

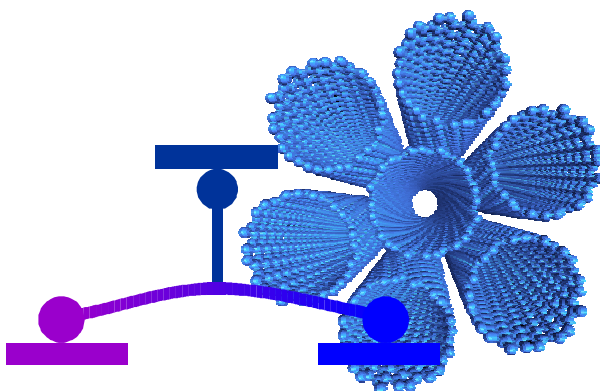


Columbia University in the City of New York

Center for electron transport in molecular nanostructures

Managing Director: James Yardley

Scientific Directors: Ronald Breslow, Horst Stormer



Columbia Nanocenter team.



T. J. Watson Lab.
Phaedon Avouris
Cherie Kagan
Norton Lang
Richard Martel

Lucent Technologies
Bell Labs Innovations

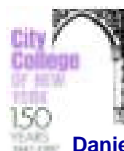


Christian Kloc
Robert Willett



Columbia University

David Adams
Ronald Breslow
Louis Brus
George Flynn
Richard Friesner
Tony Heinz
Irving Herman
Thomas J. Katz
Philip Kim
Ann McDermott
Colin Nuckolls
Stephen O'Brien
Aron Pinczuk
Horst Stormer
Yasutomo Uemura
James Yardley



Daniel Akins
Ramona Brown



Robert Krchnavek



Linda Doerrer

Discipline:

Chemistry.
Physics/Engineering.
Education.



Three major thrust areas



- Molecular nanostructures
- Transport in carbon nanotubes
- Transport in single molecules

Understanding and controlling
-to- interactions



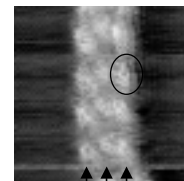
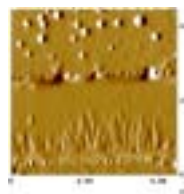
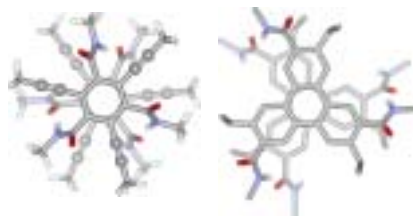
Design and **Synthesis** of π -stacking motifs

- Directional assembly
- Patterns on molecular scale
- Isolated nanostructures

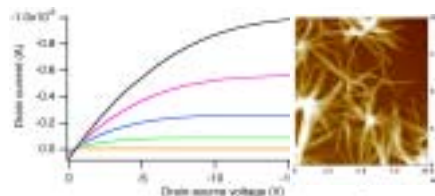


New Materials—Novel Properties

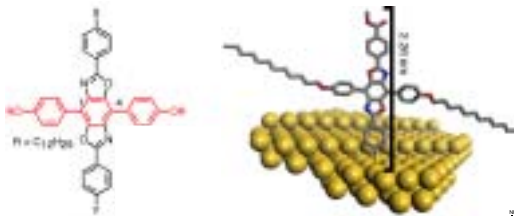
- Electrical: switches and wires
- Interconnections
- Polar: energy conversion



3 molecules wide

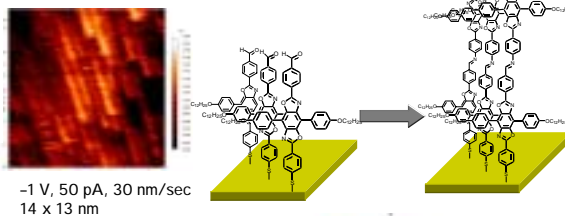


Understanding and controlling
Assembly in SAMs



Design and **Synthesis**

- upright conformation
- variety of functional groups
- self-assembly on monolayers



Nanoelectronics

- scanned probe electronics
- molecular electronics
- single molecule transistors

