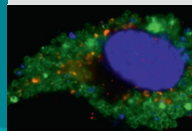


At the front page of IRIG

A bacterial toxin guided by a human protein

The Achilles heel of the *Pseudomonas aeruginosa* ExoU toxin has just been identified: it is the DNAJC5 protein of the host cell that allows the toxin to exert its necrotic activity.

[READ MORE](#)



Philippe Huber
Biosanté and IBS

Nature Communications,
2021

Where does the shape of the Romanesco cauliflower come from?

The Romanesco cauliflower has one of the most singular plant forms and its formation remained a mystery that has just been solved, combining mathematical modeling and plant biology.

[READ MORE](#)



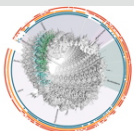
François Parcy
LPCV

Science, 2021

The Achilles heel of pathogenic bacteria: the mechanism of their wall formation

Study of interaction surfaces between the different components of MreC polymers, a protein essential to the elongation of the bacterial wall, could help address the phenomena of antibiotic resistance.

[READ MORE](#)



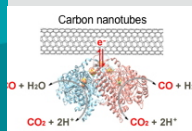
Andréa Dessen
IBS

Nature Communications,
2021

A novel enzymatic process for CO₂ reduction

This enzymatic process reaches similar performances to the electrochemical processes of CO₂ reduction while bringing the advantages of operating in a reversible way, under soft conditions and with very low electrical surges.

[READ MORE](#)



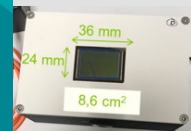
Christine Cavazza
CBM

ACS Catalysis, 2021

Optics accelerates the use of phages as an alternative to antibiotics

Lens-free imaging has enabled accelerated identification of phages active on antibiotic-resistant bacteria, and reduced the number of false negatives, thus opening up phage therapy in the hospital setting.

[READ MORE](#)



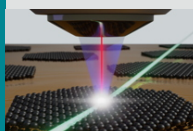
E. Picard and E. Hadji
Pheliqs

PLOS One, 2021

Real-time monitoring of graphene growth on liquid copper

Complementary *in situ* methods of synchrotron X-ray diffraction, Raman spectroscopy, and optical microscopy allowed to monitor graphene chemical vapour deposition on liquid copper, enabling the control of graphene growth at multiscale.

[READ MORE](#)



Gilles Renaud
MEM

ACS Nano, 2021

Heavy-ion irradiation effects on last generation MRAMs

Effects of heavy ion irradiation on high-density MRAM magnetic tunnel junction devices, and study of single-event disturbance tolerance and magnetic property modification.

[READ MORE](#)



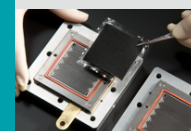
Gregory Di Pendina
Spintec

IEEE Transactions on Nuclear Science, 2021

Neutrons for a fantastic journey into the heart of batteries

Neutron scattering is developing into a powerful tool in the engineering of batteries, fuel cells and electrolyzers.

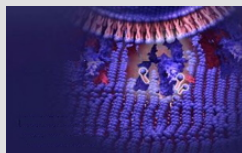
[READ MORE](#)



Sandrine Lyonnard
Symmes

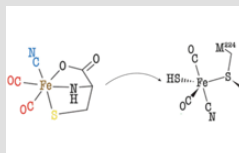
Journal of Physics: Condensed Matter, 2021

Other scientific news of the IRIG laboratories



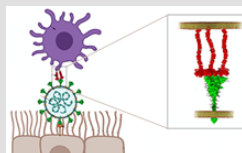
SARS-CoV-2 spike protein interactions with model lipid bilayer membranes

[READ MORE](#)



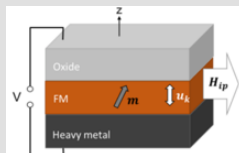
Radical-based chemistry for the assembly of the [FeFe]-hydrogenase active site

[READ MORE](#)



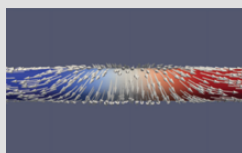
SARS-CoV-2: A new mode of transmission

[READ MORE](#)



Route towards efficient magnetization reversal driven by voltage control of magnetic anisotropy

[READ MORE](#)



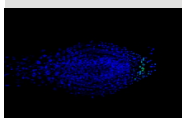
Time-resolved magnetic imaging of Dzyaloshinskii-Moriya field effects in cylindrical nanowires

[READ MORE](#)



Press releases - Prizes

Live single cell transcriptional dynamics



[READ MORE](#)

Where does the shape of the Romanesco cauliflower come from?



[READ MORE](#)



**Biology and
Biotechnology for
Health**

UMR_S 1292
CEA/Inserm/UGA
Biosante-lab.fr/en

**Chemistry and
Biology of Metals**

UMR 5249
CEA/CNRS/UGA
www.CBM-lab.fr/en

**Institut de
Biologie Structurale**

UMR 5075
CEA/CNRS/UGA
[www.ibs.fr/spip.php?
lang=en](http://www.ibs.fr/spip.php?lang=en)

**Modeling and
Exploration of
Materials**

UMR CEA/UGA
www.MEM-lab.fr/en

**Quantum Photonics,
Electronics and
Engineering**

UMR CEA/UGA
www.Pheliqs.fr/en

**Cell & Plant
Physiology**

UMR 1417
CEA/CNRS/UGA/Inrae
www.LPCV.fr/en

**Low Temperature
Systems Department**

UMR
CEA/UGA
www.d-SBT.fr/en

**Spintronics and
Component Technology**

UMR 8191
CEA/CNRS/UGA/G-INP
www.Spintec.fr

**Molecular
Systems and
nanoMaterials for
Energy and Health**

UMR 5819
CEA/CNRS/UGA
www.Symmes.fr/en

irig.cea.fr

**Interdisciplinary
Research Institute of
Grenoble**

CEA-Grenoble
17 avenue des Martyrs
38054 Grenoble cedex 9

[www.cea.fr/drf/irig/english/
News/Newsletter](http://www.cea.fr/drf/irig/english/News/Newsletter)

Head:
**Jérôme Garin and
Pascale Bayle-Guillemaud**

Publishing Director
Jérôme Garin
Editor and electronic format
Pascal Martinez

Editorial Board:
**Catherine Cavazza, Andréa Dessen,
Alain Farchi, Emmanuel Hadji, Philippe
Huber, Sandrine Lyonnard, François
Parcy, Gregory Di Pendina, Emmanuel
Picard, Gilles Renaud, Patrick Warin**