**High resolution transmission electron microscopy (HRTEM)**

An imaging mode of specialized transmission electron microscopes that allows for direct imaging of the atomic structure of samples.

**Permeation**

The penetration of a permeate (a fluid such as a liquid, gas, or vapor) through a solid.

**Density functional theory (DFT)**

A quantum-mechanical (QM) method used in chemistry and physics to calculate the electronic structure of atoms, molecules and solids.

**Intercalation**

In chemistry, intercalation is the reversible insertion of a molecule into layered materials with layered structures. Examples are found in graphite.

**Radial distribution function**

The probability distribution to find the center of a particle in a given position at a radial distance r from the center of a reference sphere.

**Corrugated**

(of a material or surface) shaped into a series of parallel ridges and grooves so as to give added rigidity and strength.

**Correlation function**

A correlation function is a function that gives the statistical correlation between random variables.

**Diffusion coefficient**

The amount of a particular substance that diffuses across a unit area in 1 s under the influence of a gradient of one unit.