

Review Paper on Bioinformatics as An Innovative Discipline of Research

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Abstract

Bioinformatics is a new science that is glowing out in the recent years. It is a multidisciplinary science that is made out of different kinds of other scientific fields like biology, computer science, chemistry, statistics, mathematics and others. . Bioinformatics, the application of computational techniques to analyze the information associated with biomolecules on a large-scale, has now firmly established itself as a discipline in molecular biology, and encompasses a wide range of subject areas from structural biology, genomics to gene expression studies.

Keywords: Bioinformatics, Cancer, Diabetic, research, drugs, Molecular Biology.

INTRODUCTION

Bioinformatics is a new multidisciplinary field that comes out from the combination of other sciences and fields like biology, computer science, statistics, chemistry, mathematics and even more [1, 4, 5, 6, 7, 8, 9, 10]. In recent years new sciences have risen up due to the demand in understanding more the world around us like Bioinformatics, Biotechnology, Computational Biology, Biochemistry and others. It was a big challenge for researchers and scientists to give an adequate definition for each of these newly emerged sciences [3, 6, 12]. One of these sciences that have a huge influence in the medical field is Bioinformatics but also can play a key role in other fields like agriculture, livestock and even space explorations [15, 12]. Bioinformatics which attracts people in the academic field in addition an interest to those in the medical industry [2, 8, 13, 14]. Biological data are being produced at a phenomenal rate [17]. For example as of August 2000, the GenBank repository of nucleic acid sequences contained 8,214,000 entries [18] and the SWISS-PROT database of protein sequences contained 88,166 [19]. Each one of these disciplines is playing an important role for collecting, organizing, analyzing and digitizing the biological data and even classifying and storing it in an efficient manner [1, 9, 12, 15, 16]. The main purpose of this paper is explore and explain Bioinformatics in a more scientific way, the paper will try to define Bioinformatics scientifically and try highlight applications of bioinformatics in the medical sector specially, and in the diagnosis of critical diseases like cancer. The race of bioinformatics research is now passing long rounds in many areas in the Biological life. so, the goal of this paper is to provide an overview summary of bioinformatics definition from different articles written in this field, what are the main implementations and aims under the skin of this science, how to understand the data and what are the most important databases used, give a snapshot over the most common algorithms implemented in the field and how important to apply bioinformatics in the cancer research and study.

BIOINFORMATICS AIMS

There are five main aims of Bioinformatics [12]

1. To organize the biological data in an easy manner that helps biologists and researchers to store and access exiting information.
2. To develop and design software tools that help in the analysis and management of data.
3. To use these biological data in the analysis and interpretation of the results in a biological meaningful manner.
4. To assist researchers in the pharmaceutical industry to understand the protein structures that lead and help in the drugs industry development.

Education on Nutrition and its Awareness - A Daunting Challenge for India

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Abstract

Nutrition education is used as a way of promoting lifelong healthy eating practices among school adolescents. There is limited publishing available information on the impact of nutrition education programmes in India. This paper emphasizes on programmes regarding strengthening nutrition education in India, facts and issues of nutrition education, the role of Food & Nutrition Board and how they are impacting child and adult's nutrition, growth and development.

Keywords: Nutrition, Malnutrition, children, food, education.

INTRODUCTION

OBJECTIVES

To assess and accelerates the knowledge and practices of high school students with respect to healthy diets before and after nutrition education programme.

INTRODUCTION

The Nutrition is a focal point of health and well-being. Nutrition is directly related to human resource development, productivity and ultimately to the growth of the Nation. In other hand malnutrition is a critical phenomenon. It is both the cause and effect of poverty and ill health, and follows a cyclical, inter-generational pattern. It is inextricably tied with illiteracy, specifically female illiteracy, lack of safe drinking water and proper sanitation, lack of awareness and ill health. It is creating its own cycle within the large cycle of poverty.

Malnutrition in India continues to be at a high level with 42.56% children below the age being underweight and almost 70% being anemic. 22% children are born with low birth weight. Lack of adequate informative data on nutritional needs, has been identified as a main factor for the prevailing nutritional situation in the country. Child malnutrition is mainly due to the result of economic conditions and poor nutritional awareness. Nutrition education and its extension have been recognized as one of the long-term sustainable interventions essential to handle the problem of malnutrition to create awareness and promote the nutrition status of the country. FNB's main task is to address this major challenge.

It is well accepted fact that mothers' education has positive effects on child nutrition in developing countries. In school, girls can acquire skills which are later used to access modern health services and comprehend health messages. Less explored, however, is the effect exerted by the education of other individuals - the mothers' friends, neighbors and family - which may influence child nutrition directly or modify the effect of maternal education. Furthermore, questions remain about the mechanisms underlying the adult education-child nutrition relationship, especially the role of mothers' health and nutrition (HN) knowledge which has been debated in recent updated literature. Future research into the impact of adult education on child nutrition should therefore enhances the focus from mothers only to others in her household, community and communication network and specifically examine the mediating role of mothers' HN knowledge.



[OP-33]

COMPUTER AIDED MOLECULAR DOCKING STUDIES ON ACTIVE COMPOUNDS
OF *ACANTHUS ILICIFOLIUS* LINN WITH THE HUMAN HISTAMINE RECEPTOR
(hHH2R) PROTEINS

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ABSTRACT: The active compounds which were isolated from MEAI through GC-MS analysis were taken for computational studies. The energy minimized H2 receptor docked with *Acanthus ilicifolius* phytochemicals using Auto dock 4.0. The Phytochemical of *Acanthus ilicifolius*, cyano colchicines, alpha amyryn, lyoniresinol, quercetin has more are less forms hydrogen bond interactions with Asp98, Asp186 and Thr190 residue has made strong hydrogen bonds with all the inhibitors with less than 1.180Å bond length. As we have already experimentally proved the antiulcer activity of Methanol Extract of *Acanthus ilicifolius* (MEAI) through in vivo evaluation, in this present study it is further conformed by performing the Computer Aided Drug Design (CADD) simulation studies to strengthen our *In silico* analysis too. Consequently It is confirmed that the active compounds of MEAI viz., cyano colchicine, α - amyryne, lyoniresinol and quercetin has shown the beauty of molecular conformation in the cavity is exactly matching with molecular surface and showing Lowest Docking energy of -10.30 K.cal/mol, RMSD 0.04 and Ki 0.023µM and no other inhibitors showing as much as best interaction as Quercetin and it has been tightly packed with 3 important residues are Asp-98, Asp-186 and Thr-190 of Human H2 receptor (hHH2R).

Keywords: *Acanthus ilicifolius*; hHH2R; Sea holy; Molecular Docking.



[Research article]

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Cite this article as:

Dhanasree B and Nizamuddin Basha S (2015). A computer aided molecular docking studies on active compounds of *Acanthus ilicifolius* Linn. with the human histamine receptor (hHH2R) proteins. In: New Horizons in Biotechnology. (Eds. Viswanath B and Indravathi G) Paramount Publishing House, India, pp. 149-152.

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Keywords: *Acanthus ilicifolius*; hHH2R; Sea holy; Molecular Docking.

INTRODUCTION:

Since the beginning of civilization, humans have searched for substances that can cure or alleviate the symptoms of disease. In the early stages, extracts from plants and animal parts were used to treat disease, and the discovery of such remedies was driven empirically. Starting in the early 1900s, drug discovery has increasingly focused on discovering and developing chemical entities that on their own have a desired pharmaceutical effect. Initially this was fueled by attempts to extract and identify the active component in extracts from natural products that were used. A number of developments, however, have resulted in the multidisciplinary science that drug discovery is today, including the traditional fields of chemistry and pharmacology, along with contributions from biochemistry, molecular biology, and biophysics. Increasingly, computational tools are used in the drug discovery process from target identification and validation to the designing of new molecules. Developing a chemical entity that on their own has a desired pharmaceutical effect. Here Molecular modeling has become a valuable and essential tool to medicinal chemists in the drug design process. Molecular modeling describes the generation, manipulation or representation of three dimensional structures of molecules and associated physio-chemical properties which involves a range of computerized techniques, whereas, Docking can be used to predict how a ligand interacts with the binding site of a receptor, and here we have used a Autodock tool and is a suite of automated docking tools designed to predict how small molecules, such as substrates or drug candidates, bind to a receptor of known 3D structure.

MATERIALS AND METHODS:

Computational methods for the development of 3D structure of proteins: Proteins are polymers composed by the sequences based on twenty different amino acids which are connected by amide bonds. The most common motifs

are the α helix and β strand. These secondary structural elements are connected by loops which adopt less regular structures, such as β turns [1].

Approaches for predicting protein structure by computational methods

Homology/comparative modelling techniques: The most reliable and acceptable technique for predicting protein structures is homology modelling, the first report on homology modeling published by Browne [2]. The homology modeling provides the geometry of one or more template proteins with sufficient sequence identity are given. If the sequence identity between template and target protein is high enough, the resulting model may even be sufficiently accurate to perform structure based drug design. In homology modelling, one or more template proteins with high sequence identity to the target sequence are identified. The target and template sequences are aligned, and a three-dimensional structure of the target protein is generated starting with the coordinates of the aligned residues of the template protein, combined with models for loop regions and other unaligned segments. The assembled 3D-model is then refined to bring it closer to the structure of the target protein. Major difference between the various homology modelling techniques is how the 3D model is calculated from the sequence alignment [3]. The original homology method is based on rigid-body assembly [2,4]. The 3D homology model of the target protein sequence was predicted using crystal structural coordinates of templates on the basis of sequence alignment. All steps of homology modeling and refinement were carried out through MODELLER 9v1 using base line commands specified by software supplier [5].

Selection of template to model hHH2R: For building model of hHH2R requires the best templates, this was obtained through PSI-BLAST search of the PDB database.

A Review paper on "Indian Women In Science and Technology

Dhanasree Basipogu

Vasundaramma

Jayalakshmi

"When a man is educated, an individual is educated,
when a woman is educated, a family and a country are educated" ...Gandhi

FORMER PRESIDENT, Honble, DR. ABDUL KALAM'S SPEECH Address at the Inauguration of the National Seminar on Women, Science and Technology – Bangalore 21st August, 2006 "Definitely all women scientists can play an important role in the national development."

"The number of women scientist's world over has been growing at a faster pace. Removing any impediments that come in the way of our harnessing this vast pool of brilliant, hardworking and dedicated knowledge power, should be the focus of this Seminar.

It is to be ensured that a people centric sustainable development ensures women's equal access to science & technology, education, training, economic resources, information, communication and marketing

Women constitute half of humanity, yet the number in mathematics, physical sciences, engineering, etc. is low. Also these professional women seldom reach the pinnacle of the hierarchy in academic and research institutions.

Utilization of the talents of women should not be viewed only from the perspective of gender equity. It must be understood that full involvement of women in scientific and technological efforts is today essential for rapid economic development and sustainable happiness

Science and technology are essential Science and technologies are essential for solving global problems

International Initiatives Many events and activities world over have drawn the attention of UN bodies, Governments, NGOs, academies and many others. First conference of UN in Mexico in 1975 discussed various issues related to women.

WOMEN ARE UNIVERSALLY underrepresented in science and technology. India, viewed as a potential powerhouse of innovations, is no exception. True, the subcontinent's institutes of scientific learning are open to all its citizens, but potential female researchers still hesitate at the thresholds of laboratories.

Indian Government's Initiatives -

A separate Ministry for Women and Child Welfare

A scheme for S&T for Women by DST and DBT

A National Task Force on Women

Technology Parks; exclusive Biotechnology Park for women at Chennai

GLOBAL PROSPECTIVE OF INTELLECTUAL PROPERTY RIGHTS

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As we all know World Intellectual Property Day 2019 is celebrated on 26th April of every year. Since its beginning in the year 2000, consistently on April 26, World IP Day features, through the viewpoint of a particular subject, how IP rights support innovation and creativity. The current year's theme is **Reach for Gold: IP and Sports**. More than 400 grassroots-sorted out festivals are arranged worldwide for World IP Day 2019, with different occasions expected in the coming days.

"The current year's World Intellectual Property Day campaign commends the positive job that intellectual property plays in empowering sports, an awesome scope of pursuits wherein people have constantly drawn in and which enrich our lives from various perspectives," said WIPO Director General Francis Gurry in his World IP Day 2019 message.

Intellectual property rights underlie and engage the financial model of all sporting events worldwide. IP rights are at the heart of the global sports ecosystem and all the commercial relationships that make sports happen and that allow us to tune in to sporting action whenever, wherever, and however we want," he said.

Trademarks, which underpin sports branding, are an exceptionally important intellectual property right for teams and athletes to differentiate themselves and stand apart in a highly competitive market. Trademark rights are critical in allowing individual players and teams to gain a monetary reward from, for example, merchandising ... and sponsorship deals,"

In addition, design contributes to the distinct identity of a product –competitor's sports gear, for example –rendering it more appealing to consumers, adding commercial value.

The data in patent information can be utilized for key arranging purposes. A calculated system is created indicating the utilization of patent data in center zones of innovation the executives. This paper tends to how patent data can be utilized for contender checking, innovation appraisal, R&D portfolio the board, the recognizable proof and evaluation of

A BIRD'S EYE VIEW OF TEACHING APPROACHES IN BIOLOGY CLASS ROOM

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Abstract

Teaching approach implies to the manner in which teacher present their exercises during educating. As a component of training approaches are the exercise plans arrangements, exercise presentation, exercises given to students and evaluation systems actualized during lesson introduction. The accompanying components assume a significant job when instructors approach exercises particularly in Biology class rooms; the context where exercise is exhibited, teachers past involvement with connection to the subject, help during instructing, advancement of showing materials/assets/teaching aids for the lesson and making students mindful of ecological issues and how these issues influence them in their day by day lives. It is from these components that I have inspected literature that portrays the five instructing approaches that are normally utilized by Biology educators when they educate. I at that point talk about the five instructing approaches audited from literature in the accompanying section focusing on "context based educating approach".

Key Words: Biology Classroom, approaches of teaching, education, teaching.

1. Context-based teaching approach:

Context based Teaching alludes to thought of the circumstance or kind of the environment in which teaching is to happen. The educator at that point designs the exercise to fit the kind of setting to display the exercise. Instructing students to relate past information to new substance, instructing students to take activities, and moving information while presenting the subject structures the premise of setting based educating approach. Studies led by Bennet et al. (2006) on context based instructing approaches underline that specific situation and applications ought to be utilized as the beginning stage for the advancement of science thoughts to upgrade educating. They presume that context based training approaches invigorate youngsters' enthusiasm for science and help them to perceive how it identifies with their regular day to day existences. In any case, I contend that Bennet et al (2006) decision doesn't generally apply; a few students have lost enthusiasm for the science classroom because of relevant components. In many schools, the style of guidance which is English is one of the logical variables confronting students in science classroom. The style of instructing in grade schools doesn't prepare students for FET Band in Education. Most educating is done in vernacular thusly students think that its hard to comprehend teachers when they unload science ideas.