

SHAMSHER & SALLY PRAKASH

DISTINGUISHED LECTURE SERIES IN GEOTECHNICAL ENGINEERING

JAMES K. MITCHELL



University Distinguished
Professor Emeritus,
Virginia Tech

Member, National Academy
of Engineering

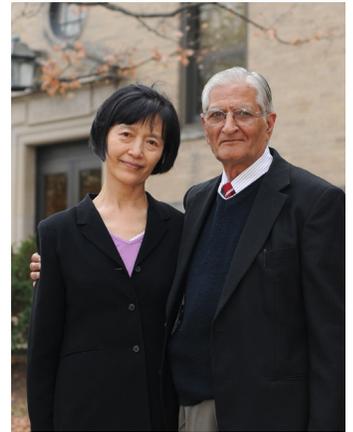
Geotechnical surprises — or are they?

Thursday, May 3

3:30 p.m. | Room 121, Butler-Carlton Hall

ABSTRACT:

The nature and scope of geotechnical engineering are such that the problems and projects we deal with are a never-ending source of both challenge and excitement. In most cases we do very well in defining the problems and developing suitable solutions resulting in successful completed projects. Unfortunately, however, there remain far too many cases in which something goes wrong. Often a failure or other bad outcome comes as a complete surprise. However, in a significant number of cases, perhaps the unexpected or surprise outcome might have been anticipated. Three illustrative case histories are reviewed and then examined to see if what went wrong might reasonably have been anticipated. The first involves a well-known and much studied stability failure along the composite double liner system of a hazardous waste landfill. The second relates to unusual soil types that were the cause of major difficulties during earthwork construction of a large embankment dam. The third is about a very large, slow-moving landslide that caused major distress to a roadway and impacted the safety of a large bridge. Several reasons why unexpected adverse outcomes may occur are stated and some possible means for reducing their frequency and severity in the future are proposed.



Shamsheer & Sally Prakash

This lecture is made possible through a generous gift from from Shamsheer and Sally Prakash.

Dr. Shamsheer Prakash

joined the department of civil engineering in 1978 as an associate professor in geotechnical engineering and has since influenced a generation of graduates and peers. Retiring in 2000, he is now a professor emeritus. Shamsheer has made several contributions to the field of geotechnical earthquake engineering, in which he is recognized for advancing soil dynamics and earthquake engineering. He is a pioneer in the liquefaction of silt and clays and soil-pile-structure interactions.



Department of Civil, Architectural
and Environmental Engineering