OVERVIEW

Geosynthetics are a rapidly emerging family of geomaterials used in a wide variety of civil engineering applications. Many polymers (plastics) common to everyday life are found in geosynthetics. One of the most technically and economically beneficial uses of geosynthetics is in roadway construction and maintenance. A large variety of detrimental factors affect the service life of roads and pavements including environmental factors, subgrade conditions, traffic loading, utility cuts, road widenings, and aging. These factors contribute to an equally wide variety of pavement conditions and problems which must be addressed in the maintenance or rehabilitation of the pavements, if not dealt with during initial construction.

While geosynthetics have proven effective in roadway construction applications, their design, characterization and quantitative benefit has remained variable if not sometimes confusing. To-date, there is no single nationally recognized geosynthetic design procedure for roadway applications, inviting variable approaches and experiences. This seminar will address the use of geosynthetics in roadway construction and rehabilitation applications, as well as provide updates regarding field experience, current and future research programs, and efforts towards centralized design procedures. This seminar has been specifically targeted to those persons who have a need to understand, design with and specify geosynthetic materials for use in paved and unpaved roadway applications. These persons include:

- Design/Certifying Engineers
- Construction/Quality Assurance Project Managers
- City, County and State Transportation Officials
- Federal Regulators
- Geosynthetic Manufacturers
- Construction Contractors and Installers

This seminar will be presented in three parts, each complementing the other to provide maximum benefit. The first will focus on a general overview of geosynthetic applications for road construction and rehabilitation applications. Included will be a description of the four main applications for geosynthetics in roads: subgrade separation, stabilization and drainage, base reinforcement, overlay stress absorption, and overlay reinforcement. The second part will specifically address the applications of base and asphalt reinforcement, and asphalt rehabilitation. Included will be descriptions of recent research and design methodology efforts, as well as field case histories and examples. The final part of the seminar will provide a summary of industry geosynthetic specifications and related test procedures, as well as explanations for ongoing and still-needed research efforts. Special emphasis will be placed on providing the attendee resources for geosynthetic application design and material information.
SEMINAR SPECIFICS:

Hotel: Homestead Studio Suites Hotel - Tel. No. 512-837-6677  
Reservation Cut-off Date: October 6, 2002  
Rooms Held Under: North American Geosynthetics Society  
Room Rate: $40.99 Single, $50.99 Double

Registration Fee:  
Government Employees and NAGS Members - $99.00  
Non-NAGS Members - $150.00  
Students - $59.00

Registration fee includes attendance at the seminar, breakfast, hot lunch and breaks on November 7th, and any handout materials from the speakers.

SEMINAR SCHEDULE

Wednesday, November 6th, 2002 – Homestead, Austin Arboretum  
6:00 - 8:00 PM  Welcome Hospitality

Thursday, November 7, 2002 – Thompson Commons Centre, Pickle Research Centre, room

8:00-8:30 am  Registration & Continental Breakfast

8:30-8:45  Welcome and Announcements  
Sam Allen

8:45-9:45  Overview of Geosynthetic Transportation Applications  
Barry Christopher

9:45-10:15  A Roadmap for Base Reinforcement Research and Implementation  
Steve Perkins

10:15-10:30  Break

10:30-11:00  Base Reinforcement Applications in Northern MN - MN DOT  
Luane Tasa

11:00-11:30  Geosynthetic Applications in New York – NYDOT  
Dave Suits

11:30-12:00  Geosynthetics for Asphalt Reinforcement – Texas Transportation Institute  
Joe Button

12:00-1:00  Lunch (provided)

1:00-1:30  Geosynthetic Interlayer Considerations  
Mark Marienfeld

1:30-2:45  Practical Aspects of Geosynthetics in Pavements  
Alan Curtis

2:45-3:00  Break

3:00-3:20  Current Design Model Development Research  
Steve Perkins

3:20-3:40  Testing and Specifications Overview  
Joel Sprague

3:40-4:00  Research - Where do we go from here?  
Karen Henry

4:00-4:45  Panel Discussion - Geosynthetics and the Practicality of Performance  
Moderated by Barry Christopher

4:45-5:00 pm  Final Comments and Conclusion  
Barry Christopher
ABOUT YOUR SPEAKERS

Barry Christopher, Ph.D., P.E. – Past President of the North American Geosynthetics Society

Dr. Barry R. Christopher is an independent geotechnical engineering consultant specializing in: reinforced soil and other ground improvement technologies; geosynthetics application and design; and, geotechnical/geosynthetics testing and instrumentation. With regard to geosynthetics in pavements, he has authored numerous technical papers on this subject, several geosynthetic design manuals containing roadway design sections for the U.S. Federal Highway Administration (FHWA), a textbook on Geosynthetic Engineering and three National Cooperative Highway Research Program syntheses including Pavement Subsurface Drainage Systems, Maintenance of Highway Edgedrains and Geosynthetic Reinforcements in Roadway Sections. He also teaches training courses in geosynthetic design for the FHWA and the private sector and is currently involved in two FHWA sponsored research projects on the development of design models for geosynthetic reinforced pavements. Dr. Christopher has over 23 years of geotechnical engineering experience and is a registered Professional Engineer in six states. He has a BSCE from the University of North Carolina at Charlotte, a MSCE from Northwestern University, and a Ph.D. from Purdue University. He has been an officer in several national and international professional committees and is a past president of the North American Geosynthetics Society.

Steve Perkins, Ph.D.

Dr. Perkins has served as an Associate Professor of Civil Engineering at Montana State University in Bozeman, Montana since 1992 where he teaches courses on geotechnical engineering, geosynthetics and roadway engineering. Prior to this, Dr. Perkins practiced as a consultant for several geotechnical firms in Colorado and California. Dr. Perkins has conducted research and published articles and reports on geosynthetics for reinforcement of roadways for several US state transportation agencies, the US Federal Highway Administration and several geosynthetic manufacturers. Dr. Perkins has conducted collaborative research on geosynthetic reinforcement of flexible pavements with the Norwegian Foundation for Technical and Industrial Research and the Norwegian University of Science and Technology. Dr. Perkins has participated in the development of state-of-the-practice and state-of-the-art documents that have been used by the Geosynthetics Materials Association, NCHRP and AASHTO committees. Dr. Perkins earned his BSCE from Virginia Tech and his MSCE and PhD from the University of Colorado.

Luane Tasa, P.E.

Luane Tasa has worked for the MN DOT for the last twenty years and currently serves as Assistant District Engineer. Mr. Tasa has led many research programs focusing on the application of geosynthetics for base reinforcement. He serves on the Research and Implementation Committee of the Road Research Board within his State.

L. David Suits, P.E.

L. David Suits is the Soils Engineering Laboratory Supervisor for the NYSDOT. He has a BSCE and MSCE in geotechnical engineering. Mr. Suits has been employed with NYSDOT for 34+ years where he is responsible for all soils foundation design and acceptance and quality assurance testing of all geosynthetics used on NYSDOT projects. He is the current chairperson of ASTM Committee D35 on Geosynthetics and International Standards Organization Technical Committee 221 on Geosynthetics. He also serves on the American Association of State Highway and Transportation Officials/National Transportation Product Evaluation (AASHTO/NTPEP) Geosynthetics Panel and the Transportation Research Board (TRB)Section K on Soil Mechanics (The section consists of 7 committees related to geotechnical engineering.) David has or is serving on several National Co-operative Highway Research Project panels; Served on several AASHTO Task Forces related to the development of geosynthetic specifications.
Joe Button

As head of the Materials & Pavements Division of the Texas Transportation Institute (TTI), Button oversees a $7,000,000 annual research program in paving materials. Button has served as principal investigator on > 70 asphalt pavement-related research projects which total more than $9,000,000, about one million dollars of which directly involved studies of modified asphalts and non-bituminous admixtures used to enhance asphalt pavement performance. Button has developed new test procedures, equipment and analysis techniques; prepared specifications and materials acceptance criteria for highway agencies; and written construction guidelines to improve asphalt pavement quality and probability of success.

Mark Marienfeld, P.E.

Mark Marienfeld is the Technical Manager of the Civil Engineering Group for BP Amoco Fabrics and Fibers. He is a registered Geotechnical Engineer from the University of Missouri at Rolla, with over 18 years of experience in the field of geosynthetic applications. He sits on several Transportation Research Board Committees and is the Chairman of the Geotextile Group of the Geosynthetic Materials Association. He is the author of numerous technical papers and teaches many seminars on the application of geosynthetics in roads.

Alan Curtis

Alan Curtis, President of CHEC Consultants, Inc., started his career with California DOT Research Laboratory and performed much of the original research on pavement fabrics in 1972-1973. CHEC Consultants, Inc. is a pavement engineering company providing new and rehabilitation designs, construction documents, construction management, failure analysis and research for agencies throughout the U.S. As an expert in pavement and the use of innerlayers, Mr. Curtis provides continuing education classes for various universities across the country in all aspects of pavement rehabilitation and maintenance.

C. Joel Sprague, P.E.

C. Joel Sprague is a Senior Engineer for TRI/Environmental, Inc., a geosynthetics research and testing firm. Joel is a licensed professional engineer in North and South Carolina and Texas. Joel's background includes early work at Hoechst Celanese Corporation (HCC) where he worked with design firms and agencies on the appropriate design of soil reinforcement and erosion control projects using geosynthetics. After leaving HCC, Joel spent time as the Manager of Engineering Services for the Nicolon Corporation where he directed geosynthetic engineering/technical support activities. In 1991-92 he served as acting county engineer in Greenville County, SC, overseeing the county’s paving program and permitting of the county's newSubtitle D landfill.

Karen S. Henry, Ph.D. P.E.

Dr. Karen Henry is a research civil engineer for the U.S. Army Cold Regions Research and Engineering Laboratory. She has two specialties -- geosynthetics applications and the mitigation of frost effects in soils. Karen is now researching geosynthetic reinforcement of low-bearing-capacity soils and hopes to soon start an FHWA pooled-fund program on the geosynthetic reinforcement of pavement base courses. She has been with CRREL since 1982 and has been involved with geosynthetic research since 1985. She has published numerous reports and articles pertaining to the use of geosynthetics. She holds two geosynthetics patents and has applied for a third.

For inquiries or more information, please contact: Kelly Rojas, NAGS Managing Director, Email: nagsinfo@nagsigs.org, Tel. 705-434-0180.
NORTH AMERICAN GEOSYNTHETICS SOCIETY
PAST PRESIDENT’S SEMINAR ON
GEOSYNTHETICS IN ROADWAYS
THURSDAY, NOVEMBER 7, 2002

Registration Form

REGISTRATION FEE: Government Employees and NAGS Members $99.00
Non NAGS Members $150.00
Students $59.00

REGISTRANTS INFORMATION:

<table>
<thead>
<tr>
<th>Dr. ❑</th>
<th>Mr. ❑</th>
<th>Mrs. ❑</th>
<th>Ms. ❑</th>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address 2:</td>
<td>City:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State/Province:</td>
<td>Zip/Postal Code:</td>
<td>Country:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone:</td>
<td>Fax:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e-mail:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAYMENT INFORMATION

☐ Check in the amount of $ ___________ is enclosed. (Full payment is due prior to the seminar).
☐ Visa (preferred) Card Number ______________________________
☐ MasterCard Expiration Date _____________________________
Total Amount ______________________________
Signature ______________________________

NOTE: Due to limited seating, registrations will not be confirmed until we receive full payment.

CANCELLATION POLICY: Cancellations received more than 20 days before the start of the seminar will receive a full refund. Registrants who do not attend a seminar or who cancel within 20 days of the start of the seminar must pay the entire registration fee. Substitutions of participants are allowed at any time without penalty.

HOTEL RESERVATIONS: Attendees can call 512-837-6677 to book a room at the Homestead Studio Suites Hotel, 9100 Waterford Centre Boulevard, Austin, Texas, .75 miles from Conference Centre. Rooms are held under the North American Geosynthetics Society. The reservation cut-off date is October 6, 2002. Room rate $40.99 Single, 50.99 Double.

Please call Kelly Rojas at 705-434-0180 with questions or comments.
Send payment to North American Geosynthetics Society, P.O. Box 329, Alliston, ON L9R 1V6 Canada
Or fax to: 705-434-4353.

All prices are in US Dollars