



Railway Geotechnics, 1/e

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About the Book

Links Geotechnics with Railway Track Engineering and Railway Operation

Good railway track and railway operations depend on good geotechnics, in several different ways and at varying levels.

Railway Geotechnics covers track, track substructure, load environment, materials, mechanics, design, construction, measurements, and management. Illustrated by case studies, with an emphasis on the geotechnical aspects of railway engineering, it discusses these topics from a historical perspective. It also presents the methodologies and best practices developed over the past 20 years.

Written by Four Experienced Professionals

This book:

Emphasizes the practical aspects and best practices for railway track and substructure

Contains guidelines for design, construction, and maintenance of railway track and substructure

Provides many examples and case studies

Railway Geotechnics is written primarily for professionals and graduate students, and begins with the fundamentals and basic principles, leading in to practical applications. The authors bring considerable experience and expertise, with many years of research and development, academia, railway operations, and consulting.

Salient Features

Offers methods, best practices and case studies

Illustrates with examples of "how to do it"

Includes descriptions of the latest technologies and development related to track substructure

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Track

Loading

Substructure

Mechanics

Design

Drainage

Slopes

Measurements

Management

Case Studies

References

About the Author

Ken Wyatt :- Ken Wyatt was the mainstay of structural engineering teaching in the Faculty of the Built Environment at the University of New South Wales, Australia, for many decades. There he developed the original text of Principles of Structure. He is also a structural engineer, researcher, materials scientist, and heritage consultant.

James Hyslip :- Dr. James (Jim) Hyslip is president of HyGround Engineering (Williamsburg, Massachusetts), where he provides consulting

services in the areas of railway and geotechnical engineering. Dr. Hyslip has more than 25 years of experience in railroad engineering and geotechnical consulting, including positions as track supervisor (roadmaster) and engineer of soil mechanics at the Consolidated Rail Corporation (Conrail). Additionally, he was a geotechnical engineer with GeoMechanics, Inc. (Pittsburgh, Pennsylvania). Dr. Hyslip has engineering degrees from Bucknell University, the University of Pittsburgh, and the University of Massachusetts Amherst, and is registered in the USA as a professional engineer.

Steven Chrismer :- Dr. Steven Chrismer is a senior mechanical track and vehicle engineer with LTK Engineering, where he specializes in dynamic vehicle-track interaction and track engineering. Dr. Chrismer has 33 years of rail industry experience mainly devoted to developing railway geotechnology for freight loading, including heavy haul, for the Association of American Railroads Research and Test Department. He has also worked for Amtrak, where he applied railway geotechnology to high-speed passenger service. He is chairman of the AREMA High Speed Rail Systems Committee, and is a registered professional engineer.

Ted Sussmann :- Dr. Theodore (Ted) Sussmann is a civil engineer with a focus on railroad geotechnical infrastructure engineering. He has 20 years of experience in characterizing track materials and structural response for safety and reliability evaluation, life-cycle cost assessment, and maintenance planning to support infrastructure sustainability. Dr. Sussmann teaches civil engineering at the University of Hartford, and has led track research at the Volpe Center. He was a research fellow at the University of Massachusetts Amherst, where he received his B.S.C.E. (Magna Cum Laude), M.S.C.E., and Ph.D. Dr. Sussmann is also a member of ASCE, AREMA, Tau Beta Pi, and Chi Epsilon.