

14th World Mathematics Competition 2017 Sakamoto

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Competing Risks - Melania Pintilie 2006-11-02

The need to understand, interpret and analyse competing risk data is key to many areas of science, particularly medical research. There is a real need for a book that presents an overview of methodology used in the interpretation and analysis of competing risks, with a focus on practical applications to medical problems, and incorporating modern techniques. This book fills that need by presenting the most up-to-date methodology, in a way that can be readily understood, and applied, by the practitioner.

Arts of Living on a Damaged Planet - Anna Lowenhaupt Tsing 2017-05-30

Living on a damaged planet challenges who we are and where we live. This timely anthology calls on twenty eminent humanists and scientists to revitalize curiosity, observation, and transdisciplinary conversation about life on earth. As human-induced environmental change threatens multispecies livability, *Arts of Living on a Damaged Planet* puts forward a bold proposal: entangled histories, situated narratives, and thick descriptions offer urgent "arts of living." Included are essays by scholars in anthropology, ecology, science studies, art, literature, and bioinformatics who posit critical and creative tools for collaborative survival in a more-than-human Anthropocene. The essays are organized around two key figures that also serve as the publication's two openings: Ghosts, or landscapes haunted by the violences of modernity; and Monsters, or interspecies and intraspecies sociality. Ghosts and Monsters are tentacular, windy, and arboreal arts that invite readers to encounter ants, lichen, rocks, electrons, flying foxes, salmon, chestnut trees, mud volcanoes, border zones, graves, radioactive waste—in short, the wonders and terrors of an unintended epoch. Contributors: Karen Barad, U of California, Santa Cruz; Kate Brown, U of Maryland, Baltimore; Carla Freccero, U of California, Santa Cruz; Peter Funch, Aarhus U; Scott F. Gilbert, Swarthmore College; Deborah M. Gordon, Stanford U; Donna J. Haraway, U of California, Santa Cruz; Andreas Hejnl, U of Bergen, Norway; Ursula K. Le Guin; Marianne Elisabeth Lien, U of Oslo; Andrew Mathews, U of California, Santa Cruz; Margaret McFall-Ngai, U of Hawaii, Manoa; Ingrid M. Parker, U of California, Santa Cruz; Mary Louise Pratt, NYU; Anne Pringle, U of Wisconsin, Madison; Deborah Bird Rose, U of New South Wales, Sydney; Dorion Sagan; Lesley Stern, U of California, San Diego; Jens-Christian Svenning, Aarhus U.

inorganic chemistry -

The Model Minority Stereotype - Nicholas D. Hartlep 2021-04-01

Researchers, higher education administrators, and high school and university students desire a sourcebook like *The Model Minority Stereotype: Demystifying Asian American Success*. This second edition has updated contents that will assist readers in locating research and literature on the model minority stereotype. This sourcebook is composed of an annotated bibliography on the stereotype that Asian Americans are successful. Each chapter in *The Model Minority Stereotype* is thematic and challenges the model minority stereotype. Consisting of a twelfth and updated chapter, this book continues to be the most comprehensive book written on the model minority myth to date.

Using 21st Century Science to Improve Risk-Related Evaluations - National Academies of Sciences, Engineering, and Medicine 2017-02-16

Over the last decade, several large-scale United States and international programs have been initiated to incorporate advances in molecular and cellular biology, -omics technologies, analytical methods, bioinformatics, and computational tools and methods into the field of toxicology. Similar efforts are being pursued in the field of exposure science with the goals of obtaining more accurate and complete exposure data on individuals

and populations for thousands of chemicals over the lifespan; predicting exposures from use data and chemical-property information; and translating exposures between test systems and humans. Using 21st Century Science to Improve Risk-Related Evaluations makes recommendations for integrating new scientific approaches into risk-based evaluations. This study considers the scientific advances that have occurred following the publication of the NRC reports *Toxicity Testing in the 21st Century: A Vision and a Strategy* and *Exposure Science in the 21st Century: A Vision and a Strategy*. Given the various ongoing lines of investigation and new data streams that have emerged, this publication proposes how best to integrate and use the emerging results in evaluating chemical risk. Using 21st Century Science to Improve Risk-Related Evaluations considers whether a new paradigm is needed for data validation, how to integrate the divergent data streams, how uncertainty might need to be characterized, and how best to communicate the new approaches so that they are understandable to various stakeholders.

Difference Equations and Discrete Dynamical Systems with Applications - Martin Bohner 2020-02-10

This book presents the proceedings of the 24th International Conference on Difference Equations and Applications, which was held at the Technical University in Dresden, Germany, in May 2018, under the auspices of the International Society of Difference Equations (ISDE). The conference brought together leading researchers working in the respective fields to discuss the latest developments, and to promote international cooperation on the theory and applications of difference equations. This book appeals to researchers and scientists working in the fields of difference equations and discrete dynamical systems and their applications.

Inequality and Growth - Theo S. Eicher 2007-01-26

Even minute increases in a country's growth rate can result in dramatic changes in living standards over just one generation. The benefits of growth, however, may not be shared equally. Some may gain less than others, and a fraction of the population may actually be disadvantaged. Recent economic research has found both positive and negative relationships between growth and inequality across nations. The questions raised by these results include: What is the impact on inequality of policies designed to foster growth? Does inequality by itself facilitate or detract from economic growth, and does it amplify or diminish policy effectiveness? This book provides a forum for economists to examine the theoretical, empirical, and policy issues involved in the relationship between growth and inequality. The aim is to develop a framework for determining the role of public policy in enhancing both growth and equality. The diverse range of topics, examined in both developed and developing countries, includes natural resources, taxation, fertility, redistribution, technological change, transition, labor markets, and education. A theme common to all the essays is the importance of education in reducing inequality and increasing growth.

Mapping Time - Edward Graham Richards 1998

History of calendars. The Millenium - do we have the correct date? Why do we celebrate Easter Sunday when we do? Find out in this book.

Postwar Japan - Michael J. Green 2017

Japanese security, economic, institutional, and development policies have undergone a remarkable evolution in the 70 years since the end of World War II. Distinguished Japanese scholars reflect on the evolution of these policies and draw lessons for coming decades, spotlighting emerging Japanese thinking on key issues facing the U.S.-Japan alliance.

Gregg Shorthand Series 90 -Trans. Tapes - Gregg 1981-02-01

What Happens in Vegas Stays on YouTube - Erik Qualman 2013-12

"Privacy is dead. The new rules for business, personal, and family reputation."--Cover.

Theories of Personality - Duane P. Schultz 2001

This revision of the Schultz's popular text surveys the field, presenting theory-by-theory coverage of the major theorists who represent the psychoanalytic, neopsychoanalytic, life-span, trait, humanistic, cognitive, behavioral, and social-learning approaches, as well as clinical and experimental work. Where warranted, the authors show how the development of certain theories was influenced by events in a theorist's personal and professional life. This thoroughly revised Seventh Edition now incorporates more examples, tables, and figures to help bring the material to life for students. The new content in this edition reflects the dynamism in the field. The text explores how race, gender, and culture issues figure in the study of personality and in personality assessment. In addition, a final integrative chapter looks at the study of personality theories and suggests conclusions that can be drawn from the many theorists' work.

Health Promotion Programs - Society for Public Health Education (SOPHE) 2010-03-18

Health Promotion Programs introduces the theory of health promotion and presents an overview of current best practices from a wide variety of settings that include schools, health care organizations, workplace, and community. The 43 contributors to Health Promotion Programs focus on students and professionals interested in planning, implementing, and evaluating programs that promote health equity. In addition to the focus on best practices, each chapter contains information on: Identifying health promotion programs Eliminating health disparities Defining and applying health promotion theories and models Assessing the needs of program participants Creating and supporting evidence-based programs Implementing health promotion programs: Tools, program staff, and budgets Advocacy Communicating health information effectively Developing and increasing program funding Evaluating, improving, and sustaining health promotion programs Health promotion challenges and opportunities Health promotion resources and career links "The authors have clearly connected the dots among planning, theory, evaluation, health disparity, and advocacy, and have created a user-friendly toolbox for health promotion empowerment." Ronald L. Braithwaite, PhD, professor, Morehouse School of Medicine, Departments of Community Health and Preventive Medicine, Family Medicine, and Psychiatry "The most comprehensive program planning text to date, this book examines all facets of planning and implementation across four key work environments where health educators function." Mal Goldsmith, PhD, CHES, professor and coordinator of Health Education, Southern Illinois University, Edwardsville "Health Promotion Programs . . . explores the thinking of some of our field's leaders and confirms its well-deserved place in the field and in our personal collections." Susan M. Radius, PhD, CHES, professor and program director, Health Science Department, Towson University

World Trade Report 2017 - World Trade Organization 2017-10-12

The World Trade Report 2017 discusses the effects of international trade and technological progress on labour market outcomes.

Black Identities - Mary C. WATERS 2009-06-30

The story of West Indian immigrants to the United States is generally considered to be a great success. Mary Waters, however, tells a very different story. She finds that the values that gain first-generation immigrants initial success--a willingness to work hard, a lack of attention to racism, a desire for education, an incentive to save--are undermined by the realities of life and race relations in the United States. Contrary to long-held beliefs, Waters finds, those who resist Americanization are most likely to succeed economically, especially in the second generation.

Game Theory, Alive - Anna R. Karlin 2017-04-27

We live in a highly connected world with multiple self-interested agents interacting and myriad opportunities for conflict and cooperation. The goal of game theory is to understand these opportunities. This book presents a rigorous introduction to the mathematics of game theory without losing sight of the joy of the subject. This is done by focusing on theoretical highlights (e.g., at least six Nobel Prize winning results are developed from scratch) and by presenting exciting connections of game theory to other fields such as computer science (algorithmic game theory), economics (auctions and matching markets), social choice (voting theory), biology (signaling and evolutionary stability), and learning theory. Both classical topics, such as zero-sum games, and modern topics, such as sponsored search auctions, are covered. Along the way, beautiful mathematical tools used in game theory are introduced, including convexity, fixed-point theorems, and probabilistic

arguments. The book is appropriate for a first course in game theory at either the undergraduate or graduate level, whether in mathematics, economics, computer science, or statistics. The importance of game-theoretic thinking transcends the academic setting—for every action we take, we must consider not only its direct effects, but also how it influences the incentives of others.

Genetic Algorithms in Search, Optimization, and Machine Learning - David Edward Goldberg 1989

A gentle introduction to genetic algorithms. Genetic algorithms revisited: mathematical foundations. Computer implementation of a genetic algorithm. Some applications of genetic algorithms. Advanced operators and techniques in genetic search. Introduction to genetics-based machine learning. Applications of genetics-based machine learning. A look back, a glance ahead. A review of combinatorics and elementary probability. Pascal with random number generation for fortran, basic, and cobol programmers. A simple genetic algorithm (SGA) in pascal. A simple classifier system(SCS) in pascal. Partition coefficient transforms for problem-coding analysis.

Science Citation Index - 1994

Vols. for 1964- have guides and journal lists.

An Introduction to Categorical Data Analysis - Alan Agresti 2018-10-11

A valuable new edition of a standard reference The use of statistical methods for categorical data has increased dramatically, particularly for applications in the biomedical and social sciences. An Introduction to Categorical Data Analysis, Third Edition summarizes these methods and shows readers how to use them using software. Readers will find a unified generalized linear models approach that connects logistic regression and loglinear models for discrete data with normal regression for continuous data. Adding to the value in the new edition is: • Illustrations of the use of R software to perform all the analyses in the book • A new chapter on alternative methods for categorical data, including smoothing and regularization methods (such as the lasso), classification methods such as linear discriminant analysis and classification trees, and cluster analysis • New sections in many chapters introducing the Bayesian approach for the methods of that chapter • More than 70 analyses of data sets to illustrate application of the methods, and about 200 exercises, many containing other data sets • An appendix showing how to use SAS, Stata, and SPSS, and an appendix with short solutions to most odd-numbered exercises Written in an applied, nontechnical style, this book illustrates the methods using a wide variety of real data, including medical clinical trials, environmental questions, drug use by teenagers, horseshoe crab mating, basketball shooting, correlates of happiness, and much more. An Introduction to Categorical Data Analysis, Third Edition is an invaluable tool for statisticians and biostatisticians as well as methodologists in the social and behavioral sciences, medicine and public health, marketing, education, and the biological and agricultural sciences.

Media and information literacy - Singh, Jagtar 2016-12-31

Aucune information saisie

Transforming the Future (Open Access) - Riel Miller 2018-04-27

People are using the future to search for better ways to achieve sustainability, inclusiveness, prosperity, well-being and peace. In addition, the way the future is understood and used is changing in almost all domains, from social science to daily life. This book presents the results of significant research undertaken by UNESCO with a number of partners to detect and define the theory and practice of anticipation around the world today. It uses the concept of 'Futures Literacy' as a tool to define the understanding of anticipatory systems and processes - also known as the Discipline of Anticipation. This innovative title explores: • new topics such as Futures Literacy and the Discipline of Anticipation; • the evidence collected from over 30 Futures Literacy Laboratories and presented in 14 full case studies; • the need and opportunity for significant innovation in human decision-making systems. This book will be of great interest to scholars, researchers, policy-makers and students, as well as activists working on sustainability issues and innovation, future studies and anticipation studies. The Open Access version of this book, available at

<https://www.taylorfrancis.com/books/e/9781351047999>, has been made available under a Attribution-NonCommercial-NoDerivs 3.0 IGO (CC-BY-NC-ND 3.0 IGO) license.

Go and Go-Moku - Edward Lasker 2012-09-11

Best introduction in English to a great Japanese game. Detailed instructions provide valuable information on basic patterns, strategy, tactics, analyzed games. Used as text by generations of Americans, Japanese. 72 diagrams.

Collective Intelligence in Design - 2006-12-06

Exploring how today's most compelling architecture is emerging from new forms of collaborative practice, this title of AD engages three predominant phenomena: architecture's relationship with digital and telecommunication technology; the media; and economies of globalisation. The articles in the issue explore the relationship between these readings and examine, for the first time, the implications of these phenomena upon forms of architectural invention and production. While much attention has been focused upon the influence of digital media on architectural form and technique, little has examined its far broader implications for forms of architectural practice. Yet, as with modernism and the professionalization of architecture at the end of the 19th century and the rise of architectural corporations in the mid-20th century, the future of architectural design will inevitably depend upon reconfigurations of architectural authorship.

Who's who in America - 1899

2G: Ensemble Studio - Moisés Puente 2021-03-07

Ensemble Studio is a cross-functional team founded in 2000, led by architects Antón García-Abril and Dèbora Mesa. Balancing imagination and reality, art and science, their work innovates typologies, technologies and methodologies to address issues as diverse as the construction of the landscape or the prefabrication of the house. From their early works: SGAE Headquarters, Hemeroscopium House or The Truffle in Spain, to their most recent: Ensemble Fabrica in Madrid and Ca'n Terra in Menorca, Spain, every project makes space for experimentation aiming to advance their field. Currently, through their start-up WoHo, they are invested in increasing the quality of architecture while making it more affordable by integrating offsite technologies. Their new research and fabrication facility in Madrid, Ensemble Fabrica, has been built to support this endeavour. Together they are committed to sharing ideas and cultivating synergies between professional and academic worlds through teaching lecturing and research: she is Ventulett Chair in Architectural Design at Georgia Tech and he is a Professor at MIT, where they co-founded the POPlab - Prototypes of Prefabrication Laboratory- in 2012.

The Girl and the Wolf - Katherena Vermette 2019-02-05

This picture book for young children is an empowering Indigenous twist on a classic wolf narrative.

Moral Combat - Patrick M. Markey 2017-03-21

In family rooms across America, millions of children and teenagers are playing video games, such as Call of Duty, Halo, and Grand Theft Auto, roaming violent virtual worlds—with virtual guns in their hands. In what sometimes seems like an increasingly violent world, it's only natural to worry about the effects of all this pixelated gore. But is that concern misplaced? Authors and psychologists Patrick M. Markey and Christopher J. Ferguson say it is. The media and politicians have been sounding the alarm for years, and with every fresh tragedy involving a young perpetrator comes another flurry of articles about the dangers of violent media. The problem is this: Their fear isn't supported by the evidence. In fact, unlike the video game-trained murder machines depicted in the press, school shooters are actually less likely to be interested in violent games than their peers. In reality, most well-adjusted children and teenagers play violent video games, all without ever exhibiting violent behavior in real life. What's more, spikes in sales of violent games actually correspond to decreased rates of violent crime. If that surprises you, you're not alone—the national dialogue on games and violence has been hopelessly biased. But that's beginning to change. Scholars are finding that not only are violent games not one of society's great evils, they may even be a force for good. In *Moral Combat*, Markey and Ferguson explore how video games—even the bloodiest—can have a positive impact on everything from social skills to stress, and may even make us more morally sensitive. Tracing the rise of violent games from arcades to online deathmatches, they have spent years on the front lines of the video game debate and now offer a comprehensive overview of the scientific research on gaming. With humor, complete honesty, and extensive research, they separate the myth from the medium. *Moral Combat* is an irreverent and informative guide to the worries—and wonders—of our violent virtual world.

Who's Who in the World 1995 - Marquis Who's Who 1995-12

This single volume affords instant access to more than 35,000 individual biographies of the people whose activities are shaping today's world. Among those profiled are prominent government figures, high-ranking military officers, leaders of the largest corporations in each country, heads of religious organizations, pioneers in science & the arts & many

more.

Shaping the future we want - Buckler, Carolee 2014-11-10

The State of the World's Children 2019 - United Nations 2019-10-15
This report examines nutrition, providing a fresh perspective on a rapidly evolving challenge. Despite progress in the past two decades, around 200 million under-fives suffer from undernutrition. Adding to this toll is rising obesity, which affects 38 million children. All these forms of malnutrition threaten children's development, while obesity is creating a lifelong legacy of disease. At the heart of this evolving challenge is a global shift towards modern diets that do not meet children's nutritional requirements. The report provides unique data and analysis of malnutrition in the 21st century and outlines recommendations to put children's needs at the heart of global and national food systems.
Not just hot air - UNESCO 2015-08-24

Climate Intervention - National Research Council 2015-06-17

The signals are everywhere that our planet is experiencing significant climate change. It is clear that we need to reduce the emissions of carbon dioxide and other greenhouse gases from our atmosphere if we want to avoid greatly increased risk of damage from climate change. Aggressively pursuing a program of emissions abatement or mitigation will show results over a timescale of many decades. How do we actively remove carbon dioxide from the atmosphere to make a bigger difference more quickly? As one of a two-book report, this volume of *Climate Intervention* discusses CDR, the carbon dioxide removal of greenhouse gas emissions from the atmosphere and sequestration of it in perpetuity. *Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration* introduces possible CDR approaches and then discusses them in depth. Land management practices, such as low-till agriculture, reforestation and afforestation, ocean iron fertilization, and land-and-ocean-based accelerated weathering, could amplify the rates of processes that are already occurring as part of the natural carbon cycle. Other CDR approaches, such as bioenergy with carbon capture and sequestration, direct air capture and sequestration, and traditional carbon capture and sequestration, seek to capture CO₂ from the atmosphere and dispose of it by pumping it underground at high pressure. This book looks at the pros and cons of these options and estimates possible rates of removal and total amounts that might be removed via these methods. With whatever portfolio of technologies the transition is achieved, eliminating the carbon dioxide emissions from the global energy and transportation systems will pose an enormous technical, economic, and social challenge that will likely take decades of concerted effort to achieve. *Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration* will help to better understand the potential cost and performance of CDR strategies to inform debate and decision making as we work to stabilize and reduce atmospheric concentrations of carbon dioxide.

Entangled Life - Merlin Sheldrake 2020-05-12

NEW YORK TIMES BESTSELLER • A "brilliant [and] entrancing" (The Guardian) journey into the hidden lives of fungi—the great connectors of the living world—and their astonishing and intimate roles in human life, with the power to heal our bodies, expand our minds, and help us address our most urgent environmental problems. "Grand and dizzying in how thoroughly it recalibrates our understanding of the natural world."—Ed Yong, author of *I Contain Multitudes* ONE OF THE BEST BOOKS OF THE YEAR—Time, BBC Science Focus, The Daily Mail, Geographical, The Times, The Telegraph, New Statesman, London Evening Standard, Science Friday When we think of fungi, we likely think of mushrooms. But mushrooms are only fruiting bodies, analogous to apples on a tree. Most fungi live out of sight, yet make up a massively diverse kingdom of organisms that supports and sustains nearly all living systems. Fungi provide a key to understanding the planet on which we live, and the ways we think, feel, and behave. In *Entangled Life*, the brilliant young biologist Merlin Sheldrake shows us the world from a fungal point of view, providing an exhilarating change of perspective. Sheldrake's vivid exploration takes us from yeast to psychedelics, to the fungi that range for miles underground and are the largest organisms on the planet, to those that link plants together in complex networks known as the "Wood Wide Web," to those that infiltrate and manipulate insect bodies with devastating precision. Fungi throw our concepts of individuality and even intelligence into question. They are metabolic masters, earth makers, and key players in most of life's processes. They can change our minds, heal our bodies, and even help us remediate environmental disaster. By examining fungi on their own terms,

Sheldrake reveals how these extraordinary organisms—and our relationships with them—are changing our understanding of how life works. Winner of the Wainwright Prize, the Royal Society Science Book Prize, and the Guild of Food Writers Award • Shortlisted for the British Book Award • Longlisted for the Rathbones Folio Prize

The Carbon Cycle - T. M. L. Wigley 2005-08-22

Reducing carbon dioxide (CO₂) emissions is imperative to stabilizing our future climate. Our ability to reduce these emissions combined with an understanding of how much fossil-fuel-derived CO₂ the oceans and plants can absorb is central to mitigating climate change. In *The Carbon Cycle*, leading scientists examine how atmospheric carbon dioxide concentrations have changed in the past and how this may affect the concentrations in the future. They look at the carbon budget and the "missing sink" for carbon dioxide. They offer approaches to modeling the carbon cycle, providing mathematical tools for predicting future levels of carbon dioxide. This comprehensive text incorporates findings from the recent IPCC reports. New insights, and a convergence of ideas and views across several disciplines make this book an important contribution to the global change literature.

Majalah Al Azhar Edisi 313 - YPI Al Azhar

Kami menyediakan diri untuk menjadi saksi atas pengabdianmu yang kau mulai sedari beliamu hingga jelang wafatmu. Kami ikhlas melepas kepergianmu dengan senyum bangga sebagaimana senyum yang selalu kau tebarkan kepada kami saat bertemu. Perjuanganmu dalam mencetak kader pembangunan umat dan bangsa terpatri kuat dalam sanubari.

Selamat Jalan, Wahai Pejuang Kebanggaan Kami

Sumo Joe - Mia Wenjen 2019

In this sweet and funny story, Sumo Joe and his friends enjoy pretending to be sumo wrestlers. But when his little sister wants to join their boy-only game, what should Sumo Joe do?

All About Pumpkins - Anna DiGilio 2019-04-22

(L) Did you know that pumpkins are a fruit? And they were once a favorite food to animals that are now extinct. Learn more about how and where pumpkins grow, and their iconic role during Halloween.

The State of the World's Children 2003 - 2002

Gaseous Carbon Waste Streams Utilization - National Academies of Sciences, Engineering, and Medicine 2019-02-22

In the quest to mitigate the buildup of greenhouse gases in Earth's atmosphere, researchers and policymakers have increasingly turned their attention to techniques for capturing greenhouse gases such as carbon dioxide and methane, either from the locations where they are emitted or directly from the atmosphere. Once captured, these gases can be stored or put to use. While both carbon storage and carbon utilization

have costs, utilization offers the opportunity to recover some of the cost and even generate economic value. While current carbon utilization projects operate at a relatively small scale, some estimates suggest the market for waste carbon-derived products could grow to hundreds of billions of dollars within a few decades, utilizing several thousand teragrams of waste carbon gases per year. *Gaseous Carbon Waste Streams Utilization: Status and Research Needs* assesses research and development needs relevant to understanding and improving the commercial viability of waste carbon utilization technologies and defines a research agenda to address key challenges. The report is intended to help inform decision making surrounding the development and deployment of waste carbon utilization technologies under a variety of circumstances, whether motivated by a goal to improve processes for making carbon-based products, to generate revenue, or to achieve environmental goals.

The Perfect Slime - Hans-Curt Flemming 2016-09-15

The Perfect Slime presents the latest state of knowledge and all aspects of the Extracellular Polymeric Substances, (EPS) matrix - from the ecological and health to the antifouling perspectives. The book brings together all the current material in order to expand our understanding of the functions, properties and characteristics of the matrix as well as the possibilities to strengthen or weaken it. The EPS matrix represents the immediate environment in which biofilm organisms live. From their point of view, this matrix has paramount advantages. It allows them to stay together for extended periods and form synergistic microconsortia, it retains extracellular enzymes and turns the matrix into an external digestion system and it is a universal recycling yard, it protects them against desiccation, it allows for intense communication and represents a huge genetic archive. They can remodel their matrix, break free and eventually, they can use it as a nutrient source. The EPS matrix can be considered as one of the emergent properties of biofilms and are a major reason for the success of this form of life. Nevertheless, they have been termed the "black matter of biofilms" for good reasons. First of all: the isolation methods define the results. In most cases, only water soluble EPS components are investigated; insoluble ones such as cellulose or amyloids are much less included. In particular in environmental biofilms with many species, it is difficult to impossible isolate, separate the various EPS molecules they are encased in and to define which species produced which EPS. The regulation and the factors which trigger or inhibit EPS production are still very poorly understood. Furthermore: bacteria are not the only microorganisms to produce EPS. Archaea, Fungi and algae can also form EPS. This book investigates the questions, What is their composition, function, dynamics and regulation? What do they all have in common?