux B, Arroyo M, **Trepat X**. Active superelasticity revealed by three-dimensional epithelial sheets of controlled size and shape. *presented at* 11th European Meeting of Intermediate Filaments (EUROIF 2019), Turku (Finland), 09-11/06/2019. (oral presentation)

76. Sunyer R, Conte V, Escribano J, Elosegui-Artola A, Labernadie A, Valon L, Navajas D, García-Aznar JM, Muñoz J, Roca-Cusachs P, **Trepat X**. Collective cell durotaxis emerges from long-range intercellular force transmission. Presented at the 6th International Symposium Interface Biology of Implants (IBI), Rostock (Germany), 8-10/5/2019 (oral presentation)

77. Pérez-González C, Alert R, Blanch-Mercader C, Gómez-González M, Kolodziej T, Bazellieres E, Casademunt J, **Trepat X**. Active wetting of epithelial tissues. Presented at Physical Biology Circle Meeting, Saarbrucken (Germany), 27-29/03/2019. (oral presentation)

78. Pérez-González C, Alert R, Blanch-Mercader C, Gómez-González M, Kolodziej T, Bazellieres E, Casademunt J, Trepat X. Active wetting of epithelial tissues. Presented at 6th Zoo meeting: Cell Adhesion and Migration in Inflammation and Cancer, Rotterdam (Netherlands), 15-18/05/2019. (Poster)

79. Ceada G, Pérez-González C, Greco F, Matejčić M, Gómez-González M, Castro N, Kale S, Álvarez-Varela A, Roca-Cusachs P, Batlle E, Vignjevic DM, Arroyo M, **Trepat X**. Mechanical compartmentalization of the intestinal organoid enables crypt folding and collective cell migration. *Presented at* 13th IBEC Symposium – Bioengineering for Future and Precision Medicine, Barcelona (Spain), 27-28/10/2020. (poster presentation)

80. Pérez-González C, Ceada G, Greco F, Matejčić M, Gómez-González M, Castro N, Kale S, Álvarez-Varela A, Roca-Cusachs P, Batlle E, Vignjevic DM, Arroyo M, **Trepat X**. Mechanical compartmentalization of the intestinal organoid enables crypt folding and collective cell migration. *presented at* conference "From Molecules to Organs: The Mechanobiology of Morphogenesis", Singapore (Singapore), 28-30/10/2020. (oral and poster presentation)

81. Pérez-González C, Ceada G, Greco F, Matejčić M, Gómez-González M, Castro N, Kale S, Álvarez-Varela A, Roca-Cusachs P, Batlle E, Vignjevic DM, Arroyo M, **Trepat X**. Mechanical

compartmentalization of the intestinal organoid enables crypt folding and collective cell migration. *presented at* Cell Bio Virtual 2020 | An Online ASCB|EMBO Meeting, 2-16/12/2020. (oral and poster presentation)

82. Ceada G, Pérez-González C, Greco F, Matejčić M, Gómez-González M, Castro N, Kale S, Álvarez-Varela A, Roca-Cusachs P, Batlle E, Vignjevic DM, Arroyo M, **Trepat X**. Cortical actomyosin density determines the shape and mechanics of intestinal organoids. *Presented at* EMBO|EMBL symposium "Life at the Periphery - Mechanobiology of the Cell Surface", 2-3/03/2021. (oral presentation)

83. Marín-Llauradó A, Kale S, Torres-Sánchez A, Latorre E, Sunyer R, Gómez-González M, Arroyo M, **Trepat X**. Linking epithelial geometry to tension and pressure in curved epithelial monolayers. Presented at Synthetic Morphogenesis: From Gene Circuits to Tissue Architecture (EMBL Symposia), 17-19/03/2021. (oral presentation).

84. Ceada G, Pérez-González C, Greco F, Matejčić M, Gómez-González M, Castro N, Menendez A, Kale S, Krndija D, Clark AG, Gannavarapu VR, Álvarez-Varela A, Roca-Cusachs P, Batlle E, Vignjevic DM, Arroyo M, **Trepat X**. Mechanical compartmentalization of the intestinal organoid enables crypt folding and collective cell migration. *Presented at* EMBO workshop "Physics of living systems: From molecules to tissues", 7-10/06/2021. (poster presentation)

85. Ceada G, Pérez-González C, Greco F, Matejčić M, Gómez-González M, Castro N, Menendez A, Kale S, Krndija D, Clark AG, Gannavarapu VR, Álvarez-Varela A, Roca-Cusachs P, Batlle E, Vignjevic DM, Arroyo M, **Trepat X**. Mechanical compartmentalization of the intestinal organoid enables crypt folding and collective cell migration. *Presented at* 14th IBEC Symposium – Bioengineering for Regenerative Therapies, Barcelona (Spain), 27-28/10/2021. (poster presentation)

INVITED TALKS (selection)

1. Mecánica de células epiteliales alveolares. *presented at* Hospital Parc Taulí, Centre de Crítics, Sabadell (Spain), 2004.

2. Universal responses to stretch in the living cell. *presented at* Harvard University, School of Engineering and Applied Sciences, Cambridge, MA (USA), 2006.

3. Soft glassy rheology - a soft matter paradigm for cell rheology. *presented at* Colloidal particles in external fields, Leipzig (Germany), 2008.

4. Cytoskeletal fragility and collective cell migration. *presented at* Université Paris 7, Département de Matière et Systèmes Complexes, Paris (France), 2009.

5. Tough or fragile? A hard dilemma for a soft cell. *presented at* Foundation For Research And Technology-Hellas, Institute of Applied and Computational Mathematics, Heraklio (Greece), 2009.

6. Cytoskeletal fragility and collective cell migration. *presented at* Center for Genomic Regulation, Barcelona (Spain), 2009.

7. Cell mechanics and collective cell migration. *presented at* Facultat de Medicina, Universitat de Barcelona, Barcelona (Spain), 2009.

8. Cytoskeletal fragility and collective cell migration. *presented at* Tissue dynamics and growth, Barcelona (Spain), 2009.

9. Universality in cell mechanics. *presented at* The emergence of structures in matter,brain, life, language, Torino (Italy), 2009.

10. The physical forces behind collective cell migration: where is the leader? *presented at* Institute for Biomedical Research, Barcelona (Spain), 2009.

11. What material science can teach us about biology? *presented at* VI Reunión del Grupo Especializado de Física del Estado Sólido de la Real Sociedad Española de Física, Zaragoza (Spain), 2010.

12. The physical forces behind collective cell migration. *presented at* IV Spanish-Portuguese Biophysical Congress, Zaragoza (Spain), 2010.

13. The physical forces behind collective cell migration *presented at* Physics of Living Matter PLM5, Cambridge (UK), 2010.

14. Collective cell guidance by cooperative intercellular forces. *presented at* Amercian Society for Cell Biology, 50th Annual Meeting, Philadelphia (USA), 2010.

15. Collective cell guidance by cooperative intercellular forces. *presented at* Institute of Genetics and Molecular and Cellular Biology, Strasbourg (France), 2011.

16. Systems biomechanics of epithelial repair. *presented at* Servei de Neumologia, Hospital Clínic, Barcelona (Spain), 2011.

17. The guidance of cellular crowds. *presented* at Escola Tècnica Superior d'Enginyeria Química (ETSEQ), Universitat Rovira i Virgili, Tarragona (Spain), 2011.

18. Collective cell guidance by cooperative intercellular forces. *presented* at Cancer Research UK, London, (UK) 2011.

19. Mechanical guidance of collective cell migration. *presented* at Cell Physics Days, Strasbourg (France), 2011.

20. Mechanical guidance of cellular crowds. *presented* at TYC soirée on the Biomechanics of cells and tissues, King's College London, (UK), 2011.

21. The forces behind collective cell guidance *presented* at German Society for Cell Biology Annual Meeting, Dresden (Germany), 21/03/2012

22. Cytoskeletal stress in collective cell migration *presented* at German Physical Society Annual Meeting, Berlin (Germany), 27/03/2012

23. Forces, waves, and traffic jams during collective cell migration, *presented at* 5th IBEC Symposium for Nanomedicine, Barcelona (Spain), 2012

24. Forces, waves, and emergent dynamics during collective cell migration. *presented at* Mechanobiology Institute, Singapore, 2012

25. Forces, waves, and emergent dynamics during collective cell migration. *presented at* 18th Congress of the European Society of Biomechanics (ESB2012), Lisboa (Portugal), 1/07/2012

26. Mechanical waves during tissue growth. *presented at* Tissue Growth and Morphogenesis: from mechanics to genes and back, Banff (Canada), 2012.

27. Forces, waves and emergent dynamics during collective cell migration. *presented at* Université Paris 7, (France), 4/10/2012.

28. Forces, waves and emergent dynamics during Tissue Growth. *presented at* Cell and Tissue Biomechanics symposium, (Institute for Science and Technology), Vienna (Austria), 16/11/2012.

29. Integrating forces in cell-cell and cell-matrix adhesion during collective cell migration. *presented at* Gordon Research Conference on Directed cell Migration, Galveston (Texas, USA), 21/01/2013.

30. Integrating forces in cell-cell and cell-matrix adhesion during collective cell migration. *presented at* Institut de Biologie du Development de Marseille Lumini (IBDM), Marseille (France),15/02/2013).

31. Integrating forces in cell-cell and cell-matrix adhesion during collective cell migration. *presented at* Physical biology of cancer – EMBO Workshop, Candiolo (Italy), 09/03/2013.

32. Integrating forces in cell-cell and cell-matrix adhesion during collective cell migration. *presented at* RSC-iCeMS Joint International Symposium: "Cell-Material Integration and Biomaterials Science", Kyoto (Japan), 19/03/2013.

33. Forces, waves, and emergent dynamics during collective cell migration. *presented at* American Physical Society - March Meeting, Baltimore (USA), 21/03/2013.

34. Forces and waves during collective cell migration. *presented at* Mechanical manipulations and responses at the scale of cells and beyond, National Centre for Biological Sciences, Bangalore (India), 20/04/2013.

35. Forces and waves during collective cell migration. *presented at* Macromolecular Biochemistry Research Center (CRBM-CNRS), Montpellier, France, 16/05/2013.

36. Forces and waves during collective cell migration. *presented at* European Light Microscopy Initiative (ELMI) International Meeting, Arcachon, France, 23/05/2013.

37. Forces, waves, and multiscale dynamics in living tissues. *presented at* Nanobioeurope, Toulouse, France, 12/06/2013.

38. Forces and waves during collective cell migration. *presented at* Congreso de la Sociedad Española de Biofísica, Valencia, Spain, 21/06/2013.

39. Forces, waves, and collective tissue dynamics. *presented at* Gordon Research Conference “Soft Matter Physics”, Colby-Sawer College, New Hampshire, USA, 22/11/2013.

40. Forces, waves, and collective tissue dynamics. *presented at* Workshop on Cell Mechanics and Mechanobiology, Cape Town, South Africa, 09/09/2013.

41. Forces, waves, and collective tissue dynamics. *presented at* European Conference on Complex Systems XIII, Barcelona, Spain, 18/09/2013.

42. Forces, waves, and collective tissue dynamics. *presented at* Physics of Cancer, Leipzig, Germany, 26/09/2013.

43. Forces, waves, and collective tissue dynamics. *presented at* 5th European Cell Mechanics Meeting, Obergurgl, Austria, 30/09/2013.

44. Integrating forces at cell-cell and cell-matrix adhesions. *presented at* Congreso de la Sociedad Española de Biología Celular (SEBC), Madrid, Spain 17/11/2013.

45. Forces, waves, and collective tissue dynamics. *presented at* Max Plank Institute for Polymer Research, Mainz, Germany, 21/11/2013.

46. Control of epithelial dynamics by intercellular adhesion complexes. *presented at* KITP Conference "Active Matter: Cytoskeleton, Cells, Tissues and Flocks". Santa Barbara (CA), USA, 10/2/2014.

47. Forces, waves and collective cell dynamics. *presented at* Institute for Medicine and Engineering, University of Pennsylvania, Philadelphia (PA), USA, 17/2/2014.

48. Control of Collective Cell Migration by Intercellular Adhesion Complexes. *presented at* Visualisation and Manipulation of Signals and Forces in Developing Tissues, Santiago de Chile, Chile 12/5/2014

49. Forces, waves and collective cell dynamics. *presented at* 11th Annual International Workshop on Nanomechanical Sensing (NMC 2014), Madrid, Spain, 1/5/2014.

50. Control of Collective Cell Migration by Intercellular Adhesion Complexes. *presented at* 7th World Congress of Biomechanics, Boston (MA), USA, 11/7/2014.

51. Control of Collective Cell Dynamics by Intercellular Adhesion Complexes. *presented at* Institut Jacques Monod, Paris (France), 17/10/2014.

52. Control of Collective Cell Dynamics by Intercellular Adhesion Complexes. *presented at* BIOTEC Forum 2014 Biomechanics across scales – molecules, cells, tissues, Dresden (Germany), 8/12/2014.

53. Control of collective epithelial dynamics by the intercellular adhesome and cell fracking. Institute for Research in Biomedicine (IRB), Barcelona (Spain), 14/01/2015.

54. Control of Collective Cell Migration by the Intercellular Adhesome. Keynote lecture *presented at* Gordon Research Seminar “Directed cell migration”, Galveston, Texas (USA), 22/01/2015.

55. Control of Collective Cell Migration by the Intercellular Adhesome Complexes. *presented at* Gordon Research Conference “Directed cell migration”, Galveston, Texas (USA), 25/01/2015.

56. Integrative cell and tissue dynamics. *presented at* Red Española de Mecanobiología, Barcelona (Spain), 25/01/2015.

57. Control of epithelial dynamics by adhesion, tension and fracking. *presented at* London Center for Nanotechnology, University College London (UK), 25/03/2015.

58. Control of epithelial dynamics by adhesion, tension and fracking. *presented at* Centro Nacional de Biotecnología - CSIC, Madrid (Spain), 24/04/2015.

59. Control of collective cell dynamics by adhesion, tension and fracking. *presented at* Université Paris Sud – Paris (France), 15/06/2015.

60. Control of collective cell migration by the intercellular adhesome. *presented at* Symposium on Collective Cell Migration, Heildelberg (Germany), 15/07/2015.

61. Collective dynamics of cell monolayers. *presented at* UK Network on Emergence and Physics far from Equilibrium, Oxford (UK), 15/09/2015.

62. Physical forces driving collective cell migration and invasion. *presented at* Biocenter, University of Turku, Turku (Finland), 8/10/2015.

63. Control of intercellular forces and cancer cell invasion by the adhesome. *presented at* Invadosome Symposium, Saint Paul de Vence (France), 20/10/2015.

64. Control of intercellular forces and cancer cell invasion by the adhesome. *presented at* Centro Andaluz de Biología del Desarrollo, Sevilla (Spain), 6/11/2015.

65. Control of intercellular forces and cancer cell invasion by the adhesome. *presented at* Centro de Investigaciones Biológicas, Madrid (Spain), 24/11/2015.

66. Control of intercellular forces and cancer cell invasion by the adhesome. *presented at* Commemorative Symposium for the 31st International Prize for Biology, Kyoto (Japan), 6/12/2015.

67. Collective cellular guidance during migration and invasion. *presented at* IFOM Institute, Milano (Italy), 22/01/2016.

68. Commemorative Symposium for the 31st International Prize for Biology, Kyoto (Japan), 6/12/2015.

69. Collective cellular guidance during migration and invasion. *presented at* Centre de Recherche on Cancerologie de Marseille, Marseille (France), 16/02/2016.

70. Collective cellular guidance during migration and invasion. *presented at* ETH, Zurich (Switzerland), 9/03/2016.

71. Collective cellular guidance during migration and invasion. *presented at* Physics of Development and Disease, Aspen (USA), 28/03/2016.

72. Mechanical guidance of collective cell migration and invasion. *presented at* 8th Cytoskeleton Course, Institut Curie, Paris (France) 18/04/2016.

73. Mechanical guidance of collective cell migration and invasion. *presented at* I3TM Lectures, RWTH Aachen (Germany) 22/04/2016.

74. Mechanical guidance of collective cell migration and invasion. *presented at* Institut Pasteur, Paris (France), 02/05/2016.

75. Mechanical guidance of collective cell migration and invasion. *presented at* IRI LS, Humbolt University – Charité, Berlin (Germany), 12/05/2016.

76. Collective durotaxis. *presented at* Gordon Research Conference "Signalling by adhesion receptors" Bates, College, Lewiston, Maine (USA), 24/06/2016.

77. Mechanical guidance of collective cell migration and invasion. *presented at* Massachusetts General Hospital, Charlestown, Massachusetts (USA), 25/06/2016.

78. Controlling emergence in mechanobiology, *presented at* Workshop on Engineering Living Systems, Q-center, Chicago, IL (USA), 03/08/2016.

79. Mechanical guidance of collective cell migration and invasion. *presented at* 7th EMBO Meeting, Mannheim (Germany), 13/09/2016.

80. Physical guidance of collective cell migration and invasion. *presented at* Mechanobiology Institute (Singapore), 26/09/2016.

81. Mechanical guidance of collective cell migration and invasion. *presented at* 11th Meeting of the Spanish Society for Developmental Biology (Girona), 19/10/2016.

82. Mechanical guidance of collective cell migration and invasion. *presented at* Mechanical forces in physiology and disease (Madrid), 4/11/2016.

83. Cancer cell invasion by stromal forces. *presented at* Institut d'Investigacions Biomèdiques August Pi i Sunyer (Barcelona), 14/11/2016.

84. Dynamics of jammed living matter. *presented at* Glasses and Stability (Universitat Autònoma de Barcelona), 15/11/2016.

85. Mechanical guidance of collective cell migration and invasion. *presented at* Biozentrum, Basel (Switzerland), 22/11/2016.

86. Mechanical guidance of collective cell migration and invasion. *presented at* Physics of Biology, Geneva (Switzerland), 24/11/2016.

87. Integrative cell and tissue dynamics. *presented at* 10th Annual Congress of CIBER-BBN (Sevilla), 29/11/2016.

88. Mechanical guidance of collective cell migration and invasion. *presented at* Biology for Physics (Barcelona), 18/1/2017.

89. Mechanical guidance of collective cancer cell invasion. *presented at* Gordon Research Conference "Physical Science of Cancer", Galveston (US), 5/2/2017.

90. Mechanical guidance of collective cell migration and invasion. *presented at* American Physical Society March Meeting 2017 (New Orleans, USA), 13/3/2017

91. Mechanical guidance of collective cell migration and invasion. *presented at* Workshop on Cell and tissue motility, CECAM-HQ-EPFL (Lausanne, Switzerland), 04/05/2017

92. Mechanical guidance of collective cell migration and invasion. *presented at* "III Simposio La Fisica del Cáncer" (Valencia, Spain) 16/05/2017

93. Mechanical guidance of collective cell migration and invasion. *presented at* EMBO Conference: Cell polarity and membrane dynamics (Sant Feliu de Guíxols, Spain) 05/06/2017

94. Physical forces driving migration, division and folding of epithelial sheets. *presented at* 7th European Cell Mechanics Meeting (Windermere, UK), 22/06/2017

95. Physical forces driving migration, division and folding of epithelial sheets. *presented at* FEBS Worshop – Biological Surfaces and Interfaces – Interface Dynamics (Sant Feliu de Guíxols, Spain), 05/07/2017

96. Physical forces driving migration, folding, wave propagation, and YAP translocation in epithelial sheets. *presented at* EMBL Conference: Mechanical forces in Biology (Heidelberg, Germany), 14/07/2017

97. Physical forces driving migration, division and folding in epithelial sheets. *presented at* Francis Crick Institute (London, UK), 18/09/2017

98. Physical forces driving migration, division and folding in epithelial sheets. *presented at* Life Sciences School, University of Dundee (Dundee, UK), 29/09/2017

99. Physical forces driving collective cell migration and invasion. *presented at* NCRI Annual Meeting, (Liverpool, UK), 06/09/2017

100. Physical forces driving collective cell migration and folding in epithelial sheets. *presented at* Technical University of Munich (Munich, Germany), 20/11/2017

101. Physical forces driving collective cell migration and invasion in epithelial sheets. *presented at* Ludwig-Maximilians Universität (Munich, Germany), 21/11/2017

102. Mechanics of collective cell invasion. *presented at* "Mechanics in cancer biology" French Cancer Society meeting, Institut Curie (Paris, France), 1/12/2017

103. Mechanics of collective cell invasion, division and folding. *presented at* ASCB/EMBO Meeting (Philadephia, USA), 2/12/2017

104. Physical forces driving collective cell migration, division and folding in epithelial sheets. *presented at* Centro de Biología Molecular Severo Ochoa (Madrid, Spain), 9/2/2018

105. Physical forces driving collective cell migration, division and folding in epithelial sheets. *presented at* University of California – San Diego (San Diego, USA), 14/2/2018

106. Physical forces driving collective cell migration, division and folding in epithelial sheets. *presented at* Stanford University (Stanford, USA), 15/2/2018

107. Physical forces driving collective cell migration, division and folding in epithelial sheets. *presented at* Biophysical Society Meeting (San Francisco, USA), 17/2/2018

108. Collective cancer cell invasion by fibroblast forces. *presented at* Barcelona BioMed Conference - Mechanisms of Metastasis (Barcelona, Spain), 14/3/2018

109. Physical forces driving collective cell migration, division and folding in epithelial sheets. *presented at* German Physical Society Spring Meeting (Berlin, Germany, 16/3/2018

110. Mechanobiology of epithelial growt and folding. *presented at* Collège de France (Paris, France, 10/4/2018)

111. Mechanobiology of epithelial growth and folding. *presented at* University of Pennsylvania (Philadelphia, USA, 23/4/2018).

112. Mechanobiology of epithelial growth and folding. *presented at* Princeton University (Philadelphia, USA, 25/4/2018).

113. Mechanobiology of epithelial growth and folding. *presented at* Massachusetts Institute of Technology (Cambridge, MA, USA, 2/5/2018).

114. Mechanobiology of epithelial growth and folding. *presented at* National Institutes of Health (Bethesda, MD, USA, 3/5/2018).

115. Mechanobiology of epithelial growth and folding. *presented at* French Exo-Endo Club (San Feliu de Guíxols, Spain 18/5/2018).

116. Mechanobiology of epithelial growth and folding. *presented at* French Cell Adhesion Club (Strasbourg, France, 23/5/2018).

117. Mechanical control of cancer cell invasion and polyploidy. *presented at* Beatson International Cancer Conference (Glasgow, UK, 4/7/2018).

118. Mechanical control of cancer cell invasion and migration. *presented at* World Congress of Biomechanics (Dublin, Ireland, 10/7/2018).

119. Plenary lecture: Forces driving migration, division and folding in epithelial sheets. *presented at* World Congress of Biomechanics (Dublin, Ireland, 10/7/2018).

120. Active superelasticity in epithelial sheets. *presented at* Self-Organization in Active Matter (Erice, Italy, 2/10/2018).

121. Keynote lecture: Mechanics of cells as mechanisms of disease and targets of therapy. *presented at* European Club for Liver Biology (Bonn, Germany, 4/10/2018).

122. Mechanobiology of epithelial growth and folding. *presented at* Institut Pasteur (Paris, France, 14/1/2019).

123. Mechanobiology of epithelial growth and folding. *presented at* Institut Curie (Paris, France, 15/1/2019).

124. Mechanobiology of epithelial growth and folding. *presented at* Queen Mary University (London, UK, 13/2/2019).

125. Active elasticity in three-dimensional epithelia of controlled shape. *presented at* March Meeting of the American Physical Society (Boston, USA).

126. Mechanobiology of epithelial growth and folding. *presented at* Max Plank Institute for Biochemistry. (Munich, Germany, 26/3/2019).

127. Mechanobiology of epithelial growth and folding. *presented at* Max Plank British Society for Cell Biology / British Society for Developmental Biology Annual Meeting. (Warwick University, UK, 9/4/2019).

128. Mechanobiology of epithelial growth and folding. *presented at* Zoo Meeting. (Rotterdam, The Netherlands, 15/5/2019).

129. Mechanobiology of epithelial growth and folding. *presented at* Gordon Conference Cell Contact and Adhesion (Les Diablerets, Switzerland, 5/6/2019).

130. Mechanobiology of epithelial growth and folding. *presented at* Kavli Institute for Theoretical Physics (Santa Barbara, CA, 2/8/2019).

131. Mechanobiology of epithelial growth and folding. *presented at* Physics of Cancer (Leipzig, Germany, 27/9/2019).

132. The forces that shape epithelia: from organoids to tumors. *presented at* Northeastern University (Boston, MA, 2/12/2019)

133. The forces that shape epithelia: from organoids to tumors. *presented at* Yale University (New Haven, CT, 3/12/2019)

134. The forces that shape epithelia: from organoids to tumors. *presented at* Rockefeller University (New York City, NY, 3/12/2019)

135. The forces that shape epithelia: from organoids to tumors. Foster Talk *presented at* Cambridge University, (Cambridge, UK, 16/1/2020)

136. The forces that shape epithelia: from organoids to tumors. *presented at* Institute for Science and Technology Austria (Vienna, Austria 21/2/2020)

137. Mechanics of the intestinal crypt. *presented at* EMBL-IBEC Winter Conference – Engineering Multicellular Systems (Barcelona, Spain 10/2/2020)

138. Mechanobiology of epithelial folding and migration in intestinal organoids. presented at The graduate school Mechanobiology in Epithelial 3D Tissue Constructs (ME3T), (online, 3/9/2020).

139. Mechanobiology of epithelial folding and migration in intestinal organoids. *presented at* Cell Migration Seminars (online, 15/9/2020).

140. Mechanobiology of intestinal organoids. *presented at* Stem Cells @ Lunch webinar, Kings College (online, 22/9/2020).

141. Mechanobiology of intestinal organoids. *presented at* DCEXS-UPF Biomedical Research Symposium (online, 20/10/2020)

142. Mechanical regulation of cell division and polyploidy in the zebrafish epicardium. *presented at* XIV Jornadas Anuales CIBER-BBN (online, 16/11/2020).

143. Visualizing cellular forces in intestinal organoids. *presented at* Spanish & Portuguese Advanced Optical Microscopy Meeting 2020 (online, 24/11/2020)

144. Engineering the shape and mechanics of epithelia. Plenary talk *presented at* World Congress of Biomaterials (online, 15/12/2020).

145. Mechanical multitasking: the forces that enable epithelia to fold, migrate, divide and die. *presented at* Biophysical Society Annual Meeting (online, 22/02/2021).

146. Mechanobiology of intestinal organoids. *presented at* Cornell University, Dept of Biomedical Engineering (online, 16/04/2021).

147. Mechanobiology of epithelial folding and migration in intestinal organoids. *presented at* Materials Research Society Spring Meeting (online, 18/04/2021).

148. Mechanobiology of intestinal organoids. *presented at* Frontiers of Science seminar, University of Turku, Finland (online, 18/04/2021).

149. Mechanobiology of intestinal organoids. *presented at* CÚRAM, Galway, Ireland (online, 12/05/2021).

150. Mechanobiology of intestinal organoids. *presented at* Mechanobiology of tissue development and disease seminar series, University of Edinburgh (online, 20/05/2021).

151. Collective cell migration in intestinal organoids. *presented at* CRICK London Cell Motility Club (online, 27/05/2021).

152. Cancer cell invasion by stromal forces. *presented at* EACR Annual Meeting (online, 11/06/2021).

153. Mechanobiology of intestinal organoids. *presented at* Physics of Cancer (hybrid Leipzig-online, 30/08/2021).

154. Engineering the shape and mechanics of cellular monolayers. *presented at* Extreme Mechanics Letters webinar (online, 15/09/2021).

155. Mechanobiology of intestinal organoids. *presented at* Workshop Imaging Organoids: from the bench to the microscope (online, 27/09/2021).

156. Visualizing cellular forces in intestinal organoids. *presented at* BioBrillouin Meeting – BBM5 (online, 13/10/2021).

157. Mechanobiology of intestinal organoids. *presented at* XIX SEBC Congress (Boadilla del Monte, 26/10/2021).

158. Mechanobiology of intestinal organoids. *presented at* Frontiers in Physics of Life (online, 16/11,2021).

159. Mechanobiology of intestinal organoids. *presented at* American Society for Cell Biology (online, 09/12,2021).

CHAIRED SESSIONS (selection)

1. Mechanobiology and Cell Biomechanics III. 18th Congress of the European Society of Biomechanics (ESB2012), Lisboa (Portugal), 2012

2. Tissue Growth and Morphogenesis: from mechanics to genes and back, Banff (Canada), 2012.

3. European Conference on Complex Systems XIII, Barcelona, Spain, 18/09/2013.

4. Physics of Cancer, Leipzig, Germany, 26/09/2013.

5. 5th European Cell Mechanics Meeting, Obergurgl, Austria, 30/09/2013.

6. 7th World Congress of Biomechanics, Boston, USA, 11/07/2014

7. Gordon Research Conference "Directed cell migration", Galveston, Texas (USA), 25/01/2015

8. Multicellular Systems. 7th EMBO Meeting, Mannheim (Germany), 13/01/2015

9. EMBO Conference: Cell Polarity and Membrane Dynamics, Sant Feliu de Guíxols (Spain), 05/06/2017

10. From Motors to Cancer: Integrating Mechanical Forces across Scales. ASCB/EMBO meeting 2017, Philadelphia (USA), 2/12/2017

11. French Cell Adhesion Club. Strasbourg (France), 24/5/2018

12. Cytoskeleton Motility and Cell Mechanics: Cell adhesion, Motility and Mechanics. San Diego (USA), 9/12/2018

13. Mechanobiology Subgroup, Biophysical Society Annual Meeting, Baltimore (USA), 4/3/2019

14. Workshop on Multi-Cellular Engineered Living Systems, NSF Center for Emergent Behaviors of Integrated Cellular Systems (online), 4/6/2021

CHAIRED CONFERENCES

1. 6th European Cell Mechanics Meeting, Barcelona, 13-15 May, 2015.

2. Future Tools for Biomedical Research. In Vitro, in Silico and in Vivo Disease Modeling. International Center for Scientific Debate (B-debate), Barcelona, 1-2 October, 2015.

3. Cell Physics – Circle Meeting: Saabrucken (Germany), 27-29 March, 2019

4. EMBL-IBEC Winter Conference - Engineering Multicellular Systems. La Pedrera, Barcelona, 10-12 February, 2020.

OUTREACH ACTIVITIES

1. The forces that drive cells. *presented at* KITP Teachers Conference "Active Matter: Cytoskeleton, Cells, Tissues and Flocks". Santa Barbara (CA), USA, 10/2/2014.

2. Les cèl·lules fan força. *presented at* Fira de la Recerca en Directe, Universitat de Barcelona, 10/04/2014.

3. Bioengineering: present and future. *presented at* "Workshop on Geopolitics and Values". Monestir de Poblet, 08/05/2014.

4. Les cèl·lules fan força. *presented at* NOVUM – Festival ciència tecnologia innovació, Barcelona, 25/05/2015.

5. Les cèl·lules fan força. *presented at* High School visits to IBEC, Barcelona, 04-05/2015.

6. The physics of cancer. *presented at* Pint of Science 2015, Cafè de les Delícies, Barcelona, 18/05/2015.

7. Les forces físiques i el càncer. *presented at* Programa Joves i Ciència, Fundació La Pedrera, Món San Benet, 13/06/2015.

8. Les forces físiques i el càncer. *presented at* Setmana de la Ciència, Institut de Bioenginyeria de Catalunya, 18/11/2015.

9. La física del cáncer. *presented at* Fundació Banc Sabadell, Sant Cugat, 24/01/2017.

DOCTORAL THESES DIRECTED

- Dr. Ester Añón. Dynamics of epithelial gap closure using microfabrication and micromechanical approaches. Université París 7 (5/10/2012). Très honorable avec félicitations. Co-direction : Prof Benoit Ladoux.

- Dr. Xavier Serra Picamal. Physical forces and mechanical waves during tissue growth. Universitat de Barcelona (5/4/2013). Excel·lent Cum Laude. Premi Ramon Margalef 2014.

- Dr. Laura Casares García. Epithelial dynamics on soft hydrogels in response to stretch. Universitat de Barcelona (24/10/2014). Excel·lent Cum Laude.

- Dr. Agustí Brugués. Physical forces driving wound healing. Universitat de Barcelona (11/06/2015). Excel·lent Cum Laude.

- Dr. Simon García. New technologies to study collective cell mechanics in chemical and mechanical gradients: application to neural crest chemotaxis. Universitat de Barcelona (29/09/2015), Excel·lent Cum Laude.

- Dr. Pilar Rodríguez. "Mechanics of boundary formation in epithelial monolayers by Eph-ephrin interactions". Universitat de Barcelona (20/01/2017). Excel·lent Cum Laude.

- Dr Marina Uroz. Regulation of cell division and cell cycle progression by cell-cell and cell-matrix forces. Universitat de Barcelona (5/7/2018). Excel·lent Cum Laude.

- Dr. Carlos Pérez González. Active forces driving spreading and retraction of living tissues. Universitat de Barcelona (4/10/2019). Excel·lent Cum Laude.

- Dr. Ernest Latorre. Active superelasticity in three-dimensional epithelia of controlled shape. Universitat Politècnica de Catalunya (19/2/2021). Excel·lent. Cum Laude.

POSTDOCTORAL SUPERVISION

- Elsa Bazellières (CNRS, IBDM Marseille), Romaric Vincent, Vito Conte (Assistant Professor, University of Eindhoven), Anna Labernadie, Léo Valon, Raimon Sunyer (Ramon y Cajal Researcher, University of Barcelona), Dobryna Zalvidea, Andrea Malandrino, Juan Francisco Abenza, Manuel Gómez González, Leone Rossetti, Marija Matejic, Tom Golde, Elena Dalaka, Pau Guillamat

TEACHING

- Teaching assistant. Laboratory of Medical Physics, Facultat de Medicina, Universidad de Barcelona (2001-2004).
- Lecturer. Masters in Biomedicine, Universitat de Barcelona, (2008-2011)
- Invited Lecturer. "Buildmona Graduate School", Leipzig (Germany), 2008
- Invited Lecturer. "The cytoskeleton". Institut Curie, Paris (France), 2012, 2016
- Invited Lecturer. "Active matter physics" summer school, Institut d'Études Scientifiques de Cargèse (France), 12-22 July, 2016
- Invited Lecturer. "Epithelial Mechanobiology", Course: Molecular Biology of the Cell, Institut Pasteur, 14/1/2019
- Invited Lecturer. Santa Barbara Advanced School Of Quantitative Biology, KITP University of California, Santa Barbara, 23/7 – 23/8 2019.
- Co-organizer: Mechanobiology of Cancer Summer School, La Cerdanya (Spain), 17-20/9/2019.
- Associate Professor. Biomechanics, Degree in Biomedical Engineering, University of Barcelona (2012-present)

EDITORIAL BOARDS AND SERVICES

- Member of *Faculty of 1000*, 2014-2020
- Editorial Board Member:
    - *Scientific Data*, 2014-present
    - *Current Biology*, 2020-present
    - *Cells & Development*, 2021-present
- *Current Opinion Cell Biology*, Editor of the "*Cell Dynamics*" issue, 2021.
- Journal Reviewer: Nature, Science, Cell, Nature Materials, Nature Physics, Nature Cell Biology, Nature Protocols, Nature Methods, Nature Communications, Elife, PNAS, Phys Rev Lett, Acta Biomaterialia, European Respiratory Journal, Computer Methods in Applied Mechanics and Engineering, Biological Physics, New Journal of Physics, Medical and Biological Engineering and Computing, Cellular and Molecular Bioengineering, Biophysical Journal, Plos One, Development, Journal of Biomechanics, Integrative Biology, Molecular Cancer, Journal of Cell Science, Journal of Cell Biology.

REVIEWER FOR FUNDING AGENCIES

- European Research Council (ERC, EU), INSERM (France), Agence Nationale de la Recherche (ANR, France), Swiss Science Foundation, Wellcome Trust/ DBT India Alliance, Research Council KU Leuven, (Belgium), Cancer Research (UK), Deutsche Forschungsgemeinschaft (German Research Foundation), Army Research Office (ARO, USA), Max-Planck Institute (Germany), Alfred P. Sloan Foundation (US), Novo Nordisk Foundation (Denmark), German Federal Ministry of Education and Research (BMBF).
- Evaluation Panels: Physique Cancer INSERM (2017); ERC Synergy – Life Sciences (2018); Cell Biology, Developmental Biology and Evolution (CE13) of the French Research Agency (Agence Nationale de la Recherche, 2021);
- Promotional Panels: Institut Curie (France), Cambridge University (UK), Max Planck Institute (Germany), Humboldt Foundation (Germany), Institute for Science and Technology (Austria).

RESEARCH COMMITTEES AND NETWORKS

Name: Quantitative Models of Cellular and Developmental Biology (QuanTissue)
Funding period: 18/05/2011 - 17/05/2016
Funding agency: European Science Foundation (ESF)
Topic: QuanTissue represents a multi-disciplinary project whose main objective is to bring together experts from complementary disciplines with a firm interest in a quantitative understanding of the basic mechanisms that govern morphogenetic processes at subcellular to tissue levels.

Name: Red de excelencia en mecanobiología (MECBIO, BFU2014-52586-REDT)
Funding Period: 2015-2016
Funding Agency Ministerio de Economia y Competitividad
Topic: MECIBO is a Spanish network with the goal of establishing a framework capable of uniting mechanobiology in Spain to connect research dealing not only with different disciplines, but also different diseases and scales. This network establishes meetings, promotes the exchange of researchers, and fosters the connection to international leading scientists, with the aim of promoting mechanobiology in Spain.

Name: Centro de Investigación Biomédica en Red en el área temática de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN).
Funding Period: 2016-
Funding Agency: Instituto de Salud Carlos III
Topic: To perform research of excellence oriented to industry transfer and clinical translation through the development of the scientific areas of bioengineering, biomaterials and nanomedicine.

MASS MEDIA COVERAGE (selection)

- La física guía las células. *El Periódico* (01/07/2013).
- Personajes únicos: El físico que innova en biología. *El Mundo* (03/06/2014).
- Xavier Trepat, premiado por aplicar la física a las ciencias de la vida. *La Vanguardia* (20/05/2015).
- Científicos de Champions: Xavier Trepat. *El Periódico* (07/06/2015).
- Xavier Trepat: “Si eres el más listo de la clase, te has equivocado de clase”. *La Vanguardia* (06/07/2015).
- “La física nos podrá enseñar a detener la progresión del cáncer”. *El País* (medicina) (26/09/2015).
- Lab24 - Entrevista: Xavier Trepat, ganador del X Premio Banco Sabadell a la Investigación Biomédica. *RTVE - 24 horas* (22/11/2015).
- "El càncer és el repte intel·lectual més gran que pot tenir un investigador". Entrevista amb Antoni Bassas. *Ara* (07/04/2016).
- Descubren una vía para frenar la metástasis controlando el movimiento celular. *ABC* (09/09/2016).
- Xavier Trepat en la tertúlia de Els Matins de TV3, “Límits als avenços mèdics”. *TV3* (14/10/2016)
- Descubren cómo los tumores asaltan células sanas para formar metástasis. *La Vanguardia* (20/02/2017).
- Las células tumorales utilizan a las sanas para escapar de los tumores e iniciar metástasis. *ABC* (20/2/2017).
- Descubren un mecanismo por el que se forman las metástasis en cáncer. *El Mundo* (20/2/2017).
- L'investigador Xavier Trepat ens ha explicat com s'escampen algunes metàstasis, a la tertúlia. *TV3* (21/02/2017).
- La música de la ciencia. *La Vanguardia* (10/6/2018)

- Expertos mundiales se citan en Barcelona para hablar de futuro de biomedicina *La Vanguardia* (02/02/2020).

- La recerca d'excel·lència europea reconeix Catalunya. Ara (01/04/2020)

- Un dispositivo recreará el ambiente en que se desarrollan los tumores. *La Vanguardia* (01/09/2020).

- Desarrollan sensores fluorescentes para estudiar cómo los tumores generan metástasis. *La Vanguardia* (09/11/2020)

- Descubren cómo se pliega y mueve la pared del intestino midiendo sus fuerzas. *La Vanguardia* (21/06/2021)

- Miniórganos de laboratorio explican cómo funciona el intestino. *ABC* (30/06/2021).

AWARDS AND OTHER ACHIEVEMENTS

- "Premi Extraordinari de Doctorat" awarded by the "Facultat de Medicina, Universitat de Barcelona" (2004), for the PhD thesis "Mechanics of Human Alveolar Epithelial Cells Studied by Nanomanipulation of Magnetic Microbeads".

- Postdoctoral fellowship awarded by the Spanish Ministry of Education and Science, 2004-2006.

- Accreditation as "Professor Lector" issued by the "Agència per la Qualitat del Sistema Universitari de Catalunya (AQU)", 2005.

- First researcher in Spain to be awarded three ERC grants: ERC-Starting, ERC-Consolidator, ERC-Proof-of-concept

- Visiting Researcher, Department of Environmental Health, Harvard University (2008 – present)

- Premi Banc de Sabadell a la Recerca Biomèdica, 2015.

- Keynote lecturer at the Gordon Research Conference "Physical Science of Cancer", Galveston (US), 5/2/2017.

- EMBO member (2018)

- Plenary Lecturer: Forces driving migration, division and folding in epithelial sheets. *presented at* World Congress of Biomechanics (Dublin, Ireland, 10/7/2018).

- Premio Constantes y Vitales a un Joven Talento en Investigación Biomédica (2021).

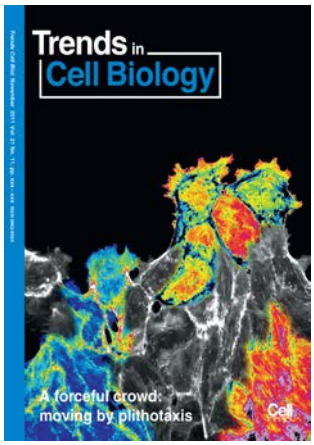
- Member of the editorial board of the supplement "Salud y Medicina" (El Periodo).

- Member of the editorial board of the supplement "Medicina" (El País).

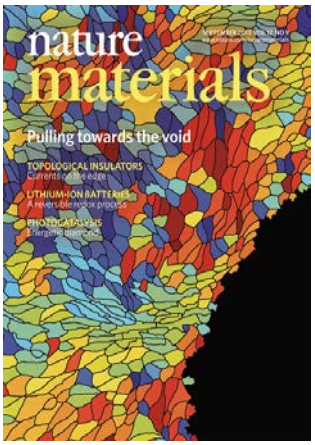
- Creu de Sant Jordi of the Generalitat de Catalunya as musician of the Jazz Band "La Locomotora Negra" (2002).

JOURNAL COVERS

Trepat *et al*
Nature Physics
June 2009

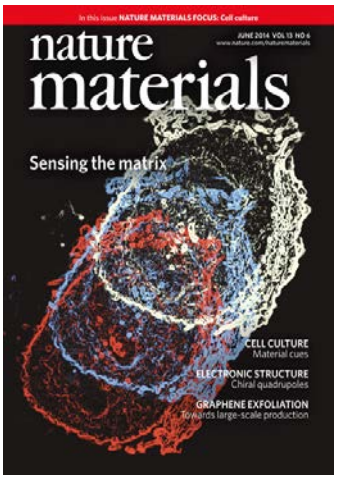


Trepat and Fredberg
Trends in Cell Biology
November 2011

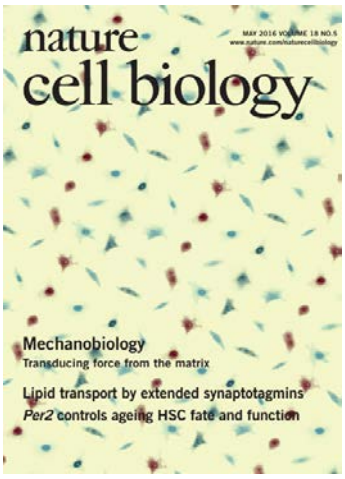


Kim *et al*
Nature Materials
September 2013

Sunyer et al
Current Opinion in Cell Biology
October 2013

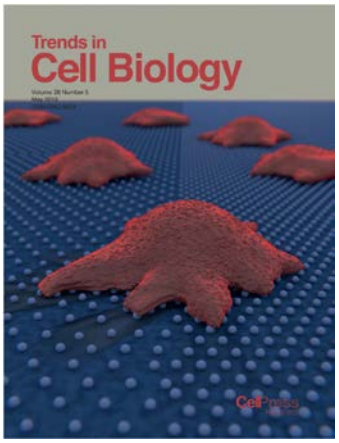


Elosegui-Artola et al
Nature Materials
June 2014



Elosegui-Artola et al
Nature Cell Biology
May 2015

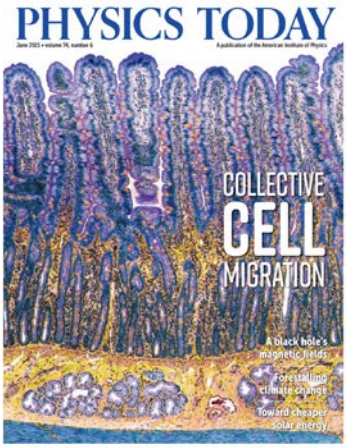
Labernadie et al
Nature Cell Biology
March 2017



Elosegui-Artola et al
Trends in Cell biology
May 2018

Good and Trepat
Nature
November 2018

Gomez-González et al
Nature Reviews Physics
June 2020



Alert and Trepat
Physics Today
June 2021

Pérez-González et al
Nature Cell Biology
July 2021