

C'Nano 2020

The Nanoscience Meeting

TOULOUSE

Centre des congrès Pierre Baudis

POSTPONED



**SATELLITE
EVENT**

**Workshop
MEMO**

WORKSHOP MEMO

Monday, November 22th & Tuesday, November 23th, 2021

Nanocar Race II – Remote control testing

Remote control connection trial for LT-UHV STM manipulations from CEMES – CNRS Laboratory to the officially registered team's lab.

Location: CEMES – CNRS Laboratory in Toulouse (Saouzelong Subway station)

Tuesday, November 23th, 2021

17:30 – 18:00: Plenary lecture

Francesca MORESCO (TU Dresden - CFAED, Germany), Coordinator of FET OPEN MEMO Project
Presentation entitled "*Mechanics with molecules: motors and gears working under the STM tip*"

18:00 – 19:00: NanoCar Race II official Presentation

Presentation by the 8 teams officially registered to Nanocar Race II (5 to 8 mn each)

Chairperson: Christian JOACHIM (CNRS – CEMES, France)

Location: Pierre Baudis congress center

19:30: MEMO Dinner among nanocar Race II teams

Location: central Toulouse (*location to be determined*)

Wednesday, November 24th & Thursday, November 25th 2021

Conférence on Single molecule mechanics on a surface: gears, motors and cars



WORKSHOP MEMO

Wednesday, November 24th

Conférence on Single molecule mechanics on a surface: gears, motors and cars

9:00 - 9:45 - R. Berndt (Kiel) (Invited)

Molecular spin switches and rotors on surfaces

9:45 - 10:15 - K.H. Au-Yeung (TU Dresden)*

Voltage-pulse manipulation of azulene-based single molecules and dimers: the role of the dipole moment

Coffee break

10:45 - 11:15 - W.H Soe (CEMES Toulouse)

Single molecule-gear Mechanics and train on a surface

11:15 - 12:00 - R. Gutierrez. (TU Dresden)

Atomistic Modelling of Nanoscale Molecular and Solid-State Gears

12:00 - 12:45 - L. Grill (Uni Graz)*

How to move single molecules: From the nanocar race to molecular telegraphy

Lunch at Pierre Baudis center

14:00 - 14:30 - Henri Pierre (Strasbourg)*

Trypticene, sub-phthalocyanine and Ir(III) complexes acting as Molecular Wheels

14:30 - 15:00 - Y. Gisbert (CEMES Toulouse)*

Synthesis of organometallic molecular winch prototype

Break

15:30 - 16:00 - F. Lissel (Dresden)*

DMBI - from molecular rotors to nanocars

16:00- 16:30 - E. Masson (Ohio)* *Visio*

Self-assembling molecular Lego: showcasing the Cucurbituril kit

17:00 - Open to one contribution

20:00 - C'Nano dinner at Pierre Baudis center

** Nanocar Race team*

WORKSHOP MEMO

Thursday, November 25th

Conférence on Single molecule mechanics on a surface: gears, motors and cars

9:00 - 9:45 - H. Fuchs (Munster) (Invited)

From chemical bonds to molecular assemblers

9:45 - 10:30 - G. Simpson (Uni Graz)*

Controlling the rotation and translation of a single molecule?

10:30 - 11:00 - R. Robles (DIPC San Sebastian)*

Assembly, diffusion and rotation of organic molecules on a gold surface

Break

11:30 - 12:00 - T. Wang (DIPC San Sebastian)*

Synthesis, manipulation and theoretical modeling of corannulene-based molecules on surfaces

12:00 - 12:45 - R. Widmer (EMPA) (Invited)

Atomistic Modelling of Nanoscale Molecular and Solid-State Gears

12:00 - 12:45 - L. Grill (Uni Graz)*

Molecular motor at the frontier of classical motion and quantum tunneling

Lunch at Pierre Baudis center

13:45 - 14:15 - M. Van Hove (Hong Kong Baptist Uni.) *Visio*

Mechanisms of molecular machines

14:15 - 14:45 - X. Lin (Liege)

Probing the motion of a molecular rotor by single-molecule force spectroscopy

Coffee break

15:15 - 15:45 - K. Houtsam (Gröningen) (Invited)

Towards 2D molecular templates on coinage metals and graphene for single molecule mechanics

15:45- 16:30 - S. Hla (Ohio)* *Visio*

Quantum Molecular Machines

16:30 - Workshop conclusions

** Nanocar Race team*