



Sudan University of Science and Technology
College of Medical Laboratory Sciences
Research Laboratory

BIOINFORMATICS COURSE:

One week in basic bioinformatics techniques will be conducted at the Research laboratory, college of Medical laboratory sciences, Sudan University of Sciences and Technology in the period from Sunday: 13th to Thursday: 17th of July 2014.

Target groups:

Post graduate students, PhD and master students in science and researcher who have basic information in molecular biology and want to gain basic and practical skills and essential acknowledges in bioinformatics.

Course Organizer By:

- **Dr. Mohamed Ahmed Salih**

For more information and registration please contact us!

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Registration will start from 06/07-13/07/2014 and the registration fees 400 SDG.



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Course outline:

- General information: Introduction to bioinformatics.
- Bioinformatics tools, NCBI.
- Databases search : ENTREZ, PubMed, OMIM:
 choose a gene to work with throughout the course.
- Nucleotides: Pairwise sequence alignment (BLAST, FASTA).
- Proteins: Pairwise and multiple sequence alignment
 (BLASTP, PSI-BLAST, FASTA, CLUSTALW).
- Protein structure analysis: secondary and tertiary structure.
- Proteins families- motifs, domains, clustering.
- Projects' List.
- Phylogeny: Tree reconstruction methods, gene duplication.
- Genomics: Prokaryotes and eucaryotes, gene hunting, splicing.
- The Human Genome Project, drug design, other genomes.
- Gene expression analysis: DNA micro arrays (chips), clustering tools.