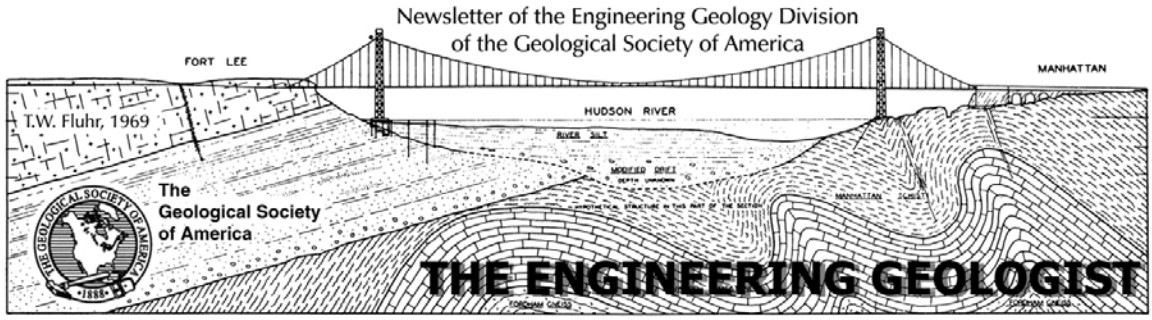
Newsletter of the Engineering Geology Division
of the Geological Society of America



THE ENGINEERING GEOLOGIST

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Message from the Chair

Abdul Shakoor, Kent State University

Dr. Abdul Shakoor (left) and Dr. Paul Santi (right).

In his Chair's message, Paul Santi, my predecessor, indicated the importance of encouraging our students to attend professional meetings. I would like to reiterate the theme that students are the future of our profession and we, as EGD members, must do everything we can to increase student membership in EGD and student participation in EGD activities. Currently, EGD has 164 student members, approximately 19% of the total membership. It would be nice if we could raise the number of student members to more than 25% by 2010. The question is, how can we achieve this goal? I am sure you have some bright ideas, but here are some tips I can think of:

- Most EGD members are also members of several other professional societies such as AEG, AIPG, and AGU, which have a large number of student members. Those of us who attend the annual or regional meetings of these societies should inform the students attending these meetings of the advantages (scholarships, travel grants, employment opportunities, etc.) of joining EGD.

- Perhaps the best sources for more student members of EGD are the AEG student chapters at various universities. AEG has 18 student chapters across the country. Most advisors of the student chapters are EGD members. These advisors can

play a crucial role in recruiting student members for EGD. I plan to encourage all Kent State University AEG student chapter members to join EGD.

- My experience is that students are often very eager to join a professional society, as it gives them an opportunity to improve their technical knowledge, make acquaintances with other students and professionals, interview for jobs, and socialize. All they need is some encouragement and guidance.

- Becoming a student member of EGD is really straightforward. Students can call the GSA headquarters at 1-888-443-4472, send an e-mail to member@geosociety.org, or go to the GSA website and click on “Division Membership”. Membership dues for students are $5.00.

- The Engineering Geology Division offers Shlemon scholarships to support research at both the M.S. and Ph.D. levels. In addition to these scholarships, the Shlemon Fund provides travel grants to students for participating in field trips or short courses at national or regional GSA meetings. Participating in the Shlemon mentorship free luncheon is another major attraction for students. These are some incentives for students to become EGD members in addition to participating in the interesting technical sessions and the Jahns lecture, organized and sponsored by EGD.

James Fisher, a 2008 Shlemon Scholar, receives his award certificate from Committee member Jerome DeGraff.

The 2009 GSA Annual Meeting will be held in Portland, Oregon, October 18-21. Several EGD members are involved in planning this meeting and EGD will be sponsoring a number of technical sessions. There will be many interesting field trips. This is an important opportunity to invite students to attend and to introduce them to EGD. Let us all try to get more students involved in EGD activities. Students are indeed the future of our profession.

2008 Annual Luncheon and Awards

Events at the Geological Society of America Annual Meeting in Houston, Texas, included the Engineering Geology Division luncheon and awards ceremony. It is always a great chance to see old friends who you had not yet run into during the technical sessions or to make new acquaintances. In addition to having good food and conducting our annual business meeting, the Division's principal awards were given. The following are the citations and pictures of the recipients.

2008 E.B. Burwell Jr. Award Recipient

Dr. Derek H. Cornforth, Landslides in Practice: Investigation, Analysis and Remedial/Preventative Options in Soils. John Wiley and Sons, New York, 596 p., 2005.

Burwell Award Citation by Dr. Paul Santi

Landslides in Practice was selected for this award as a superb example of the interdependence of engineering geology and geotechnical engineering to adequately identify, analyze, and mitigate landslides. Strong chapters covering landslide causes, mapping, investigation, and monitoring focus on the geologic components of these hazards. Chapters detailing laboratory and analytical work, as well as remediation options, demonstrate the engineering side of the equation. A dozen detailed case histories show how the components work together.

As the title implies, the book is, above all, practical. The author elucidates problems that are often short-changed or entirely omitted in slope stability texts. What is the importance of strain rate? What are the typical pitfalls with back analyses? How can reliability and risk-based analyses be incorporated into the evaluation? How are horizontal drains designed and maintained? How is erosion control incorporated into landslide mitigation? All of these issues are accompanied by example calculations, drawings, and charts, many of which are derived from the author's own experience. As a result, *Landslides in Practice* filters a vast array of practical technical literature, through the lens of a practitioner who has applied these principles for over 45 years.

The quality of the writing and illustrations is outstanding. The text is clear and the use of headings, bullets, and tables makes the book easy to navigate and quick to track down specific ideas. The figures are immaculate, with numerous 3-D drawings, clearly reproduced photographs, and hundreds of maps and cross-sections, all drafted in a consistent style.

The author, Dr. Derek H. Cornforth, is a highly trained Civil Engineer, with a B.S. from Durham University in England, an M.S. from Northwestern University, and a Ph.D. from

Imperial College in London. He has worked primarily out of offices in Seattle, London, and Portland, and his career has led to direct involvement in about 200 landslides. He is the founder of the well-regarded firm, Landslide Technology, whose work has ranged from the Western United States and Alaska, to Africa and New Zealand. Dr. Cornforth has authored numerous technical papers related to slope stability, taught graduate university courses in the subject, and served on a national committee of the USGS and on a Board of Consultants formed to address landslide investigation and mitigation. He resides in Lake Oswego, Oregon.

2008 Burwell Award recipient, Dr. Derek Cornforth.

2008 Distinguished Practice Award Recipient

Dr. James V. Hamel

Distinguished Practice Award Citation by Dr. Barry Voight

It is my very great pleasure today to introduce Jim Hamel as the recipient of the 2008 Distinguished Practice Award. Jim has been involved in engineering geology and geotechnics for four decades, and I have known him professionally for most of this time.

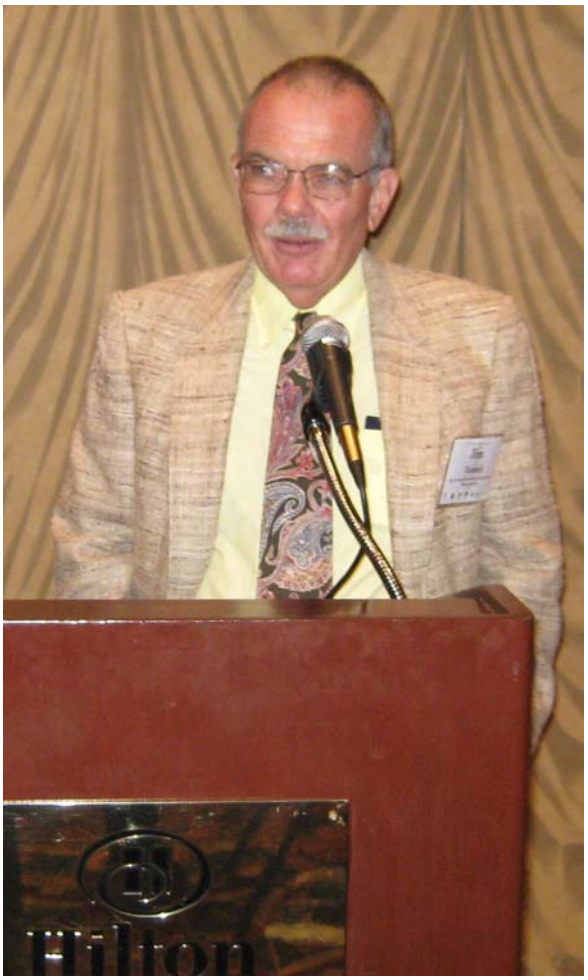
His first paper was published in the journal *Geotechnique* in 1968, he has done pioneering research on the mechanical behavior of soft and jointed rocks, he is a leading expert on stability of colluvium, and he has been an active geotechnical consultant for many, many years, working on a variety of problems, from concrete dam foundations, to waste disposal, to forensic studies.

A long time ago, Jim was a scholarship student at University of Pittsburgh, earning a BS in Civil Engineering in 1965. He took a Masters degree in soils engineering from MIT in 1966, and then returned to Pitt for a PhD in 1970, producing a thesis on slope

stability in soft or altered rocks that was sponsored by the US Bureau of Mines and the Pennsylvania and US Departments of Transportation.

In 1969, he became an Assistant Professor at the South Dakota School of Mines and Technology, and his career as a geotechnical consultant began the next year when he was retained by the Missouri River Division, Corps of Engineers in Omaha, to analyze long-term behavior and develop remedial measures for an unstable slope in Bearpaw Shale colluvium, adjacent to the powerhouses at Fort Peck Dam, Montana.

This was an exciting time in our profession. Engineering geology and rock mechanics were being integrated with soil mechanics and foundation engineering to form a broader, interdisciplinary area called geotechnics, or geotechnical engineering. Advances in this area were moving from the university and laboratory to the consulting firm and to the field. Hamel became one of the pioneers and developed specialties in colluvial slopes, landslide failure surfaces and shear zones. Large projects provided exceptional opportunities for field observations, both visually and with newly devised monitoring equipment. New construction techniques included ground modification and stabilization procedures. Large mainframe computers with newly devised software and exciting developments such as Finite Element Analysis became available to aid modeling, analysis and design. And government agencies like the Corps of Engineers and the Bureau of Mines actively funded geotech research.



2008 Distinguished Practice Award recipient, Dr. Jim Hamel.

By 1972, Jim moved east, and soon established *Hamel Geotechnics* (HGC) as a full time consultancy. Jim performed occasional geotechnical forensic investigations and provided related reports and testimony since the 1970s, but this type of work expanded after 1990 with several large projects—a construction claim involving over 1200 ground anchors in deformed rock, and the failure of a petroleum product pipeline by a landslide.

The latter was a particularly interesting case of complex causation, involving crude coal open-pit construction roads, heavy rains, and poorly engineered drainage. I worked on this project with Jim, and because of the finances at stake, funds became available for detailed drilling, trench mapping, and innovative lab testing, and together we learned much about colluvial slopes and residual strength properties of underclay seams.

Over the decades, Jim's professional interests have evolved from traditional civil/ geotech engineering, to engineering geology. Jim was the *Pittsburgh Civil Engineer of the Year Awardee* of the ASCE in 1989. But if you ask him, he might tell you that he continues to do engineering for income, but prefers to do geology for the fundamental insights provided on engineering sites, and for fun. And I can say that with the acute perception and wry sense of humor that he brings to every job, Jim is fun to work *with*.

Besides his consultancy reports, he has authored or co-authored more than 40 technical papers, many of which were presented at national or international conferences. The topics were mainly on slopes and landslides, dams, engineering geology and geotech practice. These papers, notable for their solid grounding in geology and mechanics, have brought recognition to his expertise.

And over the last decade or so, many of his thoughts and writings have taken a philosophical tendency, as he has tried to extract the lessons from his broad experience in engineering geology and geotechnics. In doing this he has drawn from the pioneers, including such luminaries as Terzaghi, and Peck, and solid practitioners such as D'Appolonia, Harry Ferguson, and Shailer Philbrick, names which might be familiar to the more senior EGD members.

Jim has followed Terzaghi's admonitions and example, shunning the corporate lifestyle to follow his own path as an individual consultant. He has spent about half of his time on research, and digestion of observational data and published work, using his own observations integrated with those of others. His career has been one of life-long learning and continued professional development.

He has concluded that as professionals we need to spend more time reading and thinking, and less time playing with technological gadgets. We need to take the time to adequately investigate and think things through, particularly for *inputs* to complex geotech problems.

He advises his students and young associates to stick with the basics, and always develop carefully the geotechnical framework of the site, and base analysis on careful cross-sections. They are my rules also.

He also advises, spend as much time in the field as possible – "*A bad day in the field is better than a good day in the office*".

And as a parting word of advice, he recalls this one, from Philbrick: "*And then I would wish them good luck, and tell them to drain everything. That's right – drain everything*."

2008 Meritorious Service Award Recipient

Dr. Susan H. Cannon

Meritorious Service Award Citation, provided by Dr. William Haneberg and delivered by Dr. Syed Hasan

Sue Cannon has generously served both the GSA Engineering Geology Division and the broader profession. In addition to serving on the Engineering Geology Division management board and chairing the division in 2005-2006, Sue was a key organizer of the 2003 GSA wildfire conference, has been an active presenter and session advocate at GSA meetings, and has increased the visibility of engineering geology through her innovative and socially relevant work on post- wildfire debris flow hazards. Honoring the request to keep these citations short, I will end by saying that it is impossible to say too much about Sue's contributions to our division.

Dr. Paul Santi (left) and 2008 Meritorious Service Award recipient, Dr. Sue Cannon (right).

For her dedicated and selfless service to the division, we present the 2008 Meritorious Service Award to our friend and colleague Dr. Susan Cannon.

What Do Landslides, Geologic Repositories, Coal Fires and Hazardous Substances Have in Common?

A good question; the answer is these are topics covered in recent volumes in the Reviews in Engineering Geology (REG) series. This GSA book series is the only one which is sponsored by a Division of the Geological Society of America. Each REG

volume is a series of papers addressing aspects of a timely environmental or engineering geology topic as the most recent ones published during 2007 and 2008 demonstrate. The latest volume is *Landslides and Engineering Geology of the Seattle, Washington Area* (REG Volume 20) edited by Rex L. Baum, Jonathan W. Godt and Lynn M. Highland. It brings together case studies and summary papers describing the application of state-of-the-art engineering geologic methods to landslide hazard analysis for the area around Seattle. *Deep Geologic Repositories* (REG Volume 19) edited by Norbert T. Rempe reviews some success stories of underground waste isolation. Many of the case studies explore experiences from different countries in Europe. A similarly worldwide perspective is offered in *Geology of Coal Fires: Case Studies from Around the World* (REG 18) edited by Glenn B. Stracher. The papers in this volume cover topics ranging from spontaneous combustion and greenhouse gases to geophysical modeling for detection and investigation. The regional problem of hazardous substances in the Western US is the focus of *Understanding and Responding to Hazardous Substances at Mine Sites in the Western United States* (REG Volume 17) edited by Jerome V. DeGraff. The papers in this volume describe treatment strategies and techniques for dealing with hazardous substances ranging from mercury to uranium.

The varied topics are a reflection of the breadth in the environmental and engineering geology field. EGD Publications Chair Rick Giardino is always on the look out for possible future issues. It is especially important to have new volumes appear regularly to maintain the viability of the series with libraries and other institutions. If you know of a series of papers that might make a good volume, if you attend a technical session on a possible topic, or if you just want more information on what is involved in editing a Reviews in Engineering Geology volume, contact Rick at rickg@tamu.edu for further information.

EGD Website Reminder

Contact information for Division officers, past issues of The Engineering Geologist, details on the current Jahns Lecturer, and application forms for Shlemon Scholarships are just some of the information available with a click of your computer mouse. The EGD website can be reached through the Divisions area of the GSA website www.geosociety.org or directly at http://rock.geosociety.org/egd/index.html.

Landslide Specialists and Government Policy Makers Meet in Tokyo
Susan Cannon, US Geological Survey

The First World Landslide Forum, held on 18-21 November 2008 in Tokyo, Japan, brought together more than 350 academics, practitioners, politicians and stakeholders to a multi-disciplinary discussion of efforts to strengthen landslide risk reduction throughout the world. 149 countries were represented at the gathering at the United Nations University, which featured four days of Thematic Sessions, Symposia, and Open Forums focused on issues pertaining to risk analysis and disaster management. EGD members Sue Cannon and Jerry DeGraff presented a Keynote address entitled *"The Increasing Threat of Wildfire and Post-fire Debris Flows in Western USA, and Implications for Consequences of Climate Change"*. The program, proceedings and more information are available at: http://www.iclhq.org/WLFweb/WLF.htm.

Participants at the First World Landslide Forum, Tokyo, Japan.

Deadlines! Deadlines!

There are important deadlines approaching soon. Nominations for Jahns Distinguished Lectureship, Distinguished Practice and Meritorious Service awards are due on Feb. 28, 2009. Send nominations to Abdul Shakoor at ashakoor@kent.edu. The Shlemon scholarships applications are due March 15, 2009. They should be submitted to Robert A. Larson at ralarson1@dslextreme.com. The EGD website http://rock.geosociety.org/egd/index.html has further information about these awards and scholarships (including the application form).

Dr. Terry R. West Honored for Teaching Career

The individuals pictured below, plus EGD members J. David Rogers and Allen Hatheway, were presenters at the “Tribute to Terry West for 47 years of Teaching Engineering Geology at Purdue University,” held September 19, 2008, at the Annual Meeting, Association of Environmental and Engineering Geologists, (AEG) in New Orleans, Louisiana.

In addition to his many years of teaching, Terry is a former Chair (2001-2002) of the Engineering Geology Division and remains actively involved in Division affairs.

From left to right: Kyu Ho Cho, Ph.D.; Tim Bannister, M.S.; Abdul Shakoor, Ph.D.; Syed Hasan, Ph.D.; Mark Wilkerson, M.S.; Matt West, son; Dr. Terry R. West, Professor and Mentor; Shirley West, wife; and Jill West Duncan, daughter.