

Bio Data Ernet India

During recent decades we have witnessed not only the introduction of automation into the work environment but we have also seen a dramatic change in how automation has influenced the conditions of work. While some 30 years ago the addition of a computer was considered only for routine and boring tasks in support of humans, the balance has dramatically shifted to the computer being able to perform almost any task the human is willing to delegate. The very fast pace of change in processor and information technology has been the main driving force behind this development. Advances in automation and especially Artificial Intelligence (AI) have enabled the formation of a rather unique team with human and electronic members. The team is still supervised by the human with the machine as a subordinate associate or assistant, sharing responsibility, authority and autonomy over many tasks. The requirement for teaming human and machine in a highly dynamic and unpredictable task environment has led to impressive achievements in many supporting technologies. These include methods for system analysis, design and engineering and in particular for information processing, for cognitive and complex knowledge [1] engineering .

When it comes to the preparation of the examinations like UPSC and State PCS students need to have solid yet precise knowledge about the subjects from the point of view of exam. ARIHANT's MAGBOOK provides all the study material in a concise and brief manner which is easy to digest by the students Magbook series is 2 in 1 series i.e. it's a combination of magazines and books that offers unique advantages of both as it comprehensively covers syllabus of General Science of UPSC and State PCS Preliminary Examination. It is useful for the aspirants as it covers all the topics of the syllabus in a concise and notes format to help students in easy remembrance and quick revision. This series covers every topic of General science (Physics, Chemistry, Biology and Science & Technology) in an easy-to-understand language which helps students grasp the topics easily and quickly. It focuses on the trends of questions of Previous Years' Civil Services Exams, Chapter-wise practice questions are given with more than 3,000 MCQs which covers the whole syllabus, Subject wise detailed explanations of Previous Years' Civil exams (2019- 2010) and 5 practice sets are also provided in the book that help the students to know latest pattern of the paper as well as its difficulty level. This book is a must for the civil services aspirants as it help them to move a step ahead towards their aim. TABLE OF CONTENT Physics, Chemistry, Biology, Science & Technology, Appendix, Practice Sets (1-5), Previous Years' Solved Papers Set 1, Previous Years' Solved Papers Set 2

1. Introduction to Bioinformatics 2. Introduction to Computers 3. Introduction to Internet 4. Search Engines: Tools for Web Search 5. Programming Languages 6. Genomics and Proteomics 7. Biological Databases 8. Sequence Analysis 9. Phylogenetic Analysis 10. Microarray Technology: A Boon to Biological Sciences 11. Bioinformatic..s in Drug Discovery: A Brief Overview 12. Genome Sequencing Projects 13. BTIS Network In India Index

This book constitutes the refereed proceedings of the Second International Conference on Advances in Communication, Network, and Computing, CNC 2011, held in Bangalore, India, in March 2011. The 41 revised full papers, presented together with 50 short papers and 39 poster papers, were carefully reviewed and selected for inclusion in the book. The papers feature current research in the field of Information Technology, Networks, Computational Engineering, Computer and Telecommunication Technology, ranging from theoretical and methodological issues to advanced applications.

Editorial We are living in an era of digitization thus moving towards a digital government. The use of ICT in public-administration is beneficial and it is not mere a coincidence that the top 10 countries in e-government implementation (according to UN E-Government Survey 2016) are flourishing democracies. There has been a sharp rise in the number of countries using e-government to provide public services online through one stop-platform. According to the 2016 survey, 90 countries now offer one or more single entry portal on public information or online services, or both and 148 countries provide at-least one form of online transaction services. More and more countries are making efforts through e-government to ensure and increase inclusiveness, effectiveness, accountability and transparency in their public institutions. Across the globe, data for public information and security is being opened up. The 2016 survey shows that 128 countries now provide data-sets on government spending in machine readable formats. E-government and innovation seems to have provided significant opportunities to transform public administration into an instrument of sustainable development. The governments around the globe are rapidly transforming. The use of information and communication technology in public administration – combined with organizational change and new skills- seems to be improving public services and democratic processes and strengthening support to public policies. There has been an increased effort to utilize advanced electronic and mobile services that benefits all. Fixed and wireless broadband subscriptions have increased unevenly across regions, with Europe leading, but Africa still lagging behind. We have to focus on these substantial region disparities and growing divide. All countries agreed, in SDG 9, that a major effort is required to ensure universal access to internet in the least developed countries. The rise of Social media and its easy access seems to have enabled an increasing number of countries moving towards participatory decision making, in which developed European countries are among the top 50 performers. But, the issues of diminishing collective thinking and rising Individual thinking are some rising issues that we will have to deal with in the future. There are more sensitive issues like the new classification of citizens into literate-illiterate, e-literate and e-illiterate, that the governments need to look upon. It is a good sign that many developing countries are making good progress. Enhanced e-participation can support the realization of the SDGs by enabling more participatory decision making, but the success of e-government will ultimately depend upon our ability and capability to solve the contrasting issues raised due to this transition with sensitivity. In this issue of SOCRATES we have discussed, this new era of Digital Government. We have focused on what we have learned from the past and the future we want. From discussions on the role of e-governance within the local government settings in a modern democratic state to the experience of an academia with online examination, we have tried to include every possible aspect of e-government. Paper authored by Dr. Hoff Maarten, aims to outline the role of e-governance within the setting of a local government in a modern democratic state. It is agreed that a local governmental organization needs to be fit for the purpose of serving its citizens. Fits can be tested both through universally acknowledged principles, and drivers that suit modern on-demand organizations. Paper authored by Mr. Alsaeed Abraheem and Dr. Carl, proposes a conceptual framework which captures the main factors (both enablers and barriers) influence and contributes toward a successful implementation of eServices in countries that have unstable status. The paper draws upon Osborn and Gaebler's work, 'reinventing government', which identifies 10 principles of government transformation. This is used to examine eGov examples in the case of Syria along with previous work covering barriers and enablers to eGov activities within countries that have unstable status. The resulting derived conceptual framework provides a base to understand eGov activity for nations going through geopolitical uncertainty. Paper authored by Mr. Saurabh Chandra highlights the initiatives taken by the Governments in India at various levels to modernise their processes and functions for delivery of information and services to the citizens, using the Information and Communication technology [ICT]. It also highlights E-Government uptake in different parts of the world, highlighting its need in India, as in developing

countries like India, there is no comprehensive data on actual e-government uptake on a global scale. Paper authored by Mr. Peter Asare-Nuamah and Mr. Darko Emmanuel Agyepong highlights the various legal policies and framework that support e-governance in Ghana as well as the challenges of implementing e-governance initiatives. The findings of the study indicate that several policies and frameworks support e-governance in Ghana but their implementations are burdened with social, cultural, political and legal constraints. The study provides some recommendations that are necessary to tackle the challenges of e-governance implementation. Paper authored by Mr. Ojo Patrick highlights battling sub-Saharan African countries. The perspective in this paper is that the emergence of democratic governments in this region occurred through lopsided process which impacts on their governance structures. Consequently, the institutionalization of liberal democracy has been omitted; the absence of which creates gaps between aspiration for and struggle by African people for democracy on the one hand, and the actual performance of democratic governments on the other hand. The paper identifies structural deficiencies in the current pattern of governance as the political missing link in the value chain between democracy and development in the region. The paper recommends e-governance; an administrative process that guarantees good governance through accountability and transparency, as the necessary connecting link and panacea to bridging the observable existing gaps. Paper authored by Dr. Nandita Kaushal highlights the Plausibility of E-Governance as a Public Service Delivery Mechanism in India. It argues that there is no doubt, wherever e-governance projects have been conceived, designed and implemented with due regard to the needs of the people there positive outcomes have been visible. However, it has to be acknowledged that most of the projects are facing multiple challenges which are reducing their success rate. It recommends serious consideration to all the issues which are hampering their efficiency. At the same time it suggests measures that must be taken up to maintain the human face of these initiatives. Paper authored by Dr. Inderjeet Singh Sodhi reviews the achievements and progress of e-government in India. The paper briefly discusses various e-government projects in India. The purpose of the paper is to delve into policy and issue of the government of India in making e-government accessible to the common person. It briefly identifies the strategic issues for achievement of e-government. This paper derives a list of key strategic factors that are appropriate for planning, designing, development and implementation of e-government. The paper identifies the range of diverse problems, challenges and barriers planners and developers must face as they work in the e-government projects. The paper discusses prospects and future of e-government in India. The paper highlights the role of government to develop richer and deeper understanding of e-government. Paper authored by Ms. Shreyasi Ghosh attempts to trace the essence of e-government in the modern era of Indian Public Administration today as another new paradigm shift is in the offspring and slowly becoming distinct from the amorphous shape of Public Administration in the Indian context with the ICT-blessed governance, or e-Governance. Paper authored by Ms. Stuti Saxena probes the OGD platform using a qualitative and quantitative lens. This paper shows that OGD usage is popular among the end-users in terms of the number of views and downloads of the datasets. Future research might undertake the empirical investigation of the research hypotheses advanced in the paper. Paper authored by Dr. Jyotirmoy W. Singh is developed by a contributor who has been a national and International online examiner for past six or more years. This paper is based on his experience. It seeks to compare the traditional mode of examination with that of the online examination in citing the mode of High School Leaving Examination of Board of Secondary Education Manipur and International Baccalaureate Organisation (IBO) examination as case studies. I wish scholars and potential readers will find this issue useful. We will bring more special issues focused on e-government and other various dimensions of governance in the near future. Issue Editor Prof. Manoj Dixit Professor and Head, Department of Public Administration, University of Lucknow, Lucknow, India

Growth in the pharmaceutical market has slowed down – almost to a standstill. One reason is that governments and other payers are cutting costs in a faltering world economy. But a more fundamental problem is the failure of major companies to discover, develop and market new drugs. Major drugs losing patent protection or being withdrawn from the market are simply not being replaced by new therapies – the pharmaceutical market model is no longer functioning effectively and most pharmaceutical companies are failing to produce the innovation needed for success. This multi-authored new book looks at a vital strategy which can bring innovation to a market in need of new ideas and new products: Systems Biology (SB). Modeling is a significant task of systems biology. SB aims to develop and use efficient algorithms, data structures, visualization and communication tools to orchestrate the integration of large quantities of biological data with the goal of computer modeling. It involves the use of computer simulations of biological systems, such as the networks of metabolites comprise signal transduction pathways and gene regulatory networks to both analyze and visualize the complex connections of these cellular processes. SB involves a series of operational protocols used for performing research, namely a cycle composed of theoretical, analytic or computational modeling to propose specific testable hypotheses about a biological system, experimental validation, and then using the newly acquired quantitative description of cells or cell processes to refine the computational model or theory.

The book is a collection of high quality peer reviewed research papers presented in Seventh International Conference on Bio-Inspired Computing (BIC-TA 2012) held at ABV-IIITM Gwalior, India. These research papers provide the latest developments in the broad area of "Computational Intelligence". The book discusses wide variety of industrial, engineering and scientific applications of nature/bio-inspired computing and presents invited papers from the inventors/originators of novel computational techniques.

The five-volume set LNCS 9003--9007 constitutes the thoroughly refereed post-conference proceedings of the 12th Asian Conference on Computer Vision, ACCV 2014, held in Singapore, Singapore, in November 2014. The total of 227 contributions presented in these volumes was carefully reviewed and selected from 814 submissions. The papers are organized in topical sections on recognition; 3D vision; low-level vision and features; segmentation; face and gesture, tracking; stereo, physics, video and events; and poster sessions 1-3.

The two-volume set of LNCS 11941 and 11942 constitutes the refereed proceedings of the 8th International Conference on Pattern Recognition and Machine Intelligence, PReMI 2019, held in Tezpur, India, in December 2019. The 131 revised full papers presented were carefully reviewed and selected from 341 submissions. They are organized in topical sections named: Pattern Recognition; Machine Learning; Deep Learning; Soft and Evolutionary Computing; Image Processing; Medical Image Processing; Bioinformatics and Biomedical Signal Processing; Information Retrieval; Remote Sensing; Signal and Video Processing; and Smart and Intelligent Sensors.

Presented at the 1st International Conference on Urban Growth and the Circular Economy that was held in Alicante, Spain the papers included in this book focus on the continuing and rapid growth of cities and their regions of influence and how that has led to the need to find new solutions which allow for promoting their sustainable development. The quest for the Sustainable City has until recently focused on the efficient use of resources with the application of technical

advances giving rise to the definition of SMART Cities. The economic model emphasised however is still “linear” in the sense that the design and consumption follows the pattern of extraction of natural resources, manufacturing, product usage and waste disposal. The continuous growth of urban population has recently given rise to the emergence of a new model which responds better to the challenges of natural resource depletion as well as waste management. This model has been called the “circular economy”. The circular economy is a recent concept based on the reuse of what up to now has been considered wastes, reintroducing them into the productive cycle. The objective of the circular economy is to reduce consumption and achieve savings in terms of raw materials, water and energy, thus contributing to the preservation of resources in order to reach sustainable development. One of the most important of these resources is water which is becoming a scarce commodity in an ever expanding world whose population demands a better standard of living. Water is required for agricultural purposes as well as by industry, in addition to its use by the general population. The recycling of water is an essential component of the circular economy. There is no possibility for the success of a long term economic policy without addressing the problems of natural resources and environmental pollution, which will affect the reuse of materials and products. The current market economy based on a linear model from resource extraction, manufacturing, consumption and waste disposal, has not proved a long term suitable solution, in spite of the substantial efforts made in reducing its environmental impacts. This is largely due to the continuous population growth, in a society that demands high standards of living, thus requiring an ever increasing share of natural resources.

This timely book is a compilation of edited articles by distinguished international scientists discussing global warming, its causes as well as present and future solutions. Social and economic growth at global level is measured in terms of GDP, which requires energy inputs generally based on fossil fuel resources. These, however, are major contributors to increasing levels of CO₂, causing 15 tonnes of green house gas emissions per capita. Renewable sources of energy offer an alternative to fossil fuels, and would help reduce this to the 2 tonnes of greenhouse gas emissions per capita per annum needed to achieve sustainable growth. As such, the book discusses the next-generation of biofuels and all related aspects, based on the editors’ significant investigations on biofuels over the last 30 years. It also presents the latest research findings from research work carried out by contemporary researchers. Presenting global biofuel perspectives, it examines various issues related to sustainable development of biofuels in the contexts of agriculture, forestry, industry and economic growth. It covers the 1st to 4th generation biofuels, as well as the status of biofuel resources and their potential in carbon neutral economy. Offering a comprehensive, state-of-art overview of current and future biofuels at local and global levels, this book appeals to administrators, policy makers, universities and research institutions.

This book constitutes the refereed proceedings of the 19th International Symposium on Methodologies for Intelligent

Systems, ISMIS 2011, held in Warsaw, Poland, in June 2011. The 71 revised papers presented together with 3 invited papers were carefully reviewed and selected from 131 submissions. The papers are organized in topical sections on rough sets - in memoriam Zdzisław Pawlik, challenges in knowledge discovery and data mining - in memoriam Jan Źytkov, social networks, multi-agent systems, theoretical backgrounds of AI, machine learning, data mining, mining in databases and warehouses, text mining, theoretical issues and applications of intelligent web, application of intelligent systems in sound processing, intelligent applications in biology and medicine, fuzzy sets theory and applications, intelligent systems, tools and applications, and contest on music information retrieval.

This volume offers a much-needed compilation of essential reviews on diverse aspects of plant biology, written by eminent botanists. These reviews effectively cover a wide range of aspects of plant biology that have contemporary relevance. At the same time they integrate classical morphology with molecular biology, physiology with pattern formation, growth with genomics, development with morphogenesis, and classical crop-improvement techniques with modern breeding methodologies. Classical botany has been transformed into cutting-edge plant biology, thus providing the theoretical basis for plant biotechnology. It goes without saying that biotechnology has emerged as a powerful discipline of Biology in the last three decades. Biotechnological tools, techniques and information, used in combination with appropriate planning and execution, have already contributed significantly to economic growth and development. It is estimated that in the next decade or two, products and processes made possible by biotechnology will account for over 60% of worldwide commerce and output. There is, therefore, a need to arrive at a general understanding and common approach to issues related to the nature, possession, conservation and use of biodiversity, as it provides the raw material for biotechnology. More than 90% of the total requirements for the biotechnology industry are contributed by plants and microbes, in terms of goods and services. There are however substantial plant and microbial resources that are waiting for biotechnological exploitation in the near future through effective bioprospection. In order to exploit plants and microbes for their useful products and processes, we need to first understand their basic structure, organization, growth and development, cellular process and overall biology. We also need to identify and develop strategies to improve the productivity of plants. In view of the above, in this two-volume book on plant biology and biotechnology, the first volume is devoted to various aspects of plant biology and crop improvement. It includes 33 chapters contributed by 50 researchers, each of which is an expert in his/her own field of research. The book begins with an introductory chapter that gives a lucid account on the past, present and future of plant biology, thereby providing a perfect historical foundation for the chapters that follow. Four chapters are devoted to details on the structural and developmental aspects of the structures of plants and their principal organs. These chapters provide the molecular biological basis for the regulation of morphogenesis of

the form of plants and their organs, involving control at the cellular and tissue levels. Details on biodiversity, the basic raw material for biotechnology, are discussed in a separate chapter, in which emphasis is placed on the genetic, species and ecosystem diversities and their conservation. Since fungi and other microbes form an important component of the overall biodiversity, special attention is paid to the treatment of fungi and other microbes in this volume. Four chapters respectively deal with an overview of fungi, arbuscularmycorrhizae and their relation to the sustenance of plant wealth, diversity and practical applications of mushrooms, and lichens (associated with a photobiont). Microbial endosymbionts associated with plants and phosphate solubilizing microbes in the rhizosphere of plants are exhaustively treated in two separate chapters. The reproductive strategies of bryophytes and an overview on Cycads form the subject matter of another two chapters, thus fulfilling the need to deal with the non-flowering Embryophyte group of plants. Angiosperms, the most important group of plants from a biotechnological perspective, are examined exhaustively in this volume. The chapters on angiosperms provide an overview and cover the genetic basis of flowers development, pre-and post-fertilization reproductive growth and development, seed biology and technology, plant secondary metabolism, photosynthesis, and plant volatile chemicals. A special effort has been made to include important topics on crop improvement in this volume. The importance of pollination services, apomixes, male sterility, induced mutations, polyploidy and climate changes is discussed, each in a separate chapter. Microalganutra-pharmaceuticals, vegetable-oil-based nutraceuticals and the importance of alien crop resources and underutilized crops for food and nutritional security form the topics of three other chapters in this volume. There is also a special chapter on the applications of remote sensing in the plant sciences, which also provides information on biodiversity distribution. The editors of this volume believe the wide range of basic topics on plant biology that have great relevance in biotechnology covered will be of great interest to students, researchers and teachers of botany and plant biotechnology alike.

This book constitutes the thoroughly refereed post-conference proceedings of the 5th International ICST Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS 2010) which was held in Boston, USA, in December 2010. The 78 revised full papers were carefully reviewed and selected from numerous submissions for inclusion in the proceedings. BIONETICS 2010 aimed to provide the understanding of the fundamental principles and design strategies in biological systems and leverage those understandings to build bio-inspired systems.

"This book provides a compendium of terms, definitions, and explanations of concepts, issues, and trends in grid technology"--Provided by publisher.

This volume contains the latest in the series of ICAPR proceedings on the state-of-the-art of different facets of pattern recognition. These conferences have already carved out a unique position among events attended by the pattern recognition community. The contributions

tackle open problems in the classic fields of image and video processing, document analysis and multimedia object retrieval as well as more advanced topics in biometrics speech and signal analysis. Many of the papers focus both on theory and application driven basic research pattern recognition.

This book constitutes the proceedings of the 14th International Conference on Applied Reconfigurable Computing, ARC 2018, held in Santorini, Greece, in May 2018. The 29 full papers and 22 short presented in this volume were carefully reviewed and selected from 78 submissions. In addition, the volume contains 9 contributions from research projects. The papers were organized in topical sections named: machine learning and neural networks; FPGA-based design and CGRA optimizations; applications and surveys; fault-tolerance, security and communication architectures; reconfigurable and adaptive architectures; design methods and fast prototyping; FPGA-based design and applications; and special session: research projects.

These two volumes, LNCS 7076 and LNCS 7077, constitute the refereed proceedings of the Second International Conference on Swarm, Evolutionary, and Memetic Computing, SEMCCO 2011, held in Visakhapatnam, India, in December 2011. The 124 revised full papers presented in both volumes were carefully reviewed and selected from 422 submissions. The papers explore new application areas, feature new bio-inspired algorithms for solving specific hard optimization problems, and review the latest progresses in the cutting-edge research with swarm, evolutionary, and memetic computing in both theoretical and practical aspects.

In the post-genomic era, a holistic understanding of biological systems and processes, in all their complexity, is critical in comprehending nature's choreography of life. As a result, bioinformatics involving its two main disciplines, namely, the life sciences and the computational sciences, is fast becoming a very promising multidisciplinary research field. With the ever-increasing application of large-scale high-throughput technologies, such as gene or protein microarrays and mass spectrometry methods, the enormous body of information is growing rapidly. Bioinformaticians are posed with a large number of difficult problems to solve, arising not only due to the complexities in acquiring the molecular information but also due to the size and nature of the generated data sets and/or the limitations of the algorithms required for analyzing these data. Although the field of bioinformatics is still in its embryonic stage, the recent advancements in computational and information-theoretic techniques are enabling us to conduct various in silico testing and screening of many lab-based experiments before these are actually performed in vitro or in vivo. These in silico investigations are providing new insights for interpretation and establishing a new direction for a deeper understanding. Among the various advanced computational methods currently being applied to such studies, the pattern recognition techniques are mostly found to be at the core of the whole discovery process for apprehending the underlying biological knowledge. Thus, we can safely surmise that the ongoing bioinformatics revolution may, in future, inevitably play a major role in many aspects of medical practice and/or the discipline of life sciences.

Welcome to the 12th International Conference on Rough Sets, Fuzzy Sets, Data Mining and Granular Computing (RSFDGrC 2009), held at the Indian Institute of Technology (IIT), Delhi, India, during December 15-18, 2009. RSFDGrC is a series of conferences spanning over the last 15 years. It investigates the meeting points among the four major areas outlined in its title. This year, it was co-organized with the Third International Conference on Pattern Recognition and Machine Intelligence (PReMI 2009), which provided additional means for multifaceted interaction of both scientists and practitioners. It was also the core component of this year's Rough Set Year in India project. However, it remained a fully international event aimed at building bridges between countries. The first section contains the invited papers and a short report on the above-mentioned project. Let us note that all the RSFDGrC 2009 plenary speakers, Ivo Düntsch, Zbigniew Suraj, Zhongzhi Shi,

Sergei Kuznetsov, Qiang Shen, and Yukio Ohsawa, contributed with the full-length articles in the proceedings. The remaining six sections contain 56 regular papers that were selected out of 130 submissions, each peer-reviewed by three PC members. We thank the authors for their high-quality papers submitted to this volume and regret that many deserving papers could not be accepted because of our urge to maintain strict standards. It is worth mentioning that there was quite a good number of papers on the foundations of rough sets and fuzzy sets, many of them authored by Indian researchers. The fuzzy set theory has been popular in India for a longer time. Now, we can see the rising interest in the rough set theory.

This book constitutes the refereed conference proceedings of the 8th International Conference on Multi-disciplinary Trends in Artificial Intelligence, MIWAI 2014, held in Bangalore, India, in December 2014. The 22 revised full papers were carefully reviewed and selected from 44 submissions. The papers feature a wide range of topics covering both theory, methods and tools as well as their diverse applications in numerous domains.

Development of high-throughput technologies in molecular biology during the last two decades has contributed to the production of tremendous amounts of data. Microarray and RNA sequencing are two such widely used high-throughput technologies for simultaneously monitoring the expression patterns of thousands of genes. Data produced from such experiments are voluminous (both in dimensionality and numbers of instances) and evolving in nature. Analysis of huge amounts of data toward the identification of interesting patterns that are relevant for a given biological question requires high-performance computational infrastructure as well as efficient machine learning algorithms. Cross-communication of ideas between biologists and computer scientists remains a big challenge. *Gene Expression Data Analysis: A Statistical and Machine Learning Perspective* has been written with a multidisciplinary audience in mind. The book discusses gene expression data analysis from molecular biology, machine learning, and statistical perspectives. Readers will be able to acquire both theoretical and practical knowledge of methods for identifying novel patterns of high biological significance. To measure the effectiveness of such algorithms, we discuss statistical and biological performance metrics that can be used in real life or in a simulated environment. This book discusses a large number of benchmark algorithms, tools, systems, and repositories that are commonly used in analyzing gene expression data and validating results. This book will benefit students, researchers, and practitioners in biology, medicine, and computer science by enabling them to acquire in-depth knowledge in statistical and machine-learning-based methods for analyzing gene expression data. **Key Features:** An introduction to the Central Dogma of molecular biology and information flow in biological systems A systematic overview of the methods for generating gene expression data Background knowledge on statistical modeling and machine learning techniques Detailed methodology of analyzing gene expression data with an example case study Clustering methods for finding co-expression patterns from microarray, bulkRNA, and scRNA data A large number of practical tools, systems, and repositories that are useful for computational biologists to create, analyze, and validate biologically relevant gene expression patterns Suitable for multidisciplinary researchers and practitioners in computer science and the biological sciences

Dragonflies (Odonata), represented by over 6000 known species, are unique insects. In more than one feature they differ, at the very first glance, from all other insect superorders including their nearest allies, the mayflies (Ephemeropteroidea). The Zygoptera

and Anisoptera, on the other hand, are the dominant groups. Being voracious predators in both immature (aquatic) and adult (aerial) stages they are important elements of all, except the drier (or high alpine) environments in temperate and tropical regions, occupying a position at the apex of the food chain of invertebrate life. Many dragonfly species are tested biological control agents for several disease-transmitting vector mosquitoes, especially *Aedes* species. They are also ideal organisms to be used as indicators of water pollution and contamination. Many species serve as intermediate hosts of fluke parasites of birds, and thus are important in the transmission of parasitic diseases, especially of domestic poultry and wild ducks. Because of their unique morphology and physiology, dragonflies are used extensively in the study of many biological phenomena. All these subjects are discussed in this unique book comprising twenty three articles written by expert odonatologists from different parts of the world. The book is written in a lucid and comprehensible language, and will likely be useful to both the professional and amateur alike. Prof. G.N. Ramachandran Has Been Among The Foremost Biophysicists And Structural Biologists Of Our Times, And The Most Outstanding Scientist To Have Worked In Independent India. His Contributions Pertaining To Collagen, Methods Of Structural Analysis, Computer Modelling And Conformational Analysis, And Three-Dimensional Image Reconstruction Have Had A High Global Impact. This Volume In Honour Of Gnr Consists Of Articles At The Cutting Edge Of Structural Biology Contributed By Leading Scientists, Including Two Noble Laureates. It Is Intended To Be A Window To Modern Structural Biology And A Showcase Of The Indian Effort In This Area.

SOCRATES Vol 4, No 3 (2016) Special Issue: September - Future of E-government: Learning from the Past. Saurabh Chandra, Socrates Scholarly Research Journal

The Bhagirathi-Hooghly Basin in India is one of the most densely populated regions in the world and is undergoing rapid transformation of its natural landscape induced by human interventions, such as mushrooming of dams and barrages, deforestation, and urbanization. Human activities and interventions on basin landforms and the processes that shape those landforms have accelerated at an alarming rate. This book uses spatio-temporal analysis to understand the major anthropogenic signatures on land use and land cover changes and the impact these activities have on the landforms and processes of the Bhagirathi-Hooghly River and its sub-basins. It answers the what, where, why, and how of the anthropogenic signatures involved. Recent case studies on the impact of anthropogenic signatures on fluvial forms and processes make this book a useful resource for students and researchers in the earth sciences, local governments, urban planners, and all concerned with rural developments. Features: Explores for the first time the new concept of anthropogeomorphology for the river basin—an emerging field Analyses the impact of anthropogenic activities, especially the construction of dams and reservoirs, and urbanization on major fluvial landscapes using advanced geospatial modelling techniques Investigates human interference in river systems, their effects on the dynamics of the river, and the livelihoods of the people residing along the river Addresses issues related to geology, geomorphology, geography, planning, land use, and land management areas Fills the need for data-driven governance and policy decisions for the future of urban-industrial growth in India.

Given our rapidly growing population, the need for judicious management of essential natural resources is becoming a major challenge for planners, managers and scientists/researchers. This book presents a multidisciplinary approach to managing water, energy and bio-resources, described in papers contributed by distinguished scientists and academics working at reputed universities and institutions around the globe. It includes 28 chapters grouped into three sections: Water Resources Management; Energy and Bio-resources Management; and Climate and Natural Resources Management, examining case studies from all over the world. These contributions address current challenges, offering modern techniques for managing these resources in various geographical regions. This volume will provide a valuable asset for researchers and students, managers, environmentalists, hydrologists, water resource and energy managers, governmental and other regulatory bodies dealing with water, energy and bio-resources.

Highlighting the major economic and industrial changes in the lubrication industry since the first edition, Synthetics, Mineral Oils, and Bio-Based Lubricants, Second Edition outlines the state of the art in each major lubricant application area. Chapters cover trends in the major industries, such as the use of lubricant fluids, growth or decl

This book provides insights to various stakeholders for making the commercial use of biodiversity a gainful enterprise for both the poor and the rich. The benefits from genetic resources are mostly drawn from the commercial use of traditional knowledge held by indigenous communities. This book discusses the issues of access to these resources and the equitable sharing of benefits drawn from them by examining a range of worldwide biodiversity prospecting partnerships. It underlines the acrimonious debates between technology-rich developed countries and biodiversity-rich developing countries. Additionally, assessing the bargaining power of developing countries and the emerging biodiversity laws, it highlights the 'thinking globally, acting locally' principle and urges for access and benefit sharing to be evolved as a new discipline of study. The book will prove beneficial to all stakeholders involved in the business of the world's biodiversity. Following the migration of workflows, data, and communication to the Cloud and other Internet-based frameworks, interaction over the Web has become ever more commonplace. As with any social situation, there are rules and consequences to actions within a virtual environment. Cyber Behavior: Concepts, Methodologies, Tools, and Applications explores the role of cyberspace in modern communication and interaction, including considerations of ethics, crime, security, and education. With chapters on a variety of topics and concerns inherent to a contemporary networked society, this multi-volume work will be of particular interest to students and academicians, as well as software developers, computer scientists, and specialists in the field of Information Technologies.

The opening ceremony and pre-conference tutorials on various related topics were held on December 21. The technical program started on December 22 and continued for three days. The program was arranged in single track so as to enable participants to attend sessions of different tracks. Papers from the DM, IT, SE, and SS tracks were divided into

two sessions, whereas DC track sessions were held on the first two days of the conference. The program also included two plenary talks. The first talk was delivered by S. S. Iyengar from Louisiana State University, USA. The second talk was delivered by He Jifeng from the International Institute for Software Technology (IIIST) Macau. Prof. Iyenger's talk on "The Distributed Sensor Networks — An Emerging Technology" was focused on new ideas about the use of distributed systems for emerging technology, while Prof. Jifeng's talk on "Linking Theories of Concurrency by Retraction" dealt with semantics of concurrency. All the conference committee members contributed towards the success of ICDCIT 2005. And it was a pleasant experience for me to work with them. The one name that sticks out is R. K. Ghosh, Steering Committee Chair. He really steered the group with his past experience as Program Chair of ICDCIT 2004.

This book will provide assistance to the broad range of readers involved in the crude oil import and production; renewable energy production; biomass analysis and bioconversion; greenhouse gas emissions; techno-economic analysis and government policies for implementing biofuels in India. This book presents important aspects on the large scale production of biofuels following a bio-refinery concept and its commercialization and sustainability issues. Hence, it is a useful resource to policy makers, policy analysts, techno-economic analysts and business managers who deal with commercialization and implementation of bio-based energy and other value-added products. The following features of this book attribute its distinctiveness: As a first uniquely focused scientific and technical literature on bioenergy production in the context of India. To its coverage of technological updates on biomass collection, storage and use, biomass processing, microbial fermentation, catalysis, regeneration, solar energy and monitoring of renewable energy and recovery process. To the technical, policy analysis, climate change, geo-political analysis of bioenergy and green transportation fuels at industrial scale.

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