Bio-directed carbon nanotubes assembly onto DNA scaffolds

A post-doctoral position is now opened at the LEM (Molecular Electronic Laboratory) of CEA-Saclay (France) initially for one year, renewable for a second year. The objective of the project is to exploit the potentialities of DNA in a nanoelectronic engineering context.

Job description
The miniaturization of devices for electronic and biological applications requires the development of new assembly strategies that allow their precise localization and interconnection at the nanometric scale. Self assembly based on biomolecular recognition provides a promising approach for constructing complex architectures1. Within this context, we develop a bio-directed method to realize nano-circuits. Our approach uses DNA as a scaffold and carbon nanotubes devices2 as the active elements of the circuit. Carbon nanotubes are linked to DNA using biological recognition complex3.

The job will deal with molecular biology for the design of complex DNA scaffolds supporting carbon nanotubes and with nanoelectronics for devices characterization.

Profile of the candidate
We are looking for outstanding experimentalists with experience in multidisciplinary projects. Skills in biology, biochemistry or chemistry are required. Molecular biology aspects will be carried out in the Laboratoire « acides nucléiques : dynamiques, structures et régulations » MNHN-Paris and nanoelectronics studies will be conducted in the LEM-CEA/Saclay.

Application and a complete CV, including a short summary of previous work and the name and email of two potential referees should be sent to:
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or
Christophe Escudé, USM0503 "Régulation et dynamique des génomes" ;UMR5153 MNHN-CNRS, U565 INSERM, Département "Régulations, Développement & Diversité Moléculaire", Muséum National d'Histoire Naturelle 43, rue Cuvier 75231 Paris Cedex 05, Tel: 01 40 79 37 74 ; Email : escude@mnhn.fr

1 N.C. Seeman, A. Belcher, PNA, 99,2, 6451 (2002)