





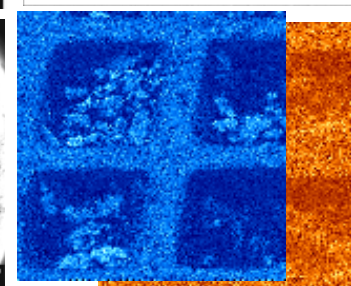
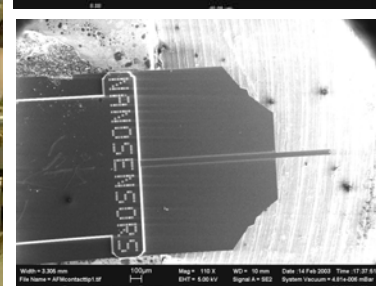
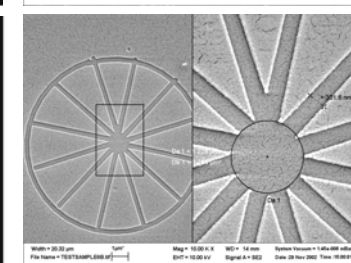
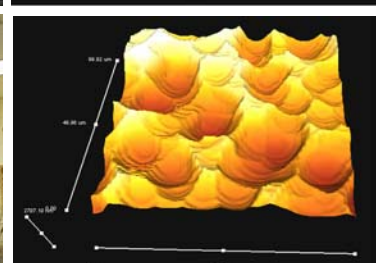
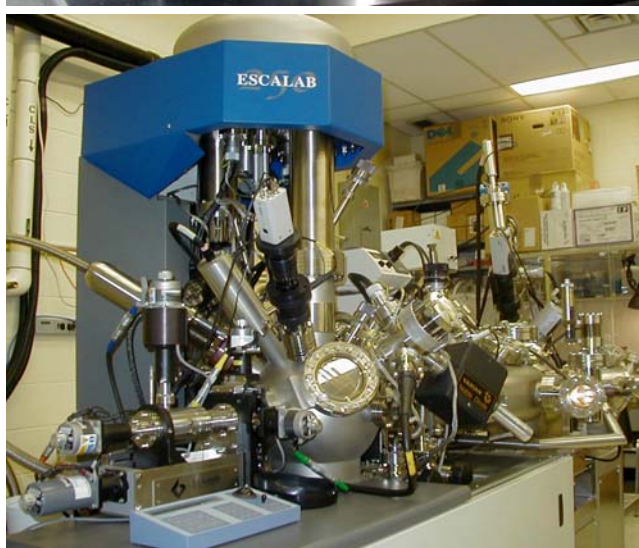
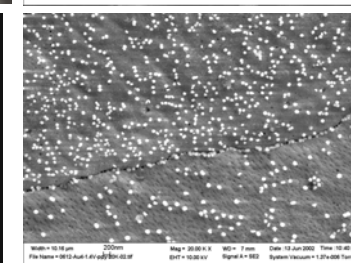
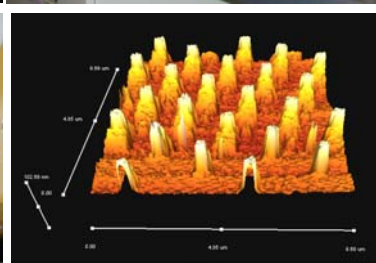
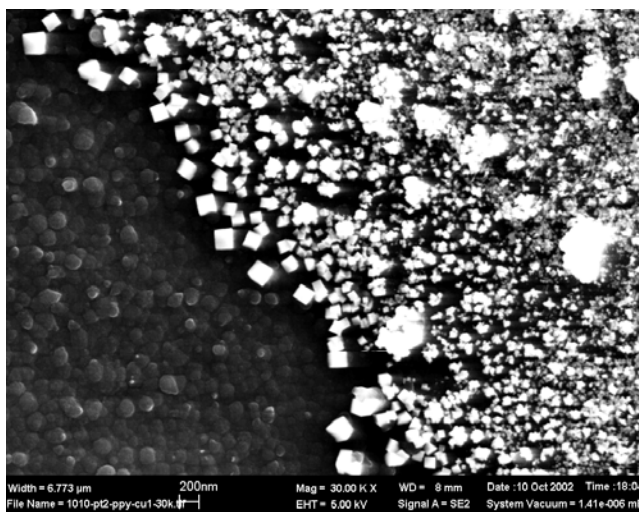
Waterloo Advanced Technology Laboratory

Department of Chemistry, University of Waterloo

www.WATLab.com or www.nanoOntario.com – Located at Chem-2 059-066 (Basement)

Alchemy at the nanoscale

al-chem-y  'a-l-k&-mE | Etymology: Middle English *alkemie*, *alquemie*, from Middle French or Medieval Latin; Middle French *alquemie*, from Medieval Latin *alchymia*, from Arabic *al-kīmiyā'*, from *al* the + *kīmiyā'* alchemy, from Late Greek *chēmeia* | Date: 14th century | **1** : a medieval chemical science and speculative philosophy aiming to achieve the transmutation of the base metals into gold, the discovery of a universal cure for disease, and the discovery of a means of indefinitely prolonging life | **2** : a power or process of transforming something common into something special | **3** : an inexplicable or mysterious transmuting | -**al-chem-i-cal**  /-mi-k&l/ also **al-chem-ic**  /a-l-'ke-mik/ adjective -**al-chem-i-cal-ly**  /-mi-k (&-) lE/ adverb



Alchemy at the nanoscale



Main Entry: **nano me ter** 🗣️
Pronunciation: 'na-n&-''mE-t&r
Function: *noun*
Etymology: International Scientific

Vocabulary

Date: 1963

: **one billionth of a meter**

Main Entry: **tech nol o gy** 🗣️

Pronunciation: tek-'nä-l&-jE

Function: *noun*

Inflected Form(s): *plural -gies*

Etymology: Greek *technologia* systematic treatment of an art, from *technE* art, skill + *-o-* + *-logia* -logy

Date: 1859

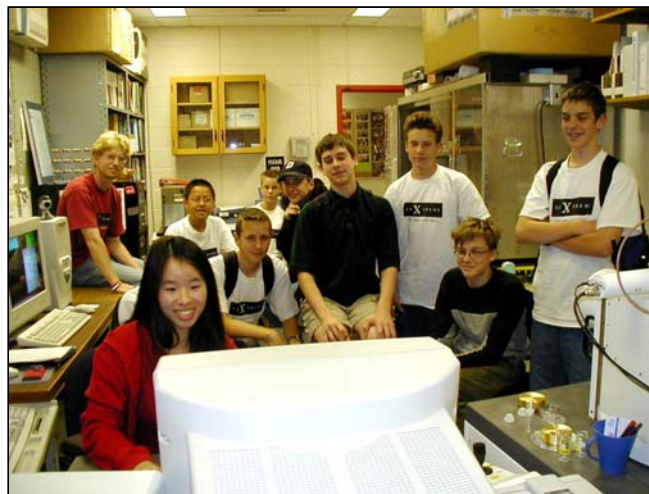
1 a : **the practical application of knowledge especially in a particular area** : **ENGINEERING** 2 <medical

technology> **b** : a capability given by the practical application of knowledge <a car's fuel-saving *technology*>

2 : a manner of accomplishing a task especially using **technical** processes, methods, or knowledge <new *technologies* for information storage>

3 : the specialized aspects of a particular field of endeavor <educational *technology*>

- **tech nol o gist** 🗣️ /-jist/ *noun*



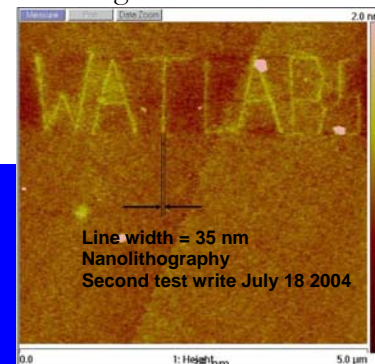
Main Entry: **nano tech nol o gy** 🗣️

Pronunciation: 'na-nO-tek-'nä-l&-jE

Function: *noun*

Date: 1987

: **the art of manipulating materials on an atomic or molecular scale especially to build microscopic devices (as robots)**



The University of Waterloo, in particular the Chemistry Department, through the establishment of the multimillion-dollar state-of-the-art nanomaterials research facilities at WATLab,™ is the premier institution in Canada not only to advance fundamental sciences and new emerging technologies but also to provide hands-on training and innovative nanotechnology education that is second to none in North America. At WATLab, we routinely empower our undergraduate students to join our research team and to participate in exciting research programs in nanotechnology through UW and government-funded undergraduate research fellowship, co-op, and graduate programs. Check out the Chemistry and Chemical Physics programs today, and be sure to visit our website at www.watlab.com. There is more to Chemistry than just test tubes and beakers. **For more info and guided lab tour, please contact the Director, Professor Tong Leung, at 519-888-4567 ext. 5826 or tong@uwaterloo.ca.**

™ SEM - EDX - OIM - EBL - AFM - STM - SPM - ESCA - XPS - UPS - AES - SAM - SIMS - SNMS - ISS - ECD - CVD - PLD - MBE - CBE - NL - FTIR - EELS - TPD - LEED