

#### 6.4. Biophysics and Computational Physics

Computational physics develops algorithms that are of immense use in industries and medical issues. Research output on material computation can serve as an input to any nanoscale related research to improve the efficiency of the material for energy generation, waste treatment, sensors and so on. Biophysics looks for mathematical laws of nature and makes detailed predictions about the forces that drive idealized systems in living things. In spite of immense industrial and environmental applications research works are scanty so far in Ethiopia. Cognizant of enormous use of Biophysics and Computational physics research in industries, environment and medicine, the Biophysics and Computational Physics Sub-theme prioritized research areas from the following specific project components' stand point.

- Material Computation, modeling stochastic events (Case of pandemics and data mining) simulation and application virtual as laboratory;
- Industrial (agricultural, factory) applications (process and quality control,;
- Algorithm development and evaluation of its accuracy and computational speed;
- Temperature modulation, wind speed and light quality on plant performance;
- Study of flow in living things, use of isotope as tracer for substance flow study;
- Light absorption efficiency of plants;
- Atmospheric, water and soil physics and chemistry;
- Radiation study;
- Sound pollution;
- Coatings material for environmental protection.