

# Nanotechnology: Demos and Simulations

## PRESENTER:

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## WEBINAR OBJECTIVES:

- Help students grasp concepts in nanotechnology through multimedia
  - Animations
  - Interactives
  - Videos
  - Simulations/Emulations
- Blending multimedia

## RESOURCES:

Nano4Me.org Multimedia Resources:  
<http://nano4me.org/educator-resources.php>

MATEC Animations:  
[www.matec.org/animations](http://www.matec.org/animations)

MNT (Micro Nano Technology Conference):  
<http://nano4me.maricopa.edu/micronanoconference>

300mm Fab Animation with Cleanroom Conveyors:  
[http://www.youtube.com/watch?v=ISxI0\\_OK5cY](http://www.youtube.com/watch?v=ISxI0_OK5cY)

Video Animation Inside a 22nm 3D Chip:  
<http://www.youtube.com/watch?v=YIkMaQJSyP8&list=PL18F9C7D94BFC8685&index=1>

From Sand to Silicon - The Making of a Chip:  
<http://newsroom.intel.com/docs/DOC-2476>

The Deposition Process:

<http://www.matec.org/animations/matec/M054FL01.swf>

Nanotechnology Animation Gallery:

<https://nanohub.org/resources/8882>

Interactive - Earth's Energy Balance:

<http://spark.ucar.edu/earths-energy-balance>

RF Energy Simulation:

<http://www.matec.org/animations/matec/M104FL02.swf>

Sample of a Complete Lesson -

Gold Nanoparticles:

[http://community.nsee.us/concepts\\_apps/compu\\_anime/gold\\_nanoparticles.swf](http://community.nsee.us/concepts_apps/compu_anime/gold_nanoparticles.swf)

Blending Media: RF Energy Simulation Blended with  
Instructor Voiceover

<http://www.youtube.com/watch?v=xvIFld4iUjw>

400 Marshmallows in a Vacuum:

<http://www.youtube.com/watch?v=ULdmv-iPQvA>

MRS Series - Use for Engagement:

<http://www.mrs.org/inside-science-tv/>

Nanomaterials for Energy Efficiency:

[http://www.youtube.com/watch?feature=player\\_embedded&v=-WQ28DJWhZk#!](http://www.youtube.com/watch?feature=player_embedded&v=-WQ28DJWhZk#!)

Spanish Language Videos on Nanotechnology:

<http://www.nanodyf.org/multimedia.php>

Powers of Ten™ (1977):

[http://www.youtube.com/watch?feature=player\\_embedded&v=0fKBhvDjuy0#!](http://www.youtube.com/watch?feature=player_embedded&v=0fKBhvDjuy0#!)

Simulations and Instructional Design:

<http://www.learningsim.net/5-step-sims/simulation-design>

Deeper into Nanotechnology Simulations:

<https://nanohub.org/about/simulate>

Museum Type Demos:

[http://www.mrsec.psu.edu/education/museum\\_shows/small\\_wonders/](http://www.mrsec.psu.edu/education/museum_shows/small_wonders/)

NNIN Nanotechnology Demonstration Guide:

<http://www.nnin.org/education-training/k-12-teachers/nnin-nanotechnology-demonstration-guide>

Whatisnano.org:

[www.whatisnano.org](http://www.whatisnano.org)

Nanoplunger:

<http://www.youtube.com/watch?v=guUgiiCGk2Q>