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Bioinformatics – Present and Future

Hyeon S. Son

Center for computational biology and bioinformatics, KISTI

Genome project is a research for discovering genomic information. Human genome sequence, under the title of HGP(human genome project), was drafted successfully at the end of June, 2000. And the academic world soon predicted that related research field would be activated and since then bioinformatics has been in the spotlight.

It has to be realized that genome project produces neither biological materials nor discovery of phenomena but biological information. So, we get abundant of data that can be processed to generate useful information. Bioinformatics deals with the process of such data from genome.

Bioinformatics covers all the branches of research in biology using computer skills, i.e. research of analyzing sequences of DNA and proteins, structural bioinformatics and protein dynamics/engineering...etc.

Bioinformatics is an essential research part of fundamental biology, medical science and applied biology. Its results contribute to related scientific fields and industries, for it is a basic research based on other science parts, i.e. biology, computer science, mathematics, physics and chemical engineering. Because it will be a core technology for curing people of hereditary diseases and developing new medicines, and biological industries will influence the human being greatly, it will also be an important part of bio-related industries.

In this presentation, I will introduce some notable methods for analyzing biological information, a research about PEF optimization, molecular visualization program and biological information DBMS developed by KISTI bioinformatics center.