

AEG'S 55th ANNUAL MEETING



2012 ANNUAL BANQUET

Association of Environmental &
Engineering Geologists

SEPTEMBER 20, 2012

Hilton City Center
Salt Lake City, Utah

Sponsored by



Trusted Geophysics

WELCOME BY 2012 PRESIDENT

Jennifer Bauer

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2012 ANNUAL MEETING

Daniel Horns and David Simon, Co-Chairs

2012 PRESIDENT'S REMARKS

Jennifer Bauer

2012 AEG FOUNDATION PRESIDENT'S REMARKS

Patricia M. Bryan

PRESENTATION OF AWARDS

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Eldon Gath

Neotectonics and Paleoseismology of the Limón and Pedro Miguel Faults in

Panamá: Earthquake Hazard to the Panamá Canal

(Citationist: Scott Burns)

Douglas R. Piteau Outstanding Young Member Award

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CLOSURE

Honorary Member

Robert E. Tepel

Robert (Bob) Tepel has had many accomplishments that show exemplary geologic application, research and teaching throughout his career. Bob has created a career that exemplifies leadership, including his leadership within the San Francisco Section of AEG, the national organization of AEG and his time on the State Mining and Geology Board. Additionally, his powerful presence and leadership within the AEG Foundation has brought Bob a new avenue to contribute to our community.

The technical advancements that Bob has brought to the geologic industry are many and well documented by his publications. His interest in seeing the future of geologic practice was shown when he served as the 2002 Symposium Convener for the *Visioning the Future of Engineering Geology: Sustainability and Stewardship*, Joint Annual Meeting of AEG and the American Institute of Professional Geologists in Reno, Nevada.

Bob is a very insightful author and has published on numerous geologic subjects from technical to philosophical.

Mentoring has been a passion for Bob throughout his career. This is exemplified by his paper, "What Geology Students Need to Know about Professional Licensure," in the American Institute of Professional Geologists journal.

Bob has practice geology throughout California, is very knowledgeable about United States Geology and active member of IAEG. Ethics are very important to Bob. In his Keynote Paper, *The Core Attributes of Engineering Geology - A USA Perspective*, he discusses the value of ethics in our field. He has led a long battle for licensure within our state and the ethical use of geology. He has practiced this same attitude throughout his career and as a mining regulator.

It is AEG's honor to present Robert E. Tepel with its highest recognition – Honorary Member.

Dr. Cornforth's book, "Landslides in Practice", has been an outstanding addition to the literature for practicing engineers and geologists and students, and it has had an international impact. I use the book as a text in my graduate-level landslides course and have found it to be outstanding.

Derek Cornforth was awarded the 2012 Schuster Medal by Robert Schuster at the 2nd North American Landslide Conference in Banff, Alberta, Canada in June.

Karl and Ruth Terzaghi Mentor Award

Roy J. Shlemon

Dr. Shlemon is a remarkable person, scientist, and professional and is well known for his wide-ranging contributions to the profession of engineering geology with respect to advancing geoscience, developing policy, and collaborating with colleagues. However, of the many contributions he has made to our profession, the one that will likely have the greatest long-term impact is his devotion to mentoring young professions and organizing and personally funding educational programs. Roy's mentoring activities include:

1. Funding the GSA Roy J. Shlemon Mentors in Applied Geology Program; a program designed to facilitate mentoring relationships between professionals in the field of applied geology and university students.
2. Leading the effort to establish the GSA John Mann Mentors in Applied Hydrogeology; a program designed to facilitate mentoring relationships between professionals in the field of applied hydrogeology and university students.
3. Funding of the AEG Foundation Roy J. Shlemon Continuing Education Fund, to support the efforts of AEG sections that desire to conduct continuing education activities.
4. Funding of the AEG Roy J. Shlemon Specialty Conference Fund, established to support specialty and advanced practice conferences of interest to the members of AEG.

The consequences of Roy's mentoring are wide ranging; one only needs to talk with the hundreds (and perhaps thousands) of students that have attended the GSA Roy J. Shlemon Mentors in Applied Geology Program.

His mentorship in engineering geology and applied geomorphology has lasted for over 45 consecutive years; very few academic professors can claim this *sustained* effort to mentor young geologists.

Roy is a consummate scientist and professional, and during his career Roy has been recognized as such with many of geology's most prestigious awards. The profession of engineering geology and AEG is fortunate to have a person of Roy's knowledge and integrity as member; he has been, and continues to be, a mentor and role model for hundreds of professionals and set the highest standards for others to follow. Tonight, it is AEG's great honor to present the Karl and Ruth Terzaghi Mentor Award to Dr. Roy J. Shlemon.

Claire P. Holdredge Award

**Eldon Gath, Thomas Rockwell, Tania Gonzalez, Chris Madden,
Danielle Berdugo, Caitlin Lippincott, Tim Dawson, Lewis A.
Owen, Markus Fuchs, Ana Cadena, Pat Williams, Elise Weldon,
and Pastora Franceschi**

Neotectonics and Paleoseismology of the Limón and Pedro Miguel Faults in Panamá: Earthquake Hazard to the Panamá Canal presents new geologic, tectonic geomorphic, and geochronologic data on the slip rate, timing, and size of past surface ruptures for the right-lateral Limón and Pedro Miguel faults in central Panamá. These faults are part of a system of conjugate faults that accommodate the internal deformation of Panamá resulting from the ongoing collision of Central and South America. There have been at least three surface ruptures on the Limón fault in the past 950–1400 years, with the most recent during the past 365 years. Displacement in this young event is at least 1.2 m (based on trenching) and may be 1.6–2 m (based on small channel offsets). A well-preserved 4.2 m offset suggests that the penultimate event also sustained significant displacement. The Holocene slip rate has averaged about 6 mm=yr, based on a 30-m offset terrace riser incised into a 5-ka abandoned channel.

The Pedro Miguel fault has sustained three surface ruptures in the past 1600 years, the most recent being the 2 May 1621 earthquake that partially destroyed Panamá Viejo. At least 2.1 m of slip occurred in this event near the Canal, with geomorphic offsets suggesting 2.5–3 m. The historic Camino de Cruces is offset 2.8 m, indicating multimeter displacement over at least 20 km of fault length. Channel offsets of 100–400 m, together with a climate-induced incision model, suggest a Late Quaternary slip rate of about 5 mm=yr, which is consistent with the paleoseismic results. Comparison of the timing of surface ruptures between the Limón and Pedro Miguel faults suggests that large earthquakes may rupture both faults with 2–3 m of displacement for over 40 km, such as is likely in earthquakes in the M 7 range. Altogether, our observations indicate that the Limón and Pedro Miguel faults represent a significant seismic hazard to central Panamá and, specifically, to the Canal and Panamá City.

AEG is proud to present the Claire P. Holdredge Award to Eldon Gath and his co-authors.

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Douglas R. Piteau Outstanding Young Member Award

Serin Bussell

Serin Bussell has demonstrated her abilities and excelled in several areas, including technical accomplishment, service to the Association, and service to the engineering geology profession. Her commitment to the profession is exemplary, and her accomplishments and efforts to date are deserving of recognition.

Serin received a BA in Earth Sciences from Boston University in 2006, and a MS in Geology from Portland State University in 2011. Her Graduate Thesis was titled “*Landslide Inventory and Mapping Using LiDAR Based Imagery and Roughness to Stratified Modeling, Clackamas County, Oregon*”. Serin has embraced multiple opportunities throughout her collegiate and professional career to seek and assume leadership positions, and has provided exemplary service to the profession. Serin has attended several AEG Annual Meetings, and has been a regular fixture at Oregon Section AEG meetings since moving to Oregon in 2008.

Serin has focused her education and career around the use of remote sensing and LiDAR technology for geologic hazard mapping. During an internship with the Oregon Department of Geology and Mineral Industries (DOGAMI), she assisted in development and publication of LiDAR-based landslide inventory maps for the Portland Metro area, and conducted remote, surficial geologic mapping for a NEHRP Multi-Hazard project. In 2010 (prior to completing graduate studies), Serin was a co-author on two significant landslide hazard inventory publications produced by DOGAMI (IMS-32 and IMS-33).

After defending her thesis and receiving her graduate degree in geology in 2011, Serin has assumed roles in public service to the State of Oregon, having worked for the Oregon Department of Transportation (ODOT) and currently working for DOGAMI. Her work at ODOT focused on data collection and management for the Unstable Slopes Program. Responsibilities included geologic mapping of landslides and creating conceptual mitigation designs for landslide and rockfall sites inventoried. In her current capacity with DOGAMI, she assists with development of high-resolution landslide inventory and hazard maps for the Portland Metro area, and assists the lead Landslide Geotechnical Specialist with research and planning for several mapping projects. Serin recently assisted DOGAMI with public outreach and community awareness efforts, helping organize and answering questions from the public at the 2011 Oregon City Landslide Forum. This was a community forum to help residents prepare, spot warning signs, and ascertain areas of risk from landslides.

Serin’s accomplishments and distinguished career as a young professional demonstrate the spirit, goals, and objectives that Douglas R. Piteau intended to recognize through establishing this award.

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Floyd T. Johnston Service Award

William K. Smith

William (Bill) K. Smith has had a quiet, behind-the-scenes, yet vital and vibrant record of service to the Association. Bill has served as Section Chair, Chair of the 1989 Annual Meeting, served on the Planning Committee for the 2003 Annual Meeting and has volunteered to serve on the 2017 Annual Meeting Planning Committee. He served as *AEG NEWS* Editor from 1991-1994, and AEG Directory Editor from 1995-1998, when the Editor did much of the work without computer programs.

Bill is currently serving as Secretary for AEG Foundation, and spent countless hours sorting through archives of past leaders of the profession, including the Marliaves, Eckel, Gardner and many others. He also serves as the Special Publication Chair for AEG and regularly participates in the Rocky Mountain Section Meetings.

Bill has a level of dedication to this organization, but without any fanfare or self-promotion. It is for this reason that AEG is proud to present the Floyd T. Johnston Service Award to William K. Smith.

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The Schuster Medal

Derek Cornforth

Dr. Cornforth, and his company (Landslide Technology), have made major contributions to many large slope stability studies in North America during his career. Their reputation in landslide hazards assessment and mitigation is second to none in North America and includes experience in a broad range of geologic settings from soil slides and flows, rock slides, to rock fall. I recently evaluated Landslide Technology work on slope stability issues as part of a FERC regulatory review of a hydropower project. In my opinion they have conducted appropriate studies and mitigation in a very difficult and complex geologic environment, and all of that work has been high quality.

Landslide Technology quickly developed their strong reputation at least partially because of Dr. Cornforth’s leadership and ability to attract highly qualified professionals. The company expertise creates an environment for mentoring of junior-level engineers and geologists. I have sent some of my top graduates to the company knowing that they will have excellent mentors that will help them to continually build their expertise. Fellow senior-level engineers and geologists associated with some of the Landslide Technology projects have reported to me on the outstanding job these graduates are doing on specific projects. I attribute much of their success to the mentoring received within the company. I believe that this mentoring falls under the fifth bullet in the criteria.