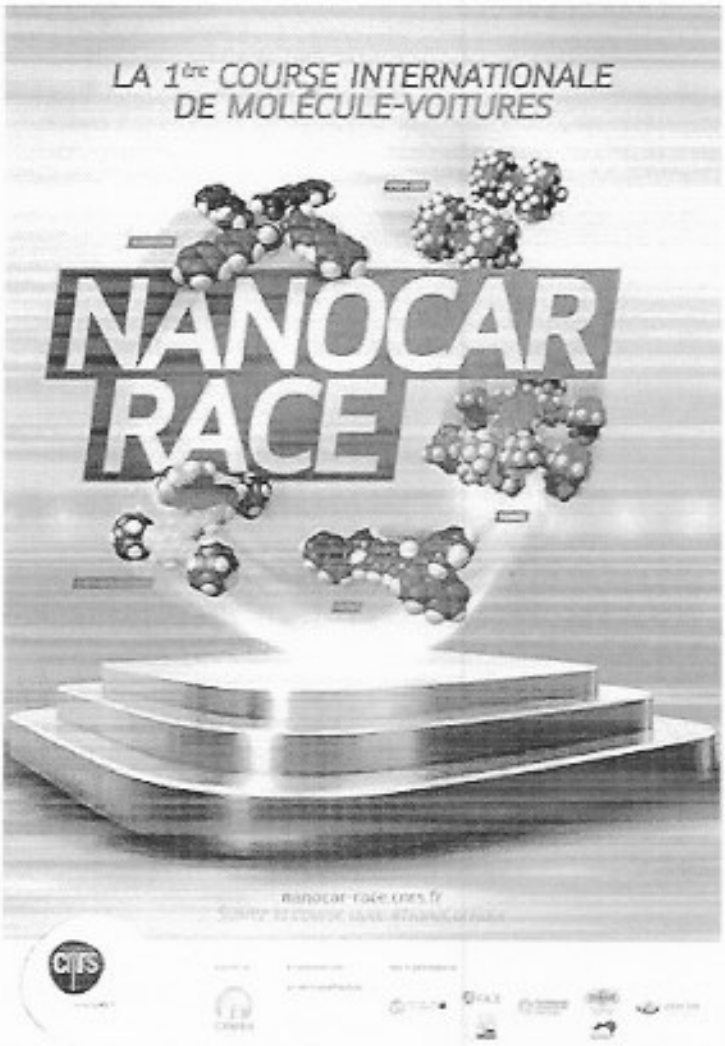
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Posted: Dec 15, 2015

NanoCar Race, the first-ever race of molecule-cars (w/video)

(*Nanowerk News*) The NanoCar Race is a race where molecular machines compete on a nano-sized track. A NanoCar is a single molecule-car that has wheels and a chassis... and is propelled by a small electric shock.

The race will be invisible to the naked eye: a unique microscope based in Toulouse, France, will make it possible to watch the competition.

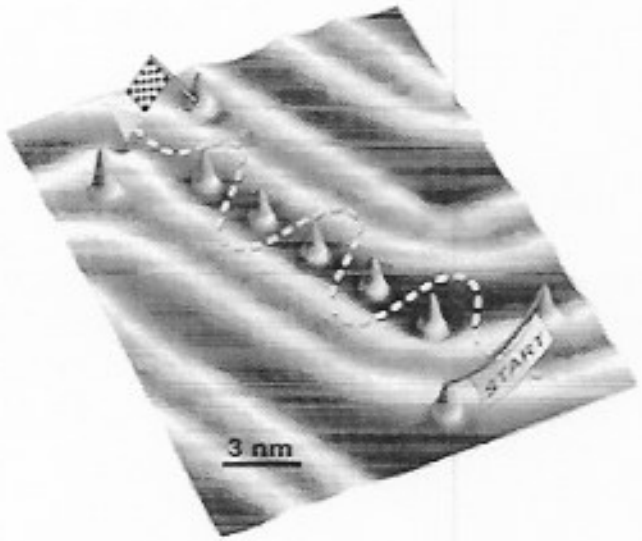


The NanoCar race is mostly a fantastic human and scientific adventure that will be broadcast worldwide. The event will take place in October 2016.

Time trials will determine which nanocar is the fastest, though there may be head-to-head races with up to four cars on the track at once, according to organizers.

A nanocar is a single-molecule vehicle of 100 or so atoms that incorporates a chassis, axles and freely rotating wheels. Each of the entries will be propelled across a custom-built gold surface by an electric current supplied by the tip of a scanning electron microscope. The track will be cold at 5 kelvins (minus 450 degrees Fahrenheit) and in a vacuum.

The regulations for the race can be found here.

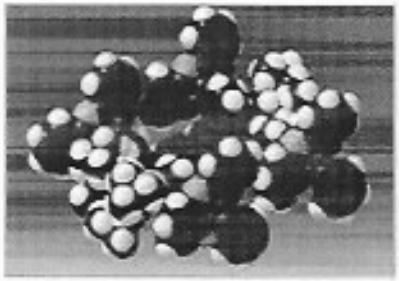


*A preliminary runway constructed by C. Manzano and We Hyo Soe (A*Star, IMRE) in Singapore, with the 2 starting gold ad-atoms, the 5 gold ad-atoms for the track and the 2 gold ad-atoms had been already constructed atom by atom.*

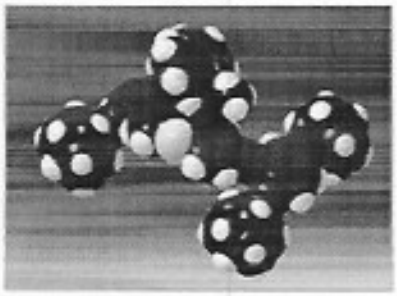
For this first edition, molecule-vehicles are accepted with at least a chemical structure of about one hundred of atoms. It is preferable to propose a molecule-vehicle with 4 wheels, a chassis and a molecular motor but this is not compulsory at this stage. The following molecule-cars have been proposed, accepted and the corresponding team registered by October 2015.

- NanoMobile club CEMES-CNRS (France)
- Nanocar Team Rice (USA) & Graz (Austria) Universities
- Nano-windmill Compagny Dresden Technical University (Germany)
- MANA-NIMS Nano-Vehicle (Japan)

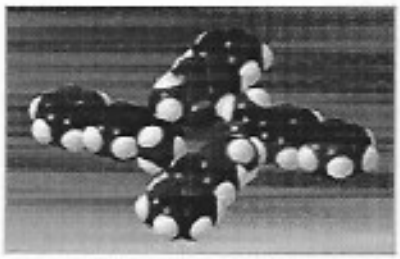
- Ohio Bobcat nanowagon team Ohio University (USA)



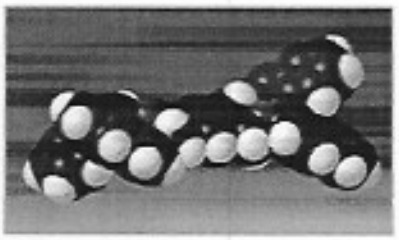
NanoMobile club
CEMES-CNRS (France)



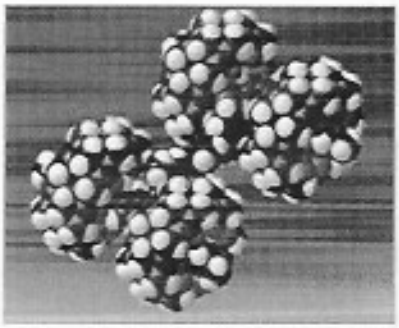
Nanocar Team
Rice (USA) & Graz (Austria) Universities



Nano-windmill Compagny
Dresden Technical University (Germany)



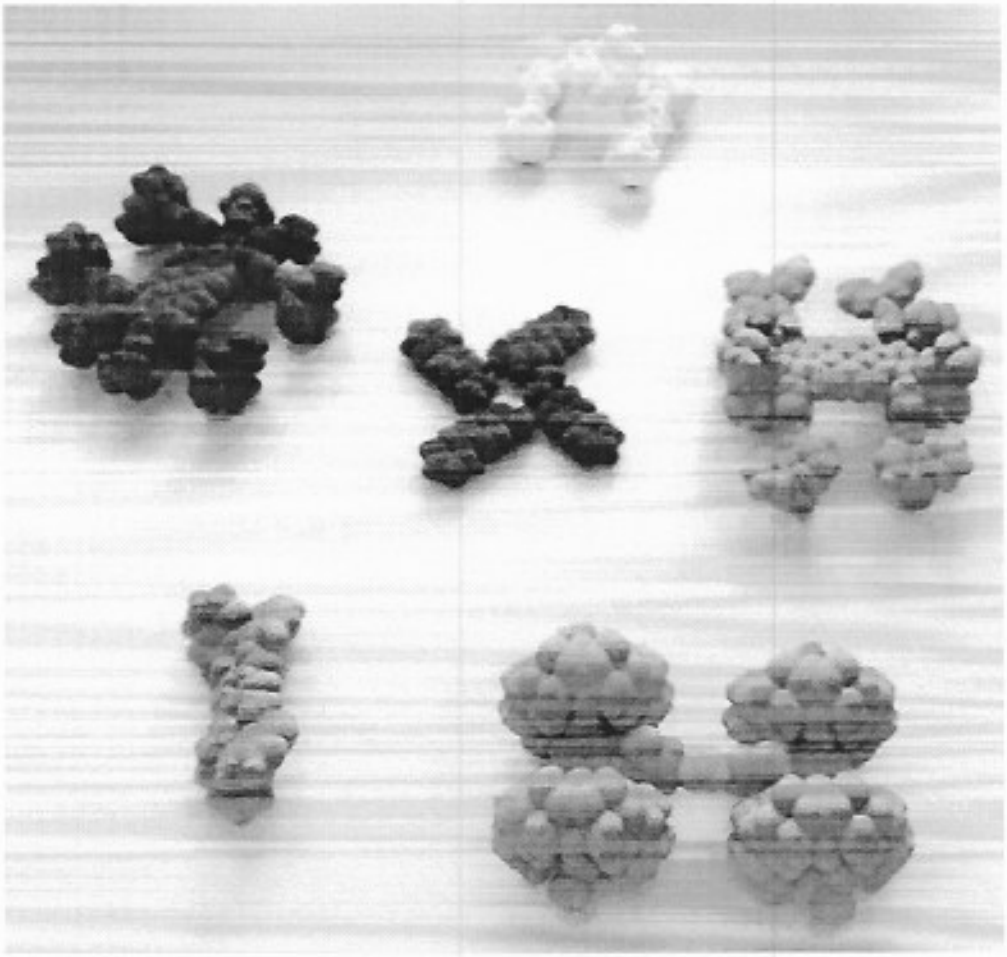
MANA-NIMS
Nano-Vehicle (Japan)



Ohio Bobcat
nanowagon team
Ohio University (USA)

Nanocar designs by the five participating teams.

The registered molecule-vehicles have been 3D printed by the organizers at a macroscopic scale. On the photography presented below, each 3D print is in effect a 100,000,000 enlargement of the real size of each registered molecule vehicle.



Source: *CNRS*

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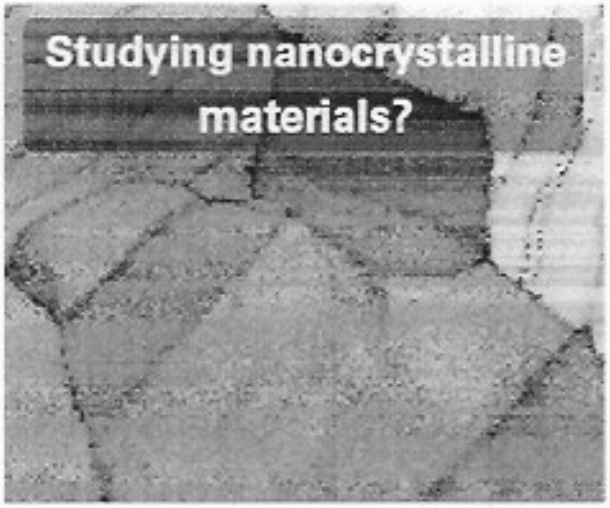
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