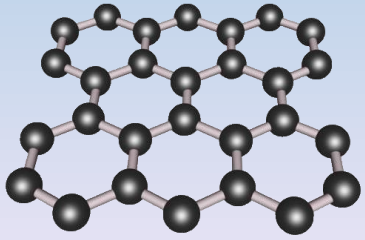
NANOSCIENCE
by Chantal

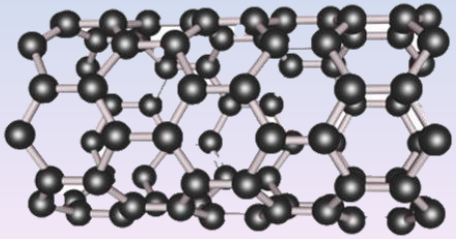
What Is Nanoscience?

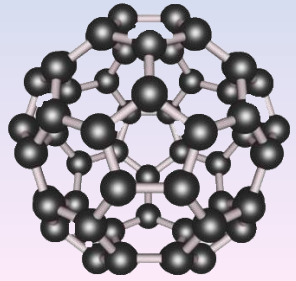
When people talk about Nanoscience, they start by describing **things**

Physicists and Material Scientists point to **things** like new nanocarbon materials:

They effuse about nanocarbon's strength and electrical properties







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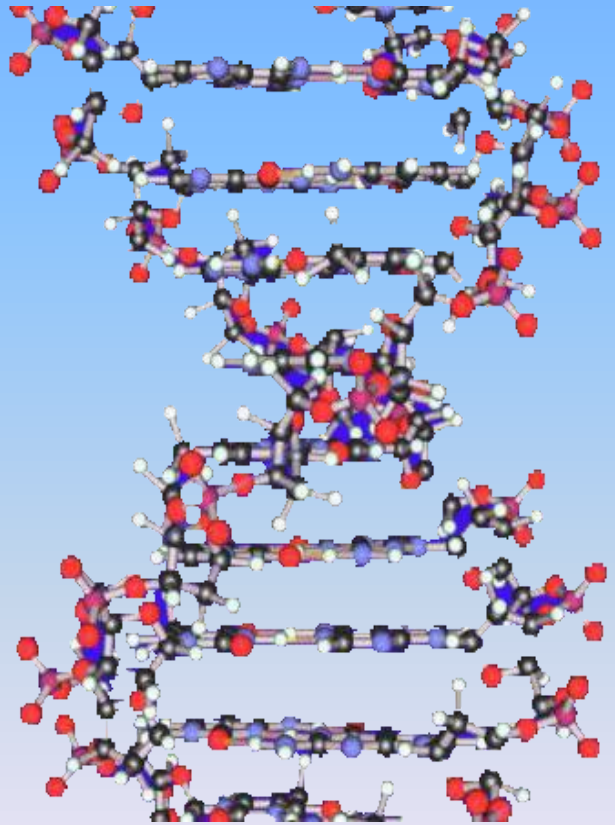
Biologists counter that nanocarbon is a recent discovery

THEY'VE been studying DNA and RNA for much longer



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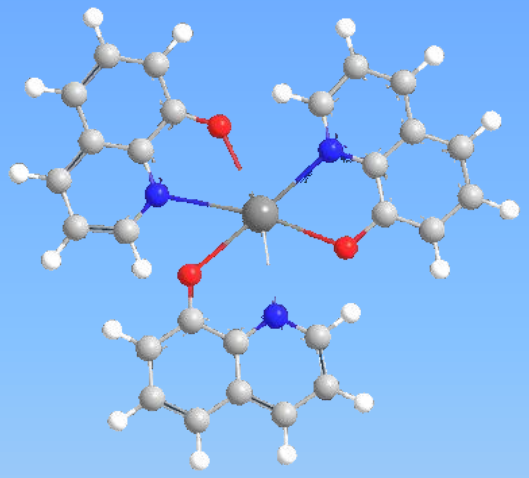
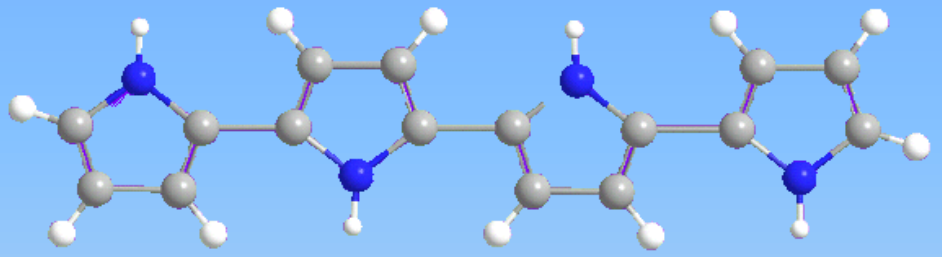
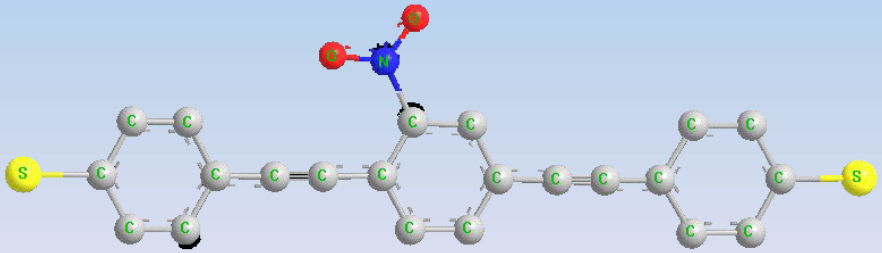
Chemists respond: THEY'VE been synthesizing molecules for over ages!!!



<= First OLED material: tris 8-hydroxyquinoline aluminum



Commercial OLED material: Polypyrrole



Most heavily investigated molecular electronic switch: Nitro oligo phenylene ethynylene

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All of these things ARE very small

Indeed, they are all about the size of a nanometer:

Nano = 10^{-9} = 1/ 1,000,000,000 = 1 / Billion

A nanometer is about the size of ten atoms in a row

This leads to ONE commonly used definition of nanoscience:

Nanoscience is the study of nanometer size things (?)

Why the question mark? Because what is so special about a nanometer?

A micrometer is ALSO awfully small:

Micro = 10^{-6} - 1/1,000,000 = 1 / Million

A micrometer (or "micron") is ~ the size of light's wavelength