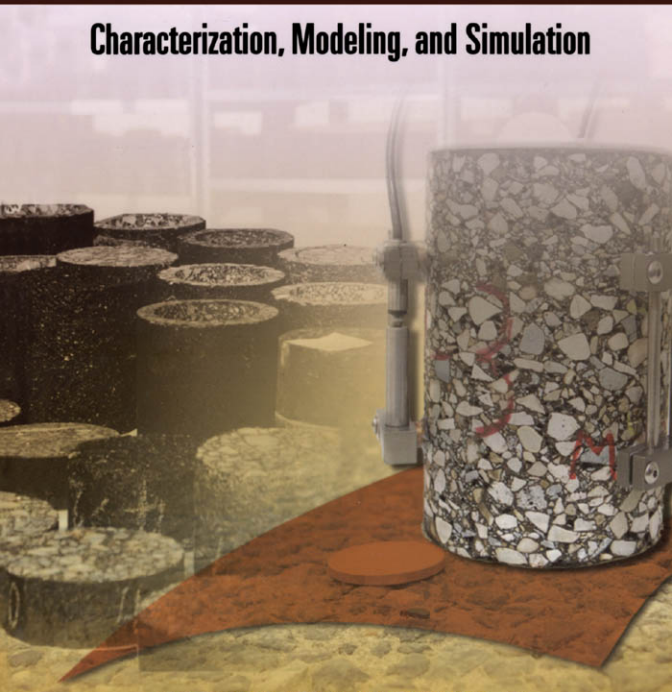
PAVEMENTS AND MATERIALS

Characterization, Modeling, and Simulation



GEOTECHNICAL SPECIAL PUBLICATION NO. 182

Edited by
Zhanping You
Ala R. Abbas
Linbing Wang

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PAVEMENTS AND MATERIALS

CHARACTERIZATION, MODELING, AND SIMULATION

PROCEEDINGS OF SYMPOSIUM ON PAVEMENT MECHANICS AND MATERIALS AT THE 18TH ASCE ENGINEERING MECHANICS DIVISION (EMD) CONFERENCE

June 3-6, 2007
Blacksburg, Virginia

SPONSORED BY
Pavements Committee of The Geo-Institute
American Society of Civil Engineers

Task Committee on Mechanics of Pavements, Inelastic Committee, and Granular Materials Committee of The Engineering Mechanics Institute, American Society of Civil Engineers

EDITED BY
Zhanping You
Ala R. Abbas
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Published by the American Society of Civil Engineers

Library of Congress Cataloging-in-Publication Data

Symposium on Pavement Mechanics and Materials (2007 : Blacksburg, Va.)
Pavements and materials : characterization, modeling, and simulation : proceedings of Symposium on Pavement Mechanics and Materials at the 18th ASCE Engineering Mechanics Division (EMD) Conference : June 3-6, 2007, Blacksburg, Virginia / sponsored by Pavements Committee of the Geo-Institute, American Society of Civil Engineers ... [et al.] ; edited by Zhanping You, Ala R. Abbas, Linbing Wang.
p. cm. -- (Geotechnical special publication ; no. 182)
Includes bibliographical references and indexes.
ISBN 978-0-7844-0986-2
1. Pavements--Congresses. 2. Road materials--Congresses. 3. Pavement--Performance--Congresses. 4. Pavements, Asphalt--Congresses. I. You, Zhanping. II. Abbas, Ala R. III. Wang, Linbing, 1963- IV. American Society of Civil Engineers. Geo-Institute. Pavements Committee. V. ASCE Engineering Mechanics Conference (18th : 2007 : Blacksburg, Va.) VI. Title.

TE250.S924 2007 2008027069
625.8'5--dc22

American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, Virginia, 20191-4400

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ISBN 13: 978-0-7844-0986-2
Manufactured in the United States of America.

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Preface

This special publication includes 16 papers on characterization, modeling and simulation of asphalt mixtures, asphalt pavements, and concrete mixtures, addressing a variety of timely issues in pavement mechanics. They include five papers on modeling and simulations of asphalt concrete by incorporating the microscopic structures of the material, the interactions between aggregates, mastics and voids, and the use of Finite Element Method (FEM) and Discrete Element Method (DEM); two papers on the continuum approaches including nonlinear viscoelastic analysis and temperature dependency; four papers on pavement stress and strain analysis; two papers on laboratory characterization of modified asphalt concrete; one paper on pavement fatigue analysis, one paper on tire-pavement interaction, and; one paper on coefficient of thermal expansion of concrete for rigid pavement design.

Each paper published in this GSP was rigorously evaluated by peer reviewers and the editors. The review comments were sent to the authors and they have been addressed to the reviewers and the editors' satisfaction. The editors sincerely acknowledge reviewers' time and efforts. The editors also acknowledge Graduate student Shu Wei Goh at Michigan Technological University in the assistance of the cover design.

The papers in this GSP include eight papers that were presented in the symposium on Pavement Mechanics and Materials at the 18th ASCE Engineering Mechanics Division (EMD) Conference, held at Blacksburg, Virginia, June 3-6 2007 and eight papers submitted for publication only. The symposium was supported by the Geo-Institute Pavements Committee, the Task Committee on Mechanics of Pavements, the Inelastic Committee and the Granular Materials Committee of the ASCE Engineering Mechanics Institute.

The editors of this GSP would like to thank the Board of Governors of the Geo-Institute for their approving the symposium and the special publication.

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December 30, 2007

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