Chapter 1

Biomedical Librarianship in the Post–Genomic Era

Shubhada Prashant Nagarkar
Savitribai Phule Pune University, India

ABSTRACT

Post genomic era is known for the explosive growth in biomedical information. Bibliographic and sequence databases are increasing continuously and have voluminous data sets. Biomedical librarians are facing challenges in retrieval of relevant information from these electronic databases and related sources of information. This chapter discusses the changing role of biomedical librarians in post genomic era. The chapter covers features of the biomedical librarianship including library collection development, users' information needs and strategies adopted to provide services. Moreover, it focuses on the competencies required by librarians to face the challenges of management of information and services needed by biomedical researchers in the post genomic era.

INTRODUCTION

The librarianship is a trinity of acquisition, organization and dissemination of information, in which acquisition relates to the proper selection of library materials, organization to their preparation for efficient/effective use, and dissemination to the processes of making the contents available to the users. To achieve this, librarians should act as a mediator and must know the intellectual contents of information resources, user information needs and the methods to bring both contents and users

together (Shera, 1972). Trinity of librarianship has become challenging over the period due to remarkable changes in the containers of information, interdisciplinary approach of researchers and new communication technology for dissemination of information. Containers of information changed over the period i.e. from paper to electronic. Organization of information has become more challenging to meet the interdisciplinary information needs of users.

The present chapter discusses the trinity of librarianship in the field of Bioinformatics and the changing role of librarian in bringing information and user together. This particular subject area is selected due to two reasons. Firstly, the author has worked as a practicing librarian in the field of Bioinformatics for almost seventeen years and secondly, the librarianship in this field has changed to a great extent especially in the post-genomic era. The chapter has three main sections viz. library collection, user information needs and library services to Bioinformaticians. Each of this section discusses the challenges for librarians and efforts by librarians. The initial part of the chapter talks about the information explosion in the field of biology, interdisciplinary nature of research and features of post genomic librarianship. The chapter has the context of Bioinformatics libraries and services evolved during last 10 years which cater to the needs of Bioinformatics community including students, teachers and researchers.

Bioinformatics in the Post Genomic Era

There is a remarkable difference in Pre and Post genomic era in respect to biological research and information. The research in pre genomic era was non interdisciplinary and individual scientist worked for individual research. In the post genomic era research has become interdisciplinary and there is integration between parallel studies in the allied research fields (Torshin, 2006). The pre genomic era or the beginning of the Bioinformatics era is marked by the contributions during the 1960s by Late Dr. Margaret Dayhoff for the compilation and analysis of large data sets of protein sequences to study the molecular evolution (Dayhoff, 1965). The fusion of biology and computer—Bioinformatics—evolved in the late 20th century. The major event in computing, the introduction to the World Wide Web in 1990 which was coincided with the beginning of the Human Genome Project (HGP) (Bergeron, 2003). WWW and Human Genome Project significantly represents the convergence of computing, communication, and molecular biology (Benoît, 2006; Bergeron, 2003). The HGP is an example where researchers from a variety of disciplines viz. biotechnology and molecular biology, computer science, engineering, physics, chemistry, mathematics, statistics and medicine worked together to reveal all (approximately 21,000 genes) human genes. The collaboration among scientists is required in managing the large quantities of data necessary to reveal biological relationships and in us-

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