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Committee Serial No. 10. Considers legislation to extend the time for making grants under the Federal Airport Act.
White biotechnology is industrial biotechnology dealing with various biotech products through applications of microbes. The main application of white biotechnology is commercial production of various useful organic substances, such as acetic acid, citric acid, acetone, glycerine, etc., and antibiotics like penicillin, streptomycin, mitomycin, etc., and value added product through the use of microorganisms especially fungi and bacteria. The value-added products included bioactive compounds, secondary metabolites, pigments and industrially important enzymes for potential applications in agriculture, pharmaceuticals, medicine and allied sectors for human welfare. In the 21st century, techniques were developed to harness fungi to protect human health (through antibiotics, antimicrobial, immunosuppressive agents, value-added products etc.), which led to industrial scale production of enzymes, alkaloids, detergents, acids, biosurfactants. The first large-scale industrial applications of modern biotechnology have been made in the areas of food and animal feed production (agricultural/green biotechnology) and pharmaceuticals (medical/red biotechnology). In contrast, the production of bio-active compounds through fermentation or enzymatic conversion is known industrial or white biotechnology. The beneficial fungal strains may play important role in agriculture, industry and the medical sectors. The beneficial fungi play a significance role in plant growth promotion, and soil fertility using both, direct (solubilization of phosphorus, potassium and zinc; production of indole acetic acid, gibberellic acid, cytokinin and siderophores) and indirect (production of hydrolytic enzymes, siderophores, ammonia, hydrogen cyanides and antibiotics) mechanisms of plant growth promotion for sustainable agriculture. The fungal strains and their products (enzymes, bio-active compounds and secondary metabolites) are very useful for industry. The discovery of antibiotics is a milestone in the development of white biotechnology. Since then, white biotechnology has steadily developed and now plays a key role in several industrial sectors, providing both high valued nutraceuticals and pharmaceutical products. The fungal strains and bio-active compounds also play important role in the environmental cleaning. This volume covers the latest research developments related to value-added products in white biotechnology through fungi.
Cell culture methodologies have become standard procedures in most plant laboratories. Currently, facilities for in vitro cell cultures are found in practically every plant biology laboratory, serving different purposes since tissue culture has turned into a basic asset for modern biotechnology, from the fundamental biochemical aspects to the massive propagation of selected individuals. “Plant Cell Culture Protocols, Third Edition is divided into five convenient sections that cover topics from general methodologies, such as culture induction, growth and viability evaluation, statistical analysis and contamination control, to highly specialized techniques, such as clonal propagation, haploid production, somatic embryogenesis, organelle transformation. The volume concludes with a section on the laborious process of measuring the epigenetics changes in tissue cultures.”Written in the successful Methods in Molecular BiologyTM series format, chapters include introductions to their respective topics, lists of the

necessary materials and reagents, step-by-step, readily reproducible protocols, and notes on troubleshooting and avoiding known pitfalls. Authoritative and easily accessible, Plant Cell Culture Protocols, Third Edition seeks to serve both professionals and novices with its guide to the most common and applicable techniques and methods for plant tissue and cell culture.

Twelve Years a Slave (1853) is a memoir and slave narrative by Solomon Northup, as told to and edited by David Wilson. Northup, a black man who was born free in New York, details his kidnapping in Washington, D.C. and subsequent sale into slavery. After having been kept in bondage for 12 years in Louisiana by various masters, Northup was able to write to friends and family in New York, who were in turn able to secure his release. Northup's account provides extensive details on the slave markets in Washington, D.C. and New Orleans and describes at length cotton and sugar cultivation on major plantations in Louisiana.

This book is a printed edition of the Special Issue "Understanding and Supporting 'Families with Complex Needs'" that was published in Social Sciences

This book encompasses current knowledge of soil microbiomes and their potential biotechnological application for plant growth, crop yield, and soil health under the natural as well as harsh environmental conditions for sustainable agriculture. The microbes are ubiquitous in nature. The soil is a natural hotspot of the soil microbiome. The soil microbiome plays a critical role in the maintenance of global nutrient balance and ecosystem functioning. The soil microbiomes are associated with plant ecosystems through the intense network of plant–microbe interactions. The microbes present in bulk soil move toward the rhizospheric region due to the release of different nutrients by plant systems. The rhizospheric microbes may survive or proliferate in rhizospheric zone depending on the extent of influences of the chemicals secreted into the soil by roots. The root exudates contain the principal nutrients factors (amino acids, glucose, fructose, and sucrose). The microbes present in rhizospheric region have capabilities to fix atmospheric nitrogen, produce different phytohormones, and solubilize phosphorus, potassium, and zinc. The plant systems take these nutrients for their growth and developments. These soil and plant associated microbes also play an important role in protection of plants from different plant pathogenic organisms by producing different secondary metabolites such as ammonia, hydrogen cyanide, siderophores, and hydrolytic enzymes. The soil microbiomes with plant growth-promoting (PGP) attributes have emerged as an important and promising tool for sustainable agriculture. The soil microbiomes promote the plant growth and enhance the crop yield and soil fertility via directly or indirectly different plant growth-promoting mechanism. The soil microbes help the plant for adaptation in extreme habitats by mitigating the abiotic stress of high/low temperatures, hypersalinity, drought, and acidic/alkaline soil. These PGP microbes are used as biofertilizers/bioinoculants to replace the harmful chemical fertilizers for sustainable agriculture and environments. The aim of the book “Soil Microbiomes for Sustainable Agriculture” is to provide the recent advances in mechanisms of plant growth promotion and applications of soil microbiomes for mitigation of different abiotic stresses in plants. The book is useful to scientists, researchers, and students related to microbiology, biotechnology, agriculture, molecular biology, environmental biology, and related subjects.

Next Generation Supply Chains: Trends and Opportunities.

This award-winning book explores one of the most successful cultures and society the world has ever seen-capitalism. From its European roots more than 500 years ago to the present, the book examines the problems of capitalism's expansion, inequality, environmental destruction, and social unrest. Global Problems and the Culture of Capitalism provides the reader with the anthropological, economic, and historical framework to understand the origins of global problems, why globalization and the global expansion of the culture of capitalism has generated protest and resistance, and the steps that are necessary to solve global problems. As one reviewer said, "This is a book that will doubtless create debate and controversy, but its topic should be pondered seriously by all who consider themselves citizens of our world society today." For anyone interested in global issues and international affairs.

This volume provides an in-depth introduction to 3D printing and biofabrication and covers the recent advances in additive manufacturing for tissue engineering. The book is divided into two parts, the first part on 3D printing discusses conventional approaches in additive manufacturing aimed at fabrication of structures, which are seeded with cells in a subsequent step. The second part on biofabrication presents processes which integrate living cells into the fabrication process.

Focuses on applications for offshore platforms and piping; and, wind-induced vibration of buildings, bridges, and towers. This title also focuses on acoustic and mechanical vibration of heat exchangers, power lines, and process ducting.

The homogenization of single phase gases or liquids with chemical reactive components by mixing belongs to one of the oldest basic operations applied in chemical engineering. The mixing process is used as an essential step in nearly all processes of the chemical industry as well as the pharmaceutical and food ind- tries. Recent experimentally and theoretically based results from research work lead to a fairly good prediction of the velocity fields in differend kinds of mixers, where as predictions of simultaneously proceeding homogeneous chemical re- tions, are still not reliable in a similar way. Therefore the design of equipment for mixing processes is still derived from measurements of the so called “mixing time” which is related to the applied methods of measurement and the special - sign of the test equipment itself. The cooperation of 17 research groups was stimulated by improved modern methods for experimental research and visualization, for simulations and nume- cal calculations of mixing and chemical reactions in micro and macro scale of time and local coordinates. The research work was financed for a six years period within the recently finished Priority Program of the German Research Foundation (DFG) named “Analysis, modeling and numerical prediction of flow-mixig with and without chemical reactions (SPP 1141)”. The objective of the investigations was to improve the prediction of efficiencies and selectivities of chemical re- tions on macroscopic scale.

"Pattern Recognition, Machine Intelligence and Biometrics" covers the most recent developments in Pattern Recognition

and its applications, using artificial intelligence technologies within an increasingly critical field. It covers topics such as: image analysis and fingerprint recognition; facial expressions and emotions; handwriting and signatures; iris recognition; hand-palm gestures; and multimodal based research. The applications span many fields, from engineering, scientific studies and experiments, to biomedical and diagnostic applications, to personal identification and homeland security. In addition, computer modeling and simulations of human behaviors are addressed in this collection of 31 chapters by top-ranked professionals from all over the world in the field of PR/AI/Biometrics. The book is intended for researchers and graduate students in Computer and Information Science, and in Communication and Control Engineering. Dr. Patrick S. P. Wang is a Professor Emeritus at the College of Computer and Information Science, Northeastern University, USA, Zijiang Chair of ECNU, Shanghai, and NSC Visiting Chair Professor of NTUST, Taipei.

This open access book, written by world experts in aquaponics and related technologies, provides the authoritative and comprehensive overview of the key aquaculture and hydroponic and other integrated systems, socio-economic and environmental aspects. Aquaponic systems, which combine aquaculture and vegetable food production offer alternative technology solutions for a world that is increasingly under stress through population growth, urbanisation, water shortages, land and soil degradation, environmental pollution, world hunger and climate change.

The International Society for Systems Biology (ISSB) is a society aimed at advancing world-wide systems biology research by providing a forum for scientific discussions and various academic services. The ISSB helps coordinate researchers to form alliances for meeting the unique needs of multidisciplinary and international systems biology research. The annual International Conference on Systems Biology (ICSB) serves as the main meeting for the society and is one of the largest academic and commercial gatherings under the broad heading of ‘Systems Biology’.

In the past few years nucleic acids technologies have grown into a powerful analytical and also increasingly therapeutic tool. It has been applied not only to the uncovering of gene functions in many organisms, but also to pathogenetic analysis and recently also for the treatment of human diseases. The book discusses in depth the potential of these innovative methods in the broad field of central nervous system and brain tumours particularly. Whereas there is currently no comprehensive overview on potential and challenges of nucleic acids technologies for basic brain tumours and for the clinical management of patients with brain tumours, this book does explicitly cover the many other aspects of the "RNA World" (pathogenic and therapeutic potential of microRNAs, aptamer technology, etc.), too. With this significantly broadened scope as compared to currently existing books it appears to be an urgently needed new publication.

In the course of evolution, a great variety of root systems have learned to overcome the many physical, biochemical and biological problems brought about by soil. This development has made them a fascinating object of scientific study. This

volume gives an overview of how roots have adapted to the soil environment and which roles they play in the soil ecosystem. The text describes the form and function of roots, their temporal and spatial distribution, and their turnover rate in various ecosystems. Subsequently, a physiological background is provided for basic functions, such as carbon acquisition, water and solute movement, and for their responses to three major abiotic stresses, i.e. hard soil structure, drought and flooding. The volume concludes with the interactions of roots with other organisms of the complex soil ecosystem, including symbiosis, competition, and the function of roots as a food source.

The experience developed by Ian McHarg represents the first attempt to base environmental planning on more objective methods. In particular, he supposed that the real world can be considered as a layer cake and each layer represents a sectoral analysis. This metaphor represents the fundamental of overlay mapping. At the beginning, these principles have been applied only by hand, just considering the degree of darkness, produced by layer transparency, as a negative impact. In the following years, this craftmade approach, has been adopted for data organization in Geographical Information Systems producing analyses with a high level of quality and rigour. Nowadays, great part of studies in environmental planning field have been developed using GIS. The next step relative to the simple use of geographic information in supporting environmental planning is the adoption of spatial simulation models, which can predict the evolution of phenomena. As the use of spatial information has definitely improved the quality of data sets on which basing decision-making process, the use of Geostatistics, spatial simulation and, more generally, geocomputation methods allows the possibility of basing the decision-making process on predicted future scenarios. It is very strange that a discipline such as planning which programs the territory for the future years in great part of cases is not based on simulation models. Sectoral analyses, often based on surveys, are not enough to highlight dynamics of an area. Better knowing urban and environmental changes occurred in the past, it is possible to provide better simulations to predict possible tendencies. The aim of this book is to provide an overview of the main methods and techniques adopted in the field of environmental geocomputation in order to produce a more sustainable development.

This volume presents a wide range of new approaches aimed at improving the safety and quality of food products and agricultural commodities. Each chapter provides in-depth information on new and emerging food preservation techniques including those relating to decontamination, drying and dehydration, packaging innovations and the use of botanicals as natural preservatives for fresh animal and plant products. The 28 chapters, contributed by an international team of experienced researchers, are presented in five sections, covering: Novel decontamination techniques Novel preservation techniques Active and atmospheric packaging Food packaging Mathematical modelling of food preservation processes Natural preservatives This title will be of great interest to food scientists and engineers based in food manufacturing and

in research establishments. It will also be useful to advanced students of food science and technology.
Microbial communities and their functions play a crucial role in the management of ecological, environmental and agricultural health on the Earth. Microorganisms are the key identified players for plant growth promotion, plant immunization, disease suppression, induced resistance and tolerance against stresses as the indicative parameters of improved crop productivity and sustainable soil health. Beneficial belowground microbial interactions with the rhizosphere help plants mitigate drought and salinity stresses and alleviate water stresses under the unfavorable environmental conditions in the native soils. Microorganisms that are inhabitants of such environmental conditions have potential solutions for them. There are potential microbial communities that can degrade xenobiotic compounds, pesticides and toxic industrial chemicals and help remediate even heavy metals, and thus they find enormous applications in environmental remediation. Microbes have developed intrinsic metabolic capabilities with specific metabolic networks while inhabiting under specific conditions for many generations and, so play a crucial role. The book Microbial Interventions in Agriculture and Environment is an effort to compile and present a great volume of authentic, high-quality, socially-viable, practical and implementable research and technological work on microbial implications. The whole content of the volume covers protocols, methodologies, applications, interactions, role and impact of research and development aspects on microbial interventions and technological outcomes in prospects of agricultural and environmental domain including crop production, plan-soil health management, food & nutrition, nutrient recycling, land reclamation, clean water systems and agro-waste management, biodegradation & bioremediation, biomass to bioenergy, sanitation and rural livelihood security. The covered topics and sub-topics of the microbial domain have high implications for the targeted and wide readership of researchers, students, faculty and scientists working on these areas along with the agri-activists, policymakers, environmentalists, advisors etc. in the Government, industries and non-government level for reference and knowledge generation.
With the vast development of Internet capacity and speed, as well as wide adop- tion of media technologies in people’s daily life, a large amount of videos have been surging, and need to be efficiently processed or organized based on interest. The human visual perception system could, without difficulty, interpret and r- ognize thousands of events in videos, despite high level of video object clutters, different types of scene context, variability of motion scales, appearance changes, occlusions and object interactions. For a computer vision system, it has been be very challenging to achieve automatic video event understanding for decades. Broadly speaking, those challenges include robust detection of events under - tion clutters, event interpretation under complex scenes, multi-level semantic event inference, putting events in context and multiple cameras, event inference from object interactions, etc. In recent years, steady

progress has been made towards better models for video event categorisation and recognition, e. g. , from modelling events with bag of spatial temporal features to discovering event context, from detecting events using a single camera to inferring events through a distributed camera network, and from low-level event feature extraction and description to high-level semantic event classification and recognition. Nowadays, text based video retrieval is widely used by commercial search engines. However, it is still very difficult to retrieve or categorise a specific video segment based on their content in a real multimedia system or in surveillance applications.

The book you were waiting for to learn how to program in SQL ! ? 100% Beginners centered How to create a Data Base ? How to create tables ? How to insert, delete, and update data ? What are the SQL Data types and how to caste them ? What are the SQL operators ? What are the SQL built-in functions ? How to make SQL joins ? What are the SQL statements ? What are the stored procedures ? What are views, triggers ? How to design a Database ? What about data migration, database optimization and deployment ? So don't wait any longer and get this comprehensive guide to start SQL now !

This book presents a broad perspective on saponins as important natural products with a key role in plant defense. The presence of saponins has been reported in several plant species, and many types of saponins have been found to exhibit significant antifungal activities. In addition to their role in plant defense, saponins are of increasing interest for drug research, as they are active ingredients in several traditional medicines and hold potentially valuable pharmacological properties. In this book, the authors briefly introduce readers to saponin accumulation in various plant organs, with a specific focus on their structure classification and diversity. Readers will find detailed information on the saponin structure-activity relationship and saponins’ vital role in sustainable agriculture as a chemical barrier to pathogen attack. The latest techniques for isolating, identifying, and quantifying saponins are also discussed. In the closing chapter, the authors outline the recent metabolic engineering strategies applied to improve saponin glycosides production and their potential applications in plant disease resistance. This book and the companion volume Bioactive Molecules in Plant Defense: Signaling in Growth and Stress offer vital resources for all researchers and students interested in plant pathology, mycology and sustainable agriculture.

An increasing population has put tremendous pressure on agricultural productivity to fulfill the demands of human consumption. Numerous agricultural activities and techniques have been developed to raise annual crop production globally. While agriculture has succeeded in enhancing the yearly crop productivity, this achievement is at the cost of environmental degradation by applying synthetic persistent substances, such as industrial fertilizers, pesticides, herbicides, etc. Chemical fertilizers are nearly as destructive as they are productive, causing monocultures and

consequences associated with elimination of diversity, nutrient pollution as evidenced by algae blooms, eutrophication, water quality issues, lower oxygen levels and dangers to fish stocks. Therefore, the scientific approach to maintain sustainable fertility in soil and plants is to switch over to biofertilisers. Biofertilisers are compounds of organic matter that are applied to crops for growth and health. Their constituent micro-organisms interact in an ecofriendly manner with the soil, root and seeds of plants, promoting the growth of micro-flora that enhances soil fertility. They are known to play a number of vital roles in soil fertility, crop productivity and production in agriculture. Application of biofertilisers results in increased mineral and water uptake, root development, vegetative growth and nitrogen fixation. They liberate growth promoting substances and vitamins and help to maintain soil fertility. They act as antagonists and play a pivotal role in neutralising the soil borne plant pathogens, thereby assisting in the bio-control of diseases. Application of biofertilisers in lieu of synthetic fertilizers could be the promising technique to raise agricultural productivity without degrading the environmental quality. The present book focuses on the latest research approaches and updates from the microbiota ecosystem and their applications in agriculture industry. It also highlights the great potential and possible future of action of microbiota in the development of sustainable agricultural systems.

A superior primer on software testing and quality assurance, from integration to execution and automation This important new work fills the pressing need for a user-friendly text that aims to provide software engineers, software quality professionals, software developers, and students with the fundamental developments in testing theory and common testing practices. Software Testing and Quality Assurance: Theory and Practice equips readers with a solid understanding of: Practices that support the production of quality software Software testing techniques Life-cycle models for requirements, defects, test cases, and test results Process models for units, integration, system, and acceptance testing How to build test teams, including recruiting and retaining test engineers Quality Models, Capability Maturity Model, Testing Maturity Model, and Test Process Improvement Model Expertly balancing theory with practice, and complemented with an abundance of pedagogical tools, including test questions, examples, teaching suggestions, and chapter summaries, this book is a valuable, self-contained tool for professionals and an ideal introductory text for courses in software testing, quality assurance, and software engineering.

This book addresses basic and applied aspects of two nexus points of microorganisms in agro-ecosystems, namely their functional role as bio-fertilizers and bio-pesticides. Readers will find detailed information on all of the aspects that are required to make a microbe “agriculturally beneficial.” A healthy, balanced soil ecosystem provides a habitat for crops to grow without the need for interventions such as agro-chemicals. No organism in an agro-ecosystem can flourish individually, which is why research on the interaction of microorganisms with higher forms of life has increasingly gained

momentum in the last 10-15 years. In fact, most of plants' life processes only become possible through interactions with microorganisms. Using these "little helpers" as a biological alternative to agro-chemicals is a highly contemporary field of research. The information presented here is based on the authors' extensive experience in the subject area, gathered in the course of their careers in the field of agricultural microbiology. The book offers a valuable resource for all readers who are actively involved in research on agriculturally beneficial microorganisms. In addition, it will help prepare readers for the future challenges that climate change will pose for agriculture and will help to bridge the current gaps between different scientific communities.

ITIL® Foundation Essentials ITIL 4 Edition is the ultimate revision guide for candidates preparing for the ITIL 4 Foundation exam. It is fully aligned with the Foundation course syllabus and gives a clear and concise overview of the facts. This second edition has been updated to align with amendments to the ITIL® 4 Foundation syllabus.

"Dr. Paul Farmer is one of the most extraordinary people I've ever known. Partner to the Poor recounts his relentless efforts to eradicate disease, humanize health care, alleviate poverty, and increase opportunity and empowerment in the developing world. It will inspire us all to do our parts."--William J. Clinton "If the world is curious about Paul Farmer, there is a reason for that. No one has done more than he has in bringing modern medicine to the poor across the globe and no one has exceeded him in making us appreciate the diverse barriers that prevent proper medicine from reaching the underdogs of the world. In this wonderful collection of essays, putting together Paul Farmer's writings over more than two decades, we can see how his far-reaching ideas have developed and radically enhanced the understanding of the challenges faced by healthcare in the uneven world in which we live. This is an altogether outstanding book."--Amartya Sen, Nobel Laureate, Economics "To delve into these pages is to join one of the world's great explorers on an epic life journey--to grapple with culture, poverty, disease, health care, ethics, and ultimately our common humanity in the Age of AIDS. Paul Farmer is a pioneer, guide, and inspiration at a time of unprecedented contrasts: between wealth and poverty, power and powerlessness, health and disease, compassion and neglect. His medical expertise, anthropological vision, and unflinching decency have helped to recharge our world with moral purpose."--Jeffrey D. Sachs, Columbia University "Wow! Perfect for teaching. This is more than vintage Farmer. Editor Haun Saussy knows Farmer's work inside out and has assembled and organized 25 classic articles that project the heart of Farmer's brilliant, radical, inspiring, eminently practical and (dare I say) genuinely subversive work."--Philippe Bourgois, author of Righteous Dopefiend "If they gave Nobel Prizes for raising moral awareness, Paul Farmer would have won his a long time ago. For several decades now, his work has posed a challenge to anyone who dares say that radically improving the health of the world's poor can't be done. This splendid compilation of the best of his work allows us to follow a restless, creative,

compassionate mind in action, in and out of prisons and barrios and mud huts and hospital wards, from Haiti to Rwanda to Moscow, never taking 'no' for an answer."--Adam Hochschild, author of Bury the Chains "Paul Farmer is a deep scholar of Haitian society, a formidable medical anthropologist, an implacable theorist of structural violence and health as a human right, and an ethicist for whom the place of social justice in medicine and in the world is an existential need. This book is the platform of interconnected intellectual, academic, and practical engagements upon which the amazing, world-transforming life of Farmer stands."--Arthur Kleinman, author of What Really Matters: Living a Moral Life amidst Uncertainty and Danger "This collection shows the impressive catalytic effects of original scholarship when combined with action, activism, and a commitment to social justice in health. Paul Farmer and his PIH colleagues have twice changed World Health Organization policies; they continue to have a lasting impact on the global health movement and on the lives of the poor.--Peter Brown, Emory University

Jihad' is a highly charged word. Often mistranslated as 'Holy War', it has become synonymous with terrorism. Current political events have entirely failed to take account of the subtlety and complexity of jihad. Like many concepts with a long history, different cultural ideas have influenced the religious aspects of jihad. As a result its original meaning has been adapted, modified and destabilized - never more than at the present time. How does jihad manifest itself in Muslims' everyday lives? What impact has 9/11 and its backlash had on jihad? By observing the current crisis of identity among ordinary Muslims, this timely book explores why, and in what circumstances Muslims speak of jihad. In the end, jihad is what Muslims say it is. Marranci offers us a nuanced and sophisticated anthropological understanding of Muslims' lives far beyond the predictable cliches.A PDF version of this book is available for free in open access via the OAPEN Library platform, www.oapen.org

The marine environment accounts for most of the biodiversity on our planet, while offering a huge potential for the benefit and wellbeing of mankind. Its extensive resources already constitute the basis of many economic activities – but many more are expected in coming years. This book covers current knowledge on uses of marine algae to obtain bulk and fine chemicals, coupled with optimization of the underlying production and purification processes. Major gaps and potential opportunities in this field are discussed in a critical manner. The currrent trends pertaining to marine macro- and microalgae are explained in a simple and understandable writing style. This book covers a wide variety of topics, and as such it will be appropriate as both student text and reference for advances researchers in the field.

The interactions between the plant, soil, and microbes are very complex in nature and may be antagonistic, mutualistic, or synergistic, depending upon the types of microorganisms and their association with the plant and soil. The multi-trophictactics are involved in these types of interactions to nourish the plants in various habitats and conditions. Understanding the mechanisms of

these interactions is highly desired to utilize the knowledge in such an eco-friendly and sustainable way, which may not only resolve the upcoming food security issues but also make the environment green by reducing the chemical inputs. Plant, Soil and Microbes: Mechanisms and Molecular Interactions, along with the recently published Plant, Soil and Microbes: Implications in Crop Science, provide detailed accounts of the exquisite and delicate balance between the three critical components of agronomy. Specifically, these two titles focus on the basis of nutrient exchange between the microorganisms and the host plants, the mechanism of disease protection and the recent molecular details emerged from studying this multitropic interaction. Together they provide a solid foundation for the students, teachers, and researchers interested in soil microbiology, plant pathology, ecology and agronomy.

This book focuses on successful application of microbial biotechnology in areas such as medicine, agriculture, environment and human health.

This book covers a wide range of management issues, concerning planning, control and continuous improvement. It especially focuses on the management of the enterprise and production processes in the era of globalization, discussing the process of transferring production to developing countries, covering issues in technological culture, and reporting on quality control issues and on problems related to continuous process improvement. Modern strategies such as Six Sigma and lean manufacturing are also discussed. Another topic concerns the management of the education sphere, and how to develop the latter to prepare employees to the changes brought by the technical development. Based on papers presented at the 6th International Scientific-Technical Conference MANUFACTURING 2019, held in Poznan, Poland on May 19–22, 2019, this book bridges issues in quality engineering with concepts of ergonomics and sociology, thus offering a timely, practice-oriented guide to both the engineers and managers of the future.

This book is a comprehensive study of Nordic Noir television drama from the 1990’s until today. The authors introduce the history of contemporary Nordic Noir from the perspective of place, production and location studies. The chapters include readings of well-known television crime dramas such as Beck, The Killing, Trapped and The Bridge as well as a range of other important Nordic Noir cases. The authors position the development of Nordic Noir in the global market for popular television drama and place the international attention towards Nordic crime dramas within regional development of drama production in Sweden, Denmark, Norway and Iceland. Consequently, Nordic Noir is read as both a transnational financial and creative phenomenon and as a local possibility for community building. Offering a comprehensible, scholarly and methodologically original approach to the popularity of Nordic television crime dramas, this volume is aimed at readers with an interest in crime drama as well as scholars and students of television drama.

This volume presents refereed papers based on the oral and poster presentations at the 4th International Conference on Renewable Energy Sources, which was held from June 20 to 23, 2017 in Krynica, Poland. The scope of the conference included a wide range of topics in renewable energy technology, with a major focus on biomass and solar energy, but also extending to

geothermal energy, heat pumps, fuel cells, wind energy, energy storage, and the modeling and optimization of renewable energy systems. The conference had the unique goal of gathering Polish and international researchers' perspectives on renewable energy sources, and furthermore of balancing them against governmental policy considerations. Accordingly, the conference offered not only scientific sessions but also panels to discuss best practices and solutions with local entrepreneurs and federal government bodies. The Conference was jointly organized by the University of Agriculture in Krakow, the International Commission of Agricultural and Biosystems Engineering (CIGR), the Polish Society of Agricultural Engineering, AGH University of Science and Technology (Krakow), the Polish Society for Agrophysics under the patronage of the Rector of the University of Agriculture in Krakow, and the Polish Chamber of Ecology.