

Plant Biology For Cultural Heritage Biodeterioration And Conservation

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It is your definitely own time to ham it up reviewing habit. in the course of guides you could enjoy now is **Plant Biology For Cultural Heritage Biodeterioration And Conservation** below.

Heritage Daniela Turcanu-Carutiu
2020-09-09 This book presents
research efforts in the field of

heritage. According to the principle
“Open Minds-Open Science”, the
approach of the researchers helps us
to define, establish and affirm

heritage in the cultural, social and political dimension of today's world based on what we have achieved and be specific to the realities of the 21st century. Cultural heritage is made up of many big and small things. It is preserved through books, artifacts, objects, images, photographs, art and oral tradition. Sometimes we can touch and see what a culture is, other times it is intangible. From this point of view, this book, Heritage, is transdisciplinary, and contains the most diverse topics related to culture, art, nature, science, diplomacy and cultural policy.

Managing Religious Tourism Maureen Griffiths 2019-02-08 Managing Religious Tourism provides a global view of the tools and resources used in demand and supply management, in

the context of pilgrimage and religious tourism. With a focus on toolkits and best practices, the book reinforces the quality of service provision and offers a reflection on consumers' perspectives and what drives their purchasing decisions with regards to a variety of destinations. These central themes are complemented by an understanding of management responses to consumer behaviour and mobility, accessibility, individualism and tourism for both sacred and secular purposes. The book also examines the ways in which networks, partnerships and the conceptual stakeholder approach can be employed by religious tourism suppliers working with destination management organisations. The text promotes sustainable development and a triple bottom line

focus, with all chapters supporting policy for framing development. Key features include: - Global perspective on tools as well as management approaches and techniques. - Emphasis on sustainability in connecting sacred and secular consumers. - Focus on promoting learning and development within this important tourism sector.

Nanoscience and Nanomaterials for the Knowledge and Conservation of Cultural Heritage Luca Tortora 2020-12-30 This eBook is a collection of articles from a Frontiers Research Topic. Frontiers Research Topics are very popular trademarks of the Frontiers Journals Series: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research

to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area! Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers Editorial Office: frontiersin.org/about/contact.

Introduction to Biodeterioration
Dennis Allsopp 2004-06-28 Sample Text
Ecology of Cyanobacteria II Brian A. Whitton 2012-07-05 Cyanobacteria have existed for 3.5 billion years, yet they are still the most important photosynthetic organisms on the planet for cycling carbon and nitrogen. The ecosystems where they have key roles range from the warmer oceans to many Antarctic sites. They also include dense nuisance growths

in nutrient-rich lakes and nitrogen-fixers which aid the fertility of rice-fields and many soils, especially the biological soil crusts of arid regions. Molecular biology has in recent years provided major advances in our understanding of cyanobacterial ecology. Perhaps for more than any other group of organisms, it is possible to see how the ecology, physiology, biochemistry, ultrastructure and molecular biology interact. This all helps to deal with practical problems such as the control of nuisance blooms and the use of cyanobacterial inocula to manage semi-desert soils. Large-scale culture of several organisms, especially "Spirulina" (Arthrospira), for health food and specialist products is increasingly being expanded for a much wider range

of uses. In view of their probable contribution to past oil deposits, much attention is currently focused on their potential as a source of biofuel. Please visit <http://extras.springer.com/> to view Extra Materials belonging to this volume. This book complements the highly successful Ecology of Cyanobacteria and integrates the discoveries of the past twelve years with the older literature. *Biodegradation Technology of Organic and Inorganic Pollutants* Kassio Ferreira Mendes 2022-04-20 Bioremediation technologies for environments contaminated by organic and inorganic pollutants are a major focus of researchers and scientists worldwide. The chemical control of agricultural pests and advocacy for sustainable agriculture have led to

the development of new paradigms in environmental remediation. This book covers recent advances in the bioremediation technology of organic and inorganic pollutants in the environment.

Microbicides in Coatings Frank Sauer 2017-07-04 All about biocides for coatings: When it comes to protecting coatings, it is essential to strike the right balance between controlling germs in order to avoid economic damage on the one hand and tolerating microbial life where it is necessary and useful on the other. The new book from Frank Sauer provides a comprehensive overview of the working mechanisms and possible applications of microbicides for coatings - invaluable for formulators and technicians as well as for business people with a basic knowledge of

chemistry and biology.

Imaging Utopia J. Beckers 2021-03-25 On the first page of his famous book, Thomas More describes Utopia as a Libellus vere aureas, a little true golden book. This little book, published in Leuven in 1516, proved to become one of the greatest works of socio-political analysis of all time; the new spirit attached to More's work continues to inspire, and was equally the inspiration for the collection of essays presented in this book. The present volume contains the proceedings of the conference Imaging Utopia: New Perspectives on Northern Renaissance Art. In this book, several leading experts in the field of art history reflect on the theme Imaging Utopia in diverse and inventive ways. The result of these scholarly reflections

is as varied as the theme itself and examines such topics as the work by Quinten Massys in the context of his relation with Erasmus and More, the Utopian construction of the Prince Bishop's Palace of Liege, and City Portraits in religious iconography. A number of entries discuss the art technical research on the important sixteenth-century Enclosed Gardens of Mechelen.

Biotechnology and Conservation of Cultural Heritage Franco Palla

2022-06-28 This second fully updated and extended edition of Biotechnology and Conservation of Cultural Heritage provides in-depth insights into the role of different microorganisms and microbial compounds in biodeterioration, conservation and restoration of artworks and artifacts. Latest methods to detect,

remove and prevent microbial colonization on artwork surfaces and in air environments of libraries and museums are discussed and illustrated by engaging case studies.

Furthermore, this edition covers new case studies on Archaeobiology, exploring ways to perform the molecular biology characterization, restoring and protecting museum taxidermal specimens, preserving and guaranteeing the future integrity. Finally, the use of halloysite-nanotubes is investigated to set up innovative protocols in consolidation and long-term protection of waterlogged and archaeological wood. This book addresses to Biologists, Microbiologists, Conservation Scientists and Conservators who are interested in understanding the role of microorganisms and bioactive

molecules in conservation projects. *The Nature of the Page* Joshua Calhoun 2020-01-24 In *The Nature of the Page*, Joshua Calhoun tells the story of handmade paper in Renaissance England and beyond. For most of the history of printing, paper was made primarily from recycled rags, so this is a story about using old clothes to tell new stories, about plants used to make clothes, and about plants that frustrated papermakers' best attempts to replace scarce natural resources with abundant ones. Because plants, like humans, are susceptible to the ravages of time, it is also a story of corruption and the hope that we can preserve the things we love from decay. Combining environmental and bibliographical research with deft literary analysis, Calhoun reveals how much we have left to discover in

familiar texts. He describes the transformation of plant material into a sheet of paper, details how ecological availability or scarcity influenced literary output in the sixteenth and seventeenth centuries, and examines the impact of the various colors and qualities of paper on early modern reading practices. Through a discussion of sizing—the mixture used to coat the surface of paper so that ink would not blot into its fibers—he reveals a surprising textual interaction between animals and readers. He shows how we might read an indistinct stain on the page of an early modern book to better understand the mixed media surfaces on which readers, writers, and printers recorded and revised history. Lastly, Calhoun considers how early modern writers imagined

paper decay and how modern scholars grapple with biodeterioration today. Exploring the poetic interplay between human ideas and the plant, animal, and mineral forms through which they are mediated, *The Nature of the Page* prompts readers to reconsider the role of the natural world in everything from old books to new smartphones.

Directory American Institute for Conservation of Historic and Artistic Works 2010

Heritage Ecologies Torgeir Rinke Bangstad 2021-08-24 *Heritage Ecologies* presents an ecological understanding of heritage that furthers a concern for how its making and unmaking always involves a wide range of human and other-than-human actors. Recognizing the entangled nature-cultures of heritage is

essential in the Anthropocene era, where uncertainty and rapid environmental change force us to recast common conceptions of inheritance and to envision new strategies for preservation. Heritage sites are meant to be open and shared spaces, and a recurring argument in the cases presented here is that this openness inevitably also overrides our selections, orders and appreciations. Through a diverse range of case studies, the chapters collected in this book aim to explore the affects and memories engendered by diverse heritage ecologies where humans are neither the sole makers nor the only inheritors. The common call is that the experiential, perceptive and informational plenitude enabled through contributions of other-than-human

actors is key to an ecological rethinking of heritage in the twenty-first century. *Heritage Ecologies* is unique in bringing heritage studies into closer proximity with a wide variety of non-representational and object-oriented theories and is an important volume for students and researchers in archaeology and heritage studies.

Science and Technology for the Conservation of Cultural Heritage

Miguel Angel Rogerio-Candelera
2013-10-01 From 2nd to 5th October
2012 an International Congress on Science and Technology for the conservation of Cultural Heritage was held in Santiago de Compostela, Spain, organized by the Universidade of Santiago de Compostela on behalf of TechnoHeritage Network. The congress was attended by some 160

participants from 10 countries, which presented a total of 145 contributions among plenary lectures, oral, and poster communications. The congress was dedicated to eight topics, namely (1) Environmental assessment and monitoring (pollution, climate change, natural events, etc.) of Cultural Heritage; (2) Agents and mechanisms of deterioration of Cultural Heritage (physical, chemical, biological), including deterioration of modern materials used in Contemporary Art and information storage; (3) Development of new instruments, non invasive technologies and innovative solutions for analysis, protection and conservation of Cultural Heritage; (4) New products and materials for conservation and maintenance of Cultural Heritage; (5) Preservation

of industrial and rural heritage from the 19th and 20th centuries; (6) Security technologies, Remote sensing and Geographical Information Systems for protection and management of Cultural Heritage; (7) Significance and social value of Cultural Heritage; and (8) Policies for conservation of Cultural Heritage. This volume publishes a total of ninety-three contributions which reflect some of the most recent responses to the challenge of cultural assets conservation.

Journal of the American Institute for Conservation American Institute for Conservation of Historic and Artistic Works 2007

Microclimate for Cultural Heritage D. Camuffo 2013-10-04 Microclimate for Cultural Heritage: Conservation and Restoration of Indoor and Outdoor

Monuments, Second Edition, is a cutting-edge, theoretical, and practical handbook concerning microclimate, environmental factors, and conservation of cultural heritage. Although the focus is on cultural heritage objects, most of the theory and instrumental methodologies are common to other fields of application, such as atmospheric and environmental sciences. Microclimate for Cultural Heritage, Second Edition, is a useful treatise on microphysics and a practical handbook for conservators and specialists in physics, chemistry, architecture, engineering, geology, and biology who work in the multidisciplinary field of the environment, and, in particular, in the conservation of works of art. Part I, devoted to applied theory, is

a concise treatise on microphysics, which includes a survey on the basic ideas of environmental diagnosis and conservation. The second part of the book focuses on practical utilization, and shows in detail how field surveys should be performed, with many suggestions and examples, as well as some common errors to avoid. Presents updated scientific and technological findings based on the novel European standards on microclimate and cultural heritage. Includes the latest information on experimental research on environmental factors and their impact on materials, such as the behavior of water and its interactions with cultural heritage materials. Contains case studies of outdoor and indoor microclimate conditions and their effects,

providing ideas for readers facing similar problems caused by heat, water, radiation, pollution, or air motions. Covers instruments and methods for practical applications to help readers understand, to observe and interpret observations, and avoid errors.

Microorganisms in the Deterioration and Preservation of Cultural Heritage
Edith Joseph 2021-05-05
This open access book offers a comprehensive overview of the role and potential of microorganisms in the degradation and preservation of cultural materials (e.g. stone, metals, graphic documents, textiles, paintings, glass, etc.). Microorganisms are a major cause of deterioration in cultural artefacts, both in the case of outdoor monuments and archaeological finds. This book

covers the microorganisms involved in biodeterioration and control methods used to reduce their impact on cultural artefacts. Additionally, the reader will learn more about how microorganisms can be used for the preservation and protection of cultural artefacts through bio-based and eco-friendly materials. New avenues for developing methods and materials for the conservation of cultural artefacts are discussed, together with concrete advances in terms of sustainability, effectiveness and toxicity, making the book essential reading for anyone interested in microbiology and the preservation of cultural heritage.

Biotechnology and Conservation of Cultural Heritage Franco Palla

2017-02-16 This book provides detailed insights into the role of

microorganisms and microbial products in biodeterioration, conservation and restoration of cultural heritage. Topics to be discussed are microbial colonization and their growth control on both artworks and aerosol of indoor environments such as libraries or museums, as well as human health hazard from exposure to microbial agents. In addition innovative biotechnological protocols and strategies for the removal of undesired layers on artwork surfaces are described in detail. Also the advances and perspectives in this emerging biotechnological field are discussed, supported by the latest original findings.

Handbook of Museum Textiles, Volume 2

Seiko Jose 2022-11-29 Handbook of Museum Textiles Textiles have been known to us throughout human history

and played a vital role in the lives and traditions of people. Clothing was made by using different materials and methods from natural fibers. There are different varieties of textiles, out of which certain traditional textiles, archaeological findings, or fragments are of cultural, historical, and sentimental value such as tapestries, embroideries, flags, shawls, etc. These kinds of textiles, due to their historical use and environmental factors, require special attention to guarantee their long-term stability. Textile conservation is a complex, challenging, and multi-faceted discipline and it is one of the most versatile branches of conservation. Volume II of the Handbook of Museum Textiles provides precise instruction for conservation techniques to

preserve the textile heritage more scientifically and technologically. Additionally, the book covers the most modern techniques used to characterize archaeological textiles and dyes. Progress and innovation in nanotechnology-based interventions in museum textiles are emphasized. Chapters cover the general introduction to biological damage caused by physical and chemical agents and their prevention methods. Information on microscopy and characterization of historical textiles, ancient dyes, and prints is highlighted. Several aspects of assessment of degradation, repair, and stabilization of antique textiles are presented in depth. Experimental research methods for diagnosis and scientific study of fibers and natural dyes using LC-MS and UV-VIS

are described. Practical knowledge based on analysis and visualization of historical textiles for the needs of museum conservation, exhibition, digital technology, and virtual museums is addressed as well. Audience It will serve as an educational asset and tool for researchers, art scholars, archaeologists, museum curators, and those who are interested in the field of traditional or historic textile collections.

Co-Corporeality of Humans, Machines, & Microbes Barbara Imhof 2022-07-18

The theory of Co-Corporeality is based on a conception of the built environment as a biological entity that opens up a space for coexistence and interaction between humans and microbial life. Based on design-led research, this book explores how we

can develop environments for a multispecies world. It focuses on the agency of both human and nonhuman actors. New sensor tools enable observation of and interaction between these different actors. Co-Corporeality links microbiology to material science, artificial intelligence, and architecture. The focus is on how microbial activity can create new protoarchitectural materials, how living systems can be integrated into architecture and cooperate along different time scales.

Plant Biology for Cultural Heritage Giulia Caneva 2008 Brings together wide-ranging scientific contributions from those who have studied the biological degradation of cultural heritages. It tackles both general topics (mechanisms of

biodeterioration; correlation between biodeterioration and environment; and destructive organisms) and specific ones (the problems presented by different materials, environments, climatic conditions, and geographic settings). The contributors also discuss ways to diagnose, prevent, and control deterioration.

Biodeterioration of Wooden Cultural Heritage Anastasia Pournou 2020-10-27

Since prehistoric times and throughout the course of human evolution, wood has been an integral part of all civilizations. Wooden Cultural Heritage can be found worldwide, providing valuable information on the social and economic context of human history. Nonetheless, as a natural cellulosic material, wood shows low resistance to biodeterioration and thus wooden

Cultural Heritage often fails to escape decomposition in both aquatic and terrestrial ecosystems. This book provides a comprehensive overview on the biodeterioration of wooden Cultural Heritage and describes the decay mechanisms of key organisms and microorganisms encountered in aquatic and terrestrial ecosystems. Cultural Heritage professionals, researchers and academics may explore within this book the associations between deteriogens, habitats and decay, which will assist them to understand wood biodeterioration and design effective prevention, mitigation and remediation strategies. The book presents case studies around the world to demonstrate the impact of biogenic deterioration on wooden Cultural Heritage and illustrates mechanisms and patterns in order to

be a useful handbook of decay diagnosis. Lastly, by adopting a holistic approach to wood decay, basic concepts of wood technology, ecology, and detriogens' biology are introduced, permitting readers of different scientific backgrounds to easily comprehend wood biodeterioration.

Urban Pollution and Changes to Materials and Building Surfaces Peter Brimblecombe 2015-11-23 Pollution damages materials, but it has changed dramatically in the past century, with a reduction in the concentration of corrosive primary pollutants in urban atmospheres. At the same time, architectural styles and types of materials have changed, as we have moved to more organically rich, photochemically active atmospheres. Contemporary pollutants have a

greater potential to degrade organic coatings and polymers, which are of great importance to modern structures. Urban Pollution and Changes to Materials and Building Surfaces examines a range of materials, discussing the ways in which they are likely to be damaged by contemporary urban pollutants, with an emphasis on the effects of air pollution. A chapter on graffiti is also included. The wide scope covered means that this volume is suitable for readers from a broad background. It should be of interest to scientists and policymakers dealing with the effects of urban pollution, as well as undergraduate and graduate students working in this area. This book, with its wealth of information, is of exceedingly good value for readers who seek to

understand more on the changes of materials and building surfaces by urban pollution.

Stone Conservation Clifford A. Price
2011-02-15 First published in 1996, this volume has been substantially updated to reflect new research in the conservation of stone monuments, sculpture, and archaeological sites.

Microbial Biotechnology Approaches to Monuments of Cultural Heritage Ajar Nath Yadav
2020-06-24 Our country's cultural legacy is one of the world's most diverse, drawing millions of visitors every year to our convents and monuments, and to our museums, libraries, concert halls and festivals. In addition, it is a dynamic trigger of economic activity and jobs. Among the various scientific branches, microbial biotechnology offers an innovative

and precise approach to the complexity of problems that restorers face in their daily work. This book discusses a range of topics, including the biodiversity of microbial communities from various cultural heritage monuments, microbial biotechnological cleaning techniques, the role of bacterial fungal communities for the conservation of cultural heritage, and microbial enzymes and their potential applications as bioremediation agents. Written by internationally recognized experts, and providing up-to-date and detailed insights into microbial biotechnology approaches to cultural heritage monuments, the book is a valuable resource for biological scientists, especially microbiologists, microbial biotechnologists, biochemists and

microbial biotechnologists.

Conserving Cultural Heritage María Jesús Mosquera 2018-09-17 The third International congress of Science and Technology for the Conservation of Cultural Heritage, TechnoHeritage 2017, was held in Cadiz, from 21 to 24 May 2017, under the umbrella of the TechnoHeritage network.

TechnoHeritage is an initiative funded by the Spanish Ministry of Economy and Competitivity dedicated to the creation of a network which integrates CSIC and University groups, private companies and end users such as foundations, museums or institutions. The network's purpose is to foster the creation of transdisciplinary (and not only multidisciplinary) initiatives focused on the study of all assets, movable or immovable, that make up

Cultural Heritage. A high-quality scientific programme was prepared, which includes new emerging topics on Cultural Heritage (1) Nanomaterials and other Products for Conservation, (2) New Technologies for Analysis, Protection and Conservation, (3) 20th Century Cultural Heritage, (4) Significance of Cultural Heritage. Policies for Conservation, (5) Deterioration of Cultural Heritage, (6) Biodeterioration: Fundamentals, Present and Future Perspectives and (7) Underwater Cultural Heritage. A special session "Biodeterioration: Fundamentals, present and future perspectives, a session in honour of Prof. Cesáreo Sáiz Jiménez" took place. Our intention was to recognise the work of Prof. Sáiz Jiménez, who recently retired, and its impact on the Cultural Heritage conservation

community, which he has helped to promote through numerous activities including, in 2011, the creation of the TechnoHeritage network. This volume publishes a total of eighty-three contributions which reflect the state of the art investigations on different aspects of cultural heritage conservation.

Lichens to Biomonitor the Environment

Vertika Shukla 2013-08-23 The book embodies the detailed account about unique symbionts i.e. LICHENS in ecosystem monitoring. The first chapter deals with unique characteristics features of lichens which facilitate their survival in extreme climates and makes them an ideal organism for ecosystem monitoring. Biosynthesis of secondary metabolites are known to protect lichens against increasing

environmental stresses therefore second chapter provides insight into various chromatographic and modern spectroscopic techniques involved in separation and characterization of lichen substances. The third chapter elaborates the criteria for selection of biomonitoring species and characters of host plant that influences lichen diversity and details about different lichen species utilized for biomonitoring. One can retrieve preliminary information about the air quality based on the lichen community structure and distribution of bioindicator species as lichen communities/indicator species provides valuable information about the natural/anthropogenic induced changes in the microclimate and land-use changes due to human activity.

Therefore, for identification of species, a key to genera and species provides concise information to identify the lichen species based on their morphological and anatomical characters and chemicals present. Keys provided in Chapter 4 will help the beginners to identify some common lichen species based on the distribution in different climatic zones of India. The section also provides comprehensive information about the bioindicator communities and bioindicator species from India. Chapter 5 provides the details of factors affecting the ecosystem (natural as well as anthropogenic disturbances) and role of lichens in ecosystem monitoring in India has been discussed in detail. Chapter 6 discusses the need and utility of indicator species especially lichen

biomonitoring data in sustainable forest management and conservation. The content about lichens in biomonitoring will be a valuable resource for researchers from different fields and will provide an essential reference for people interested in lichens and its role in ecosystem monitoring. The book will also hopefully popularize lichenological studies in India and will generate more active participation of lichen biomonitoring studies in management and conservation of natural resources in India.

Shifting Interfaces Hava Aldouby
2020-05-13 Early 21st century media arts are addressing the anxieties of an age shadowed by ubiquitous surveillance, big-data profiling, and globalised translocations of people.

Altogether, they tap the overwhelming changes in our lived experience of self, body, and intersubjective relations. *Shifting Interfaces* addresses current exciting exchanges between art, science, and emerging technologies, highlighting a range of concerns that currently prevail in the field of media arts. This book provides an up-to-date perspective on the field, with a considerable representation of art-based research gaining salience in media art studies. The collection attends to art projects interrogating the destabilisation of identity and the breaching of individual privacy, the rekindled interest in phenomenology and in the neurocognitive workings of empathy, and the routes of interconnectivity beyond the human in the age of the Internet of Things.

Offering a diversity of perspectives, ranging from purely theoretical to art-based research, and from aesthetics to social and cultural critique, this volume will be of great value for readers interested in contemporary art, art-science-technology interfaces, visual culture, and cultural studies.

Molecular Biology and Cultural Heritage C. Saiz-Jimenez 2017-11-22

This book contains forty reviewed papers delivered at the International Congress on Molecular Biology and Cultural Heritage held in Seville, March 2003. It is divided in four parts, the first one presents the state-of-the-art and reviews molecular techniques applied to the study of microbial communities colonizing monuments and cultural heritage assets. Part two covers

specific molecular techniques used in biodeterioration studies, part three includes an updated overview on on-going biodeterioration European Commission projects, and part four presents selected biodeterioration case studies from all over the world.

CONSERVATION OF WOODEN OBJECTS

National Research Institute of Cultural Heritage (South Korea)
2012-11-14 The conservation treatment for waterlogged wooden objects along with the case of Sinan shipwreck has made a turning point to make a progress on the conservation treatment of wooden objects in Korea. Such development and knowledge has established a platform to develop advance methodology and technique of conservation skills for wooden objects

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Cultural Heritage Microbiology Ralph Mitchell 2010 Historic and culturally important objects, like all materials, are vulnerable to microbial attack. Over time, microorganisms can affect paint, wood, paper, glass, textiles, metal, wax, stone, polymers, and coatings, Microbial deterioration of heritage materials can be caused by the formation and growth of biofilms or by direct attack by a variety of microorganisms, all of which may be difficult to correct without also damaging the materials themselves. On the other hand, microbial processes can also be adapted to conserve and even restore heritage materials, pointing to the complex nature of microbial interactions with these irreplaceable materials. Cultural

Heritage Microbiology assembles over twenty scientific papers published during the past two decades, each presenting a major advance in some facet of this complex field. These seminal articles, by a wide range of international experts, are grouped by the historic material affected. Each section is introduced by a thorough review, written for this volume, which serves to introduce and synthesize these past studies and to combine them with the latest cutting-edge findings to present the most current state of the field. Extensive references in every chapter and article offer valuable resources for further investigation. Cultural Heritage Microbiology is ideal for anyone concerned with recognizing and dealing with microbial deterioration of heritage materials. Professionals

and students in microbiology, conservation science, archaeology, fine arts, architecture, museum conservation, and other fields will find here the most current knowledge and approaches to preserving cultural heritage objects for generations to come.

Stone Conservation C. A. Price
1996-09-05 Is research in stone conservation “on the rocks?” This volume, part of the GCI's Research in Conservation series, offers an in-depth critical appraisal of the status of stone conservation research today, identifying areas of strength and weakness in the field as a whole. C. A. Price, a noted British archaeological conservation scientist, discusses recent research on the causes of stone decay, as well as current preventive measures,

assessment tools, and treatment durability. He also reviews current research on methods of evaluating the effectiveness of these methodologies and treatments. The book includes a comprehensive survey of the literature, draws from conversations with professionals in the field, and provides recommendations for increasing the effectiveness of research, including the improvement of training, symposia, and research programs and the establishment of conservation policy.

The Conservation of Subterranean Cultural Heritage C. Saiz-Jimenez
2014-10-24 In recent years, a debate has arisen concerning the convenience of conserving subterranean cultural heritage and the necessary management models. There is often pressure from local authorities more interested in

using the cultural heritage sites in order to develop the economy and the tourism industry rather than in the conservation of the cultural

Long-term Performance and Durability of Masonry Structures Bahman Ghiassi
2018-11-27 Long-Term Performance and Durability of Masonry Structures: Degradation Mechanisms, Health Monitoring and Service Life Design focuses on the long-term performance of masonry and historical structures. The book covers a wide range of related topics, including degradation mechanisms in different masonry types, structural health monitoring techniques, and long-term performance and service life design approaches. Each chapter reflects recent findings and the state-of-the-art, providing practical guidelines. Key topics covered include the theoretical

background, transport properties, testing and modeling, protective measures and standards and codes. The book's focus is on individual construction materials, the composite system and structural performance. Covers all issues related to durability, including degradation mechanisms, testing and design, monitoring and service life design Focuses on different masonry construction types Presents a 'one-stop' reference for advanced postgraduate courses that focuses on the durability of masonry and historical constructions

Probiotic in Animals Everlon Rigobelo 2012-10-03 Over the last few decades the prevalence of studies about probiotics strains has dramatically grown in most regions of the world. The use of probiotics strains in

animals production may reduce several problems caused by antibiotics therapy, growth promoter and problems from inadequate management. Probiotics are specific strains of microorganisms, which when served to human or animals in proper amount, have a beneficial effect, improving health or reducing risk of get sick. This book provides the maximum of information for all that need them trying with this to help many people at worldwide.

Fungi From Different Substrates J. K. Misra 2014-10-27 The book is comprised of more than a dozen chapters on fungi from different substrates including fossilized leaves. It discusses association of fungi occurring on important plants, some animals, and saprophytic substrates. Besides the taxonomic

information, some ecological aspects like distribution and substrate/host preferences are discussed. The book also reviews the myxomycete.

The Importance of Biological Interactions in the Study of

Biodiversity Jordi López-Pujol

2011-09-22 The term biodiversity defines not only all the variety of life in the Earth but also their complex interactions. Under the current scenario of biodiversity loss, and in order to preserve it, it is essential to achieve a deep understanding on all the aspects related to the biological interactions, including their functioning and significance. This volume contains several contributions (nineteen in total) that illustrate the state of the art of the academic research in the field of biological

interactions in its widest sense; that is, not only the interactions between living organisms are considered, but also those between living organisms and abiotic elements of the environment as well as those between living organisms and the humans.

Coping with Biological Growth on Stone Heritage Objects Daniela Pinna
2017-05-18 Coping with Biological Growth on Stone Heritage Objects: Methods, Products, Applications, and Perspectives offers hands-on guidance for addressing the specific challenges involved in conserving historical monuments, sculptures, archaeological sites, and caves that have been attacked and colonized by micro- and macroorganisms. The volume provides many case studies of removal of biological growth with practical

advice for making the right choices. It presents detailed and updated information related to biocides and to alternative substances, features that will be valuable to dealing with these challenges. The author's goal is to provide access to information and offer the conceptual framework needed to understand complex issues, so that the reader can comprehend the nature of conservation problems and formulate her/his own views. From bacteria to plants, biological agents pose serious risks to the preservation of cultural heritage. In an effort to save heritage objects, buildings, and sites, conservators' activities aim to arrest, mitigate, and prevent the damages caused by bacteria, algae, fungi, lichens, plants, and birds. Although much has been learned about these problems,

information is scattered across meeting proceedings and assorted journals that often are not available to restorers and conservators. This book fills the gap by providing a comprehensive selection and examination of international papers published in the last fifteen years, focusing on the appropriate methods, techniques, and products that are useful for the prevention and removal of micro- and macroorganisms that grow on artificial and natural stone works of art, including wall paintings. Results on new substances with antimicrobial properties and alternative methods for the control of biological growth are presented as well. The book also emphasizes issues on bioreceptivity of stones and the factors influencing biological growth and includes an outline of the

various organisms able to develop on stones, a discussion on the bioprotection of stones by biofilms and lichens, a review of the main analytical techniques, and a section on bioremediation. This volume will be a valuable reference for cultural heritage conservators and restorers, scientists, and heritage-site staff involved in conservation and maintenance of buildings, archaeological sites, parks, and caves.

Cultural Heritage and Aerobiology

Paolo Mandrioli 2013-01-12

Aerobiology is the science that studies the biological component of the atmosphere and its effects on living systems and on the environment. This term was used for the first time in 1935, but the attention of scientists to the

biological component of the atmosphere goes back to 1769, when the Italian biologist Spallanzani carried out a series of experiments that disproved the concept of spontaneous generation of life and proved the presence of viable microorganisms in the air. Aerobiology has marked characteristics of interdisciplinarity: its application fields range from respiratory diseases to the airborne outbreak of animal and vegetal diseases and to the biodegradation of substances and materials. The latter is the subject of this book. The purpose of aerobiological research applied to the conservation of cultural heritage is to evaluate the risk of alteration by airborne microorganisms of materials forming artefacts of

historical, artistic and archaeological interest. Airborne spores and vegetative structures may develop on different substrates and may be a cause of degradation, in relation to the types of materials, the microclimatic situation and the pollution of the conservation environments. The qualitative and quantitative evaluation of the biological component of air, performed by means of targeted analysis campaigns, and of the characteristics of materials and environments, supplies indispensable information for the evaluation of the actual risk and the planning of interventions. This book is divided into four main parts.

PROCEEDINGS 4th International Congress on "Science and Technology for the Safeguard of Cultural

**Heritage in the Mediterranean Basin"
VOL. I**

Sustainability in Energy and Buildings John Littlewood 2019-10-26
This volume contains the proceedings of the 11th KES International Conference on Sustainability and Energy in Buildings 2019 (SEB19) held in Budapest, 4th -5th July 2019 organised by KES International in partnership with Cardiff Metropolitan University, Wales, UK. SEB-19 invited contributions on a range of topics related to sustainable buildings and explored innovative themes regarding sustainable energy systems. The aim of the conference was to bring together researchers, and government and industry professionals to discuss the future of energy in buildings, neighbourhoods and cities from a theoretical, practical,

implementation and simulation perspective. The conference formed an exciting chance to present, interact, and learn about the latest research and practical developments on the subject. The conference attracted submissions from around the world. Submissions for the Full-Paper Track were subjected to a blind peer-review process. Only the best of these were

selected for presentation at the conference and publication in these proceedings. It is intended that this volume provides a useful and informative snapshot of recent research developments in the important and vibrant area of Sustainability in Energy and Buildings.