GLOSSARY

How to Protect Independent Science and Ensure Our Innovations Are in Tune with Our Health and Human Rights? A Necessity for Free and Healthy Communities

Alternating Current - An electric current that reverses direction of flow at regular intervals (opposed to direct current). In Europe the alternating power frequency is usually 50 Hertz, in North America 60 Hertz. Easier to transmit over long distances.

Alzheimer's disease — A progressive, neurodegenerative disease characterized by loss of function and death of nerve cells, and the development of plaques and tangles in the brain, leading to the loss of mental abilities such as memory, speech, orientation and recognition. The most common cause of dementia.

Amplitude — the maximum extent of a vibration or oscillation, measured from the position of equilibrium.

Atom — The smallest component of an element having the chemical properties of the element. Consists of a dense positively charged nucleus with neutrons and protons surrounded by a system of electrons. The number of protons determines its identity. If an atom has lost or gained one or more electrons, as can happen by exposure to high frequency radiation, it becomes charged, and is called an ion—hence the term ionizing radiation. The loss of electrons creates positive ions. The gain of electrons creates negative ions.

Blood brain barrier — Barrier between the blood and the central nervous system that allows for nutrients to come in, while keeping harmful substances out. It is formed by the lining of the brain capillaries by glia cells that surround the neurons.

Carrier, Carrier Wave — an electromagnetic wave that can be modulated—altered—in order to carry a signal, to transmit data or information.

Cell — The smallest unit of organisms that is able to live on its own and as its own metabolism and reproduction ability. A cell consists of a cytoplasm encased with a cell membrane.

Chromosome — The structure in a cell that carries the genetic information. It consists of one long DNA molecule with the genes in linear sequence, and associated RNA and proteins.

Current — The rate at which electrical power charges flow in a power line or wire.

Dementia —- Loss of mental abilities as a result of age, disease, or injury to the brain.

Direct Current — Electric current which travels continuously in the same direction, as opposed to alternating current. Easier to store, and for delicate electronics.

DNA — DNA, **deoxyribonucleic acid** — the molecule that contains the genetic code of organisms. It exists in each cell in the organism and tells cells what proteins to make. These proteins are usually enzymes, which catalyze specific biochemical reactions.

EEG — An electroencephalogram (EEG) is a test used to evaluate the electrical activity in the brain. Brain cells communicate with each other through electrical impulses. An EEG can be used to help detect potential problems associated with this activity.
Small flat metal discs called electrodes are attached to the scalp with wires. The electrodes analyze the electrical impulses in the brain and send signals to a computer that records the results. The electrical impulses in an EEG recording look like wavy lines with peaks and valleys. These lines allow doctors to quickly assess whether there are abnormal patterns. Any irregularities may be a sign of seizures or other brain disorders.

EKG — electrocardiogram — abbreviated as EKG or ECG — is a test that measures the electrical activity of the heartbeat. With each beat, an electrical impulse (or "wave") travels through the heart. This wave causes the muscle to squeeze and pump blood from the heart. A normal heartbeat on ECG will show the timing of the top and lower chambers.

Electromagnetic fields, or EMF — a field of force that consists of both electric and magnetic components, resulting from the motion of an electric charge and containing a definite amount of electromagnetic energy. The earth and our body produces emfs. Radio waves, ordinary light, infrared and ultraviolet, x-rays, gamma rays are all electromagnetic fields. EMFs are also produced by our electrical systems and electronic devices, including wiring, power lines, computers, televisions, wireless devices, ie. cell phones and WiFi routers, microwave ovens, all forms of broadcasting including AM, FM, and TV, etc.

Electromagnetic Spectrum — the range of wavelengths or frequencies over which electromagnetic radiation extends. The order from longest wavelength (lowest energy) to shortest wavelength (highest energy) is: radio **waves**, microwaves, infrared **waves**, visible light **waves**, ultraviolet **waves**, x-rays and gamma rays.