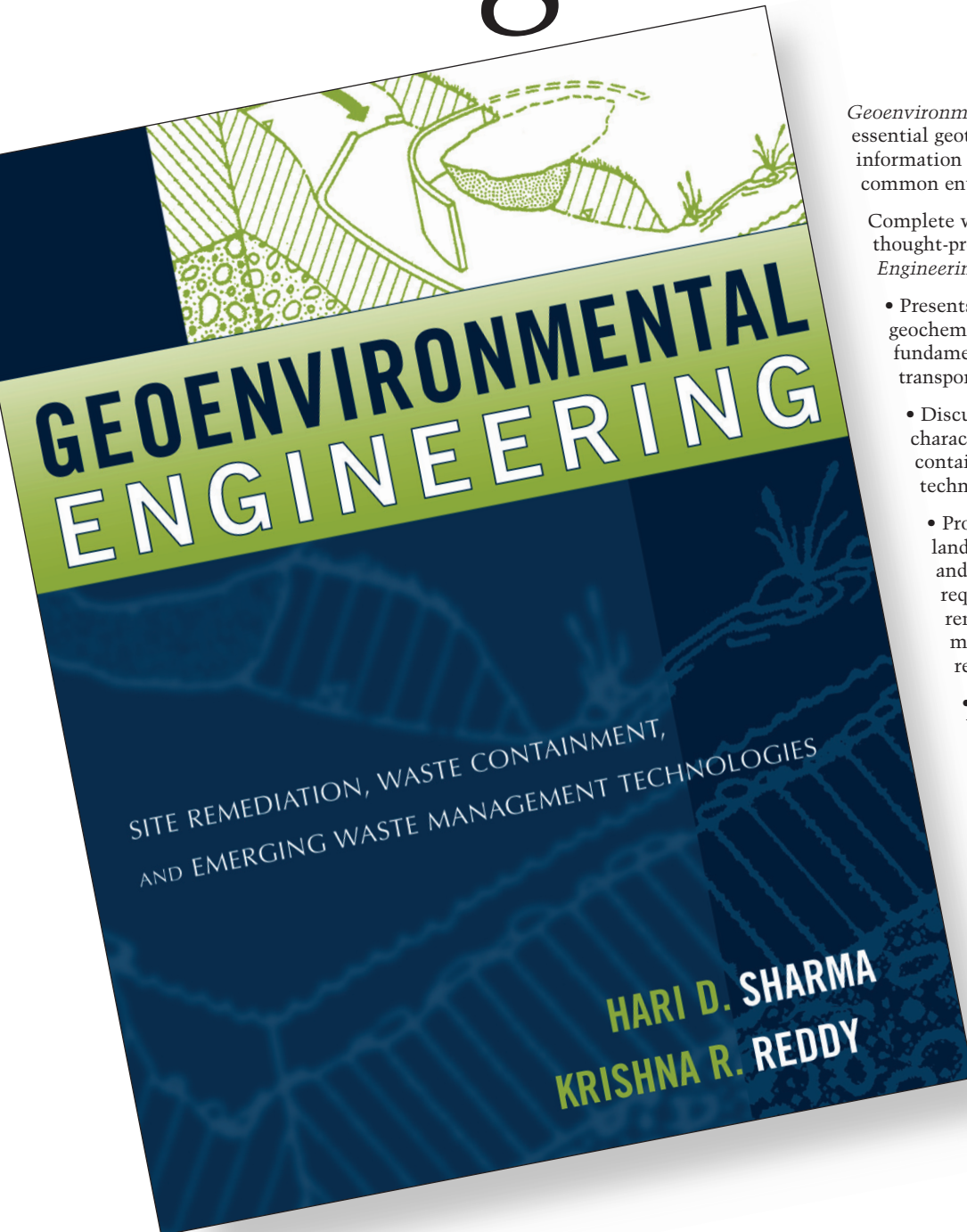


# Single-source volume on geoenvironmental engineering.



*Geoenvironmental Engineering* is a unique combination of essential geotechnical, geochemical, and groundwater flow information and the application of this knowledge to a host of common environmental problems and engineering solutions.

Complete with example problems, case histories, and thought-provoking questions, *Geoenvironmental Engineering*:

- Presents environmental laws and regulations, chemical, geochemical and geotechnical background, and fundamentals of groundwater flow and contaminant transport
- Discusses sources of contamination, contaminated site characterization, risk assessment, in situ waste containment, and soil and groundwater remediation technologies
- Provides information on the design and evaluation of landfills and surface impoundments—including sources and characteristics of wastes, regulations and siting requirements, liner systems, leachate collection and removal systems, final cover systems, gas management, and groundwater monitoring requirements
- Outlines such emerging technologies as beneficial uses of closed landfills, recycling, bioreactors, and in situ capping of subaquatic waste sediments

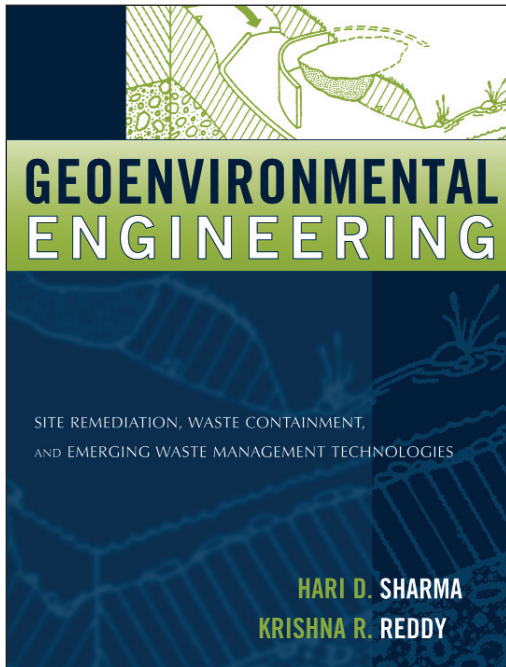
Featuring comprehensive, up-to-date references at the end of each chapter, *Geoenvironmental Engineering* is a valuable resource for students of environmental and geotechnical engineering, hydrology, hydrogeology, and general civil engineering, and professionals in these fields, as well as environmental regulators and administrators at local, state, and federal levels.



**WILEY**

Now you know.

wiley.com



ISBN: 0-471-21599-6, Cloth, \$195.00

## Table of Contents

### Part I: Basic Principles

Introduction  
 Relevant Environmental Laws and Regulations  
 Chemical Background  
 Composition of Soils  
 Soil Properties  
 Geochemistry Background  
 Groundwater Flow  
 Contaminant Transport and Fate

### Part II: Remediation Technologies

Subsurface Contamination: Sources, Contaminants, Regulations, and Remedial Approach  
 Contaminated Site Characterization  
 Risk Assessment and Remedial Strategy  
 In-Situ Waste Containment  
 Soil Remediation Technologies  
 Groundwater Remediation Technologies

### Part III: Landfills and Surface Impoundments

Sources and Characteristics of Wastes  
 Landfill Regulations, Siting, and Configurations  
 Waste Containment Liner Systems  
 Leachate Collection and Removal Systems and Liner Design  
 Final Cover Systems  
 Gas Generation and Management  
 Groundwater Monitoring  
 Surface Impoundments

### Part IV: Emerging Technologies

Beneficial Use of Waste Materials: Recycling  
 End Uses of Closed Landfills  
 Bioreactor Landfills  
 Subaquatic Sediment Waste: In-Situ Capping  
 Index

## About the Authors

HARI SHARMA, PhD, PE, GE, is a Principal with GeoSyntec Consultants specializing in geoenvironmental and geotechnical engineering. He is the author of *Waste Containment Systems* and coauthor of *Pile Foundations in Engineering Practice* (both from Wiley). He has authored more than thirty-five research papers and has more than thirty years of experience in engineering practice.

KRISHNA REDDY, PhD, PE, is Associate Professor of Civil and Environmental Engineering at the University of Illinois, Chicago. He has earned numerous awards and honors for both his teaching and his research. He teaches geoenvironmental engineering courses, such as environmental geotechnology, environmental remediation, and landfill design, among others. He is a registered professional engineer in the State of Illinois.

### HOW TO ORDER

MAIL TO: Wiley Customer Care      CALL: 1-877-762-2974  
 10475 Crosspoint Blvd.      FAX: 1-800-605-2665  
 Indianapolis, IN 46256      E-mail: [custserv@wiley.com](mailto:custserv@wiley.com)

#### CANADA

MAIL TO: John Wiley & Sons      CALL: 1-800-567-4797  
 22 Worcester Road      FAX: 1-800-565-6802  
 Etobicoke, Ontario M9W1L1  
 Attn: A. Krneta

\_\_\_ copy(s) of *Geoenvironmental Engineering*  
 ISBN: 0-471-21599-6, \$195.00

*Prepaid orders: postage free, handling \$5.00. All other orders charged accordingly.*

*We will refund your payment without question if you return any unwanted book to us in resellable condition within 30 days. Your order will be dispatched promptly but please allow 21 days for delivery all prices correct at time of going to press but subject to change.*

Payment \$ \_\_\_\_\_ enclosed.  
(payable to John Wiley & Sons Inc. —checks must be drawn in US currency from a US bank)

Purchase Order     Please send me an invoice

Please charge my credit card account     VISA     MASTERCARD     AMEX     DISCOVER

Card # \_\_\_\_\_ Expiration Date: \_\_\_\_ / \_\_\_\_

SIGNATURE \_\_\_\_\_

NAME (please print) \_\_\_\_\_

POSITION \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

TELEPHONE \_\_\_\_\_ DATE \_\_\_\_\_