



Ecole Doctorale n°422

"Sciences et Technologies de l'Information, des Télécommunications et des Systèmes"

Soutenance d'Habilitation à Diriger des Recherches

« **Auto-assemblage des nanotubes de carbone pour la nano-électronique** »

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Vendredi 3 Février 2012 à 10h,
Salle 33 Bat. 862 Centre d'Intégration Nano-INNOV
Av. de la VAUVE, 91120 Palaiseau

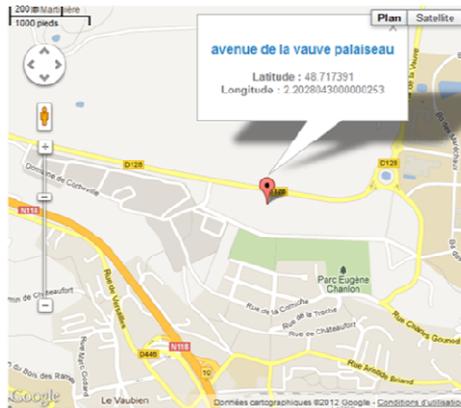
Developing bottom-up nanofabrication technologies to enable the manipulation of well-defined structures at the nanoscale level is an intense field of research. Here, the discussion is not meant to be an exhaustive review of self-assembly techniques, but rather a focused point on some aspects of this concept that I considered and applied to a particular nano-object, a single wall carbon nanotube, for nanoelectronics purposes.

First, I will discuss a chemical self-assembly route and its use for the realisation of nanotube-based electronic devices. Then, a DNA-directed approach will be presented. Indeed, self-assembly based on molecular recognition can provide a versatile technique for the site-controlled implementation of nano-components in predefined positions and configurations. In this context, the properties that make DNA so successful in acting as a genetic material also make it a suitable candidate for constructing new materials on the nanometre scale. Because of its unique recognition properties, its size and the sub-nanometric resolution, DNA is of particular interest for positioning and organizing nanomaterials: DNA can be engineered to both create scaffolds or circuits, and attach to other materials in order to include those materials in the self-assembly process.

To conclude I will present some routes and perspectives for future work.

Annexe : where is Nano-INNOV and Bât. 862?

Localisation Bat. 862
Centre d'Intégration Nanoinnov,
Av. de la VAUVE, 91120 Palaiseau



Coordonnées GPS de marqueur	
Latitude (décimal)	48.71243573396305
Longitude (décimal)	2.195122453381373
Latitude (Sexagésimal)	N 48° 42' 44.759" (+48° 42' 44.769")
Longitude (Sexagésimal)	E 2° 11' 42.4392" (+2° 11' 42.4392")

