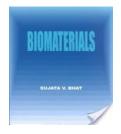
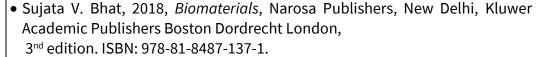
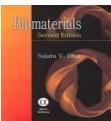
## **Books authored**









Biomaterials

Preface-One of the most noticeable and beneficial aspects of the recent developments in medical sciences has been the exploitation of technological advances. While it is difficult to single out anyone particular branch of biomedical engineering, the tremendous advances have been made in surgery through the use of implanted devices, must certainly number among the more significant. Biomaterials used in these devices, provide needs in such diverse surgical disciplines as ophthalmology, cardiology, neuromuscular surgery, orthopaedics and dentistry. All biomaterials have one thing in common; they must have intimate contact with patient's tissue or body fluid, providing a real physical interface. Biomaterials of one type or the another have been in clinical use for many years. A reasonable degree of success since 1960s and a rapidly expanding range of materials being made available by advances in basic material science have more recently led to a greater proliferation of biomaterials. A wide spectrum of implanted devices from simple sutures to totally implantable artificial hearts now exists. After an initial period of rapid innovation and experimentation in biomedical engineering when materials were implanted into human body with little prior testing, biomaterial science is now entering in sophisticated technology. The search for new, more reliable devices require a disciplined scientific approach to the subject. Good biocompatibility is achieved when the material exists within a living body without adversely or significantly affecting it or being affected by it. The biomaterial should have adequate mechanical strength, chemical and physical properties. Thus biomaterials must be compatible with body tissues mechanically, chemically as well as pharmacologically. To research these materials the investigator needs to have a range of techniques for materials production, measurement of strength and surface properties and in vitro and in vivo techniques for biocompatibility evaluations. This book is written for those who would like to advance their knowledge of biomaterials. The subject matter of the book is divided into twelve chapters dealing with structure and property relationship of biological and man-made biomaterials. The applications of these materials for various medical devices have been discussed. Recent developments in tissue engineering have also been mentioned. This manuscript has been organized at Indian Institute of Technology, Bombay as class-notes for an introductory M. Tech. course on biomaterials.





- Sujata V. Bhat, B. A. Nagsampagi and S. Meenakshi, 2009, Natural Products: Chemistry and Applications, Alpha Science International Ltd. Published by Alpha Science International. <u>ISBN 10:</u> 1842654055ISBN 13: 9781842654057.
- Sujata V. Bhat, 2013, Chemistry of Natural Products (Revised Edition), Narosa Publishers, New Delhi. <u>ISBN 10.</u> 8173198241ISBN 13: 9788173198243.

Preface- During the last few decades, research into natural products has advanced tremendously thanks to contributions from the fields of chemistry, life sciences, food science and material sciences. Comparisons of natural products from microorganisms, lower eukaryotes, animals, higher plants and marine organisms are now well documented. This book provides an easy-to-read overview of natural products. It includes twelve chapters covering most of the aspects of natural products chemistry. Each chapter covers general introduction, nomenclature, occurrence, isolation, detection, structure elucidation both by degradation and spectroscopic techniques, biosynthesis, synthesis, biological activity and commercial applications, if any, of the compounds mentioned in each topic. Therefore it will be useful for students, other researchers and industry. The introduction to each chapter is brief and attempts only to supply general knowledge in the particular field. Furthermore, at the end of each chapter there is a list of recommended books for additional study and a list of relevant questions for practice.



**Sujata Bhat** Forskolin and congeners *Progress in in Chemistry of Organic Natural Products* (1993), 62, 1-74, editors, W. Herz, G.W. Kirby, R. E. More, W. Steglich, Ch. Tamm; Springer-Verlag Wien, New York, 1993.

Contents-Introduction, Isolation and structure, Determination, Chemistry of Forskolin, Synthetic efforts, Biological Activities of Forskolin, Structure-Activity Correlations, Concluding remarks.