



**SOUTH DAKOTA ENGINEERING SOCIETY
2019 FALL PDH CONFERENCE**

OCTOBER 3RD, 2019, HILTON GARDEN INN, RAPID CITY, SD
BOARD MEETING AND SOCIAL PRECEDING THE CONFERENCE ON OCTOBER 2ND

SPONSORED BY



BLACK HILLS CHAPTER
SOUTH DAKOTA
ENGINEERING SOCIETY

Speaker Biographies & Presentation Information

8:10 - 9am

Technology Development & Business Development: From 3-D Printing to Additive Manufacturing

Presenters: Shon Anderson and Scott Reisenauer, PE

In their presentation, Shon and Scott will share some of the technical innovations and business innovations completed, underway and planned for the future at B9Creations.

Shon holds a Bachelor of Science in Mechanical Engineering from the University of Texas at Arlington and has been with B9Creations for five years and in the CEO role for four of those years. As CEO, Shon is responsible for setting vision, strategy, and execution for B9Creations, the world's leader in making professional 3D printing affordable. Prior to moving back to Rapid City in 2012, Shon spent 16 years in the Energy, Sustainability, & Renewables fields with Schneider Electric. Shon is a member of the American Society of Mechanical Engineers.



SHON ANDERSON

CEO, B9Creations



SCOTT REISENAUER, PE

COO, B9Creations

Scott has a Bachelor of Science in Mechanical Engineering from the South Dakota School of Mines and Technology. He has been in his present position of COO of B9Creations for five years where his responsibilities include the daily execution of the strategy of the operations for B9Creations. Prior to joining B9Creations, Scott spent 20 years learning and leading various roles in the electronics manufacturing industry. Additionally, he has consulted with companies in manufacturing on improvement opportunities, including the use of lean manufacturing techniques. Scott is a registered professional engineer in South Dakota.

9 - 9:30 a.m.

Analyzing & Promoting Engineering Projects with Renderings & Animations

Presenter: James Unruh, PE

The old saying "A picture is worth a thousand words" applies to our engineering profession. James' presentation will demonstrate the beneficial use of renderings and animations for recent complex roadway projects in South Dakota.

James earned his Bachelor of Science in Civil Engineering from the South Dakota School of Mines and Technology in 1984. For the last 19 years, James has been with HDR Engineering, Inc. in their Sioux Falls office where he serves as a project manager and designer for large, complex and often controversial roadway transportation projects in South Dakota. Prior to his work at HDR, James worked for a consulting engineering company in Minnesota, also on transportation projects. James is a member of the South Dakota Engineering Society, the American Society of Civil Engineers and the American Council of Engineering Companies.



JAMES UNRUH, PE

Sr. Project Mgr.
HDR Engineering, Inc.

10 - 10:30 a.m.

2019 Flooding in South Dakota: Measuring New Records in Streamflow

Presenter: Galen Hoogestraat

Galen's presentation will discuss antecedent weather conditions leading into the 2019 flooding in South Dakota, preparations and difficulties encountered in the field while measuring high stream flows, and a summary of the highest recorded flows for major river basins in South Dakota, many of which have occurred within the last five years.



GALEN HOOGESTRAAT

Hydrologist
U.S. Geological Survey

Galen holds a BS in Environmental Engineering and a MS in Civil Engineering from the South Dakota School of Mines and Technology. For the last 12 years he has been a hydrologist with the U.S. Geological Survey, Dakota Water Science Center.

The Dakota Water Science Center collects high-quality hydrologic data and conducts objective scientific investigations on the quantity, quality, and use of surface-water and groundwater resources of the Dakotas. We maintain a network of hydrologic data-collection sites and compile hydrologic data collected from these sites for public use. Galen has managed projects in South Dakota that include water-quality investigations from Sioux Falls to Rapid City, hydrology and hydraulic modeling in the Black Hills, serves as the Center's reports specialist, and is the coordinator for the Western South Dakota Hydrology Conference held in Rapid City every April.

10:30 - 11 a.m.

A Review of Growth and Development in Rapid City

Presenter: Ken R. Young, AICP

Ken will present a review of the current and proposed building projects in Rapid City, as well as proposed legislation for affordable housing, tax increment financing policy revisions and downtown improvements.

Ken Young has a Master in Public Administration from Monterey Institute of International Studies and has been the Community Development Director for the City of Rapid City for the last two years. As Director, Ken oversees the Department of Community Development which includes 30 employees in five divisions: Building Services, Current Planning, Long-Range Planning, Code Enforcement and CDBG Program.

Ken has worked in the areas of City Administration and Community Development for 29 years, having worked previously for three other cities in Nevada and Utah. He also worked as a city planning consultant in his own company, Utah Community Planners, for 13 years. Ken is a member of the American Institute of Certified Planners.



KEN R. YOUNG, AICP

Community
Development Director
City of Rapid City

1 - 1:30 p.m.

Cook Lake Landslide Monitoring System

Presenter: John P. Knight

John's presentation will discuss the real-time monitoring system installed at the landslide at Cook Lake, Wyoming. The monitoring system measures inclinometers to measure tilt on the surface and at the underground slip surface. The system uses borehole sensors and a radio communications network. The active landslide in the Bearlodge Mountains of Wyoming is a hazard to campgrounds and dam of the Cook Lake Recreational Area. RESPEC's contract on this project is with the USFS.

John earned his master degree in Geology and Geological Engineering from South Dakota School of Mines and Technology. For the last 6 years, he has been a Project Engineer for RESPEC, where his primary responsibilities include instrumentation design and installation, geotechnical engineering and research and development. Prior to working for RESPEC, John worked as an exploration geologist and in welding and fabrication.

1:30 - 2:30 p.m.

Structural Design of the Mt. Rushmore Solar Canopy

Presenters: Kevin Crosby, LEED AP and James Mallard

Kevin will kick off this presentation with an overview of the origination, planning, design alternatives, benefits and operation of the solar carport. Then, James will describe the structural design process of garage-top solar structures, with an in-depth look at unique engineering aspects of the Mt. Rushmore Solar Canopy.

Kevin has a Bachelor of Science in Engineering Physics and a Master of Science in Environmental Science from Taylor University. For the last five years, Kevin has been the Sustainability Manager for Xanterra at Mount Rushmore National Memorial in South Dakota and Rocky Mountain National Park in Colorado. Kevin is responsible for the ISO 14001 certified Environmental Management System, energy efficiency initiatives, recycling, environmental stewardship training, and many other areas contributing to Xanterra's commitment to "protect the environment." Kevin also manages construction projects including photovoltaic systems, lighting retrofits, HVAC upgrades, and many others.



KEVIN CROSBY, LEED AP

Sustainability Manager
Xanterra Travel Collection



JAMES MALLARD

Design Engineer
KPFF Consulting Engineers

James has a Master of Science from the University of California-San Diego. He's been a Design Engineer with KPFF Consulting Engineers for the last two years, where he does project engineering on solar carport structures across the nation and on buildings in the southern California region. He is a member of the Structural Engineering Association of San Diego.

3 - 3:30 p.m.

Investing in Reliability

Presenter: Marc Eyre

Marc's presentation will provide us with an in-depth look at what it takes to provide safe, reliable electric service.

Marc earned his Electrical Engineering degree at the University of Wyoming. He has been with Black Hills Energy for 12 years, the last two as Director of Electric Operations. His primary responsibilities including leading the Black Hills Energy field utility operations for South Dakota, northeast Wyoming and Montana.



MARC EYRE

Director of Electric
Operations
Black Hills Energy

3:30 - 4 p.m.

Soil Nail Slope Stabilization

Presenter: Jesse Nelson



JESSE NELSON

Project Engineer
South Dakota
Dept. of Transportation

Jesse's presentation will cover the construction process and challenges of the stabilization of a land slide on Highway 14A near Deadwood. This project's unique design used soil nails to stop movement of the slope, while minimizing the disturbance to the roadway.

Jesse has a Bachelor of Science in Civil Engineering from the South Dakota School of Mines and Technology. He's served the state as a project engineer for the SDDOT for the last three years, overseeing the construction of transportation projects in the Rapid City and Black Hills area. Prior to working for the SDDOT, Jesse was a structural engineer for Daktronics, designing support structures for large video screens and working on product development of structural components of video boards. Before venturing into the engineering field, Jesse was the Executive Director of Cedar Canyon Camp, running a 400 person capacity youth camp, including managing staffing, fundraising and operations.

4 - 4:30 p.m.

An Update on the SD Board of Technical Professions' Activities

Presenter: Michael Albertson, PE

Mike is a Board Member and past Chair of the South Dakota Board of Technical Professions, which is a regulator board charged with licensing and regulation the professional practice of architecture, engineering, land surveying, landscape architecture and petroleum release services for the purpose of safeguarding public health, safety and welfare in the State of South Dakota. Mike's presentation will provide a brief summary of the Board of Technical Professions, active national topics in licensure and answers to some common questions.

As a Board Member, Mike is responsible for reviewing all comity applications, applications to take FE and PE exams and continuing education audits. He also investigates or reviews investigations of potential disciplinary issues. Mike serves as a representative of the State of SD at national conventions and on Uniform Policy and Legislative Guidelines committee for NCEES.

Mike has a BS in Civil Engineering from South Dakota State University and an MS in Civil Engineering with Structural Emphasis from Iowa State University. Mike is a licensed professional engineer and President of Albertson Engineering, Inc. Mike has been an engineer for 28 years with 20 years at Albertson Engineering and 5 years on the Board of Technical Professions. In his professional career, Mike has been involved in numerous significant building projects throughout the state, plus some highly visible non-building projects, such as the Dignity Sculpture and Arc of Dreams. Mike is a member of ASCE, SDES, AISC, ACI and NCEES.

Mike encourages everyone to review the Blue Book, available online, which includes the statutes and rules for the South Dakota Board of Technical Professions.

4:30 - 5 p.m.

Rapid City Landfill Cell 18

Presenter: Alex Fisher

Alex's presentation will offer a brief discussion on the challenges and innovations in design, and construction of Rapid City Landfill Cell 18.

Alex holds a Bachelor of Science in Geologic Engineering from the South Dakota School of Mines and Technology. He has been the Vice President at FMG Engineering in Rapid City for the last 10 years and is responsible for the management of civil, environmental and geotechnical projects from permitting through design and construction throughout the United States. Alex is a member of the South Dakota Engineering Society, the National Society of Professional Engineers and the American Council of Engineering Companies.