

2017 Annual Report

SME

Society for
Mining, Metallurgy
& Exploration



2017

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SME's Vision

To be the premier resource and advocate for the mining community we serve



SME's Mission

SME serves professionals in the mining community and supports the advancement of the industry



SME's Core Values

- Members First
- Professional Excellence
- Innovation



SME's Goals

1. SME will provide resources for sustainable professional and educational development programs
2. SME will be the primary resource of fact-based mining and underground construction information
3. SME will improve the perception of the mining industry among the public and key constituents
4. SME will grow membership
5. SME will maintain a financially secure and stable organization
6. SME will nurture a vibrant, engaged global network of local sections



John Mansanti
2017 SME President

SME activities in 2017 were primarily focused on the **H**ealth of the Society, **E**ducational sustainability, **L**ocal section engagement, **P**ublic perception and **S**afety and health integration, or **H-E-L-P-S**, as I like to abbreviate it. In addition, there were several things that came out of the bushes, demanded attention and made 2017 an interesting year.

The membership component of the Society's health consumed a good portion of efforts. SME developed better data tools for analysis, a draft membership matrix for the consideration of non-U.S. memberships and the U.S. State Department's - Office of Foreign Asset Controls (OFAC) policy that limits our liabilities as we consider membership options in foreign countries. A review of membership data confirmed the existence of a three-year lag between membership levels and several industry-wide metrics and we believe that we are starting to see a rebound in membership associated with the ongoing uptick in minerals markets. Membership also benefited from an association agreement with MEAI of India and the continued growth of the Health & Safety Division. International student membership continued to grow, adding seven new student chapters; three in new countries, Afghanistan, China and Spain. This growth exacerbates our continuing need to better transition graduating SME members into the Society as young members and merits additional resourcing in 2018.

Under the leadership of Bill Hancock, his team and the support of SME Foundation staff, the Foundation responded to the increased cost of supporting our educational sustainability program. Two Ph.D. fellowship recipients successfully passed through the program and on the grant side, one professor received tenure and another professor accepted an associate professor position.

Local section engagement is another area that received significant attention this year. Compared to an earlier survey, a survey conducted by Barbara Arnold and the ad hoc committee reported that relationships have dramatically improved between

SME and the local section leadership. Our challenge is to drill down further and make sure that all members at the local section level find value in their SME membership. The addition of a full-time staff person and the implementation of the SME Community provided a level of support that will continue to improve the local section membership experience.

Personnel health and budgetary limitations cut into high level public perception initiatives. However, the existing programs and staff efforts sustain the important work of MEC and, queue the music, - just when you thought it safe to go in the water again - Move Mining II will continue important activities in this area.

The Health & Safety Division, with the support of many industry professionals, advanced its charge of implementing Certified Mine Safety Professional (CMSP) certification and, also with the Division's support, we upgraded the safety standards for the exhibit floors at SME-sponsored events. This Division experienced the most membership growth in 2017, drawing new members in from outside.

There were items that fell outside our desired **H-E-L-P-S** area of focus, but were important to our mission and required support. The Resources and Reserves Committee continued to advance the update to SEC Guide 7 and SME supported the National Mining Association with a white paper on the impacts of CERCLA 108b. SME leadership initiated actions to better engage exploration geologists, to provide opportunities for the publication of peer-reviewed mining publications and to better integrate innovation into our programming. In response to interests in establishing a new award, SME leadership conducted an exhaustive review of SME's awards program in 2017. SME began to revisit an old topic with renewed interest and it will carry over into 2018 and 2019. Member feedback has highlighted a need to improve our web interface with our membership, both on our website and with the One Mine search experience.

Perhaps the bottom has been found in the mining industry? Not to say that commodity prices could not go lower, but 2017 for the industry and the Society started to show signs of sustainable improvement. I encourage you to take a few minutes and review this annual report. You'll notice that membership has grown by 6.2 percent in 2017 to a total of 13,817 members. The SME financial situation continues to be strong with nearly \$35 million in total assets with a growth of \$1.8 million in 2017.

Those are quick statistical measures of the Society and its health, but more importantly, please review the information pertaining to Divisions, Local Sections, Student Chapters, Publications and SME Meetings that fill this report with updates on all types of programs and activities for the organization and its members. And, by reading the rest of this annual review, you will realize how complicated the SME organization structure and requirements really are for the Society.

So, let me tell you the rest of the story. As many know, SME is a 501(c) 3 organization as designated and determined by the United States Internal Revenue Service (IRS). The SME Foundation, OneMine Inc., have also been granted that same nonprofit status. SME is operating three different tax structures to carry out the complete mission of the overall SME organization.

All of these groups have boards of directors/trustees, standing committees, subcommittees and other groups. SME has a tremendous number of local sections, student chapters, strategic committees, awards committees, programming committees and a host of unit committees, all dedicated to completing the work of each of the Society's activities. They all come with a set of bylaws or operational procedures to follow or, in many cases, both. SME is also responsible for maintaining more than 20 ongoing websites, SME Community pages, on-site meetings, webinars, magazines

and journals, books in both print and electronic form, and all types of professional programs such as professional engineering licensure; ABET accreditation, educational outreach, scholarships and awards. By the way, SME does a really great job of recognizing members and other professionals in the industry every year for their outstanding contributions, service to the Society and achievements in the mining industry.

SME is an unbelievable organization for its size and for the industry. With that, we have more than 50 SME staff who work to support all of this complexity to ensure all the activities, programs and services are completed each day, month and year, whichever is appropriate. Those tasks are provided direction from members involved on boards and committees. Most all SME staff members are working each day to complete multiple tasks . . . no one has just one job. We engage staff members with multiple sets of skills from writing, editing, promotion, marketing, web programming, membership solicitation, journal and book publishing, accounting, software skills, sales, operations and general administrative backgrounds. All these skills are used in an effort to develop the best possible products for our members.

SME members are terrific as well. This year, SME President, John Mansanti, devoted countless hours to working on the health of the Society. He engaged in numerous local section events and programs, represented SME at related society events around the world and pushed to ensure that SME values were properly represented in every decision that the SME Board considered during the year. It is these values that makes SME the valuable organization it is today for our industry.

I look forward to many more great years for the Society. As I always say, it is an honor to serve as your Executive Director . . . we have the best members and staff any organization can have.



David L. Kanagy, CAE
 SME Executive Director



John G. Mansanti
2017 SME President
 Crystal Peak Minerals



Barbara J. Arnold
SME President-Elect
 Prep Tech Inc.



Timothy D. Arnold
Past President
 Pershing Gold



David L. Kanagy
Secretary and Treasurer
 SME



William W. Edgerton
Director
 McMillen/Jacobs Associates



William A. Warfield
Director
 Consultant



Robert V. Washnock
Director
 Consultant



Michael T. Myers
Director
 Baldor Electric



Ronald L. Parratt
Director
 Renaissance Exploration Inc.



Mary M. Poulton
Director
 University of Arizona



Hugh B. Miller
2019 President Designate
 Colorado School of Mines



Rick Honaker
Incoming Director
 University of Kentucky



David W. Rogstad
Incoming Director
 Frontier Kemper

Nominating Strategic

John Mansanti

SME President-elect, Crystal Peak Minerals

Barbara J. Arnold

SME President-Elect, Prep Tech Inc.

Michael T. Myers

Baldor Electric

Robert V. Washnock

Project manager

Richard H. Johnson

Johnson Mining Consulting Services, LLC

Catherine Joyner

Minetech USA

Matt Blattman

Blattman Brothers Consulting, LLC

D. Erik Spiller

Colorado School of Mines

Structure and Governance

William Warfield

Chair, Consultant

Anne Williamson

Twin Metals Minnesota LLC

Joseph Zelanko

Rosebud Mining

Joseph Driscoll

AMEC

Cory Stevens

Freeport-McMoRan

Donald C. Dwyer

Barrick Goldstrike Mines

Jayson Ripke

Midrex Technologies

Outreach Strategic

Robert Washnock

Chair, Project manager

Lester H. Tupper

Valley Rubber

Andy Cole

Donlin Gold

Gregory Beckstrom

Consultant

James D. Humphrey

Retired

Angie Harmon

Freeport-McMoRan

Xavier Ochoa

McEwen Mining

Products and Services

Michael T. Myers

Chair, Baldor Electric

Pamela Wilkinson

University of Arizona

Todd Parker

ArrMaz

Abani Samal

GeoGlobal

Brett Rabe

Mr. Crane Inc.

Claudio Cossio

Stantec Mining

Madan Singh

U.S. Geological Survey

Education and Professional Development

Mary M. Poulton

Chair, University of Arizona

Matt Blattman

Blattman Brothers Consulting

Jamal Rostami

Penn State University

Barry E. Martin

Colorado School of Mines

Aaron Noble

Virginia Tech

Thomas Camm

Montana Tech

Richard A. Wagner

Department of Environmental Protection

Finance Strategic

Ronald Parratt

Chair, Renaissance Exploration, Inc.

Brad Atkinson

Kerr Mines, Inc.

Robert Schafer

Eagle Mines Management LLC

Richard Diaz

Minemax

Samuel Shoemaker

John T. Boyd Company

Tim Alch

TAA Advisory LLC

Justin Anderson

Resource Capital Funds

The Government and Public Affairs Committee (GPAC) has continued to work diligently to raise the political profile of SME as a fact-based, nonpartisan, technical mining resource to regulatory agencies, members of Congress and their staff by: participating in professional society meetings and Congressional briefings in Washington, D.C.; submitting regulatory comments to federal agencies on proposed rules affecting the mining industry; submitting correspondence to Congress in support of, and in opposition to, specific legislation (within the limits of SME's 501(c)(3) status); meeting with, and continuing to be a resource for, the staffs of the House Natural Resources Committee and Senate Energy and Natural Resource Committee, among others.

Technical papers

GPAC has 17 technical briefings available online and is currently working on an update of the Strategic and Critical Minerals briefing while considering the following for future briefings:

- Best Practices for Processing Minerals and Managing Waste
- Modern Mining
- Green Energy Minerals: Demand, Supply and Gaps
- Cobalt and Lithium Shortage
- Transportation

Due to pressures on the global mining community and on the Society, SME will suspend the popular Congressional Fellowship program through 2020. It is hopeful that the program can be reinstated in the years following 2020 to continue the valuable

work of having a mining industry professional on Capitol Hill who can offer their services to Congressional Committees and individual offices.

In September, the proposed Industry Guide 7 Update and 2017 SME Guide was submitted to the U.S. Securities and Exchange Commission (SEC). The plan going forward is:

- Wait for response from SEC and possible request for a meeting.
- What will be the agency's reaction? If accepted, will they have nuances or major edits? Will collaboration continue or will they proceed on their own again?
- SME and the National Mining Association are not encouraging letters or comments to SEC in support of their proposed alternative to S-K 1300 at this time in order to give the SEC the opportunity to express its own views first.
- Once we have greater knowledge of SEC's reception, the Committee may solicit letters of support from:
- Mining companies
- Mining and legal professionals
- Investors, such as mutual and private equity funds and investor advocacy groups

Josh Hoffman, previous SME Congressional Fellow, completed his last week on the Natural Resources Committee in mid-January. He has worked more than three years in that capacity and expressed his deep appreciation for the opportunity and his confidence in the colleagues he leaves behind to carry the mantle.

SME membership increased by 6.2 percent, for a total of 13,817 members in 2017. This number is up from 13,002 in 2016. The areas with the largest increase in membership included the UCA of SME and the Health & Safety Division.

In 2016, SME acquired the Certified Mine Safety Professional (CMSP) certification from the International Society of Mine Safety Professionals (ISMSP). The International Academy for Mine Safety and Health (IAMSH) was formed by SME as part of the Health & Safety Division to oversee the CMSP. Former ISMSP members were invited to join SME for new member benefits and to maintain their professional credentialing with the CMSP. This created a growth opportunity for the Health & Safety Division. Eligible CMSP holders had the opportunity to be grandfathered into the new program. The next exam will be administered by SME in the fall of 2018.

Six new international student chapters were created in 2017, for a total of 56 student chapters. The student chapters that were approved by the board of directors include: China University of Mining & Technology, Xughou, Jiangus Province, China; Indian Institute of Technology BHU, in Varanasi, India; Mehran University of Engineering & Technology in Jamshoro, Sindh, Pakistan; Suez University, in Suez, Egypt; University of Oviedo in Mieres, Spain; and the Uni-

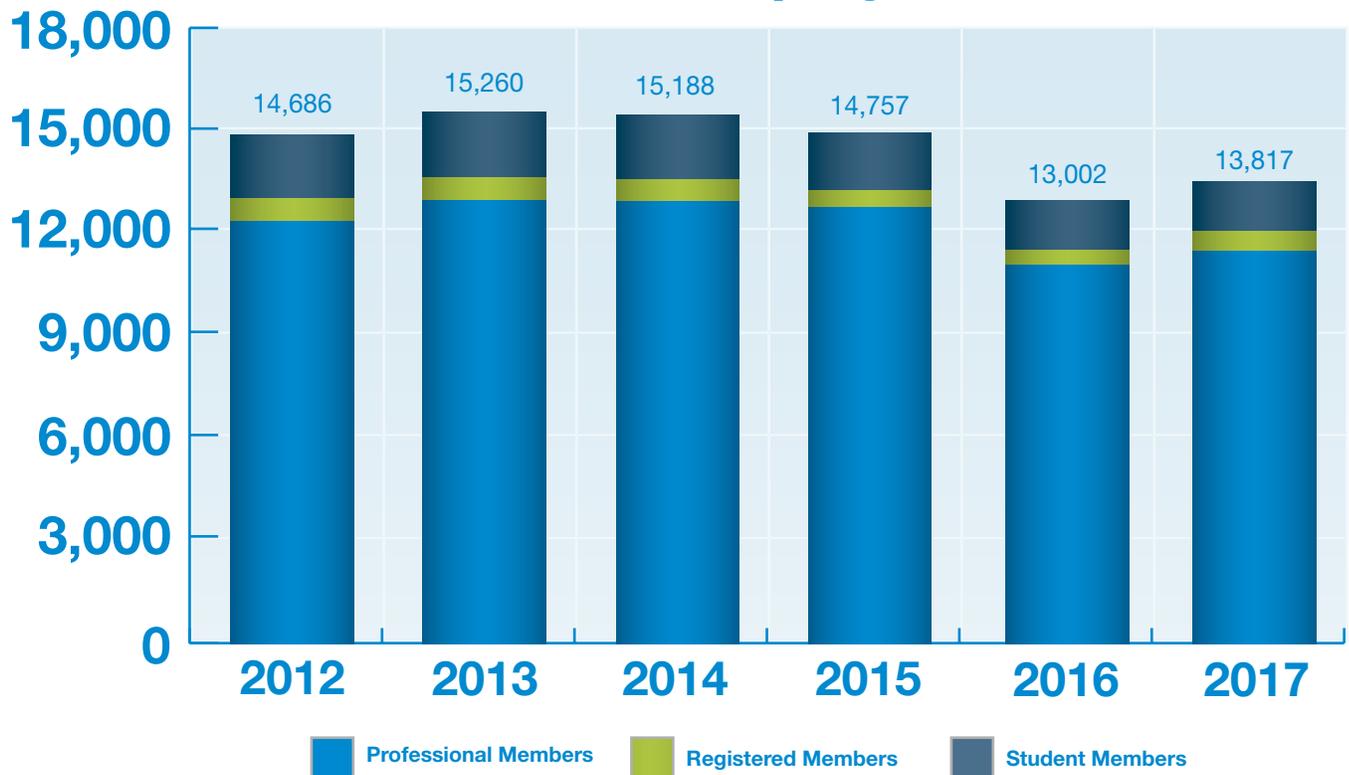
versidad Del Azuay, in Cuenca, Azuay, Ecuador.

As international membership and development becomes increasingly important for SME, international partnerships have been developed. SME entered a joint agreement with MEAI in India to deepen the relationship between the two organizations and to broaden recognition of the SME brand in India.

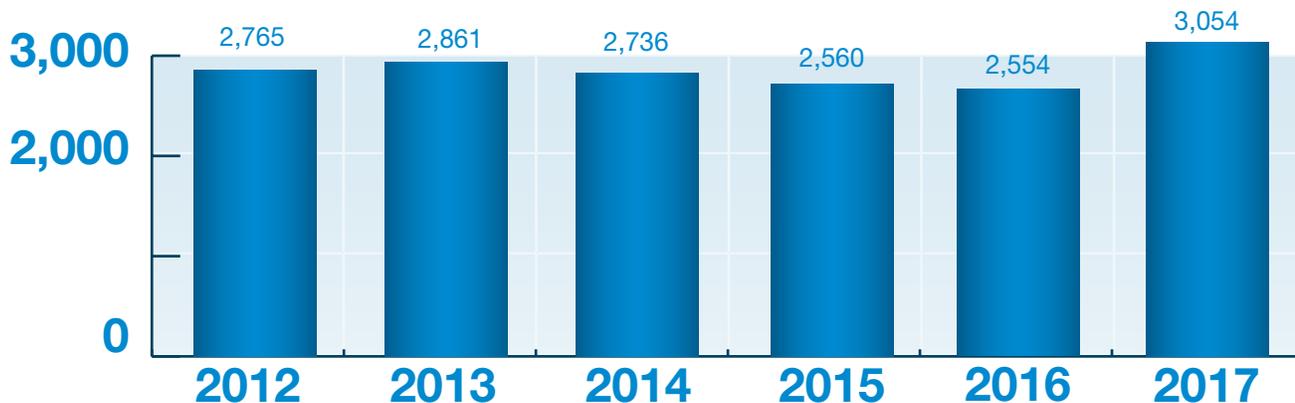
The Section Ad Hoc Committee identified resources for sections and created an updated Section Manual and guidance document. The committee also provided ideas for section programming and succession, and offered the SME Community as a repository for section documents. SME President, John Mansanti, held quarterly calls with section leaders to discuss current issues and provide resource training. Additional resources were aligned by designating a full time SME staff member to focus on the needs of sections.

SME exhibited at several events during 2017 in the United States and Canada to promote its signature products and services. These included SME memberships, SME-sponsored conferences and short courses, the SME bookstore, *Mining Engineering* magazine and the OneMine.org digital library. A variety of new programs have been negotiated for members, including a branded SME credit card and discounts on insurance and travel.

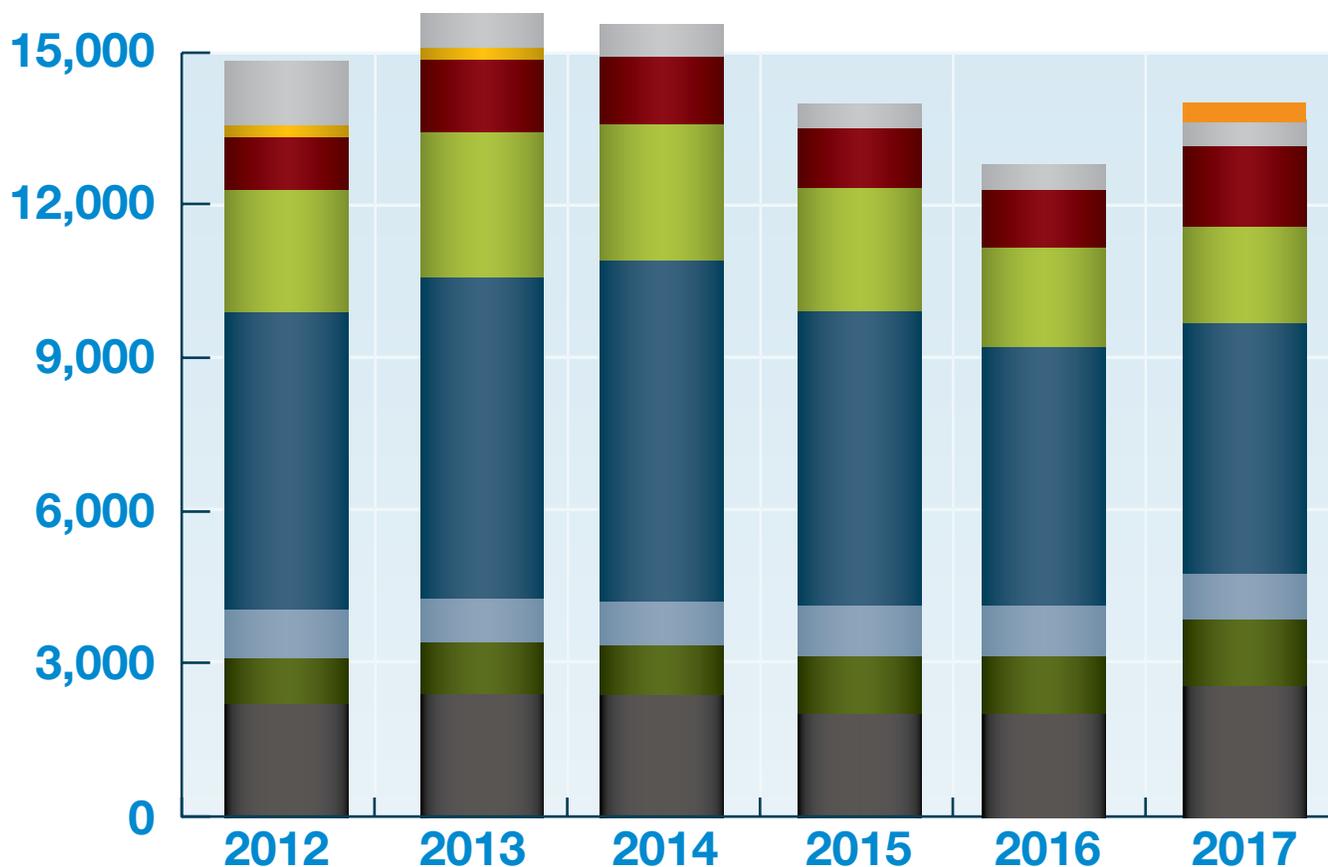
Membership by Grade



International Members



Membership by Division



Legion of Honor Members

SME members who reached 50-years in 2017

Michael C. Albrecht, Concord, CA
 Paulo F. Bahia Guimaraes, Rio De Janeiro, Brazil
 Donald B. Banker, Little Rock, AR
 Bunny R. Barredo, Fallon, NV
 William H. Bird, Victoria, BC, Canada
 Mark L. Boyce, Central City, PA
 Henry W. Brenniman Jr., Kirkland, WA
 Fredric B. Brost, Tucson, AZ
 Kenneth A. Brunk, Centennial, CO
 Ronald S. Bryant, Birmingham, AL
 Larry J. Buter, Highlands Ranch, CO
 Robert C. Byrd, Las Cruces, NM
 Gregory G. Cork, Plainfield, IL
 Gary F. Criste, Summersville, WV
 Jaak J. Daemen, Reno, NV
 T.D. Del Bosco, Lancaster, SC
 Michael F. Donnelly, Vancouver, WA
 James K. Duff, Coeur D'Alene, ID
 Michael B. Eidlin, Port Ludlow, WA
 David K. Fagin, Englewood, CO
 Gerald L. Fletcher, Brentwood Bay, BC Canada
 Jeremy M. Fryberger, Duluth, MN

Paul F. Goad Jr., Summersville, WV
 Theodore L. Hanks, Herrin, IL
 Hershiel H. Hayden, Kincaid, WV
 John A. Herbst, Morgantown, WV
 Joseph P. Hubert, Duluth, MN
 David M. Hopstock, Roseville, MN
 Laurence P. James, Golden, CO
 Allan P. Juhas, Lakewood, CO
 Gary A. Jungenberg, Pinellas Park, FL
 Joseph A. Kantor, Anacortes, WA
 Joseph M. Keane, Sahuarita, AZ
 Orville A. Kiehn, Ruckersville, VA
 H.P. Knudsen Jr., Butte, MT
 Bruce W. Kramer, Stillwater, MN
 Larry L. Lackey, Gardnerville, NV
 Terry J. Laverty, Golden, CO
 Philip L. Longenecker, Raleigh, NC
 Archibald G. Loudon, Christchurch, New Zealand
 Gary A. Loving, Flagstaff, AZ
 Gregory E. McKelvey, Pine, AZ
 Robert W. McKibbin, Spokane, WA
 David G. Meineke, Hibbing, MN

Juan C. Michels, Santiago, Chile
 Alan C. Noble, Lakewood, CO
 Mohammed Osman, Secunderabad, India
 Sergio Pastor, Reno, NV
 Syd S. Peng, Morgantown, WV
 Jay H. Reynolds, Lexington, TX
 James D. Rodine, Wolf Creek, OR
 Damian E. Rodriguez, Livermore, CA
 Donald E. Ross, Phoenix, AZ
 David J. Ryzak, Burley, ID
 Charles J. Savage, Bristol, United Kingdom
 John R. Simmons Jr., Florence, AZ
 Garold R. Spindler, Wilton, CT
 John E. Thompson, Rock Springs, WY
 Richard H. Thomason, Brewster, WA
 Mark R. Welch, Albuquerque, NM
 Allen A. Wenturine, Ebersburg, PA
 George B. Whitman, Raton, NM
 Raymond K. Will, Oakland, CA
 Daniel S. Witkowsky, Littleton, CO
 Donald J. Worth, Willowdale, ON, Canada
 James A. Yanez, Tucson, AZ
 Boyd J. York, Provo, UT



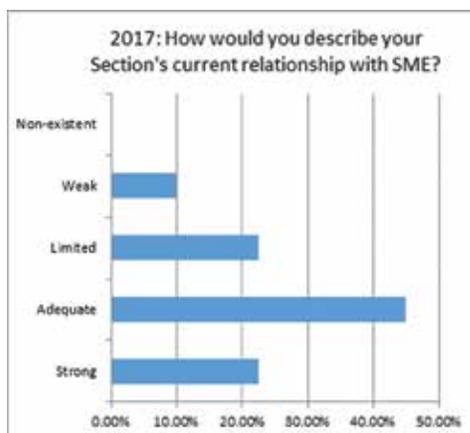
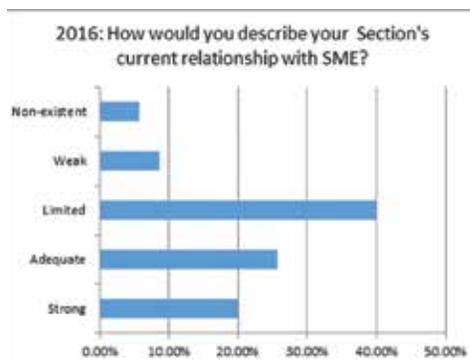
Rachel Grimes began providing full-time support to SME's local sections. At this time, there were as many as 70 sections that were listed in SME's records, reporting financials to SME or an SME member believed them to be active. Contact was made with officers of each section to determine if the section was active, if they were holding meetings and were a resource to the mining industry in their area.

It was found that there are currently 43 domestic and two international sections that have leadership and are conducting meetings.

Annual section survey

Each year, a survey will be sent to gather feedback from the sections on section activities and membership and SME support. The results of this survey will help to shape staff goals each year. In August 2017, a survey was sent to 180 local section leaders, representing 47 sections. Responses were collected from 42 individuals, representing 37 sections.

The accompanying figures comparing 2017 vs. 2016 section survey results show improvement in the



relationship between SME and its local sections, but opportunities for enhancement still exist.

2017 accomplishments

SME Community - Communication and repository for section information.

- Local Section Leaders Community group.

Quarterly newsletter.

- Individual section Community groups.
- Individual section officer Community groups.

Quarterly section telephone call with the SME president.

- A forum for section leadership to meet.

Quarterly best practices training.

- SME 101.
- Sections/Section officers 101.
- Financial document completion.
- Outreach: MEC and Move Mining.

Virtual section – created to provide online resources and a community to those outside of a traditional SME local section.

- Virtual section newsletter.
- Researching opportunities for additional support.
- Teleconferencing options.
- Other resources.

2018 initiatives

- Online section search. Set to launch March 1, a new online section search will allow anyone to search for the location of a local professional section or student chapter, view the associated Community page and contact the groups' officers.
- Further defining of section boundaries through mapping and assigning zip codes to sections through Personify system. A new online mapping tool allows us to more precisely assign areas to sections.
- Individual section bylaw updates.
- Strengthening relationships between sections and student chapters.
- Rejuvenate and/or restructure defunct sections.
- Create new sections.

SME recognizes outstanding achievement at the student chapter level by honoring the top contestant in its Outstanding Student Chapter Contest. Chapters submit annual reports that are then used to evaluate the level and quality of chapter activities and operations. The major aim of the chapter was to encourage the students from various disciplines to join the society.

2017 Student Chapter Membership Challenge

The 2017 SME Student Chapter Fall Membership Challenge was considered a success. Student chapters recruited 417 new members, renewed 218 and added 63 student members, who were in the process of activating their new student chapter, totaling 698 students. Winner of the 2017 SME Student Chapter Challenge was Virginia Polytechnic & State Institute.

New chapters

Six new student chapters were added to SME in 2017, they are China University of Mining & Technology, Xughou, Jiangus Province, China; Indian Institute of Technology BHU, in Varanasi, India; Mehran University of Engineering & Technology in Jamshoro, Sindh, Pakistan; Suez University, in Suez Egypt; University of Oviedo in Mieres, Spain; and the Universidad Del Azuay, in Cuenca, Azuay, Ecuador.

Outstanding student chapter contest

Winner: University of Arizona

First Runner-up: Universidad Nacional Del Altiplano

Second Runner-up: Colorado School of Mines

Third Runner-up - South Dakota School of Mines & Tech

SME Student Chapters

University of Alaska	Laval University
University of Arizon	Pontificia Universidad Catolica De Chile
China University of Mining & Technology*	Queens University
Colorado School of Mines	Universidad Nacional De Ingenieria
Colorado School of Mines UCA	University of British Columbia
Federal Univ of Technology Akure	Universidad Autonoma De Chihuahua
University of Kentucky	Universidad De Chile
Michigan Tech University	Universidad Del Azuay *
Minnesota State Univ-Iron Range Engineering	Universidad Cesar Vallejo
University of Missouri-Rolla	Universidad Federal Do Rio Grande Sul
Montana Tech of the University of Montana	Universidad Nacional Del Centro Del Peru
University of Nevada-Reno	Universidad Nacional Jorge Basadre Grohmann
Nacional Universidad of Apurimac Micaela Bastidas	University of Oviedo in Mieres *
Pennsylvania State University	Univ Pedagogica Y Tecnologica De Colombia (UPTC)
South Dakota School of Mines & Technolgy	Universidad Nacional De Colombia
Southern Illinois University	Universidad Nacional De Moquegua
University of Utah	Universidad Nacional Santiago Antunez De Mayolo
Virginia Polytech Institute & State University	San Agustin National University - Arequipa
West Virginia University	Universidad Nacional De Altiplano
University of Minnesota	Pontificia Universidad Catolica Del Peru
University of Minnesota Duluth	Stockton College of NJ
Universidade Federal De Minas Gerais (Brazil)	Suez University *
Universidad Nacional Mayor De San Marcos	Technische Universitaet Clausthal
Delft University of Tech	Escuela Superior Politecnica Del Litoral
Tehran Polytechnic University	New Mexico Institute of Mining and Tech
Indian Institute of Technology	University of New South Wales
Indian Institute of Technology BHU *	Middle East Technical University
Mehran University of Engineering & Technology *	Iron Range Engineering
University of Petroleum & Energy Studies	Universidad Nacional de San Antonio Abad del Cusco - Peru
Indian School of Mines	* Chapter added in 2016

Jeff Aldridge, Jasper, AL
Rodolfo Balderrama, Douglas, AZ
Gustavo Bannach, Santiago, Chile
Kevin Bartholow, Irwin, PA
Osvaldo Bascur, The Woodlands, TX
James Baughman, Denver, CO
Wolfgang Baum, San Diego, CA
Thomas Bolles, Tucson, AZ
Mark, Bren, Wallace, ID
Jack Brockway, Sumner, WA
Alan Brown, Macon, GA
Gregg Bush, Vancouver, BC, Canada
Thomas Calhoun, Oro Valley, AZ
Rodrigo Carneiro, Tucson, AZ
Timothy Casten, Phoenix, AZ
Suraj Choudhury, Cedar Hill, TX
Andrew Collins, Spring Creek, NV
William Collins, Boise, ID
Kenneth Coxen, Dublin, GA
Peter Cranage, Herne Hill, VIC, Australia
Henrique, da Silva, Greenwood Village, CO
Hadi Dabo, Richmond, TX
Walter Daniels, Blacksburg, VA
Christopher Davies, Ditchling, United Kingdom
Graham Davis, Golden, CO
Eric Dell, Panama City, Panama
John Dreier, Golden, CO
Jaroslaw Drelich, Houghton, MI
Ian Duckworth, St. Paul, MN
Michael Fagerland, Bismarck, ND
Baron Fidler, Salt Lake City, UT
Gary Fowler, Tampa, FL
Robert Friberg, Reno, NV
Samuel Frimpong, Rolla, MO
Duane Garrabrant, Golden, CO
Robert Giovando, St. Louis, MO
John Goulevitch, Edmonton, QLD, Australia
Charles Guan, Lakeland, FL
Paul Hagan, Oatley, NSW, Australia
Monika Hardygora, Wroclaw, Poland
Gary Hatfield, Festus, MO
Scott Hauck, Lead, SD
Robert Hayes, Tucson, AZ
Bruce Higson-Smith, Denver, CO
Sami Hindstrom, Pusula, Finland
Gretchen, Hoffman, Socorro, NM
Bruce Huber, West Valley City, UT
Iesty Humphreys, Cardiff, United Kingdom
Daron Hunt, Longview, TX
James, Hurlburt, Milroy, PA
Ross Jaime, Ascot, WAS, Australia
David Jenkins, Ione, CA
James Johnson, Littleton, CO
Richard Johnston, Hudson, OH
Robert Kehrman, Hudson Oaks, TX
Popke Ketelaar, Invernesshire, United Kingdom
Rick Kiel, Golden, CO
David Kramer, North Logan, UT
Eric Kramer, Phoenix, AZ
Jeffery Kravitz, Butler, PA
Dan Kump, Grants, NM
James Kvitkovich, Greensburg, PA
Coy Lane, Lexington, KY
Anne Leslie, Addison, IL
Mark Levin, Idaho Springs, CO
Philip Lindahl, Oak Hill, VA
James Lloyd, Helena, MT
Duke, Martin, Mount Sterling, KY
Edward McCarthy, San Jose, CA
William McGuire, Nazareth, PA
George McIsaac, Vina Del Mar, Chile
Kent McMillan, Phoenix, AZ
Russell Meier, Fort Worth, TX
James Metsa, Parker, CO
Theodore Michalakopoulos, Zografou, Attiki, Greece
Timothy Miller, North Lima, OH
Boyce, Moodie, Smithland, KY
Jill Nelson, Thornton, CO
Jonathan Nielsen, Rolla, MO
Weston Norris, Somerset, CO
Gregory Nuttall, Greybull, WY
Edmond O'Donovan, Oxford Park, QLD, Australia
Osawaru Orumwense, Nepean, ON, Canada
Bertil Palsson, Lulea, Sweden
Susan Patton, Grand Junction, CO
Robert Peluso, Moon Township, PA
Edwin Peralta, Reno, NV
David Perkins, Buffalo, NY
Jeffrey Phinisey, Fayetteville, WV
Mary Poulton, Mead, WA
Joseph Poveromo, Bethlehem, PA
Jason Pyecha, Fairbanks, AK
Samuel Rasmussen, Sheridan, WY
John Reeves, Glenwood Springs, CO
Davi Rhoades, Tucson, AZ
Jon Roseen, Henderson, NV
John Shaw, Stanhope Gardens, NSW, Australia
Nick Stamedes, Maroubra, NSW, Australia
Maurice Tagami, Port Moody, BC, Canada
Donald Taylor, Denver, CO
Stephen Taylor, Sudbury, ON, Canada
Scott Timan, Bagdad, AZ
Karl Tonander, Las Cruces, NM
F. Trepess, Nagykanizsa, Hungary
Darren Tschanz, North Bay, ON, Canada
Marty Vadis, Bovey, MN
Andre Vervoort, Heverlee, Belgium
Patrick Viseur, Franklin, TN
Robert Vitale, Canton, OH
Brian Vito, Virginia, MN
Chris Walla, Cheyenne, WY
Audra Walsh, Allegany, NY
John Willis, Cardiff, United Kingdom
Paul Wilmot, Elko, NV
Brenda Wolfe, Colorado Springs, CO
Timothy Woomer, Hobbs, NM
Sally Zadra, Buford, GA
Roberto Zaragoza, El Salto, JAL, Mexico

George A. Fox Conference

The 2017 George A. Fox Conference was held Jan. 24, 2017, at the CUNY Graduate Center in New York, NY. There were a total of 366 attendees, 27 Gold Sponsors, four Silver Sponsors and five Bronze Sponsors.

SME Annual Conference & Expo

The 2017 SME Annual Conference & Expo was held Feb. 19-22, 2017 at the Colorado Convention Center in Denver, CO. There were 6,336 attendees and 757 exhibit booths. Of the 6,336 attendees, there were 746 international attendees, 609 student attendees and 201 new member attendees. The 2017 SME Annual Conference & Expo was sponsored by 45 companies.

Other events that were held in conjunction with the 2017 Annual Conference were:

- Seven short courses
- 121 technical sessions
- Move Mining Live competition
- WAAIME 100th Anniversary Celebration & Alumni Reception
- The presentation of the 2017 Hoover Medal to Leonard Harris
- Press & media room with exclusive live streamed presentations
- Young Leader mentoring session and lunch
- Young Leaders field trip
- New member orientation
- Rising Professionals reception
- SME Foundation Dinner
- 2nd Annual Health & Safety Division 5k Run

SME Minnesota Conference

The 2017 SME Minnesota Conference was held in Duluth, MN on April 17-19, 2017. This was the third time SME has managed this long-running conference. Enhancements to the conference in 2017 included: a reception held at the new Pier B Resort that included a silent auction that benefited the SME Foundation; convenient onsite scan and go badge registration and the return of the simulator from Advanced MN, Immersive Technologies and Cliffs Natural Resources. There were a total of 182 booths sold and a total of 1,065 attendees.

Rapid Excavation & Tunneling Conference 2017

The Rapid Excavation & Tunneling Conference 2017 was held June 3-8, 2017, at the Manchester Grand Hyatt in San Diego, CA. Drawing a large attendance of more than 1,400 attendees, the event

featured 188 exhibit booths and 14 sponsoring companies. The technical program featured rich content and networking opportunities, including an offsite event for UCA Young Members. The next RETC will be held in 2019 in Chicago, IL.

International Conference on Ground Control in Mining

In its 36th year, the International Conference on Ground Control in Mining was held at the Lakeview Resort in Morgantown, WV on July 24-27, 2017. This was the first year SME professionally managed the conference. The ICGCM was attended by 166 professionals and was sponsored by six companies.

SME Florida Conference

SME National managed the 32nd Annual FLSME Regional Mining Conference in Lakeland, FL on Oct. 11-12, 2017. This was the third year of SME's management of the event and the theme was "Mining: It's for Everyone." The conference featured two days of technical programming, multiple networking opportunities, and a field trip to the Streamsong Resort, a resort being developed on reclaimed mining land. The final registration count was 347, including both attendees and exhibitors.

Cutting Edge

The theme for the 2017 Cutting Edge Conference was Advances in Tunneling Technology. It was held Nov. 13-15, 2017, at the Renaissance Seattle Hotel in Seattle, WA. The event featured a field trip to the SR 99 Tunnel Project utilizing Bertha, one of the world's largest tunnel boring machines. The conference had 253 attendees, and 29 companies that sponsored the event.

SME Arizona Conference

The Arizona Conference was held Dec. 3-4, 2017, at the JW Starr Pass Resort in Tucson, AZ. Continuing the tradition of the "mining weekend," the concept includes a reception for the Mining Foundation of the Southwest, the section golf tournament and the Arizona Conference itself. Attended by 548 participants, the conference had 29 companies participate as sponsors or exhibitors. The 2017 event featured a well-received diversity workshop the day before technical sessions.

P.E. Review Course

SME held a multi-day Review Course for the Professional Engineer (P.E.) Examination of Mining/Mineral Processing Engineers Sep. 16-20, 2017. The event was held at the St. Louis Hilton in St. Louis, MO. The review course attracted 40 attendees for several days of intense professional development.



Team Atwood won the inaugural Move Mining competition during the 2017 SME Annual Conference in Denver, CO with the concept to adapt the popular Minecraft game to simulate a more realistic mining experience. The Move Mining competition was created to find creative ways to help improve the public perception of mining. See more about Move Mining on page 27.

2018 SME Meetings

George A. Fox Conference

Jan. 23, 2018, Graduate Center, City University of New York, NY

SME Annual Conference & Expo and 91st Annual Meeting of the SME-MN Section

Feb. 25-28, 2018, Minneapolis Convention Center, Minneapolis, MN

North American Tunneling Conference

June 22-25, 2018, Marriott Wardman Park, Washington, D.C.

International Conference on Ground Control

July 23-26, 2018, Lakeview Resort, Morgantown, WV

Extraction 2018

Aug. 26-29, 2018, Westin Ottawa, Ottawa, Ontario, Canada

32nd Annual FLSME Regional Meeting

Oct. 10-11, 2018, The Lakeland Center, Lakeland, FL

Cutting Edge

Oct. 28-31, 2018, Loews Atlanta Hotel, Atlanta, GA

SME Arizona Conference

Dec. 2-3, 2018, JW Marriott Starr Pass Resort, Tucson, AZ

Mining Engineering (ME) is SME's flagship publication. Now in its 70th year, the magazine provides SME members the latest in innovative technological information aimed at helping mining professionals to do their jobs more efficiently.

In addition to ME, the Society publishes *Tunneling & Underground Construction* (T&UC), the publication of the Underground Construction Association of SME. The content of this quarterly publication is geared toward the underground construction and tunneling professional. Current and archived issues of ME and T&UC are available to members online.

Minerals & Metallurgical Processing (M&MP) is an SME peer-reviewed publication. The magazine is published quarterly and is subscription-only. M&MP's content is directed at professionals in the minerals processing field. In addition, the annual *Transactions* volume contains all peer-reviewed papers published in ME and M&MP, as well as several not published in either magazine.

Mining Engineering

In addition to regular feature articles and peer-reviewed technical papers, content in *Mining Engineering* during 2017 included several special editorial sections. Included were special sections on coal, industrial minerals, minerals processing, exploration, autonomous mining, surface and underground mining and haulage, aggregates, and underground and surface haulage equipment. Two special sections on mining in Canada were also published.

The January and February issues of *Mining Engineering* included the SME Annual Conference Showguide. The April issue included the SME Publications Catalog. May was the exploration annual review issue. July featured the annual review of more than 40 industrial minerals and construction materials and aggregates.

Mining Engineering's website, launched in 2012, includes mining industry news stories, updated daily, a commodities ticker and feature articles that are not published in the print version. An advertising program was developed for the new website. Current and archived issues of *Mining Engineering* are available to SME members to read or download.

SME News

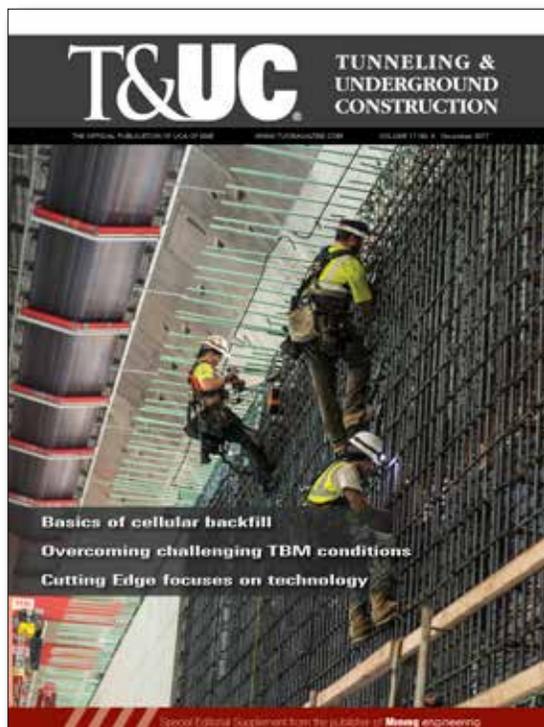
Topics in the SME News section of *Mining Engineering* include Legion of Honor members, SME/AIME award winners, calls for award nominations, SME division officer nominations, the Young



Leaders Committee, the Henry Krumb lecturer program, division scholarship award winners and an end-of-the-year index. The section also covers student chapter news, local section news, the SME Foundation (including the professional licensure of engineers and the Minerals Education Coalition), division newsletters, ABET updates and AIME news. Monthly departments include personal news, obituaries, necrology and new members.

Tunneling & Underground Construction

Tunneling & Underground Construction (T&UC) is published four times a year, in March, June, September and December. Although the magazine is geared toward the underground construction industry, it is sent to all SME members. Each issue



of **T&UC** is bound into **ME** but is also mailed as a stand-alone magazine to every UCA of SME Division member.

T&UC's content includes technical articles concerning major tunneling projects throughout the world. Articles are written by underground construction professionals. In addition to a general project feature, each issue of **T&UC** carries editorial material geared toward certain projects, technologies, equipment or types of tunneling. In addition to feature articles, shorter underground construction technology news articles are geared to the theme of each issue.

Other sections include the UCA of SME chairman's column, industry news items, new products, and underground construction events and short courses.

The Tunnel Demand Forecast (TDF) remains one of **T&UC**'s most popular sections. An updated TDF is published in each issue. The TDF is also available on the UCA of SME website (www.uca.smenet.org). Listings published in each issue of **T&UC** also appear on the online version. And users can submit their own projects for listing on the TDF.

SME's graphic designer is currently developing a redesign of the magazine that should be ready for 2018. In addition, plans are in the works for a redesign of **T&UC**'s web page. The goal is to make the publication more interactive, allowing the editors to post timely news items and online exclusive feature articles.

Minerals & Metallurgical Processing and Transactions

Minerals & Metallurgical Processing (**M&MP**) is published quarterly in February, May, August and November. The journal is a subscription-only publication. Each issue is typically 54 to 64 pages in length and contains from six to 10 peer-reviewed technical papers. The publication of **M&MP** began in 1984, and 2017 is Volume 34.

S. Komar Kawatra, professor at Michigan Technological University, performed the duties of Editor-in-Chief for 2015. During 2017, 24 peer-reviewed papers, totaling 212 pages, were published in **M&MP**. The May 2017 issue featured a special review article on heap leach modeling, while the August and November issues were two special issues covering rare earths.

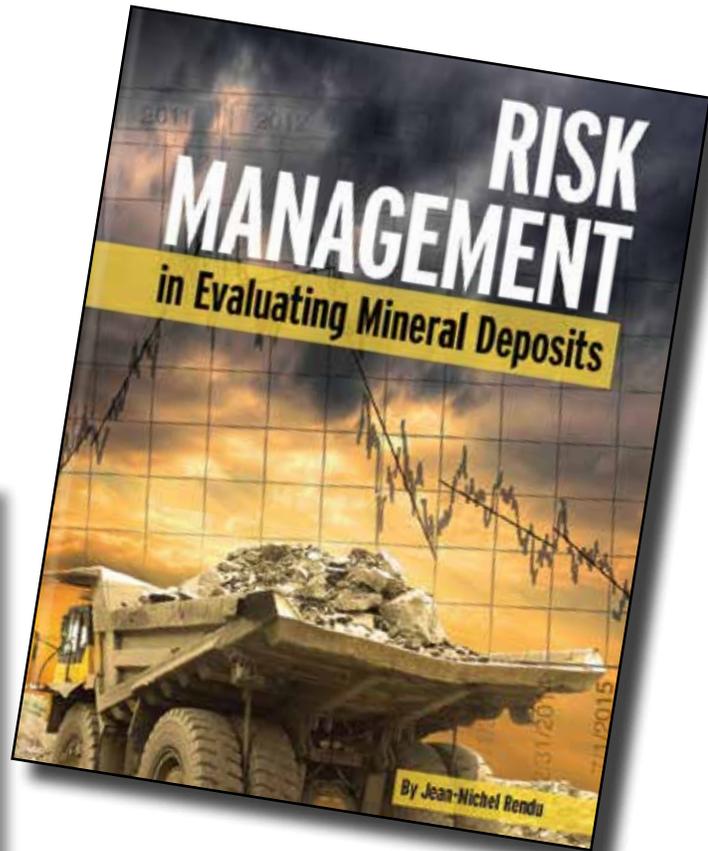
Nine technical papers, totaling 82 pages, will appear in *Transactions*, Vol. 342, for the year 2017. This total excludes the index and papers published in *Mining Engineering* or *Minerals & Metallurgical Processing*. *Transactions* will also contain the technical papers published in *Mining Engineering*, which numbered 21 and totaled 130 pages, and those published in the quarterly *Minerals & Metallurgical Processing*.

Beginning with the 2011 volume, the *Transactions* volume became available for purchase in electronic form only.

SME continues to be a leader in the publication of technical books for the mining and underground construction industries.

During 2017, SME produced nine new books and acquired two titles from other publishers. In 2017, the Society plans to publish three new books.

The SME Bookstore continued to travel during 2017. Attendees at several industry conferences were able to purchase SME books at the SME Annual Conference, the Prospectors & Developers Association of Canada convention and the Rapid Excavation & Tunneling Conference.



Titles published in 2017

Engineering Solutions for Sustainability: Materials and Resources: 2017 Proceedings

Edited by Michele Lawrie-Munro

Geochemical Modeling for Mine Site Characterization and Remediation

Edited by D. Kirk Nordstrom and Andrew Nicholson

The History of Tunneling in the United States

Edited by Michael F. Roach, Colin A. Lawrence, David R. Klug, W. Brian Fulcher

Minefill 2017: Proceedings of the International Symposium on Mining with Backfill

Edited by David Stone

Mineral Property Evaluation: Handbook for Feasibility Studies and Due Diligence

Edited by Richard L. Bullock and Scott Mernitz

Proceedings of the 36th International Conference on Ground Control in Mining

Edited by Brijes Mishra, Heather Lawson, Michael Murphy and Kyle Perry

Rapid Excavation and Tunneling Conference: 2017 Proceedings

Edited by Colin A. Lawrence and Anthony Del Vescovo

Rise to the Occasion: Lessons from the Bingham Canyon Manefay Slide

by Brad Ross

Risk Management in Evaluating Mineral Deposits

by Jean-Michel Rendu

Titles acquired in 2017

An American Dream: Autobiography of Syd Peng

by Syd Peng

The Mineral Maniacs and the Magic Hardhat

by Jules Miles

Top sellers in 2017

1. **The History of Tunneling in the United States**
2. **SME Mining Engineering Handbook**
3. **Project Management for Mining: Handbook for Delivering Project Success**
4. **RETC 2017 Proceedings-Book**
5. **RETC 2017 Proceedings-USB Drive**
6. **Rise to the Occasion: Lessons from the Bingham Canyon Manefay Slide**
7. **How Mining Works**
8. **Mining Economics and Strategy**
9. **The Chemistry of Gold Extraction**
10. **Proceedings of the 36th International Conference on Ground Control in Mining**

SME continued to increase its presence on a number of social media platforms, making the Society accessible to members around the world.

During 2017, SME increased the number of Facebook fans to more than 17,000, more than 31,000 LinkedIn members and about 5,900 Twitter followers.

SME Community 2017 totals:

Web pages viewed 97,421 (-29% from 2016)
 Unique logins 4,064 (-10% from 2016)
 New members 1,339 (-39% from 2016)

SME Twitter (@SMEcommunity):

5,911 followers (+762 from Jan. 2017)
 Between January & February 2017, our tweets had more than 112,500 views. (-.02% from 2016)

SME LinkedIn group:

31,878 members (+3,003 from Jan. 2017)
 SME Company page 5,375 followers (+946 from Jan. 2017)

SME Google+ page:

276 following our page (+18 from Jan. 2017)

SME YouTube Channel:

7,676 video views in 2017 (+284% from 2016)

SME Facebook page:

17,121 fans (+2,048 from Jan. 2017)

Communications numbers for 2017

Press releases:

35 press releases about “all things SME” = 20.98% average email open rate

Most popular: President Trump Nominates J. Steven Gardner for Interior Post, SME announces recipients of 2017 mining academic grants

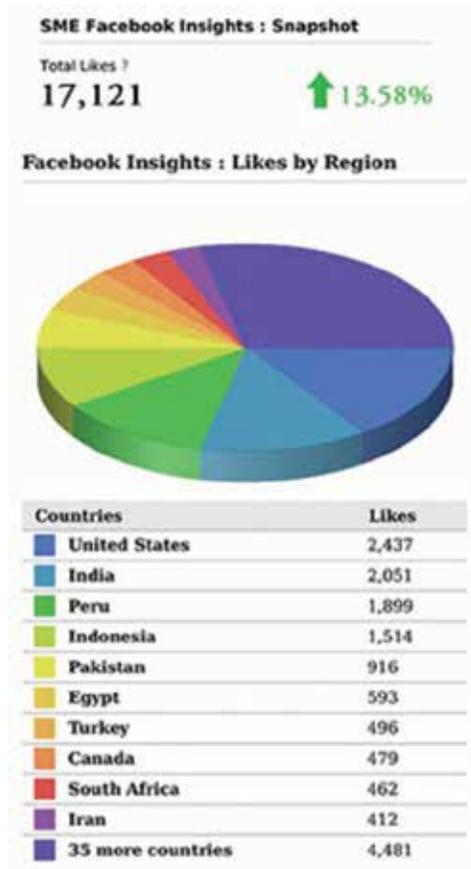
ENews:

30 issues of SME eNews sent to all SME members = 35.24% average open rate

Four issues of UCA of SME eNews sent to all UCA members = 26.59% average open rate

Media contacts:

971 media contacts currently receive weekly press releases.



Webinars:

In calendar year 2017, we hosted 19 webinars, including one for SME Young Leaders, eight for UCA Young Members at no cost to attendees, and ten SME webinars. The most popular SME webinar was “Ethics in the Mining Industry I: Principles of Ethics,” which enjoyed 55 registrants.

Number of sessions: 16

Number of attendees: 767

Most popular webinars:

UCA Webinar: Microtunneling in Hard Rock and Mixed Face Conditions

UCA Webinar: Underground Blasting Technology & Risk Management

Fundamentals of Professional Ethics: Elements and Examples

Coal & Energy

Sukumar Bandopadhyay
2017-2018 Coal & Energy Division Chair

The Coal & Energy Division membership as of Dec. 31, 2017 is 1,635. This reflects an increase of 36 members from the total of 1,599 members in 2016.

Innovation Committee

An ad hoc committee for innovation and technology was formed during the SME midyear meeting in Butte, MT in September. The committee will examine:

- How can we help with innovation in business today?
- Identify with Health and Safety and how they are structured?
- Data analytics, cell phones, happening very fast.
- Mining Innovation – automation.
- Create technical sessions. Begin program at 2018 ACE in Minneapolis.

The C&E Division acknowledged that not much focus was given to the energy part of the division. Focus on renewable energy in Division's programming is needed. And, hopefully, attract more mem-

bers to the division from the energy sectors.

Following the meeting with SME Strategic Committee chairs and Division Chairs, the C&E Executive Committee created a C&E Strategic Nominating Committee to review and nominate division members at the SME level committees, and SME president.

Although there is no significant change between 2016 and 2017, declining membership within the C&E division is a serious concern. The downturn in coal industry employment and the migration of C&E members to new divisions such as the Health & Safety Division are the major reasons for the decline. The C&E Executive Committee intends to use the membership data from the past few years and contact members who left the C&E Division to examine what demographics are they in, who are we losing, why don't students join and what can we do to attract students in the industry to participate?

The C&E Executive Committee plans to contact them to see what the Division can do to bring them back to the Division. The Committee will reach out to the Young Leaders to see if they can help C&E.

Contact all the past C&E scholarship recipients, follow their carrier path, and invite them to join the division, if they are not already in the division.



Sukumar Bandopadhyay
2017-2018 Coal & Energy
Division Chair

Environmental

Robert Mongrain
2017-2018 Environmental Division Chair

The Environmental Division's membership as of Dec. 31, 2017 is 1,119. This reflects an increase of 82 from the total of 1,037 members as of Dec. 31, 2016.

2017 Outstanding Papers

"Aerial Drones Used to Sample Pit Lake Water, Reduce Monitoring Costs and Improve Safety" by D. Castendyk, Hatch, Lakewood, CO, B. Straight, Hatch, Lakewood, CO, P. Filiatreault, Hatch, Sudbury, ON, Canada.

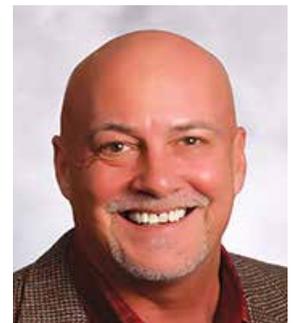
"Holden Mine – Application of Jet Grouting to Improve Stabilization of a Tailing Embankment in a Narrow Mountain Valley" P. Crouse, MWH now part of Stantec, Denver, CO, J. Obermeyer, MWH now part of Stantec, Denver, CO, C. Weber, MWH now part of Stantec, Denver, CO.

Scholarship Program

The Environmental Division's Annual Silent Auction, chaired by Robert Mongrain, generated approximately \$2,500 in income for the Division's scholarship fund. Veolia Water Technologies will donate \$2,000 for a scholarship again. A total of five scholarships will be granted in the 2017-2018 year.

Bylaws and Handbook Updates

The Environmental Division updated its bylaws to reflect a more accurate explanation of its objectives toward a common goal and to promote safe and environmentally sound mining practices. The Division Handbook was updated to provide guidance for Environmental Division committee officers and chairs. The Handbook contains the committee nomination process and definition of functions, the duties of each committee member, a list of the meetings they will be expected to attend, an estimate of time and travel that are associated with meetings, and other structural elements as they fit into SME as a whole.



Robert Mongrain
2017-2018
Environmental Division
Chair



Lori Guasta

2016-2017 Health & Safety Division Chair

Health & Safety

Lori Guasta

2017-2018 Health & Safety Division Chair

Membership

As of Jan. 29, 2018 the Health & Safety Division had 401 members. This is up from 118 in February 2017. Additional growth is expected as the new Certified Mine Safety Professional (CMSP) certification test is open and the division continues to leverage the work of a new executive committee position, Communication Specialist.

2017 highlights

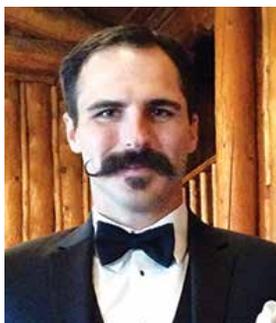
The International Academy for Mine Safety and Health of SME (IAMSH-SME) is progressing well in efforts toward offering a new CMSP certification exam in fall 2018. A Certification Panel has been developing the Body of Knowledge since fall 2017 and continued efforts are underway to determine parameters of the exam. As of January 2018, 230 applications have been received regarding grandfathering of the CMSP designation, which will help increase Division membership (See page 29).

External representation was established in 2017 to: A group assembled by the American Institute of Chemical Engineers (AIChE) in the Center for Chemical Process Safety (CCPS) and to “Safety 1” (temporary name), which is a jointly sponsored conference of AIME and its four member societies (AIST-SME-SPE-TMS).

In conjunction with the Young Leaders Committee, a Health & Safety Mentor Library was established by surveying longstanding SME members, and well-known mining and safety professionals. Survey responses were collected from 19 respondents and highlights will be shared in print via the Safety Share page in *Mining Engineering*. As this initiative expands in 2018, interview data may be collected to share via video format via the SME Community page.

Fundraising

To support the third annual 5K Fun Run at the Annual Conference & Expo, the division successfully raised \$9,500 in sponsorship from Predictive Safety SRP, Inc., Twin Metals, and Civil & Environmental Consultants, Inc. (CEC).



Rusty Winn

2017-2018 Industrial Minerals & Aggregates Division Chair

Industrial Minerals & Aggregates

Rusty Winn

2017-2018 Industrial Minerals & Aggregates Division Chair

As of Dec. 31, 2017, the Industrial Minerals & Aggregates Division had 871 members. This is a membership decline of 39 members from Dec. 31, 2016.

Midyear Meeting

Webinar series and short course topics were discussed. Transition of event committee, an ad hoc committee, into a permanent committee of the Division to facilitate organization and conduct of the webinar series, short courses and raffle were discussed.

2017 Year-End Accomplishments

The following should also be noted as key year-end accomplishments for the Division:

- One luncheon sponsor was secured for the 2018 Annual Division Luncheon - American Engineering Testing, Inc. (\$2,500).

- The speaker for the 2018 Annual Division luncheon will be Erik Ronald, Principal Consultant (Resource Geology), SRK Consulting (US), Inc.
- There will be a raffle at the luncheon instead of an auction to raise money for the scholarship fund.
- A company sponsored (Golder & Associates) luncheon table for students will be initiated at the 2018 Annual Conference. Eight to 10 students will be given free admission to the Luncheon to provide them the opportunity to experience and become involved with the Division.
- There are 10 technical program sessions with 58 speakers.
- The 2017 Technical Committee had 48 minerals reviews with a good response from the authors.
- The IMAD Executive Committee agreed to provide partial funding out of the Dryer Professional Development Fund to cover production costs of the Industrial Minerals Annual Review in *Mining Engineering*.

Mineral & Metallurgical Processing

Michael Moats
2017-2018 Mineral & Metallurgical Processing Division Chair

The Mineral & Metallurgical Processing Division's membership as of Dec. 31, 2017 was 1,890. This reflects a decrease in membership of 77 members from Dec. 31, 2016.

Technical programming

The Mineral and Metallurgical Processing Division (MPD) began hosting webinars on a quarterly basis during 2017 on topics of interests to our members. Initial response has been reasonably good. A proposal for a Symposium Honoring Doug Fuerstenau for the 2019 SME Annual Conference was submitted by two division members and approved by the MPD executive committee.

MPD and SME are participating in Extraction 2018 in Ottawa, Ontario, Canada. Extraction 2018 is a combination of different conferences and will include Hydrometallurgy 2018, of which SME is an organizing member. MPD will organize a special session on Sulfide Flotation. Ronel Kappes and Tarun Bhambhani are

organizing the Sulfide Flotation symposiums. In addition, MPD has initiated contact with the World Gold conference and is exploring joining the conference series.

MPD is participating in the organization of Copper 2019 to be held in Vancouver, BC, Canada. And MPD is supporting SME's bid to host International Mineral Processing Congress in 2022 or in 2024.

Fundraising

The 2017 MPD calendar sponsorship drive raised \$21,000, netting \$15,357 after expenses. There were 4,500 calendars that were printed and distributed with the attendee bags at the annual conference and at the MPD luncheon and other events. The Scotch Nightcap was also a success in 2017, where income for the event was \$21,549 and expenses were \$14,768, resulting in a surplus of \$6,781. The division luncheon, while not strictly a fundraising event, was financially successful, with revenues of \$14,320 and expenses of \$7,956.

Revised bylaws

The executive committee has extensively reviewed and rewritten the division's bylaws in 2017. Mark Jorgensen performed yeomen's duty on getting the committee to the finish line on this rewrite. The revised bylaws have been submitted to the Structure and Governance Strategic Committee for review. It is expected that the revised bylaws will be submitted to the membership for approval in 2018.



Michael Moats
2017-2018 Mineral & Metallurgical Processing Division Chair

Mining & Exploration

Jess Kindler
2017-2018 Mining & Exploration Division Chair

The Mining & Exploration Division's membership as of Dec. 31, 2017 was 4,744, down from 4,777 at the same time in 2016.

Update on 2017 Annual Conference

M&E Division programming at the SME Annual Conference has a reduced number of sessions and abstracts. The division's executive committee believes there is a need for more papers for *Mining Engineering* magazine. So there is a call to solicit more technical papers from presentations (only 21 out of 120 in Denver). The focus of the presentations should be on innovation. Joe Driscoll said he will pursue a session for innovation for the conference in Denver in 2019.

Scholarships

The division is facing the challenge of offering an increased number of scholarships. The reason some weren't offered this year is because the division is attempting to build its scholarship balance. The Pfeider and Potter scholarships for 2017 are both slightly down. The committee passed two motions, one to decrease the amount of the Potter Scholarship to \$2,500 for 2017 (to be revisited year to year), and to take \$10,000 from Pfeider Scholarship fund to help fund a new mine ventilation scholarship (a one-time contribution).

There was a motion to try to give out \$14,000 in scholarships. This is up to the M&E's scholarship committee's discretion under the division's current bylaws. Need to understand our bylaws.

2017 luncheon and silent auction

The M&E Division Silent Auction was a success at the Denver meeting, raising nearly \$7,000.



Jess Kindler
2017-2018 Mining & Exploration Division Chair

Rock in the Box

Bob Washnock continues to be in charge of submitting Rock in the Box articles to *Mining Engineering* and is happy to continue doing so.

Other business

- The Fundraising committee's boyscouts badge has been a success.
- The M&E Executive Committee set a goal of \$40,000 to support the Boy Scouts Jamboree, which is held every four years. Plans for funding the program will be discussed at the SME Annual Conference.

- The Research Committee needs another M&E Division member. Chris Roos will join Brad Dunn on the committee.
- There is a general push to get the Young Leaders involved in the strategic nominating committee.
- There is continued emphasis on getting more Young Leaders more involved in SME committees, especially at the annual conference. The Executive Committee is urged to nominate people to be more involved.



Mike Roach
2017-2018 UCA of SME
Division Chair

UCA of SME**Mike Roach**
2017-2018 UCA of SME Division Chair

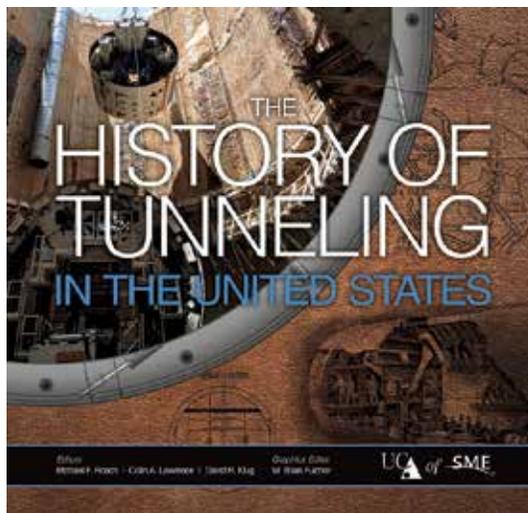
Total membership in the Underground Construction Association of SME (UCA) during 2017 was 1,496. This includes 31 corporate and 29 sustaining company memberships, which is the largest number of corporate and sustaining numbers of any year.

In 2017, the UCA of SME hosted the annual George A. Fox Conference in New York City on Jan. 24 at the CUNY Graduate Center. The conference attracted 366 attendees, 27 Gold sponsors, four Silver sponsors and five Bronze sponsors.

The UCA of SME was also active at the Rapid Excavation and Tunneling Conference June 3-8 at the Manchester Grand Hyatt in San Diego, CA. More than 1,400 people attended the conference that featured 188 exhibit booths and 14 sponsoring companies. The technical program featured rich content and networking opportunities and included an offsite event for UCA Young Members.

In November, the Cutting Edge conference was held in Seattle, WA in conjunction with Tunneling Journal. More than 240 people attended the conference that included two days of technical programming and a field trip to the SR-99 tunnel project in Seattle.

In 2018, Cutting Edge will move to Atlanta, GA, Oct. 28-31.



In June, the UCA of SME will head to Washington, D.C. for the 2018 North American Tunneling Conference at the Wardman Park Marriott Hotel.

History of Tunneling in the United States

The coffee table book, "History of Tunneling in the United States" was completed and distribution of the book began on May 1. The book was distributed to 2016 World Tunnel Congress attendees.

The UCA is also working on a revision of the book "Recommended Contract Practices for Underground Construction."

WAAIME

Blanche Blattner
2017-2018 WAAIME Division Chair

The WAAIME 100th Anniversary Celebration finally came to fruition with tremendous success thanks to the innumerable amount of hours expended by our WAAIME members, SME personnel and the collaboration of 13 university groups who attended the SME Annual Conference & Expo.

In 2017, WAAIME awarded 77 undergraduate and graduate scholarships worth \$156,600. An additional \$50,000 was divided between the WAAIME International Sections in Peru, Chile and Mexico. The WAAIME Silent Auction and raffle in 2017 collected an exceptionally high amount of \$5,777.

In July in Denver, CO, the Committee approved a donation of \$1,000 to support the Mining Foundation of the Southwest Awards Banquet and a change to the travel policy to increase allowed expenses. The Committee also granted requests for the distribution of the Silent Auction Funds from the following sections: Arizona-Tucson/San Manuel, Chile-La Serena, Chile-Santiago, Mexico-DF, Mexico-Torreon and Pennsylvania-Western. The Pennsylvania-Western Section donated their funds

to the two Mexico sections. The total distribution to all sections was \$8,000.

The second special meeting was held in Orlando, FL in October 2017. A proposed Modification to the Merger Agreement was reviewed and agreed to by the WAAIME Executive Committee, and a decision to fund the SME Foundation Ph.D. program was approved with special requirements.

The Peruvian section continues to add professional members to WAAIME utilizing the Round Table format in conjunction and collaboration with Ernst & Young. WAAIME was present at the South American Mining Convention in Arequipa, Peru, (PERUMIN) where some scholarship checks were given out in the presence of the Mining Minister of Peru and SME's Executive Director, David Kanagy.

The legal process for recovering the funds from the Peruvian Section of Cajamarca is finally in full force and is expected to be completed by mid year.

A new WAAIME website (waaime.org) and scholarship application process was developed and is ready for the 2018/2019 school year.

The WAAIME portfolio is doing very well reaching \$9,335,586 as of February 15, 2018. WAAIME funds have not been this high since the early 2000's dot. com era.



Blanche Blattner
2017-2018 WAAIME
Division Chair

Editor's note: Barb Filas was the chair of the WAAIME Division in 2016, she was not identified as such in the 2016 Annual Report.

2017 WAAIME Scholarship Recipients

Colorado School of Mines

Danielle Campos Rocha, Evody Karumb, Zoheir Khademiah, John Meyer, Marion Nicco, Solomon Owusu, Makenzie Parimuha.

Missouri University of Science and Technology

Charles Abbey, Tyler Collier, Caroline Dziak, Tanner Eliuk, John Marcano, Suzanne Taylor.

Montana Tech of the University of Montana

Clyde Ellertson Jr., Branden Fraser, Conan Moore, Bryan Nielson, Kristopher Schaff, Simon Timbillah.

New Mexico Institute of Mining and Technology

Emmanuel Asare, Armen Balasan Avanesian, Franciszka Stopa.

Pennsylvania State University

Nicholas Buczacki, Katie Hutton

South Dakota School of Mines & Technology

Jonathan Barkl, Rahul Bhargava, Trenton Blow, Annie Bruch, Cedric Dimasa, Alyssa Gebhart, Richard Hovdenes, Karl Keller, Averyonna Kimery, Venkata Aneesh Kona, Sunghee Lee, Marie Ojeda, Walida Praseuth, Saiprasad Sreekumar Ajitha, Bobbi Strange.

Southern Illinois University at Carbondale

Louis Ackah.

Texas A&M University - Kingsville

Ramatou Li.

University of Alaska Fairbanks

Sydney Deering.

University of Arizona

Christopher Deuel, Miguel Pugmire, Brody Rastall.

University of Kentucky

Chandler Absher, Mary Karem, Ashish

Kumar, Christopher Newman, Johnathan Oldham, Trevor Rosania, Laura Steeves, Xinbo Yang, Brooklynn Yonts.

University of Nevada-Reno

Nikolas Papameletiou.

University of Utah

Annaleigh Seeley, Kaustubh Shrimali, Micah Steffensen, Behzad Vaziri Hassas.

Virginia Polytechnic Institute and State University

Min Gan, Leah Frost, Sarah Gorski, Eric Hakes, Zachary Henderson, Kaiwu Huang, Timothy Lambert, Biao Li, Zoe Scopa, Stuart Smith, Bethany Witter, Joseph Zaino.

West Virginia University

Adevale Adeniji, Neel Gupta, Line-Audrey, Nkule Sonkeng, Jared Urchek, Rachel Vass.

Yale University

Martin Cilloniz.



Bill Hancock
2017-2019
SME Foundation
President

SME Foundation

The mission of the SME Foundation is to be the source of funding for education and outreach of SME and the community it serves.

With 2017 behind us, I want to take this opportunity to express my gratitude and thank all of the corporate and individual donors who have contributed to the SME Foundation (SMEF) throughout the year. In FY2017, 2,308 donors contributed a total of \$1,338,662 to the SMEF. Off to a strong start, the Foundation received over \$500,000 in the first quarter of FY2017. However, the strength of the Foundation is not only reflected by the amount of financial support we received, but also by the countless hours of volunteerism provided by our dedicated SME members, Foundation trustees and staff throughout the year. Because of this, SMEF stands strong and will continue our efforts to face our industry's challenges moving forward.

Three-quarters of all SME Foundation funding comes from corporate support. Companies giving more than \$25,000 annually belong to the Corporate Roundtable Partnership (CRP). SMEF would like to thank the current CRP for their continued support of the industry and SME members:

- Freeport-McMoRan Inc. (\$200K)
- Newmont Mining Corp. (\$100K)
- Murray Energy Corp. (\$65K)
- Alliance Resource Partners, LP (\$50K)
- Fluor Corp. (\$50K)
- Rio Tinto/Kennecott Utah Copper, LLC (\$50K)
- Royal Gold Inc. (\$50K)
- Mining & Metallurgical Society of America (\$30K)
- Bechtel Corp. (\$25K)
- Boart Longyear (\$25K)
- Caterpillar Inc. (\$25K)
- Cloud Peak Energy (\$25K)
- Kinross Gold USA (\$25K)
- Komatsu (\$25K)
- Vulcan Materials Co. (\$25K)

The SME Foundation thanks Robert E. Murray, chairman, president and chief executive officer

of Murray Energy Corp., who has committed to annually endow the SME Foundation ABET program. The endowment will continue to provide for SME to be a participating body in the ABET organization, including two seats on the Engineering Accreditation Commission, and one seat on the ABET Board of Directors. In addition, the funding will provide for recruiting, training and deployment of professionals who visit colleges or universities that offer B.S. degrees in geological engineering, geophysical engineering, mining engineering, minerals engineering, geoenvironmental engineering and environmental engineering to ensure that the programs maintain the ABET accreditation.

The ABET program providers conducted nine visits to the mining and natural resources universities worldwide and continued to ensure education of the highest standards in 2017.

The Corporate Giving Committee continues to strive to secure commitments to the SME Foundation through their corporate contacts within the mining industry. The Individual Fundraising Committee continues to foster donor relationships and steward SME members. Increasing support to the Foundation programs is imperative to our programs' success. At the 2018 Foundation Gala dinner, John O. Marsden will receive the 2017 Excellence in Prospecting award for his fundraising efforts and continued support of the SME Foundation.

The Ph.D. Fellowship and Career Development Grant program continues on its mandate to support the rebuilding of the U.S. mining schools faculty pipeline. That success includes current 2017 support of two \$100,000 per year Academic Career Development Grants to Associate Professors:

- Shimin Liu, Assistant Professor of Mining Engineering, Penn State
 - Catherine Johnson, Assistant Professor of Mining Engineering, Missouri S&T
- and three \$60,000 Ph.D. Fellowship grants to graduate students:
- Shane Lee, South Dakota School of Mines & Technology
 - Heather Lammers, Colorado School of Mines
 - Danielle Campos Rocha, Colorado School of Mines

These grants allow recipients to continue their academic goals to serve and educate the next

generation of mining engineers and metallurgists so that our industry may continue to prosper and meet the demands for the future. The program has been primarily funded by support from:

- Caterpillar Global Mining
- Freeport-McMoRan Inc. (exclusive funding of the Academic Career Development Grants)
- Kinross Gold Corp.
- Boart Longyear
- R. Gene Dewey
- Robert Shoemaker (exclusive funding of one Ph.D. Fellowship Grant per year)
- Royal Gold
- Scott McIntosh Fund (exclusive funding of one Ph.D. Fellowship Grant per year)
- Seeley Mudd Fund
- Robert Shoemaker Family
- William and Pamela Wilkinson

Great thanks to these donors for their vision to build a stronger industry through education.

Also in 2017, the Minerals Education Coalition (MEC) and the MEC Committee initiated a public awareness campaign designed to improve the public's perception of mining. Move Mining requested participants to compete for a monetary prize by submitting concept papers with ideas to improve the public's perception of mining. The top applicants competed in a "Shark Tank"-like session at the 2017 SME Annual Conference & Expo. 40 teams from seven countries submitted proposals to the contest. The winning team, Team Atwood, proposed a version of the extremely popular game Minecraft that would educate students about modern mining. MEC also developed materials for the American Geosciences Institute's Earth Science Week (ESW) in October. A new "What's In My Toothpaste" game was developed and was included in 14,000 educator packets along with the related calendar page, "A Paste With A Taste" activity, adapted with permission from Women In Mining.

SME and MEC staff and volunteers hosted a Mining in Society merit badge booth at the 2017 National Boy Scout Jamboree at the Summit Bechtel Family National Scout Reserve BSA facilities in West Virginia, July 19-28, 2017. In all, 2,270 Scouts visited the booth, with 618 Scouts completing the badge during their stay at the Jamboree. Activities included elements of the badge requirements and covered topics such as safety, reclamation, mineral



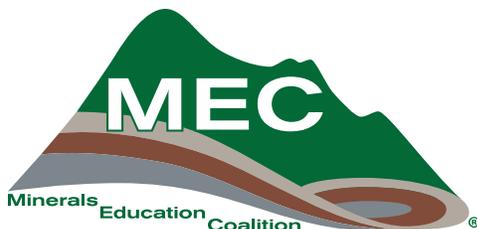
usage and careers in the mining industry. The booth was marked by a mine truck tire standing twelve feet tall that was graciously donated by King Tire Service Inc. of West Virginia. Many people and organizations supported this tremendously successful effort.

The Professional Engineering (PE) licensure program continues to maintain and offer the Professional Engineer examination for Mining and Mineral Engineers. As of Jan. 1, 2018, three examinations have been partially or completely assembled (2018, 2019 and 2020). The October 2018 examination is assembled and will be pre-tested by SME PE Exam Committee members at the March 16-17, 2018, PE Workshop in Clemson, SC – travel is funded by NCEES. The October 2019 exam is 95% assembled and will receive final QC/QA at the SME PE Workshop at NCEES' Clemson, SC headquarters Aug. 17-18, 2018. The October 2020 exam is 45% assembled in draft.

In the spring of 2017, Miners Give Back, partnering with Engineers Without Borders, renewed the commitment to the Temple University project through a second \$5,000 grant. The Temple University project includes a team of more than 20 students, three faculty advisors and three professionals and is further supported by the Philadelphia professional EWB Chapter.

Additionally, SMEF looks forward, once again, to awarding numerous scholarships to deserving SME students at the 2018 SME Annual Conference & Expo. Currently the Foundation offers, with the faithful support of our funders, the following

(Continued on page 36)



The Minerals Education Coalition (MEC) is the K-12 education and outreach program of the Society for Mining, Metallurgy & Exploration Foundation (SMEF). Through the support of SME members, volunteers, sponsors and partnerships with like-minded mining and geoscience education organizations, MEC continues to grow, reaching more teachers, students and the general public with the message of the importance of mining and minerals in everyday life.

Led by Chair Julie Marinucci and Vice-Chair Karen Rose, the 2017-2018 MEC Committee provides the MEC with leadership and guidance in its operations, as well as its strategic direction going forward. MEC also recognizes individuals and organizations making meaningful efforts in education about minerals and mining, both within SME and as external partners.

MEC website enhancements

Website additions encourage teacher engagement and keep students and teachers coming back. A new rotator has been added to www.MineralsEducationCoalition.org as an eye-catching and fresh look for the website. The rotator scrolls through a series of images to introduce facets of MEC.

A new MEC News page has been created and changes regularly, as do the MEC Spotlight and the Weekly Fun Fact. Promoted through the MEC Facebook/Twitter, Weekly Fun Facts are given each week to draw readers to different parts of the website, while introducing them to the many facets of minerals, mining and applications of both.

Website pages are also being made more user-friendly with graphic menus and other links that allow users to easily go to related pages and better delve into specific mining and mineral topics of interest. Educational materials continue to be added to the K-12 educational resources database, such as resources from U.S. Geological Survey and The NEED Project. MEC offerings are promoted on

the new MEC Pinterest page, and additional educational resources are pinned to the page to augment MEC's educational offerings. For SME members, sections and student chapters conducting outreach, ongoing information is added and updated on the MEC website. The format of the site is changing and growing to highlight content in different ways and to keep users interested and engaged.

MEC at the 2017 National Science Teachers Association (NSTA) area conferences

Each year, the MEC participates at three NSTA Area Conferences to provide K-12 educators educational resources. MEC has worked with SME members, mining companies and other geoscience organizations to present for this year's conferences:

October 5-7, MEC staff and volunteers handed out 1,000 free rock and mineral kits to teachers at the NSTA Regional Conference in Baltimore, MD. The "Totally Awesome Classroom Rock Kits" featured samples of ten rocks and minerals such as quartzite, siltstone and bituminous coal. Teachers from 26 states attended the booth. Katie Kosloski of Luck Stone led the volunteer committee of SME members that developed the rock kits with donations from regional mining and mineral companies and associations in the region. The group also staffed the booth and provided free posters and educational resources for teachers to take back to their classrooms.

November 9-11, another 1,000 rock and mineral kits were distributed to teachers at the Milwaukee NSTA regional conference. These kits contained samples of diorite, granite, dolomite, basalt, quartzite, taconite and copper/nickel ore. As teachers made their way down the line to assemble their kits, they learned about the properties and uses of the rocks and minerals in the kits. Andrea Martin, Jim Small and Susan Courter led the group of volunteers in planning and executing the booth logistics.

November 30-December 2, MEC attended the New Orleans NSTA area conference. Led and staffed by Dale Elifrits and Pat Jacomet, nearly 900 teachers received rock and mineral sample kits. Because of donations from companies such as the Ohio Mining & Mineral Education Program, the Ohio Aggregates & Industrial Minerals Association, Freeport-McMoRan and others, teachers were able to take home natural gravel, copper ore, clay, flint, halite, slag and other samples. Most importantly, teachers were given information on how these minerals are used in everyday life to be passed on to their students.

Earth Science Week collaboration with the American Geosciences Institute (AGI)

MEC developed materials for the American Geosciences Institute's Earth Science Week (ESW), October 8 - 14, 2017. The new "What's In My Toothpaste" game was included in 14,000 educator packets along with a related calendar page, "A Paste With A Taste" activity, adapted with permission from Women In Mining.

Mining in Society merit badge

SME and MEC staff and volunteers hosted a Mining in Society merit badge booth at the 2017 National Boy Scout Jamboree at the Summit Bechtel Family National Scout Reserve BSA facilities in West Virginia, July 19-28, 2017. In all, 2,170 Scouts visited the booth, with 518 Scouts completing the badge during their stay at the Jamboree. Activities included elements of the badge requirements and covered topics such as safety, reclamation, mineral usage and careers in the mining industry. The booth was marked by a mine truck tire standing twelve feet tall. Many people and organizations supported this tremendously successful effort.

MEC continues to support BSA and MiSmb year-round through the Mining in Society merit badge webpage and by encouraging SME members and section members to become MiSmb counselors with the new Mining in Society Merit Badge Counselor Roll Call. By completing the form on the MEC website, MiS merit badge counselors will be added to our mailing list for future communications regarding the merit badge, support materials and their role as a counselor. An MEC Scouting Subcommittee has begun work on and developing a plan and budget for future efforts with scouting groups. This group will be examining ways to support and grow MEC's outreach to scouting groups going forward.

STEAM-a-Palooza 2017

MEC accepted an invitation to exhibit at STEAM-a-Palooza on Saturday, Nov. 11, at a high school in the Cherry Creek School District in Denver, CO. The goal of the entire event is both to introduce and to encourage students in STEAM (Science, Technology, Engineering, Art and Mathematics) subjects. MEC and SME staffed the booth and interacted with hundreds of students from grades K - 12 and their parents. A Facebook live feed was available to give an insight to the event. Parents and students learned about the Move Mining Next Gen contest and minerals education.

Move Mining

SME Staff Nicole Cole and Tanya Kriss attended a competition in Grand Junction, CO to support Team Atwood's 2016 competition winning idea with Minecraft. After-school students at Wingate Elementary played a version of Minecraft that simulates a more realistic and competitive mining experience. The Atwoods adapted the game for this event, incorporating a variety of energy sources and modern mining equipment. The scoring system was affected by amount and value of ores mined, the extent to which they were processed and the requirement for land reclamation.

Team Miles of Smiles celebrated the launch of their first book *The Mineral Maniacs* on May 22, 2017. The concept for the novel, which is planned to be the first of a series, was presented in the live competition at the SME 2017 Annual Conference & Expo. It also caught the attention of Climax Molybdenum Co. and The Electrum Group for sponsorship. The book can be purchased from the SME Store at www.smenet.org. There are plans to translate the book into Spanish due to requests from SME members in Spanish-speaking countries.

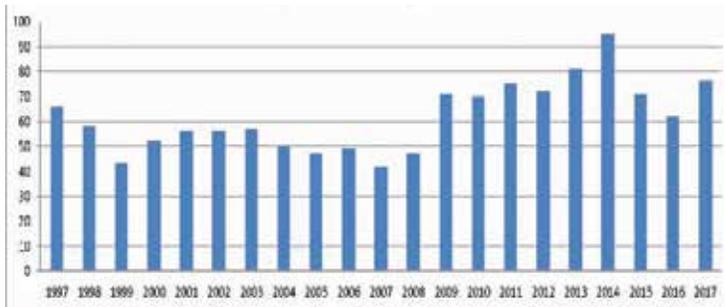
Move Mining Year 2 and Move Mining Next Gen's Inaugural Year

The 2017 Move Mining Competition was announced on Aug. 11. Teams competed for the \$5,000 prize by contributing ideas to change the perception of mining. A new and exciting component this year is the Move Mining: Next Gen competition. Students from elementary and secondary grades submitted videos to answer the question, "Why is mining important in our lives?" Move Mining Next Gen kicked off its inaugural year asking students from K-12 grades how mining makes daily life better. With 100 submissions from all over the globe, MEC was pleased to see the ripple effect. With the component of public voting for the People's Choice award, video submissions were shared and the audience was invited to show their opinion of which entries stood out.

This year's winners of the Move Mining Next Gen K-12 video competition are as follows: The Best Overall award went to Team Kamille. The Winner of the People's Choice award went to the team called Pioneers. In the grade level categories, the winners were Children for Sustainable Mining in grades K-5, Team Pluto for grades 6-8, and the team named I Have a Pet won in the grades 9-12 category. Each of these teams won cash prizes.

**Professional Engineers
Exam Committee****William Reed, PE,
2017 Chair**

The SME Professional Engineers Exam Committee prepares problems for the Mining and Mineral Processing (M/MP) engineering examination for licensure as a Professional Engineer. The exam consists of 80 multiple-choice questions and is offered once each year in October. The committee sends problems and solutions to the National Council of Examiners for Engineering and Surveying (NCEES), which formats the exam and transmits it to the individual jurisdictions for administration. The next Mining/Mineral Processing PE Exam will take place Oct. 26, 2018. For years 2013 through 2017, total examinee count equaled 81, 95, 71, 62 and 76, respectively. A chart representing 21 years of history 1997 to 2017 is shown in Fig. 1.

Figure 1**Mining/mineral processing PE examinees.**

Last year's count of 76 reflects trending mining industry recovery. The 21-year average of test takers equals 62.

The overall percent passing rate (first time examinees + repeat test takers) for the PE exam for the years 2013 to 2017 are 63 percent, 83 percent, 68 percent, 58 percent and 58 percent, respectively. The graph representing 12 years of overall passing history 2006 to 2017 is shown in Fig. 2.

The 2017 overall pass rate of 58 percent compares to the 12-year average of 67 percent. Figure 3 notes the timing of the Anchor Exam whereby Subject Matter Experts, who are licensed PEs, take the actual examination and determine passing metrics for the next seven years.

As of Jan. 1, 2018, three examinations have been partially or completely assembled (2018, 2019 and 2020). The October 2018 examination is assembled and will be pre-tested by SME PE Exam Committee members at the March 16-17, 2018, PE Workshop in Clemson, SC – travel is funded by NCEES. The

October 2019 exam is 95-percent assembled and will receive final QC/QA at the SME PE Workshop at NCEES' Clemson, SC headquarters Aug. 17-18, 2018. The October 2020 exam is 45 percent assembled in draft.

The PE exam review course for the 2017 exam was held in St. Louis, MO in September 2017 under Dr. Raja Ramani's direction. Thirty-nine engineers completed the review course. The last eight years of attendance is shown in Fig. 3.

Feedback from the participants continues to be excellent. Revenue generated by tuition more than covered the cost of conducting the review course. The next review course is scheduled for Sept. 15-19, 2018 in Denver, CO.

The five-year effort to write Edition II of the Mining Reference Handbook is in the third year of work. This effort is required by the states and represents the single reference that can be brought into the PE exam, once the exam is converted from paper-based to computer-based. Heather Dougherty, PE, and Dr. Andrew P. Schissler, PE, are co-editors. 2017 activities included the updating of existing chapters, the writing of one new chapter on mining methods and the release of draft chapters to technical reviewers. The overall objective is to have the first functional computerized exam by October 2021, with the single reference published between May 2020 and April 2021. Several chapters reached the technical review stage in 2017. The overall project is 50 percent done.

The SME PE Exam Committee continued participation in the Licensing That Works (LTW) committee. This committee, composed of engineering societies representing more than half of all U.S. engineers, opposes an initiative by various concerns to increase the educational credential for becoming a Professional Engineer from a bachelor's degree to master's degree or equivalent education (MOE). The LTW had continued success in 2017 to keep the MOE initiative from being implemented. The LTW encountered only one state (New Jersey) moving toward adopting MOE. Through the efforts of the LTW Committee, which included partial SME funding of a lobbyist, it appears that the effort by American Society of Civil Engineers (the primary proponent of MOE) and a local NJ lobbyist is foundering and may, in fact, be over. LTW has no indication that other states are subject to local MOE initiatives.

At its August 2017 Annual Meeting, NCEES placed an MOE addition into a nonbinding policy statement that prospective PEs need to have a bach-



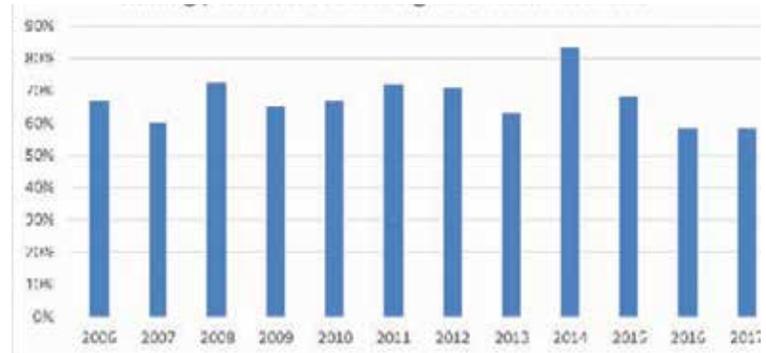
elors education + 80 “Assessed Learning Days” or ALDs. An ALD is gained from an ABET university program, or if not accredited, have certain standards that replicate a university class. Opponents to MOE were not able to muster sufficient votes to prevent the ALD placed into the policy statement. This will be a target for future LTW efforts at NCEES.

In 2017, 25 items were added to the bank bringing the total questions available to 654. The bank has grown from 341 in 2009, nearly doubling in seven years, due to the hard and efficient work of the 67-member SME PE Committee.

A special face-to-face meeting in Clemson, SC of the SME PE Exam Committee occurred Friday to Saturday June 23-24, 2017 with 15 SME PEs attending. Problems were written and reviewed, the 2018 exam underwent QA/QC review, and 2017, 2018 and 2019 exams were developed and finalized, as noted previously. NCEES reimburses travel for up to 15 attendees. NCEES will be funding two meetings per year beginning in 2018 to assist the societies in exam development.

The SME Coordinator worked with PEs located in California to possibly place a bill in the legislature for the state to license Mining/Mineral Processing Engineers. California is one of five states or ter-

Figure 2
Mining/mineral processing PE overall pass rate.



ritories that do not offer a Mining PE license. This is paradoxical because California is approximately fifth in mineral resource production and has legacy mining operations. The work is in progress.

Randy Reed PE is the Chair for 2018, and Liane George PE is the Vice Chair for 2018. The SME PE Committee stands at 67, an increase from 53. Many new members joined after participating in the Cut-Score Panel in December 2016.

Certified Mine Safety Professional Certification

The International Academy for Mine Safety & Health of SME (IAMSH) was established in April 2017 following SME’s acquisition of the Certified Mine Safety Professional (CMSP) certification.

The IAMSH is responsible for the management of all aspects of SME’s health and safety-related certification processes with the support of SME staff. It is a functional unit of SME’s Health & Safety Division. The board met five times in 2017.

Milestones from 2017 include:

Stakeholder outreach: A communications plan and webpage (<http://www.smeemsp.org/>) were developed to communicate with current and former CMSPs and other stakeholders.

Body of Knowledge: In 2017, the IAMSH board rewrote the Body of Knowledge (BoK) developed by the ISMSP in the mid-1990s. After additional board input and benchmarking with a number of international safety and health experts, the revised BoK was approved by the IAMSH-SME Certification Panel on Jan. 26, 2018.

Certification panel: A certification panel was convened in Denver in November 2017 and again in January 2018 to validate the BoK and develop a bank of questions for the CMSP examination. The first Certification Panel of 15 finalized the IAMSH draft final body of knowledge on which the new examination will be based and to write questions for the exam.

Third-party accreditation: The board continues to work toward third-party accreditation in the U.S. and, subsequently, international accreditation. The National Commission for Certifying Agencies (NCCA) was selected to accredit the new certification program. A detailed accreditation plan has been developed by Dr. Andrew Schissler.

CMSP grandfathering criteria: Criteria to grandfather was finalized in August 2017 and communicated to stakeholders using multiple formats. IAMSH-SME intends to grandfather many current CMSP’s who qualify under the old program. As of Jan. 30, 2018, more than 200 CMSP have recertified under IAMSH-SME.

International Academy for Mine Safety & Health (IAMSH)

**Thomas Hethmon ,
2017 Chair**



The Accreditation and Curricular Issues ad hoc subcommittee consisting of Will Wilkinson, Jon Price and Dale Elifrits, chair, has completed program-specific accreditation criteria for geology and geological science B.S. degree programs as such degree programs may request accreditation by the Applied and Natural Science Commission (ANSAC) of ABET. This has been developed from the Task Survey that is conducted on a regular basis by the National Association of State Boards of Geology (ASBOG) geology licensure, which is analogous to the NCEES for examination and licensure of Professional Engineers, and from proposed legislative changes that the California Registrar for licensure of Professional Geologists in the State of California has shared with the subcommittee and information and advice from other sources, namely practicing professional geologists. This has been shared with ASBOG's Executive Committee, the California Registrar for licensure of Professional Geologists, appropriate leaders in the Association of Engineering and Environmental Geologists, and other interested parties. This document has moved to the Accreditation and Curricular Affairs Subcommittee and the Council of Education with the anticipation of bringing a final document for SME Board approval at its February meeting.

As of Jan. 15, 2018, no geology or geological science degree programs have requested an accreditation visit for the ABET accreditation cycle that starts this fall of 2018. Since no geology or geological science degree program has requested a Readiness Examination by the ABET office or directly requested a campus visit, it is not likely a program will be visited this fall.

Cost to SME for Geology/Geological Science Program Accreditation: Currently, SME is being charged nothing by ABET to provide PEVs for geology/geological science degree programs. ABET has offered SME a seat on the Applied and Natural Science Accreditation Commission at no charge since SME pays for seats on the Engineering Accreditation Commission and the Engineering Technology Accreditation Commission.

2017 cycle of activities

SME Visitor Selection Committee nominated Program Evaluators for nine Accreditation visits during the fall of 2017. The visits are as follows:

University of Alaska Fairbanks — Mining Engineering Program (BS) visited by Jurgen Brune, Oct. 15–17, 2017.

University of Alaska Fairbanks — Geological Engineering (B.S.) visited by Kurt Katzenstein, Oct. 15–17, 2017.

Istanbul Technical University — Geological Engineering (B.S.) visited by Mark Vanarelli, Oct. 15–17, 2017.

Istanbul Technical University — Geophysical Engineering (B.S.) visited by Joel Kuszmaul, Oct. 15–17, 2017.

Istanbul Technical University — Mineral Processing Engineering (B.S.) visited by Lee Saperstein, Oct. 15–17, 2017.

Istanbul Technical University — Mining Engineering (B.S.) visited by Lee Saperstein, Oct. 15–17, 2017.

Michigan Technological University — Geological Engineering (B.S.) visited by David Hammond, Oct. 22–24, 2017.

University of Nevada, Reno — Geological Engineering (B.S.) visited by Rick Honaker, Sept. 17–19, 2017.

University of Nevada, Reno — Mining Engineering (B.S.) visited by Charles Kliche, Sept. 17–19, 2017.

2017 and 2018 New Program Evaluator training and preparation

During the spring of 2017, SME sent four new program evaluators to face-to-face ABET Program Evaluator Candidate (PEV-C) training workshops held at the ABET Headquarters in Baltimore. ABET covers the expenses of this training. Hence, neither the professionals nor SME pays travel, food and lodging. The four program evaluators are Hamid Akbari, Gang Chen, James Gebhardt and Nikhil Trivedi. These professionals successfully completed the PEV-C training and will now be scheduled for observation visits on regular campus accreditation teams this fall.

At the time of this report writing, the following SME members were registered or were being registered for the ABET Program Evaluator Candidate Training Workshops during the spring of 2018: Kathy Altman (Mining Engineering), Paul Conrad (Mining Engineering), John Gierke (Geological Engineering) and Ashley Heckman (Geology and Geological Science). Many of these SME professionals will be qualified to make accreditation visits to degree programs other than the one curriculum specified with their names.

Fiscal 2017 was another difficult year for the industry and SME had only its second operating deficit in 13 years. During those 13 years, SME's financial strength has grown substantially, and we are well positioned, coupled with sensible cost controls, to weather the current industry weakness.

A very positive investment return resulted in an overall surplus of about \$712,000 for SME operations. For all entities the overall surplus exceeded

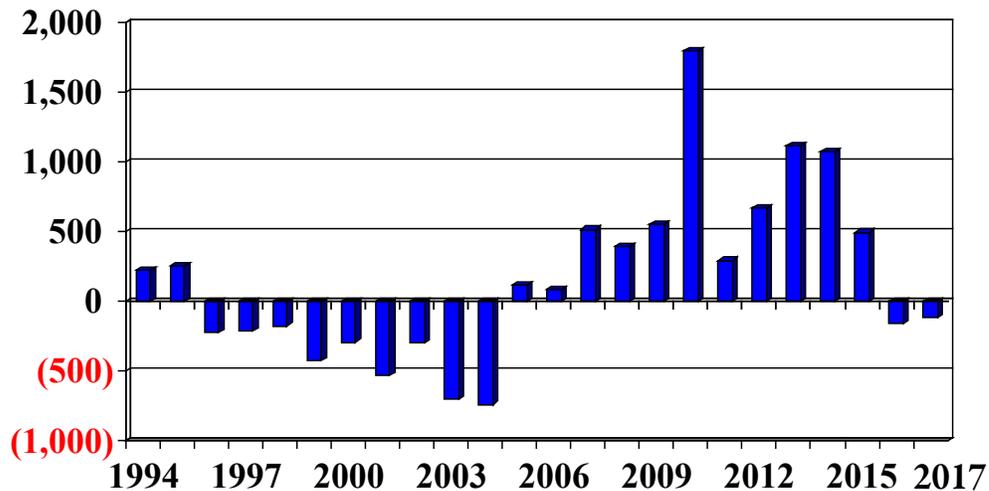
\$1.8 million, with net assets exceeding \$31 million.

Following Cash and Investments graph

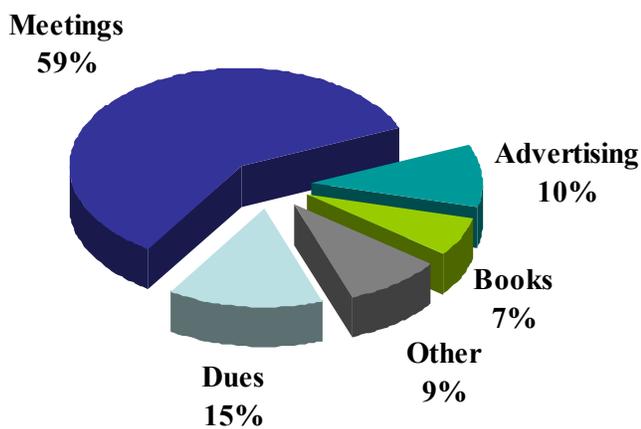
The WAAIME merger with SME in 2008 included \$8.2 million in new investment dollars. Approximately \$18 million of investments is restricted for specific activities of the SME Foundation, SME division activities and WAAIME scholarships.

Operating Surplus (Deficit)

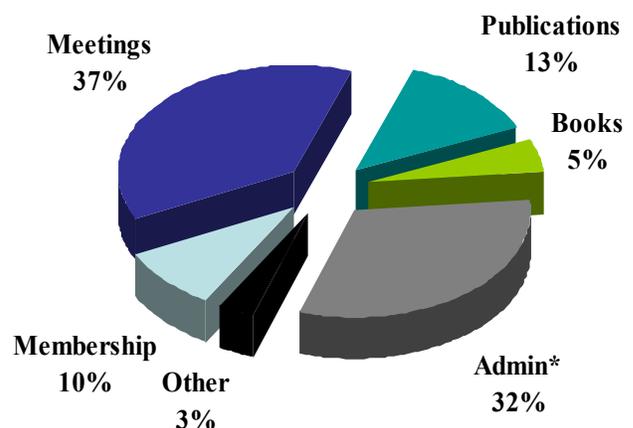
Thousands



Operating Revenue (Sources)



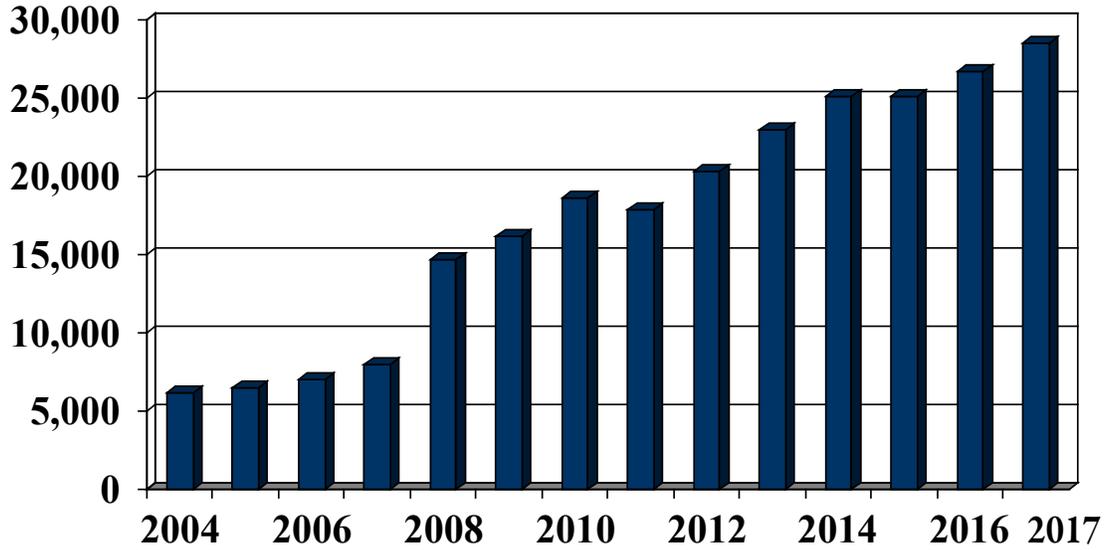
Operating Expenses



* Administration includes: Administration, accounting, customer service, IT, government affairs and web activities.

Cash and Investments

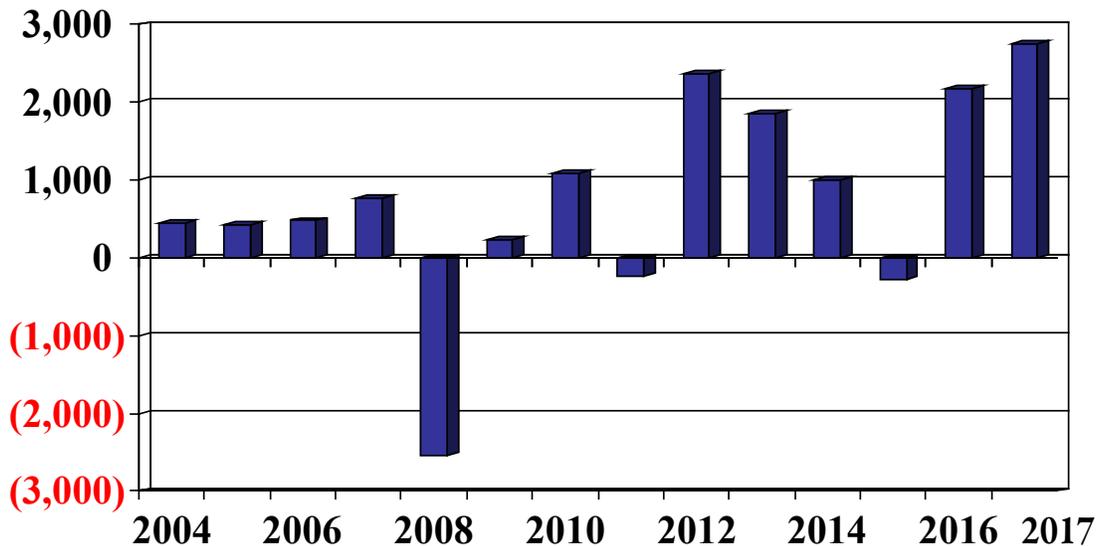
Thousands



WAAIME merger with SME in 2008 included \$8.2 million in new investment dollars. Approximately \$16.8 million of investments are restricted for specific activities of the SME Foundation, SME division activities and WAAIME scholarships.

Investment Income (Loss)

Thousands



AIME Awards

AIME Honorary Member	Drew A. Meyer
Frank F. Aplan Award	Chen-Luh Lin
Mineral Economics Award	Trevor R. Ellis
Mineral Industry Education Award	Rick Honaker
James Douglas Gold Medal	Michael Moats
Charles F. Rand Memorial Gold Medal	Gary J. Goldberg
Robert Earl McConnell Award	Nikhil Trivedi
Rossiter W. Raymond Award	Aaron Noble

SME Awards

Robert M. Dreyer Award	Robert W. Schafer
WAAIME Founder's Award	Jean Davin
SME Distinguished Member	Michael C. Korb
SME Distinguished Member	Robert P. Kudlawiec
SME Distinguished Member	Ronald L. Parratt
Outstanding Student Chapter	University of Arizona
President's Citation	Abani Samal
President's Citation	Douglas Scott Barr
President's Citation	Charles Fairhurst
Ivan B. Rahn Education Award	Michael McCarter
Robert H. Richards Award	Hans Von Michaelis
Past President's Plaque	John Mansanti

SME Foundation Awards

MEC Leadership Award	Melissa L.H. Martinie
MEC Organization Recognition Award	Michael Kass, Washington, D.C. Section
MEC Partnership Appreciation Award	Minerals Research Lab (MRL)
MEC Student Chapter Award	Colorado School of Mines
Syd S. Peng Ground Control in Mining Award	Jiachen Wang
Excellence in Prospecting Award	John Marsden

SME Division Award Recipients

Coal & Energy Division Awards

Coal & Energy Division Distinguished Service Award ····· Robert Murray
 Erskine Ramsay Medal ····· J. Steven Gardner
 Stefanko Best Paper Award ····· Kevin Dill and Scott D. Rosenthal
 J.W. Woomer Young Engineer Award ····· Jacob Carr
 Coal & Energy Division Past Chair Award ····· Robert Kudlawiec

Environmental Division Awards

Environmental Division Distinguished Service Award ····· Casey McKeon
 Environmental Stewardship ····· Virginia T. McLemore
 Environmental Division Past Chair Award ····· Patrick Gorman

Health & Safety Division Awards

Individual Excellence ····· Jeffery Kohler
 Operational Excellence ····· NIOSH Dust and Toxic Substances Branch
 Health & Safety Division Past Chair ····· Thomas Hethmon

Industrial Minerals & Aggregates Division Awards

Industrial Minerals & Aggregates Distinguished Service Award ····· Abani R. Samal
 Industrial Minerals & Aggregates Division Young Scientist Award ····· Nikhil Gupta
 Industrial Minerals & Aggregates Division Past Chair ····· Jerry Gaunt

Mineral & Metallurgical Processing Division Awards

Antoine M. Gaudin Award ····· Kevin Galvin
 MPD Outstanding Young Engineer ····· Aaron Noble
 Arthur F. Taggart Award ····· Sevket Acar
 Milton E. Wadsworth Award ····· Chris Fleming
 Mineral & Metallurgical Processing Division Past Chair ····· Michael Moats

Mining & Exploration Division Awards

Ben F. Dickerson Award ····· Douglas B. Silver
 Mining & Exploration Division Distinguished Service Award ····· Catherine Joyner
 Daniel C. Jackling Award ····· Samuel Frimpong
 Mining & Exploration Division Outstanding Young Professional Award ····· Jenessa Haarala
 Robert M. Peele Memorial Award ····· Tyler Artz
 Miner of the Year ····· Kurt W. Keskimaki
 Rock Mechanics ····· Bruce K. Hebblewhite
 William L. Saunders Gold Medal ····· John Wiebmer
 M&E Division Past Chair ····· James Humphrey

WAAIME Division Awards

WAAIME Founders Day Award ····· Winnell Burt

Coal & Energy Division Scholarships**Sam Baker***Penn State***Benjamin Butcher***SIU Carbondale***Saurabh Chaturvedi***Indian Institute of Technology***Austin Davis***Montana Tech***Andrew Gabrysiak***New Mexico Tech***Daniel McManus***SIU Carbondale***Austin Swiney***University of Kentucky***Denny Tian***University of British Columbia***Brooklyn Yonks***University of Kentucky***John Sidney Marshall Memorial Scholarships (AIME/C&E Division)****Batjargal Altangerel***SIU Carbondale***Kunal Bohra***Indian Institute of Technology***Shubham Choudhary***Indian Institute of Technology***Robert H. Congleton***University of Kentucky***Branden Fraser***Montana Tech***Rajeev Ranjan Gupta***Indian Institute of Technology***Abhijeet Kumar***Indian Institute of Technology***Johnathan Oldham***University of Kentucky***Piyush Pratik***Indian Institute of Technology***Kristopher Schaff***Montana Tech***Pritnam Kumar Sinha***Indian Institute of Technology***Environmental Division Scholarships****Franciszka Stopa***New Mexico Institute of Mining and Tech***Camilo Huneus***Yale***Sallie Gaillard***Virginia Tech***Brody Rastall***University of Arizona***Veolia Water Solutions and Technologies Scholarship****Heather Lammers***Colorado School of Mines***WSP Scholarship****Martin Ciloniz***Colorado School of Mines***Industrial Minerals & Aggregates Division Scholarship****Gerald V. Henderson Memorial****Caroline Dziak***Missouri Tech***Mineral & Metallurgical Processing Division Scholarships****Adewale Adeniji***West Virginia University***Alyssa Gebhart***South Dakota Tech***Kaiwu Huang***Virginia Tech***Vaibhav Srivastava***University of Alaska Fairbanks***Xinbo Yang***University of Kentucky***Richard Klimpel Memorial****Louis Akainya-Ackah***SIU Carbondale***Mining & Exploration Division Scholarships****Caitlin Darnall***Missouri S&T***Joe Mersinger***University of Kentucky***Breanna Sanders***University of Utah***Eugene Pfeleider Memorial****Bobbi Strange***South Dakota Tech***Steven C. Potter****Jeffrey Hrcir***University of New Mexico***Henry DeWitt Smith (AIME/M&E Division)****Solomon Owusu***Colorado School of Mines***Stewart R. Wallace Memorial Scholarship****John Asafo-Akowuah***New Mexico Tech*

2017 SME Foundation Scholarship Recipients

J.H. Fletcher & Co. Scholarship
Caroline Dziak
Missouri Tech

McIntosh Engineering Scholarship
Zoe Scopa
Virginia Tech

Caitin Darnall
Missouri Tech

MMSA/SMEF Presidential Scholarship
Rahel Dean-Pelikan
South Dakota School of Mines

Line-Audrey Nkule Sonkeng
West Virginia University

**Syd S. and Felicia F. Peng Ground
Control in Mining Scholarship**
Sid Agrawal
Penn State

Prasoon Garg
West Virginia University

Christopher Newman
University of Kentucky

Gemechu B. Turi
South Dakota School of Mines

Yuting Xue
West Virginia University

**Ernest K. Lehmann Memorial
Scholarship**
Melanie Zondag
Michigan Tech

WAAIME Division Scholarships are listed on page 23

SME Foundation

(Continued from page 25)

scholarships:

- MMSA/SMEF Past Presidential Scholarship, which focuses on any aspect of the extractive minerals industry.
- Syd S. and Felicia F. Peng Ground Control in Mining Scholarship, which encourages the development of ground control engineers.
- Ernest K. Lehmann Memorial Scholarship, which specifically targets students studying geology or geological sciences.
- McIntosh Engineering Scholarship supports underground mining students.
- J.H. Fletcher & Co. Scholarship seeks students who apply technology to improve safety and productivity in underground mining.
- George V. Weisdack Memorial Scholarship is awarded annually to a student pursuing an undergraduate degree in mining engineering, mineral engineering and mineral, ore and coal processing.

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Your gifts have made a difference. Therefore, I ask for your continued financial support of one or more Foundation programs in the year ahead to help strengthen and enhance our industry for the next generation. Thank you,

Bill A. Hancock

2017-2019 SME Foundation President





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