



Best Presentation and Best Poster

2013 Structures Congress

Each year attendees at the ASCE/SEI Structures Congress recognize excellent technical session presentations and posters through the "Best of the Best" program. By casting ballots available to all attendee, a Best Presentation and Best Poster are chosen. In addition, there is a drawing to award one of these voters a Kindle Fire. The votes are collected and tallied by the SEI Public Relations Committee. The winners were announced at the Closing Plenary Session on Saturday, May 4, 2013. The lead authors of the Best Presentation and Best Poster each receive complimentary registration for Structures Congress 2014, taking place April 3-5, 2014 in Boston, Massachusetts.

Best Presentation

This year's winner for best presentation was *Construction Defect Case Studies – What Engineers Should Know*, a panel presentation moderated by Mr. Joseph Burns, P.E., S.E., F. ASCE, of Thornton Tomasetti, an engineering firm which maintains offices across North America and around the globe.

This panel discussion of construction defects and how they should be mitigated was of particular interest to the attendees that conduct work in this area. Mr. Burns highlighted the presentations by Steve Dennis and Duke Wellington, given during this session, as well as the support provided to the development of the presentations by Dan Cuoco. The important elements of this session, highlighted in the votes received from conference participants, included the suggestion that firms consider adding a clause in their contract language requiring the parties to agree on a neutral expert in the event of disputes between the various parties. While arranging for an independent review of work that is planned is a standard practice prior to the initiation of a project, consideration of a neutral party to assist should a difference of opinion arise during the course of a project might not always be included in the development of a contract. This is a simple but profound change in the implementation of a project that could provide assurance of continued communication and a successful completion should differences of opinion arise during the course of a project. This suggestion was judged by the positive feedback received to be a practical tool that could be incorporated within a building project to help in the resolution of problems or differences of opinion during the course of a project.

A second item from the session was a message for those who, as a part of their professional career, serve as expert witnesses or who hope to serve in an expert capacity in court cases as a part of their future career. The panel's recommendation was that you should encourage your professional peers to provide expert witness work only as an adjunct to their design work. This is because providing only forensic work could distort the practical and efficient ways to resolve a problem. A balance of forensic work and design work was recommended.



Joseph Burns, P.E., S.E., F. ASCE

Engineers participate in the annual SEI structures congress for a variety of reasons. Gaining insight through practical observations provided by a panel of experts in this year's session on construction defect studies is a good example of the knowledge that can be taken away from this conference, and the other technical conferences and webinars prepared by ASCE/SEI. The Structures Congress attendees appreciated the insights provided by Mr. Burns that could assist firms in resolving disputes that might arise and achieving successful completed projects. The attendees acknowledged through their votes that the profession needs professional development in this niche area, and they made this point clear by selecting this session as the 2013 ASCE SEI Structures Congress Best of the Best Presentation.

Joseph Burns, P.E., S.E., F. ASCE, has a background in the evaluation of structural failures to determine safety and remediation

measures, and for the acceleration of insurance claims. Mr. Burns is a member of the Board of Directors and the managing principal of Thornton Tomasetti, a US based firm he has been with since 1995. He has over 30 years of experience designing structures as well as investigating and renovating existing buildings.

Best Poster

The Best Poster winner is *Collapse Behavior of Steel Columns under Lateral Loading* by Julie Fogarty and Sherif El-Tawil, Ph.D., P.E., F. SEI, F. ASCE. The effect of local buckling due to lateral loading on the axial capacity of steel columns was investigated in this poster using detailed finite models. An overview of past research addressing column failure under seismic loading was presented to characterize the current state of knowledge. Preliminary simulation results indicated that flange local buckling due to lateral loading could significantly reduce the axial resistance of steel moment frame columns.

Some of the motivation for this examination was the observation that local flange buckling may play a critical role in promoting progressive collapse during seismic events. In addition, previously published analyses often do not consider inclusion of local flange buckling, although it has been seen in experimental setups.

Julie Fogarty is a graduate student at the University of Michigan, Sherif El-Tawil, Ph.D., P.E., F. SEI, F. ASCE, is a professor and associate chair of the Department of Civil and Environmental Engineering at the University of Michigan.

