**Lecture 7: Nervous Tissue**

**Nervous Tissue: Overview**

Nervous tissue forms the central and peripheral nervous systems, responsible for receiving, processing, and transmitting electrical impulses throughout the body. It consists of two main types of cells:

1. **Neurons**:
   * The functional unit of nervous tissue, responsible for transmitting electrical impulses.
   * Composed of:
     + **Cell body (soma)**: Contains the nucleus and organelles.
     + **Dendrites**: Extensions that receive signals from other neurons.
     + **Axon**: A long extension that transmits impulses away from the cell body.
     + **Synaptic terminals**: Where communication with other cells occurs via neurotransmitters.
2. **Neuroglia (Glial Cells)**:
   * Support, protect, and nourish neurons.
   * Types of neuroglia include:
     + **Astrocytes**: Support and maintain the blood-brain barrier.
     + **Oligodendrocytes** (in the CNS) and **Schwann cells** (in the PNS): Produce the myelin sheath that insulates axons.
     + **Microglia**: Act as phagocytes, cleaning up debris and protecting against pathogens.

Nervous tissue enables the coordination of body functions, including voluntary movement, sensory perception, and reflexes.