

CURRICULUM VITAE GIOVANNI CAPPELLO

Birth date: 15/05/1972 **Birthplace:** Bologna (Italy) **Citizenship:** EU

Work Address: Laboratoire Interdisciplinaire de Physique
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PRESENT POSITION:

Since 2013 CNRS Director at the Laboratoire Interdisciplinaire de Physique (Université Grenoble)
"Physics and Cancer: growth of tumors under mechanical stress"

FORMER POSITIONS:

2002-2013 CNRS Researcher at the Physico-Chimie-Curie Laboratory at the Institut Curie.
"Single molecule approach to the molecular motors and DNA-Protein interaction"

2000-2001 Post-Doc Position at the Physico-Chimie-Curie Laboratory at the Institut Curie.
"Single step resolution in molecular motor motion".

1999 Technical position at the Micromanipulation Laboratory of the ESRF.

1998 Guest researcher at the National Institute for Standard and Technology (MD USA).

EDUCATION:

2009 Habilitation à Diriger des Recherches

1999 PhD in Physics, Université J. Fourier, Grenoble:
"Stabilization and Morphology of the five-fold surface of the Quasicrystal Al₇₀Pd₂₀Mn₁₀".

1996 Laurea in Physics (summa cum laude), Università di Bologna: *"Morphology of the surface of Quasicrystals"*.

RESPONSABILITIES:

2015-2018 Member of the «Conseil de Laboratoire» at the UMR5588

Since 2013 Referee for ANR and ERC grants

2005-2013 Member of the «Conseil de Laboratoire» at the UMR168

2007-2009 Member « Comité de pilotage ANR Blanc et JC » 2007-2009

Since 2007 Expert for ANR programs and for several international agencies

GRANTS AND MANAGEMENT:

Coordinator of 3 ANR projects : *SupraWaves* (2020-2025), *Invaders* (2013-2016), *DynRec* (2010-2013)

Coordinator of the INSERM project *MecaSphere* (2014-2018)

Partner in 2 European projects: *Biomach* (WP coordinator, 2004-2007), *Biomic* (2005-2008)

Partner in 3 national projects: ANR *DynTwist* (2008-2011), ANR *NanoGPSCellulaire* (2005-2008), INCA *PLBIO* (2011-2014)

Coordinator or partner in several CNRS projects (*MITI*, *Emergence*, *MechanoBio*, *Risque*, *DRAB*, ...)

SUPERVISION:

Supervision of 9 PhD Thesis, 10 Post-Doc and more than 30 Master students; Co-supervision of 11 PhD thesis .

HONORS AND AWARDS

Prime d'Excellence Scientifique (2011-2015); Prime d'encadrement doctoral et de recherche (1017-2024)

TEACHING

<u>2005 and 2007</u>	Techniques de molécule unique pour la Biologie – Cours pour l'atelier INSERM « Biochimie et biophysique des protéines » Université Paris Sud
<u>2006-2013</u>	Moteurs moléculaires - Cours magistral dans le cadre du Master « Micro et nanotechnologie », Université Paris Sud
<u>2004-2008</u>	Techniques de microscopie optique - Cours magistral dans le cadre du Master « Optique pour la Médecine et la Biologie »- Université Pierre et Marie Curie, Paris
<u>2010-2013</u>	Tutorat de Physique Statistique – ESPCI, Paris
<u>2012-2013</u>	Travaux Dirigés associés au cours de mécanique et thermodynamique, Formation interdisciplinaire, Université Paris Descartes.
<u>2019-2021</u>	Cours et Travaux dirigés « Physique » pour biologistes – M1 Nanosciences, Université Grenoble Alpes.
<u>2022-2025</u>	Cours et Travaux dirigés « Mécanique et thermodynamique pour la biologie » – L1 Biotechnologies, Université Grenoble Alpes.

REPRESENTING PUBLICATIONS

Light-driven biological actuators to probe the rheology of 3D microtissues; A Méry, A Ruppel, J Revilloud, M Balland, G Cappello, T Boudou ; *Nature Communications* 14 (1), 717 (2023)

Extracellular Matrix acts as pressure detector in biological tissues; M. Dolega, B. Brunel, M. Le Goff, M. Greda, C. Verdier, J.-F. Joanny, P. Recho, **G. Cappello***; *eLife* 2021;10:e63258 DOI: 10.7554/eLife.63258 (2021)

Confinement-induced transition between wave-like collective cell migration modes; V. Petrolli, M. Le Goff, M. Tadrous, K. Martens, C. Allier, O. Mandula, L. Hervé, Si. Henkes, R. Sknepnek, T. Boudou, G. **Cappello***, M. Balland*; *Phys Rev Lett* 122 (2019) 168101

Cell-like pressure sensors reveal increase of mechanical stress towards the core of multicellular-spheroids under compression; M. Dolega, M. Delarue, F. Ingremeau, J. Prost, A. Delon, **G. Cappello***; *Nature Communications* 8 (2017) 1405

Compressive stress inhibits proliferation in tumor spheroids through a volume limitation; M. Delarue*, F. Montel, D. Vignjevic, J. Prost, J.-F. Joanny and **G. Cappello***; *Biophysical Journal* 107 (2014) 1821–1828

Membrane shape at the edge of Dynamin helix sets location and duration of fission; S. Morlot, V. Galli, M. Klein, N. Chiaruttini, J. Manzi, F. Humbert, L. Dinis, M. Lenz, **G. Cappello** and A. Roux*; *Cell* 151 (2012) 619–629

Stress clamp experiments on multicellular tumor spheroids; F. Montel, M. Delarue, J. Elgeti, L. Malaquin, M. Basan, T. Risler, B. Cabane, D. Vignjevic, J. Prost, **G. Cappello*** and J.-F. Joanny; *Phys. Rev. Lett.* 107 (2011), 188102

Direct observation of twisting steps during Rad51 polymerization on DNA; H. Arata, A. Dupont A., J. Miné-Hattab, L. Disseau, A. Renodon-Cornière, M. Takahashi, J.-L. Viovy and **G. Cappello***; *Proc Natl Acad Sci USA* 106 (2009) 19239-19244

Tracking Individual Kinesin Motors in Living Cells Using Single Quantum-Dot Imaging; S. Courty, C. Luccardini, Y. Bellaiche, M. Dahan* and **G. Cappello***; *Nanoletters* 6 (2006) 1491-1495

A minimal system allowing tubulation using molecular motors pulling on giant liposomes; A. Roux, **G. Cappello**, J. Cartaud, J. Prost, B. Goud and P. Bassereau*; *Proc. Natl. Acad. Sci. USA* 99 (2002) 5394-5399