College of Science
Bioinformatics
The University of Texas at El Paso
www.bioinformatics.utep.edu

Bioinformatics at UTEP

A research-oriented UPBiT program for undergraduate participation in bioinformatics training has been implemented since 2009, funded in part by the National Science Foundation with an initiative to interface biological and mathematical sciences. Supports are available for math and biology majors through their research mentors, starting in their sophomore year, to work as UPBiT trainees in research rotations.

Bioinformatics is an interdisciplinary science that offers unique opportunities for individuals with diverse backgrounds to learn and collaborate with others. There is an increasing demand for well-trained bioinformatics professionals capable of developing computational tools integrated with experimentation for solving complex biological problems. Our research areas are:
- biomolecular sequence analysis
- ecoinformatics and phylogeny
- microarray and proteomics data analysis
- molecular structure and dynamics.

Bioinformatics Education

Our mission in education is to provide bioinformatics (BINF) courses and research opportunities for students pursuing
- undergraduate bioinformatics training
- Professional Science Master's (PSM)
- computational bioscience for PhD in Computational Science.

PSM PROFESSIONAL SCIENCE MASTER'S

The PSM degree in bioinformatics at UTEP was initiated and supported in part by grants from the Sloan Foundation and Texas Workforce Commission with the concept of training science professionals. It has been part of the national effort in developing PSM degrees to enhance our future economy through promoting innovations in science and technology. In addition to coursework, students attend the weekly bioinformatics colloquium series, with research seminars and professional training workshops, and complete an internship at a bioinformatics company or research institution.

We also aim at training PhD students in developing computational models and bioinformatics tools. As the core of bioinformatics is still largely unexplored in its mathematical theories and prediction algorithms, we thrive in preparing computational scientists with strong mathematical skills and profound insights into complex biological systems for collaborative and multidisciplinary work with biomedical and clinical researchers.

Career and Research Highlights

Employers of our recent graduates include
- Broad Institute at MIT
- Dow AgroScience LLC
- MD Anderson Cancer Center
- National Cancer Institute
- Pfizer Global Research & Development.

Bioinformatics Computing Laboratory (BCL)

As a core facility for the NIH-funded Border Biomedical Research Center (BBRC) at UTEP, new research efforts at BCL include
- creating web-based modules for patient education and online search engines for viral genome structure databases
- developing computational tools as part of a state-wide initiative for cancer prevention and research as well as individualized patient care in Texas.

In addition to acquiring federal and state research funding, BCL also aims at increasing contributions and consulting income to create local professional jobs in the Border Region.

Bioinformatics Computing Laboratory

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