

## Software

### NanoEngineer-1

NanoEngineer-1™ is an open-source (GPL) 3D multi-scale modeling and simulation program for nano-composites with special support for structural DNA nanotechnology. It features an easy-to-use interactive 3D graphical user interface for designing and modeling large, atomically precise composite systems.

For simulation and analysis, NanoEngineer-1 supports multiple molecular dynamics and quantum mechanics systems in a single environment, providing a wide range of nano-scale simulation capabilities. The following molecular dynamics and quantum chemistry packages are supported:

- GROMACS
- GAMESS
- PC GAMESS

- Massively Parallel Quantum Chemistry (MPQC) Program

NanoEngineer-1 is currently under development and is scheduled for release in April 2008. For a better idea of what NanoEngineer-1 is all about, check out the [NanoEngineer-1 Gallery](#) .NanoHive-1

NanoHive-1 is a modular simulator used for modeling the physical world at a nanometer scale. The intended purpose of the simulator is to act as a tool for the study, experimentation, and development of productive nanosystems. NanoHive-1 is a GPL/LGPL licensed open-source development - you can download and use it for free (see the [Licensing](#) section for more details and restrictions.)

NanoHive-1 can be run stand-alone, or easily integrated to support other applications such as CAD tools. See the [Feature List](#) and [Software Architecture](#) for a good understanding of what NanoHive-1 is and what it has to offer. [NanoHive@Home](#)

NanoHive@Home is a distributed computing system used to simulate large-scale nanosystems that draws its computing power from otherwise idle computers sitting in people's homes. Users download and install a special client program onto their computer, and when the computer's screensaver comes on, the client program requests some work from a NanoHive@Home server, calculates it with the NanoHive-1 simulator, then sends the results back to the server.

The goal of NanoHive@Home is to accurately simulate nanosystems too large to be calculated via normal means, and thereby enable further scientific study in the field of nanotechnology.