

Uiuc Civil Engineering Career Fair

Advances in Laboratory Testing and Modelling of Soils and Shales (ATMSS)Principal Component AnalysisBAPTIST TROPHYInfusing Ethics into the Development of EngineersDelivery and Mixing in the SubsurfaceAfter Latin American StudiesCollege Essay EssentialsPhysicsGender Differences at Critical Transitions in the Careers of Science, Engineering, and Mathematics FacultyEducational Media and Technology YearbookAsk a ManagerGravel Bed Rivers 6Global Sources of Local PollutionThe Art of Being HumanMigration and Fate of Pollutants in Soils and SubsoilsElectronic Communication Across the CurriculumHistory of Ford County, IllinoisEncyclopedia of Earthquake EngineeringPavement CrackingPublic Transportation Systems: Principles Of System Design, Operations Planning And Real-time ControlTheoretical Soil MechanicsMaster the Civil Service ExamsHandbook on Nondestructive Testing of ConcreteWomen in the Labor ForceThe Road Half TraveledCycling for Sustainable CitiesFacilitating Interdisciplinary ResearchUnderstanding Systems: A Grand Challenge For 21st Century EngineeringRandom FatigueWomen and Ideas in EngineeringSalt Sugar FatThe 8th Symposium on River, Coastal and Estuarine MorphodynamicsThe Conceptual Foundations of Transitional JusticeWho's who in Technology TodayBiofilms in Medicine, Industry and Environmental BiotechnologyWhat's Next for YouAnnual ReportSelected Landmark Papers in Concrete Materials ResearchPore Scale Geochemical ProcessesGraduate Admissions Essays

Advances in Laboratory Testing and Modelling of Soils and Shales (ATMSS)

Gender Differences at Critical Transitions in the Careers of Science, Engineering, and Mathematics Faculty presents new and surprising findings about career differences between female and male full-time, tenure-track, and tenured faculty in science, engineering, and mathematics at the nation's top research universities. Much of this congressionally mandated book is based on two unique surveys of faculty and departments at major U.S. research universities in six fields: biology, chemistry, civil engineering, electrical engineering, mathematics, and physics. A departmental survey collected information on departmental policies, recent tenure and promotion cases, and recent hires in almost 500 departments. A faculty survey gathered information from a stratified, random sample of about 1,800 faculty on demographic characteristics, employment experiences, the allocation of institutional resources such as laboratory space, professional activities, and scholarly productivity. This book paints a timely picture of the status of female faculty at top universities, clarifies whether male and female faculty have similar opportunities to advance and succeed in academia, challenges some commonly held views, and poses several questions still in need of answers. This book will be of special interest to university administrators and faculty, graduate students, policy makers, professional and academic societies, federal funding agencies, and others concerned with the vitality of the U.S. research base and economy.

Principal Component Analysis

From a Pulitzer Prize-winning investigative reporter at The New York Times comes

the troubling story of the rise of the processed food industry -- and how it used salt, sugar, and fat to addict us. Salt Sugar Fat is a journey into the highly secretive world of the processed food giants, and the story of how they have deployed these three essential ingredients, over the past five decades, to dominate the North American diet. This is an eye-opening book that demonstrates how the makers of these foods have chosen, time and again, to double down on their efforts to increase consumption and profits, gambling that consumers and regulators would never figure them out. With meticulous original reporting, access to confidential files and memos, and numerous sources from deep inside the industry, it shows how these companies have pushed ahead, despite their own misgivings (never aired publicly). Salt Sugar Fat is the story of how we got here, and it will hold the food giants accountable for the social costs that keep climbing even as some of the industry's own say, "Enough already."

BAPTIST TROPHY

The Encyclopedia of Earthquake Engineering is designed to be the authoritative and comprehensive reference covering all major aspects of the science of earthquake engineering, specifically focusing on the interaction between earthquakes and infrastructure. The encyclopedia comprises approximately 300 contributions. Since earthquake engineering deals with the interaction between earthquake disturbances and the built infrastructure, the emphasis is on basic design processes important to both non-specialists and engineers so that readers become suitably well informed without needing to deal with the details of specialist understanding. The encyclopedia's content provides technically-inclined and informed readers about the ways in which earthquakes can affect our infrastructure and how engineers would go about designing against, mitigating and remediating these effects. The coverage ranges from buildings, foundations, underground construction, lifelines and bridges, roads, embankments and slopes. The encyclopedia also aims to provide cross-disciplinary and cross-domain information to domain-experts. This is the first single reference encyclopedia of this breadth and scope that brings together the science, engineering and technological aspects of earthquakes and structures.

Infusing Ethics into the Development of Engineers

Internationally, much attention is given to causes, prevention, and rehabilitation of cracking in concrete, flexible, and composite pavements. The Sixth RILEM International Conference on Cracking in Pavements (Chicago, June 16-18, 2008) provided a forum for discussion of recent developments and research results. This book is a collection of papers fr

Delivery and Mixing in the Subsurface

Offers tips on writing an essay for admission to graduate school, provides an explanation of the admissions process, gives advice on securing letters of recommendation, and features resources for locating scholarships.

After Latin American Studies

College Essay Essentials

Many countries have attempted to transition to democracy following conflict or repression, but the basic meaning of transitional justice remains hotly contested. In this book, Colleen Murphy analyses transitional justice - showing how it is distinguished from retributive, corrective, and distributive justice - and outlines the ethical standards which societies attempting to democratize should follow. She argues that transitional justice involves the just pursuit of societal transformation. Such transformation requires political reconciliation, which in turn has a complex set of institutional and interpersonal requirements including the rule of law. She shows how societal transformation is also influenced by the moral claims of victims and the demands of perpetrators, and how justice processes can fail to be just by failing to foster this transformation or by not treating victims and perpetrators fairly. Her book will be accessible and enlightening for philosophers, political and social scientists, policy analysts, and legal and human rights scholars and activists.

Physics

Gender Differences at Critical Transitions in the Careers of Science, Engineering, and Mathematics Faculty

The ideal graduation gift for anyone about to enter the workforce, a witty, practical guide to 200 difficult professional conversations—featuring all-new advice from the creator of the popular website Ask a Manager and New York’s work-advice columnist. There’s a reason Alison Green has been called “the Dear Abby of the work world.” Ten years as a workplace-advice columnist have taught her that people avoid awkward conversations in the office because they simply don’t know what to say. Thankfully, Green does—and in this incredibly helpful book, she tackles the tough discussions you may need to have during your career. You’ll learn what to say when

- coworkers push their work on you—then take credit for it
- you accidentally trash-talk someone in an email then hit “reply all”
- you’re being micromanaged—or not being managed at all
- you catch a colleague in a lie
- your boss seems unhappy with your work
- your cubemate’s loud speakerphone is making you homicidal
- you got drunk at the holiday party

Advance praise for Ask a Manager “A must-read for anyone who works . . . [Alison Green’s] advice boils down to the idea that you should be professional (even when others are not) and that communicating in a straightforward manner with candor and kindness will get you far, no matter where you work.”—Booklist (starred review) “I am a huge fan of Alison Green’s Ask a Manager column. This book is even better. It teaches us how to deal with many of the most vexing big and little problems in our workplaces—and to do so with grace, confidence, and a sense of humor.”—Robert Sutton, Stanford professor and author of *The No Asshole Rule* and *The Asshole Survival Guide* “Clear and concise in its advice and expansive in its scope, Ask a Manager is the book I wish I’d had in my desk drawer when I was starting out (or even, let’s be honest, fifteen years in).”—Sarah Knight, New York Times bestselling author of *The Life-Changing Magic of Not Giving a F*ck*

Educational Media and Technology Yearbook

Ask a Manager

Leonardo da Vinci is regarded as a genius, but if he were competing in today's job market, he may never be hired. Today's talent management system is broken, which is why organizations need a comprehensive roadmap that puts candidates first. Ashutosh Garg and Kamal Ahluwalia, the leaders of Eightfold.ai, a Silicon Valley-based company revolutionizing the talent management space, explore how to do it in this guide. They've combined insights from more than twenty experts to reveal ways to hire and keep top talent. They also share how Eightfold's patented artificial intelligence-based platform empowers enterprises to turn talent management into a competitive advantage. Learn how to: -find candidates with the most relevant skills; -retain and promote a diverse workforce; and -drive innovation through the effective use of artificial intelligence. The authors-both with Silicon Valley experience-have witnessed employment attrition firsthand, which is why they set out to leverage AI technology and their experience building great teams to help people find meaningful work while reducing employee turnover. Whether you're an HR executive, manager, business owner, or job candidate, this guide shares meaningful insights and solutions to solving the talent crisis.

Gravel Bed Rivers 6

Ethical practice in engineering is critical for ensuring public trust in the field and in its practitioners, especially as engineers increasingly tackle international and socially complex problems that combine technical and ethical challenges. This report aims to raise awareness of the variety of exceptional programs and strategies for improving engineers' understanding of ethical and social issues and provides a resource for those who seek to improve ethical development of engineers at their own institutions. This publication presents 25 activities and programs that are exemplary in their approach to infusing ethics into the development of engineering students. It is intended to serve as a resource for institutions of higher education seeking to enhance their efforts in this area.

Global Sources of Local Pollution

Our book presents a unique and original viewpoint on natural and engineered systems. The authors' goal is to propose and explain core principles that govern the formation and function of simple and complex systems. Examples are drawn from a broad range of topics from common materials and manufactured structures to the behavior of cells, organisms and socio-economic organizations. We provide a technical discussion of key engineering principles without the use of mathematics so that we may describe for a general audience how the systems of daily life form, operate, and evolve. We use analogy and illustrations to show how the components self-organize and scale to form complex adaptive systems. In this way we hope to understand how those systems come to be, achieve stability, and suddenly transition to new equilibrium states, including the sudden onset of economic recessions, ecosystem collapse, the evolution of species, development of

cancer, and other wide-ranging topics. The existential role of component variability in these processes is emphasized. This book targets engineering instructors and undergraduate students curious to explore the grand challenges facing society today so they might build productive and long-lasting careers in science and technology. The six essays can be used to frame classroom discussions on systems from a broad range of disciplines. The essays are designed to appeal to those with a basic science and engineering background as we illustrate many fundamental engineering concepts in our descriptions of system behavior. We also hope our book appeals to curious members of the general public who are interested in understanding foundational ideas.

The Art of Being Human

Libro de abstracts del congreso celebrado en Santander en junio de 2013.

Migration and Fate of Pollutants in Soils and Subsoils

How to make city cycling--the most sustainable form of urban transportation--safe, practical, and convenient for all cyclists. Cycling is the most sustainable mode of urban transportation, practical for most short- and medium-distance trips--commuting to and from work or school, shopping, visiting friends, going to the doctor's office. It's good for your health, spares the environment a trip's worth of auto emissions, and is economical for both public and personal budgets. Cycling, with all its benefits, should not be reserved for the fit, the spandex-clad, and the daring. Cycling for Sustainable Cities shows how to make city cycling safe, practical, and convenient for all cyclists.

Electronic Communication Across the Curriculum

Drawing on ten diverse universities as case studies, this eye-opening book explores practices and strategies that can be employed to improve conditions in low-income communities and emphasizes the critical roles of university leaders, philanthropy, and policy in this process. The Road Half Traveled provides a forward-thinking perspective on new horizons in university and community partnership.

History of Ford County, Illinois

Based on the interdisciplinary approaches between earth science, engineering, physical geography, ecology and management, this text focuses on the theoretical questions, case-studies, challenges, and constraints taken from river restoration. It is illustrated with reports of new ground-breaking research covering spatial and temporal scales of physical processes in river catchments, coupling catchment and fluvial processes, grain dynamics and fluvial forms and on geo-ecology and restoration in mountain gravel-bed river environments. Each chapter includes discussions and comments providing experience and feedback from the fundamental research. This book covers scales of analysis for gravel-bed rivers, physics and modeling of processes at local and point scales, sediment delivery and storage, eco-geography and eco-hydraulics, and channel management and restoration. * Major topics in the field are presented by recognized scientific

leaders * Chapters cover theories, practices, and methodologies in river management and restoration * Interdisciplinary approach includes case-studies on new, ground-breaking research

Encyclopedia of Earthquake Engineering

Pavement Cracking

Facilitating Interdisciplinary Research examines current interdisciplinary research efforts and recommends ways to stimulate and support such research. Advances in science and engineering increasingly require the collaboration of scholars from various fields. This shift is driven by the need to address complex problems that cut across traditional disciplines, and the capacity of new technologies to both transform existing disciplines and generate new ones. At the same time, however, interdisciplinary research can be impeded by policies on hiring, promotion, tenure, proposal review, and resource allocation that favor traditional disciplines. This report identifies steps that researchers, teachers, students, institutions, funding organizations, and disciplinary societies can take to more effectively conduct, facilitate, and evaluate interdisciplinary research programs and projects. Throughout the report key concepts are illustrated with case studies and results of the committee's surveys of individual researchers and university provosts.

Public Transportation Systems: Principles Of System Design, Operations Planning And Real-time Control

In this spirit, the ATMSS International Workshop "Advances in Laboratory Testing & Modelling of Soils and Shales" (Villars-sur-Ollon, Switzerland; 18-20 January 2017) has been organized to promote the exchange of ideas, experience and state of the art among major experts active in the field of experimental testing and modelling of soils and shales. The Workshop has been organized under the auspices of the Technical Committees TC-101 "Laboratory Testing", TC-106 "Unsaturated Soils" and TC-308 "Energy Geotechnics" of the International Society of Soil Mechanics and Geotechnical Engineering. This volume contains the invited keynote and feature lectures, as well as the papers that have been presented at the Workshop. The topics of the lectures and papers cover a wide range of theoretical and experimental research, including unsaturated behaviour of soils and shales, multiphysical testing of geomaterials, hydro-mechanical behaviour of shales and stiff clays, the geomechanical behaviour of the Opalinus Clay shale, advanced laboratory testing for site characterization and in-situ applications, and soil - structure interactions.

Theoretical Soil Mechanics

Experts in soil and environmental sciences as well as in the theory of wave propagation and numerical modeling methods provide a comprehensive account of different aspects of pollutant migration in soils, aquifers, and other geological formations. Emphasis is laid on the analysis of contributing phenomena and their interactions, modeling, and the practical use of such knowledge and models for

guidance in disposal operations, preventive measures to minimize ecological damage, prediction of consequences of seepage, and design of remedial actions. Topics covered include the chemical behavior of soils, sorption and retardation, biochemistry of pollutants, ion exchange and kinetics of reactions in soils, measurement of adsorption and desorption, multiphase hydrodynamics, multicomponent wave theory and the coherence concept, nonlinear wave propagation in geological formations, multiphase convective transport, diffusion and fast reaction, modeling pollutant transport, numerical methods, dispersion of contaminants from landfills, risk analysis, water reuse, and radioactive soil contamination at Chernobyl.

Master the Civil Service Exams

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Handbook on Nondestructive Testing of Concrete

Principal component analysis is probably the oldest and best known of the It was first introduced by Pearson (1901), techniques of multivariate analysis. and developed independently by Hotelling (1933). Like many multivariate methods, it was not widely used until the advent of electronic computers, but it is now well entrenched in virtually every statistical computer package. The central idea of principal component analysis is to reduce the dimensionality of a data set in which there are a large number of interrelated variables, while retaining as much as possible of the variation present in the data set. This reduction is achieved by transforming to a new set of variables, the principal components, which are uncorrelated, and which are ordered so that the first few retain most of the variation present in all of the original variables. Computation of the principal components reduces to the solution of an eigenvalue-eigenvector problem for a positive-semidefinite symmetric matrix. Thus, the definition and computation of principal components are straightforward but, as will be seen, this apparently simple technique has a wide variety of different applications, as well as a number of different derivations. Any feelings that principal component analysis is a narrow subject should soon be dispelled by the present book; indeed some quite broad topics which are related to principal component analysis receive no more than a brief mention in the final two chapters.

Women in the Labor Force

The Road Half Traveled

This unique book explains how to think systematically about public transportation through the lens of physics models. The book includes aspects of system design, resource management, operations and control. It presents both, basic theories that reveal fundamental issues, and practical recipes that can be readily used for real-world applications. The principles conveyed in this book cover not only traditional transit modes such as subways, buses and taxis but also the newer mobility services that are being enabled by advances in telematics and robotics. Although the book is rigorous, it includes numerous exercises and a presentation style suitable for senior undergraduate or entry-level graduate students in engineering. The book can also serve as a reference for transportation professionals and researchers keen in this field.

Cycling for Sustainable Cities

Recent advances in air pollution monitoring and modeling capabilities have made it possible to show that air pollution can be transported long distances and that adverse impacts of emitted pollutants cannot be confined to one country or even one continent. Pollutants from traffic, cooking stoves, and factories emitted half a world away can make the air we inhale today more hazardous for our health. The relative importance of this "imported" pollution is likely to increase, as emissions in developing countries grow, and air quality standards in industrial countries are tightened. *Global Sources of Local Pollution* examines the impact of the long-range transport of four key air pollutants (ozone, particulate matter, mercury, and persistent organic pollutants) on air quality and pollutant deposition in the United States. It also explores the environmental impacts of U.S. emissions on other parts of the world. The book recommends that the United States work with the international community to develop an integrated system for determining pollution sources and impacts and to design effective response strategies. This book will be useful to international, federal, state, and local policy makers responsible for understanding and managing air pollution and its impacts on human health and well-being.

Facilitating Interdisciplinary Research

This is Volume 42 of the Educational Media and Technology Yearbook. For the past 40 years, our Yearbook has contributed to the field of Educational Technology in presenting contemporary topics, ideas, and developments regarding diverse technology tools for educational purposes. Our Yearbook has inspired researchers, practitioners, and teachers to consider how to develop technological designs and develop curricula and instruction integrating technology to enhance student learning, teach diverse populations across levels with effective technology integration, and apply technology in interactive ways to motivate students to engage in course content. In addition, Volume 42 features the Virtual Reality (VR) and Augmented Reality (AR) research and educational use cases, organized and

coordinated by Vivienne and David. This section provides evidence that the affordances of AR, VR, and mixed reality, defined as an immersive multi-platform experience reality (XR), have begun to make indelible changes in teaching and learning in the United States. XR's recent developments stimulated the editors to propose a special edition to mark the interoperability of immersive technology to push the boundaries of human curiosity, creativity, and problem solving. After years of incremental development, XR has reached a critical level of investment, infrastructure, and emerging production. The chapters included in this section illustrate how XR can push user inquiry, engagement, learning, and interactivity to new levels within physical and digital contexts.

Understanding Systems: A Grand Challenge For 21st Century Engineering

Random Fatigue

The increasing presence of women within engineering programs is one of today's most dramatic developments in higher education. Long before, however, a group of talented and determined women carved out new paths in the College of Engineering at the University of Illinois. Laura D. Hahn and Angela S. Wolters bring to light the compelling hidden stories of these pioneering figures. When Mary Louisa Page became the College's first female graduate in 1879, she also was the first American woman ever awarded a degree in architecture. Bobbie Johnson's insistence on "a real engineering job" put her on a path to the Apollo and Skylab programs. Grace Wilson, one of the College's first female faculty members, taught and mentored a generation of women. Their stories and many others illuminate the forgotten history of women in engineering. At the same time, the authors offer insights into the experiences of today's women from the College -- a glimpse of a brighter future, one where more women in STEM fields apply their tireless dedication to the innovations that shape a better tomorrow.

Women and Ideas in Engineering

Salt Sugar Fat

This collection of 24 essays explores what happens when proponents of writing across the curriculum (WAC) use the latest computer-mediated tools and techniques--including e-mail, asynchronous learning networks, MOOs, and the World Wide Web--to expand and enrich their teaching practices, especially the teaching of writing. Essays and their authors are: (1) "Using Computers to Expand the Role of Writing Centers" (Muriel Harris); (2) "Writing across the Curriculum Encounters Asynchronous Learning Networks" (Gail E. Hawisher and Michael A. Pemberton); (3) "Building a Writing-Intensive Multimedia Curriculum" (Mary E. Hocks and Daniele Bascelli); (4) "Communication across the Curriculum and Institutional Culture" (Mike Palmquist; Kate Kiefer; Donald E. Zimmerman); (5) "Creating a Community of Teachers and Tutors" (Joe Essid and Dona J. Hickey); (6) "From Case to Virtual Case: A Journey in Experiential Learning" (Peter M.

Saunders); (7) "Composing Human-Computer Interfaces across the Curriculum in Engineering Schools" (Stuart A. Selber and Bill Karis); (8) "InterQuest: Designing a Communication-Intensive Web-Based Course" (Scott A. Chadwick and Jon Dorbolo); (9) "Teacher Training: A Blueprint for Action Using the World Wide Web" (Todd Taylor); (10) "Accommodation and Resistance on (the Color) Line: Black Writers Meet White Artists on the Internet" (Teresa M. Redd); (11) "International E-mail Debate" (Linda K. Shamoan); (12) "E-mail in an Interdisciplinary Context" (Dennis A. Lynch); (13) "Creativity, Collaboration, and Computers" (Margaret Portillo and Gail Summerskill Cummins); (14) "COLlaboratory: MOOs, Museums, and Mentors" (Margit Misangyi Watts and Michael Bertsch); (15) "Weaving Guilford's Web" (Michael B. Strickland and Robert M. Whitnell); (16) "Pig Tales: Literature inside the Pen of Electronic Writing" (Katherine M. Fischer); (17) "E-Journals: Writing to Learn in the Literature Classroom" (Paula Gillespie); (18) "E-mailing Biology: Facing the Biochallenge" (Deborah M. Langsam and Kathleen Blake Yancey); (19) "Computer-Supported Collaboration in an Accounting Class" (Carol F. Venable and Gretchen N. Vik); (20) "Electronic Tools to Redesign a Marketing Course" (Randall S. Hansen); (21) "Network Discussions for Teaching Western Civilization" (Maryanne Felter and Daniel F. Schultz); (22) "Math Learning through Electronic Journaling" (Robert Wolfe); (23) "Electronic Communities in Philosophy Classrooms" (Gary L. Hardcastle and Valerie Gray Hardcastle); and (24) "Electronic Conferencing in an Interdisciplinary Humanities Course" (Mary Ann Krajnik Crawford; Kathleen Geissler; M. Rini Hughes; Jeffrey Miller). A glossary and an index are included. (NKA)

The 8th Symposium on River, Coastal and Estuarine Morphodynamics

Anthropology is the study of all humans in all times in all places. But it is so much more than that. "Anthropology requires strength, valor, and courage," Nancy Scheper-Hughes noted. "Pierre Bourdieu called anthropology a combat sport, an extreme sport as well as a tough and rigorous discipline. It teaches students not to be afraid of getting one's hands dirty, to get down in the dirt, and to commit yourself, body and mind. Susan Sontag called anthropology a "heroic" profession." What is the payoff for this heroic journey? You will find ideas that can carry you across rivers of doubt and over mountains of fear to find the the light and life of places forgotten. Real anthropology cannot be contained in a book. You have to go out and feel the world's jagged edges, wipe its dust from your brow, and at times, leave your blood in its soil. In this unique book, Dr. Michael Wesch shares many of his own adventures of being an anthropologist and what the science of human beings can tell us about the art of being human. This special first draft edition is a loose framework for more and more complete future chapters and writings. It serves as a companion to anth101.com, a free and open resource for instructors of cultural anthropology. This 2018 text is a revision of the "first draft edition" from 2017 and includes 7 new chapters.

The Conceptual Foundations of Transitional Justice

This timely book will introduce its readers to the

Who's who in Technology Today

This volume is meant to provide the practitioner with information on the natural mixing processes occurring in aquifers as well as to describe basic strategies that can be implemented to enhance mixing in particular cases. For example, when it comes to mixing miscible liquids, one can speed up mixing in the formation by manipulating the flow such as through the use of recirculation wells. Furthermore, much of the mixing can be achieved partially within recirculation wells themselves, where contaminated water is admixed with additives, volatile products may be removed through a vapor mass exchanger, etc. Thus, adding mixing wells can significantly increase the performance of the delivery and mixing system and speed up the process of remediation.

Biofilms in Medicine, Industry and Environmental Biotechnology

This RiMG (Reviews in Mineralogy & Geochemistry) volume includes contributions that review experimental, characterization, and modeling advances in our understanding of pore-scale geochemical processes. The volume had its origins in a special theme session at the 2015 Goldschmidt Conference in Prague. From a diversity of pore-scale topics that ranged from multi-scale characterization to modeling, this work summarizes the state-of-the-science in this subject. Topics include: modification of thermodynamics and kinetics in small pores. chemo-mechanical processes and how they affect porosity evolution in geological media. small angle neutron scattering (SANS) techniques. how isotopic gradients across fluid-mineral boundaries can develop and how these provide insight into pore-scale processes. Information on an important class of models referred to as "pore network" and much more. The material in this book is accessible for graduate students, researchers, and professionals in the earth, material, environmental, hydrological, and biological sciences. The pore scale is readily recognizable to geochemists, and yet in the past it has not received a great deal of attention as a distinct scale or environment that is associated with its own set of questions and challenges. Is the pore scale merely an environment in which smaller scale (molecular) processes aggregate, or are there emergent phenomena unique to this scale? Is it simply a finer-grained version of the "continuum" scale that is addressed in larger-scale models and interpretations? The scale is important because it accounts for the pore architecture within which such diverse processes as multi-mineral reaction networks, microbial community interaction, and transport play out, giving rise to new geochemical behavior that might not be understood or predicted by considering smaller or larger scales alone.

What's Next for You

Written by international experts in the field, this new edition provides the most comprehensive, up-to-date information available on nondestructive testing (NDT) methods used to evaluate concrete structures. Sixteen chapters give you a comprehensive understanding of the tools and techniques used to estimate the in-place strength of concrete and permeation properties that relate to potential durability, and describe methods used to assess the internal condition of concrete

and corrosion activity of steel reinforcement.

Annual Report

For many years fatigue has been a significant and difficult problem for engineers, especially for those who design structures such as aircraft, bridges, pressure vessels, and cranes. Fatigue of engineering materials is commonly regarded as an important deterioration process and a principal mode of failure for various structural and mechanical systems. This book presents a unified approach to stochastic modeling of the fatigue phenomenon, particularly the fatigue crack growth process. The main approaches to construction of these stochastic models are presented to show their methodological consistency and potential usefulness in engineering practice. The analyses contained in this work should also inspire the development of new approaches for designing and performing fatigue experiments.

Selected Landmark Papers in Concrete Materials Research

This guide features step-by-step tutorials for mastering verbal, arithmetic, and clerical questions for entry-level civil service exams, advice on application procedures, and the inside scoop on the civil service job market.

Pore Scale Geochemical Processes

Graduate Admissions Essays

Writing an amazing college admission essay is easier than you think! So you're a high school senior given the task of writing a 650-word personal statement for your college application. Do you tell the story of your life, or a story from your life? Do you choose a single moment? If so, which one? The options seem endless. Lucky for you, they're not. College counselor Ethan Sawyer (aka The College Essay Guy) will show you that there are only four (really, four!) types of college admission essays. And all you have to do to figure out which type is best for you is answer two simple questions: 1. Have you experienced significant challenges in your life? 2. Do you know what you want to be or do in the future? With these questions providing the building blocks for your essay, Sawyer guides you through the rest of the process, from choosing a structure to revising your essay, and answers the big questions that have probably been keeping you up at night: How do I brag in a way that doesn't sound like bragging? and How do I make my essay, like, deep? Packed with tips, tricks, exercises, and sample essays from real students who got into their dream schools, College Essay Essentials is the only college essay guide to make this complicated process logical, simple, and (dare we say it?) a little bit fun.

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