The Bioinformatics Infrastructure Facility (BIF) is established in the year 2007 with the financial support from Department of Biotechnology (DBT), Government of India, New Delhi under the Biotechnology Information System Network (BTIS) program. The Bioinformatics Center has also been recognized by Government of Uttar Pradesh, Department of Higher Education as Center of Excellence in Bioinformatics (COEBI) in the year 2010. With generous financial supports under the schemes our center has been upgraded /enriched with regards to both hardwares and softwares. Since its inception the centre has conducted a total of 21 short term training programmes / workshops and a total of 12 long term training/project work, of 3-4 months duration each, during which more than 500 persons belonging to students, teachers and researchers were trained in the area of bioinformatics.

The main objectives of the center is to popularize the application of Bioinformatics by organizing training programs and conducting Seminars/Workshops for Teachers/Scientists/ Research Scholars/ Students, which is being conducted on a regular basis. In addition the centre has also involved in research in area of computational biology, genomics, proteomics, metabolomics and data base development.

Area of Specialization:

Centre is actively involved in conducting research in the area of lignin metabolism, comparative genomics and screening of plant secondary metabolites for their potential therapeutic applications as anti-inflammatory, anti-cancerous, cardioprotective and neuroprotective molecules using molecular docking, QSAR and molecular dynamics simulation. In addition, a database for secondary metabolites is also being developed.
Current area of Research:

- Molecular docking and 3D-QSAR based virtual screening of flavonoids as potential aromatase inhibitors against estrogen-dependent breast cancer.
- Molecular docking and ADMET based screening for DNA topoisomerase directed anticancerous plant derived secondary metabolites (alkaloids, flavonoids and terpenoids).
- Molecular docking based screening of selected terpenoids and flavonoids as potential therapeutic agents against acetylcholine esterase (ACE), beta amyloid and myeloperoxidase, respectively.
- Molecular docking and dynamics simulation studies on plant and fungal laccases predicting their role in lignin biosynthesis and degradation, respectively.
- In silico identification of novel putative drug target in Treponema pallidum through subtractive genomics approach and its validation through molecular modeling.
- Molecular docking and CoMFA and CoMSIA based designing of novel resveratrol derivatives as amyloid-beta aggregation inhibitors against Alzheimer’s disease
- Comparative genomics for SNP analyses in normal and diseased citrus species.

Computer and Communication Facility

Workstations, LCD for collective teaching, Windows server; HP desktop system; scanner; power backup UPS; internet connectivity through LAN/Wi-Fi

Scientific software packages

- Statistical Software for data analysis (Sigma Plot-12)

Recent publications (in area of Bioinformatics):


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