

# 2018

*Annual Report*

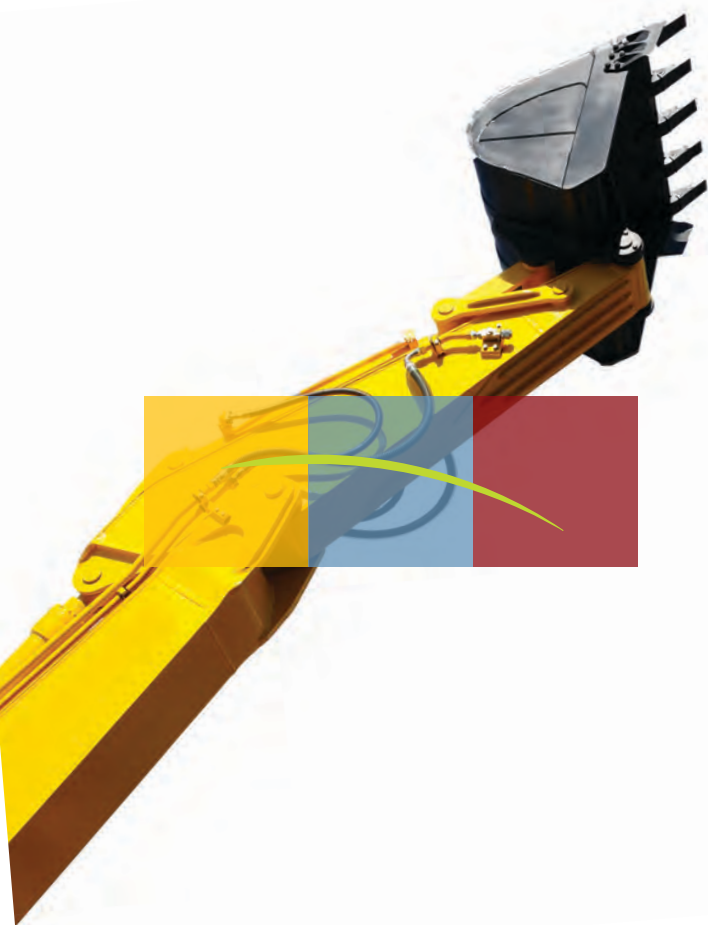


# 2018

## *Annual Report*

## *Contents*

2	Report from the SME President	17	SME Books
3	Report from the SME Executive Director	18	Social Media/Communications
4	SME Board of Directors	19	Coal & Energy Division
5	Strategic Committees	19	Environmental Division
6	Government & Public Affairs	20	Health & Safety Division
7	Membership	20	Industrial Minerals & Aggregates Division
9	Legion of Honor Members	21	Mineral & Metallurgical Processing Division
10	Local Sections	21	Mining & Exploration Division
11	Student Chapters	22	Underground Construction Association of SME Division
12	25-Year Members	23	WAAIME Division
13	Meetings	24	Report from the SME Foundation President
15	Publications	24	SME Foundation
		26	Minerals Education Coalition
		28	Professional Engineers Exam
		29	Certified Mine Safety Professional Certification
		30	ABET
		31	Financials
		33	SME/AIME Awards
		35	SME Scholarships



**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





**Barbara Arnold**  
2018 SME President

**D**uring 2018, we focused on our vision: to be the premier resource & advocate for the mining community and our core values: innovation, professional excellence and member first, coming full circle to our strategic plan. Our inaugural THRIVE conference focused on innovation in mining, mineral processing and safety, in conjunction with our midyear meeting in Pittsburgh, PA in September. This will become an annual event that the SME president will lead. We selected the inaugural Robert E. Murray Innovation award and scholarship, which will be presented at the 2019 Annual Conference & Expo. And our 2019 (ACE) focuses on Smart Mining — we're all about innovation. Don't just survive — THRIVE!

To expand on our offerings related to professional excellence, we launched the Certified Mine Safety Professional (CMSP) exam that recognizes professional excellence in safety. I'll recognize the contributions of Thomas A. Hethmon and Bruce E. Huber with Presidential Citations for their dedication and tireless efforts in establishing the CMSP certification within the Society and their devotion to promoting health and safety in the mining industry and beyond. The CMSP builds on our successful Registered Member program and our work in producing the Professional Engineering exam in mining and mineral processing. Both of these programs continue to recognize professional excellence.

We try to keep our members first and seek to develop new member benefits. We launched a new, top class, all-inclusive journal, *Mining, Metallurgy & Exploration*, that will be the best member benefit since onemine.org. *MME* expands on the successful *Minerals & Metallurgical Processing Journal* to reach all disciplines within the Society. It is being offered through Springer, and members will have free access to the journal online and can download free pdf-versions of the articles. Expanded abstracts of the articles will also be found in *Mining Engineering*. Being on the Springer platform will offer our authors a greatly expanded audience. We look forward to contributions of papers from all of our members. In addition, I want to thank the hard-working editorial committee and the many peer reviewers who are in place. I'll recognize Chee Theng and Mary Poulton with Presidential Citations for their efforts in implementing this journal that was just a tiny glimmer in my mind only two short years ago.

We also recognize that our website is our face

to the world and an important resource for our members. However, we realized that it is lacking. A web study was launched in fall 2018 and the results will be presented to our Board of Directors at the 2019 ACE. We expect to be making a significant investment in our website in 2019 to enable us to be a better "resource and advocate." Stay tuned.

With this website facelift, we hope to be a better resource to our ever-expanding international membership. In 2018, we added new international student chapters in Kazakhstan, Arequipa and Lima, Peru, and Ecuador and a local section in India. We also welcomed a new student chapter at the University of Texas and a new MPD subsection in Nevada. Our student chapters and local sections are our rocks. We increased funding to our section grant program significantly in 2018. Not everyone can attend ACE and we know that these chapters and sections offer outstanding programs and services that many of our members can access.

The SME Foundation has continued its Ph.D. fellowship and Career Grant program. We are about half way through the process of selecting recipients and not quite half way for funding the entire program. Individual and corporate donations to this program must continue so that we can keep our academic programs strong into the future. The SME Foundation also funds the Mining in Society Merit badge efforts. They plan to attend the World Scout Jamboree 2019 and need support to provide materials for the booth. Your attendance and help with the booth would also be greatly appreciated.

So full circle back to the Strategic Plan. SME updates its Strategic Plan every five years, and we will convene focus groups and hold telephone interviews this spring with key constituents and meet to develop the next plan in summer 2019. We look forward to reviewing our goals and objectives and setting a clear focus for the next five years.

It has been my pleasure to serve as 2018 SME President. These are interesting times, as the mining industry cycles up and down ever again. Know that your professional society is in good and capable hands with our outstanding staff and many volunteers who serve SME locally and nationally. As you will see within the pages of this Annual Report, we are financially sound and continue to keep the organization on firm ground. We hope to be worthy of your continuing membership.

**S**ME members are extraordinary people, and SME is an extraordinary organization that works every day to provide education, networking and technology transfer for all of its members. One of the key areas of work for the Society during the past decade has been to promote partnerships with other organizations in the mining community . . . and I dare say partnerships have been one of the key elements to the Society's success in that same time period. I want to share a few examples of SME's partnerships over the past year along with a few special programs that have improved the value of membership for our members, our industry and our profession.

OneMine.org is administered by SME and is made up of 14 participating organizations all of which contribute to the large database of documents that makes OneMine.org the incredible resource that it is today.

Every other year since 2007, in conjunction with SME's Annual Conference & Expo in Denver, SME has joined forces with the Colorado Mining Association (CMA) to offer the benefits of a joint meeting to members and industry alike.

The Global Mineral Professionals Alliance (GMPA) includes mining societies from South Africa, Australia, Canada, Peru and the United Kingdom. This group shares data and creates the opportunity for our organizations to discuss programs that will benefit the members of all of the organizations.

This past year, two of SME's eight Divisions held events that were new or included activities that were new during 2018. It is activities like the ones described below that stretch the organization, enabling SME to provide more value to members and enhance the good work of the organization.

In the process of forming good partnership programs, SME's Mineral & Metallurgical Processing Division (MPD) offered a new program in collaboration with The Minerals, Metals, and Materials Society (TMS) and the Metallurgy and Materials Society of CIM (MetSoc) in Ottawa, Canada. The three groups sponsored Extraction 2018, a conference and exhibit program that featured mining processing technologies including hydrometallurgy, pyrometallurgy, sulfide flotation and extractive metallurgy markets and economics. The MPD Executive Committee members deserve special recognition for their efforts in working with the other organizations and presenting a successful event that included more than 330 oral presentations, 77 technical sessions, 55 posters, more than 40 exhibi-

tors, a host of sponsors and several great networking opportunities. I've attended a lot of programs in my career, and I will say that this was one of the best events, because the attendees all recognized the value of bringing the metallurgical professions together from all three groups and the value that a common meeting can have for the industry.

The North America Tunneling (NAT) Conference was also held in 2018. This event was developed by the Underground Construction Association of SME (UCA) and has been an ongoing program since the acquisition of UCA. The event consisted of a record number of attendees, exhibitors and technical sessions. Along with a number of networking sessions, the UCA Division also offered two very unique and new programs.

The first, a "Teach the Professors" program, invited 10 civil engineering professors to learn about underground construction. A workshop was held on the front and back end of the NAT program and curriculum ideas were developed that can be used in their classrooms back at their individual universities. This was an excellent program to help professors to begin to encourage young professionals/students to seek careers in the underground construction business. The second program that was implemented was a conference scholarship program. Fifty students were selected to attend the event, learn about the industry and determine which opportunities might be offered to them upon graduation in the field of underground construction. The opportunities in underground construction are tremendous with the need for geotechs, mining engineers with ventilation experience, civil engineers, mechanical engineers and many more technical areas. They were provided with a complimentary student registration to the conference and a \$1,000 scholarship to help with travel expenses.

The year culminated in December with the Arizona Conference's "Developing Diversity and Inclusion Programs in the Mining Industry" workshop. It featured industry partners, academia and other organizations. The workshop highlighted the changing demographics of mining and addressed critical issues on how to get started, how to measure and evaluate programs, and how to maintain the momentum.

SME is a changing organization and doing more today than ever before for its members and professionals in the mining and underground construction communities. I am certain that 2019 will bring continuing success for the Society and its partners with unique new collaborations and relevant programs.



**David L. Kanagy, CAE**  
SME Executive Director



## 2018 SME Board of Directors



**Barbara J. Arnold**

*2018 SME President  
Prep Tech Inc.*



**Hugh B. Miller**

*SME President-Elect  
Colorado School of  
Mines*



**John G. Mansanti**

*SME Past President  
Crystal Peak  
Minerals*



**David L. Kanagy**

*Secretary  
and Treasurer  
SME*



**Robert V. Washnock**

*Director  
FLSmith*



**Michael T. Myers**

*Director  
ABB*



**Ronald L. Parratt**

*Director  
Renaissance  
Exploration Inc.*



**Mary M. Poulton**

*Director  
University of Arizona*



**Rick Honaker**

*Director  
University of  
Kentucky*



**David W. Rogstad**

*Director  
Frontier Kemper*



**Robert Schafer**

*2020 SME  
President Designate  
Eagle Mines  
Management, LLC*



**Tim J. Swendseid**

*Incoming Director  
CMOC International*



**Robert P. Kudlawiec**

*Incoming Director  
Earthtech Inc.*



### Nominating

**Barbara J. Arnold**

*Chair, SME President, Prep Tech Inc.*

**Hugh B. Miller**

*SME President-Elect, Colorado School of Mines*

**Matt Blattman**

*Blattman Brothers Consulting, LLC*

**Patrick Gorman**

*AECOM*

**Michael Moats**

*Missouri University of Science & Technology*

**Ronald Parratt**

*Renaissance Exploration Inc.*

**Mary Poulton**

*University of Arizona*

**D. Erik Spiller**

*Colorado School of Mines*

### Structure and Governance

**Rick Honaker**

*Chair, University of Kentucky*

**Joseph Driscoll**

*Environmental Resource Management*

**Donald C. Dwyer**

*Barrick Goldstrike Mines*

**Michael Moats**

*Missouri University of Science & Technology*

**Ryan Murray**

*Murray Energy Corp*

**Jayson Ripke**

*Midrex Technologies*

**Cory Stevens**

*Freeport-McMoRan*

### Outreach

**Robert Washnock**

*Chair, FLSmidth*

**Liz Arnold**

*Environmental Community Outreach*

**Charles Beasley**

*Perry Supply Inc.*

**Gregory Beckstrom**

*Consultant*

**James D. Humphrey**

*Retired*

**Angie Harmon**

*Freeport-McMoRan*

**Xavier Ochoa**

*McEwen Mining*

### Products and Services

**Michael T. Myers**

*Chair, ABB*

**Claudio Cossio**

*Stantec Mining*

**Brett Rabe**

*Mr. Crane Inc.*

**Steven Richards**

*Carlson Software*

**Abani Samal**

*GeoGlobal*

**Madan Singh**

*U.S. Geological Survey*

**Genevieve Sutton**

*Doe Run*

### Education and Professional Development

**Mary M. Poulton**

*Chair, University of Arizona*

**William Crowl**

*Crowl Consultants*

**Vladislav Kecojevic**

*West Virginia University*

**Barry E. Martin**

*Colorado School of Mines*

**Aaron Noble**

*Virginia Tech*

**Thomas Camm**

*Montana Tech*

**Richard A. Wagner**

*Department of Environmental Protection*

### Finance

**Ronald Parratt**

*Chair, Renaissance Exploration Inc.*

**Tim Alch**

*TAA Advisory LLC*

**Justin Anderson**

*Resource Capital Funds*

**Jonathan Beigle**

*Certified Financial Analyst*

**Richard Diaz**

*Minemax*

**Samuel Shoemaker, Jr.**

*John T. Boyd Company*

**Charles Yarbrough**

*Tetra Tech*

The Government and Public Affairs Committee (GPAC) viewed the past year as a pivotal time for the committee. Changes within the Society and in United States politics spurred GPAC members to reassess the methods by which the committee implements its efforts to raise awareness of SME as a fact-based, nonpartisan, definitive technical mining resource to regulatory agencies, members of Congress and their staff, industry associations and mining industry companies. In particular, the need to identify uses for SME technical information beyond SME staff and leadership use of technical briefing papers on Capitol Hill was recognized.

## GPAC outreach

GPAC commenced an organized effort to identify people and organizations that could benefit from having technical information provided by SME, either in the form of a technical briefing paper or technical comment letter. The outreach is also intended to gather information regarding timely topics for new briefing papers. A key component to implementing this effort was designating GPAC members to serve as contacts with three industry trade associations: National Mining Association, American Exploration & Mining Association and the Industrial Minerals Association.

These designated GPAC members are responsible for reaching out to their contact association on a regular basis to inquire about timely topics that could be the basis for a technical paper, and if the association has any specific needs, such as factual technical information to use in their lobbying activities. Information gathered from the trade associations is reported to the GPAC during monthly conference calls. Considering there was relatively little legislative activity that could be adverse to the industry during the year, no new issues were identified. However, solid communication lines between GPAC and these organizations have been established. Outreach to other organizations was also conducted on an individual basis by other committee members who encountered the opportunity.

GPAC is also responsive to outside requests, and in response to a request from Energy Fuels to SME President Barbara Arnold, developed comments that SME provided to the Secretary of Commerce to consider in the investigation on the effects to national security from uranium imports.

## Technical papers

GPAC has 17 technical briefings available online. Because the information in a number of these papers is aging, the 2018 focus was on the methodical review and updating of existing papers. The current status is:

- One paper has been updated and is awaiting publication on the SME website.
- Four papers are in the process of being updated and are expected to be ready in the first quarter of 2019.
- 10 papers require information updates from the most recent government data reports, with specific data needing updates and the new data sources identified.
- Two papers require no update.
- One paper was under development at the end of 2018.

A new paper on Modern Mining is currently under development and is expected to be complete and ready for publication on the SME website during the second quarter of 2019.

GPAC continues to struggle with finding resources with the appropriate subject matter knowledge and adequate availability to work on the briefing papers. A decision was reached to request help from the SME Divisions that are most closely related to the topic of each paper. This approach successfully resulted in completing the update of the health and safety briefing paper, and the uranium comment letter.

## Congressional Fellowship Program

Due to pressures on the global mining community and on the Society, SME continues suspension of the Congressional Fellowship program through 2020. It is hopeful that the program can be reinstated in the coming years to continue the valuable work of having a mining industry professional on Capitol Hill who can offer his or her services to Congressional Committees and individual offices. In preparation for that time, GPAC continues to discuss what changes could be made to the program to open opportunity to more of the SME membership.



In 2018, SME's membership program focused on a wide range of activities to support the Society. Some of the highlights from year included the creation of eight new student chapters including two international chapters (India and Columbia). The membership program also conducted a SME Member Satisfaction Study in 2018.

## Membership outreach

Recruitment and retention of members was also a focus. These efforts involve a number of tactics, including:

### Creating awareness

- SME exhibited at 13 events in 2018 to promote membership along with other products and services.

### Successful recruitment & retention offers

- Reaching out to former members as part of the 2018 renewal campaign.
- Outreach to health and safety professionals in conjunction with the Certified Mine Safety Professional (CMSP) certification.
- A 90-day trial membership was tested at Extraction as a way to collect leads at tradeshow. Conversion of trial members to paid members

will be analyzed in 2019.

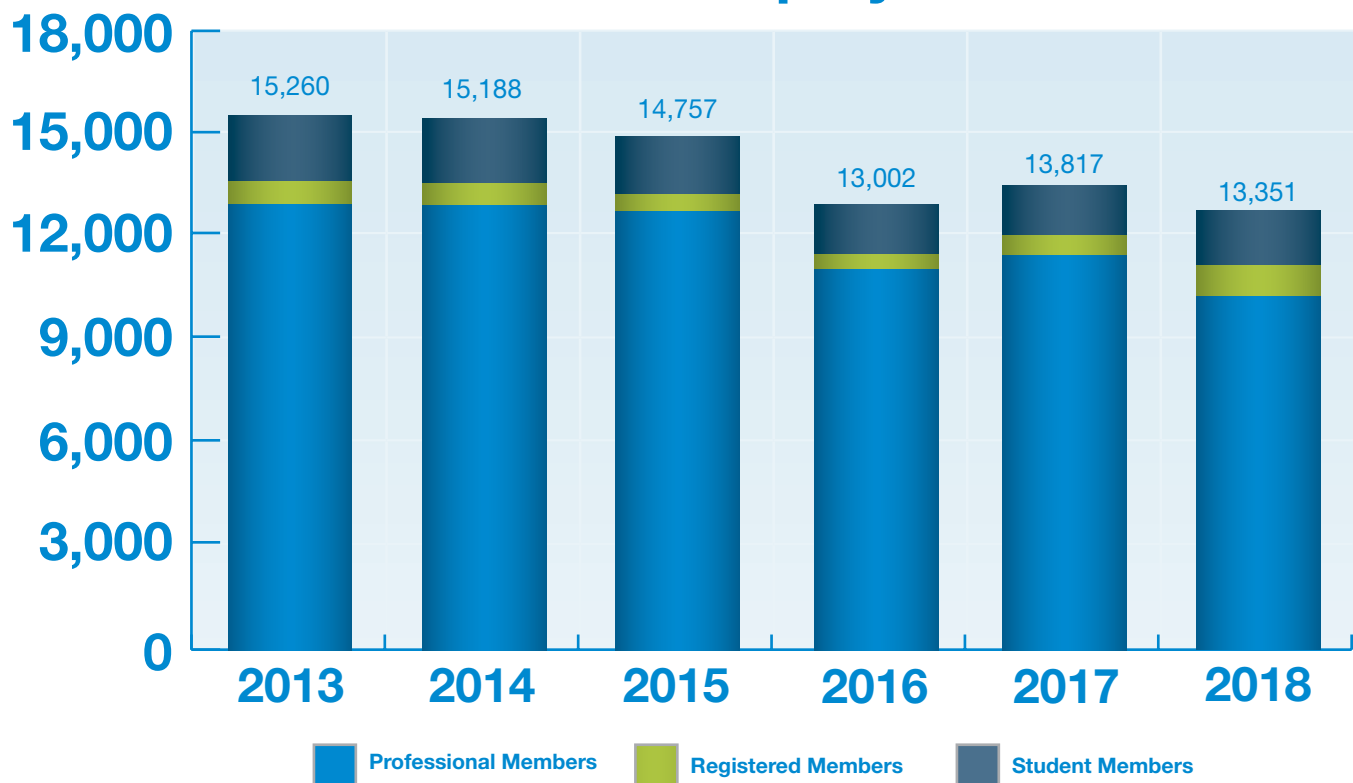
- Bundling membership with nonmember conference registrations.
- Reaching out to UCA event sponsors with a corporate/sustaining membership pitch.

## International Membership Development

SME has completed a cost analysis to help leaders and staff understand what membership benefits cost for both domestic and international members. The following are updates on other international growth efforts:

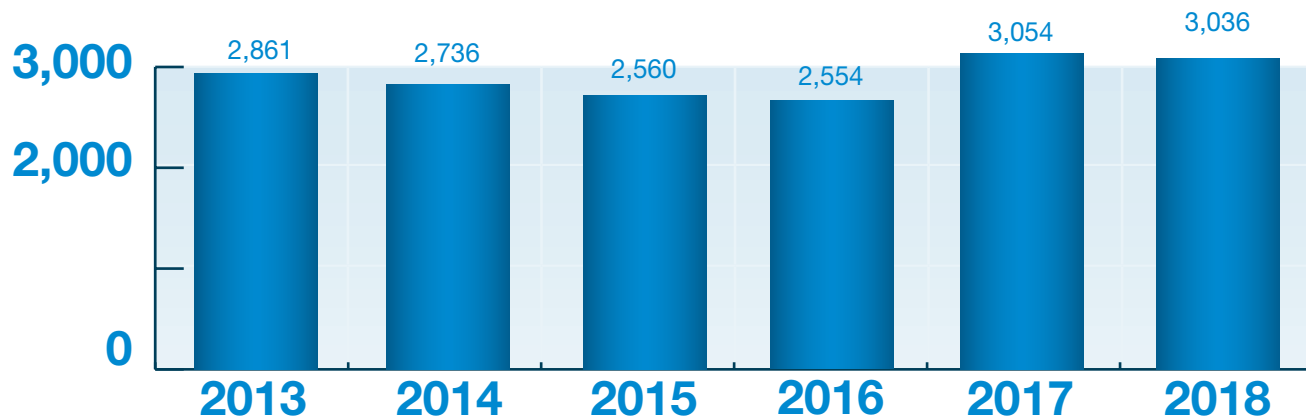
- With the assistance of EnginZone, SME launched a new Section in Colombia.
- SME intends to grow Professional Membership in South America, leveraging association management resources provided through EnginZone.
- With the launch of the SME India Section, SME will work with local Section leaders to build a Section experience and growth plan.
- The Association Membership offered through a partnership with the Mining Engineers' Association of India (MEAI) now has 331 participants.

## Membership by Grade

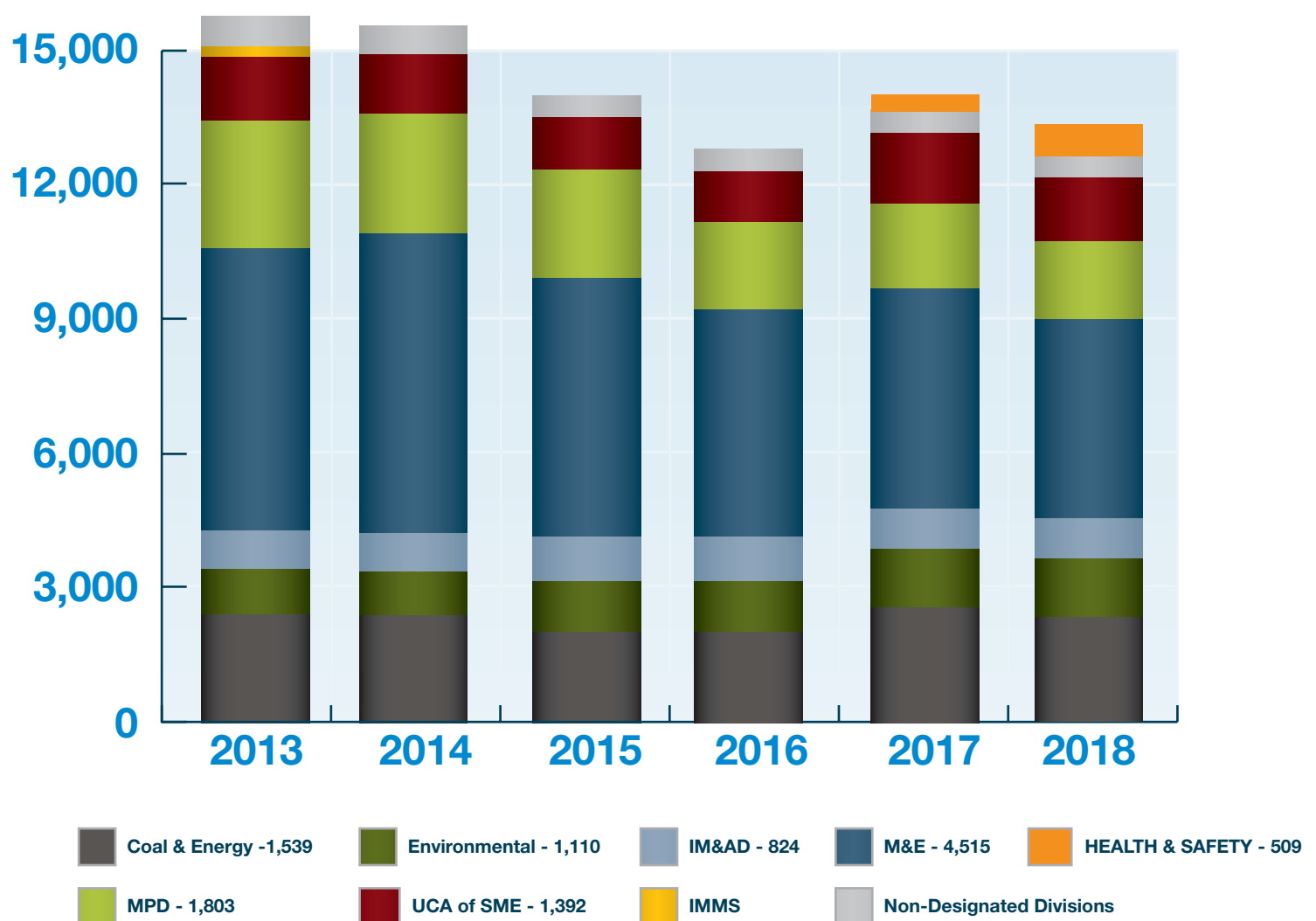




## International Members



## Membership by Division



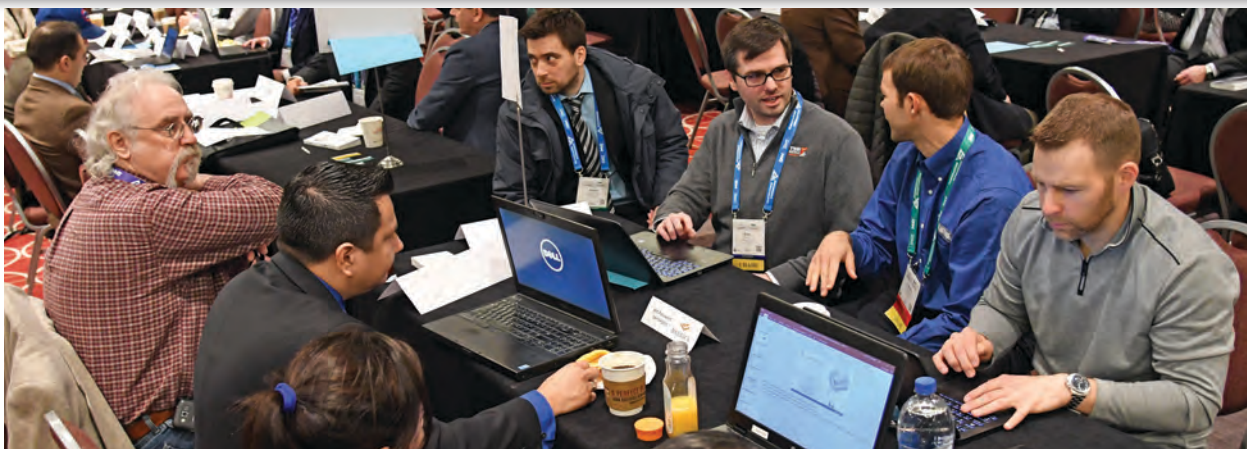
## Legion of Honor Members

*SME members who reached 50 years of membership in 2018*

David Abbott, Denver, CO  
Murray Aitken, Mercer Island, WA  
Bentley Badgett, Madisonville, KY  
William Beck, Coulterville, IL  
Curtis Belden, Edinburg, TX  
David Bennett, Bolivar, OH  
William Blackburn, Richmond, VA  
Richard Bowen, Las Vegas, NV  
James W. Boyd, Canonsburg, PA  
William Brice, Shoreview, MN  
John Callahan, Boone, NC  
Christopher Candee, Ouray, CO  
Stephen Collings, Morrison, CO  
Bruce Collins, Silt, CO  
Charles Cowie, Ridgcrest, CA  
Thomas Cushman, Daniels, WV  
Robert Cuttriss, Nanaimo, BC, Canada  
R. Gene Dewey, Rancho Palos Verdes, CA  
John Ellis, Spring Creek, NV  
William Everett, Nashwauk, MN  
Thomas Faddies, Provo, UT  
John Feddock, Lexington, KY  
William Fincher, Carlsbad, NM  
Craig Garrett, Lone Tree, CO  
Charles Goehring, Tucson, AZ  
Thomas Golden, Galena, IL  
James Graham, Parker, CO  
Michael Greeley, Fairfax, VA  
Ross Grunwald, Jamestown, CA  
David Hackman, Tucson, AZ  
Howard Harlan, Tucson, AZ

Stuart Havenstrite, Sandy, UT  
Robin Hendrickson, Sparks, NV  
James Hewitson, Orem, UT  
Phillip Howard, Emmett, ID  
Larry Jaycox, Pueblo, CO  
Allan Johnson, Houghton, MI  
William Kazel, Idaho Springs, CO  
Robert Kilborn, Buena Vista, CO  
David Kincaid, New York, NY  
Dennis Lapoint, Chapel Hill, NC  
Kenneth Larsen, Sandy, UT  
John Lawlor, Milton, MA  
Bruce Lindeke, Boulder, CO  
Fausto Loli, Maracaibo, Venezuela  
Jay Mackie, Ely, MN  
Charles McLean, Penn Valley, CA  
Peter Merritts, Greensburg, PA  
Robert E. Murray, Saint Clairsville, OH  
David Nicholas, Tucson, AZ  
Peter Nielsen, Aurora, CO  
Harold Noyes, Golden, CO  
Patrick O'Hara, Prescott, AZ  
Bhupendra Parekh, Lexington, KY  
Gregory Patterson, Charleston, WV  
Alexander Paul, Woodland Park, CO  
William Pennell, Reno, NV  
Stephen Peters, Reno, NV  
Paul Pierce, Albuquerque, NM  
John Pollard, Miramar, FL  
Jeffrey Reid, Raleigh, NC  
Michael Richardson, Denver, CO

Raymond Richardson, Elizabeth, CO  
William Rogers, Maud, TX  
David Rust, Wallace, ID  
Richard Saccany, Englewood, CO  
Randolph Schneider, Wellington, CO  
David Shaddrick, Reno, NV  
Rohini Sharma, Chandler, AZ  
Nicholas Skorski, Golden, CO  
Robert Smith, Mechanicsburg, PA  
William K. Smith, Arvada, CO  
Julio Solano, Saez, Lima, Peru  
Matthew Spedding, Cranberry Township, PA  
Roger Steininger, Reno, NV  
David Summers, Rolla, MO  
Johnnie Taylor, Reno, NV  
Charles Tesch, Pine, Haven, WY  
Pramod Thakur, Morgantown, WV  
Jack Thompson, Danville, CA  
Edwin Via, Richmond, VA  
Robert Wade, Grand Junction, CO  
Philip Wadley, Bega, NSW, Australia  
Richard Walters, Spokane, WA  
Kenneth Wanstrath, Batesville, IN  
Frederik Warnaars, Littleton, CO  
David Weiss, Salem, MO  
Carl Welch, Reno, NV  
David Wells, Norfolk, United Kingdom  
Stephen Winkelmann, Tucson, AZ  
Kenneth Woodruff, Morrisville, PA  
Allan Young, Boise, ID







There are currently 47 local SME Sections, four of which are outside of the United States (Peru, Mexico, Colombia and India). In 2018, three sections were added, they are:

- Colombia, South America Section
- India SME Section (meeting in Dhanbad)
- Nevada MPD Subsection

### Henry Krumb Lecture Series

The 2017 – 2018 Krumb Lecture Series offered 19 lecturers to conduct presentations to the mining industry through local SME Sections. SME helps bring outstanding speakers to Sections through the Henry Krumb Lecture Series. The program is offered to SME local Sections to enhance their appreciation of important new methods and technologies.

### SME Section Grants

SME awarded \$34,123 to 11 SME Sections in July 2018 to support local professional development and outreach projects. SME Section Grants support SME Section activities, and by extension, the industry.

SME offers Community groups to Section officers to communicate with SME members within their geographic area and as a repository for Section documents (Table 1). Learn more at <http://community.smenet.org/home>.

SME provides resources for Section officers to succeed, including trainings, templates and instructions (Table 2).

2018 Section Survey shows improvement in the relationship between SME and local SME Sections, but opportunities for enhancement still exist.

**Table 1: SME Section community discussion activity**

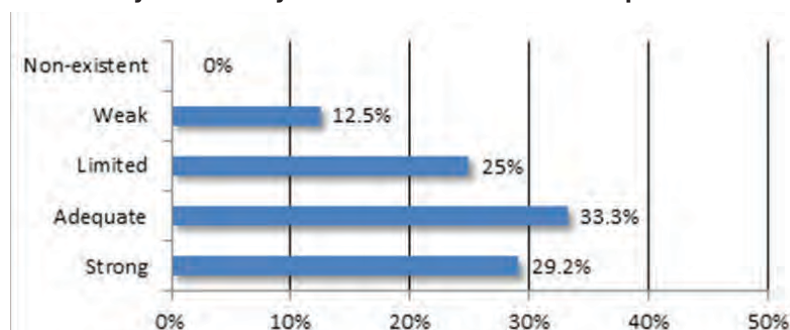
	2017	2018
<b>Section communities</b>	<b>97</b>	<b>103</b>
<b>Total discussion posts</b>	<b>251</b>	<b>329</b>

**Table 2: SME Section leader resources**

	2017	2018	Totals
<b># resources added</b>	<b>10</b>	<b>53</b>	<b>63</b>
<b># views</b>	<b>60</b>	<b>269</b>	<b>329</b>
<b># downloads</b>	<b>88</b>	<b>154</b>	<b>242</b>

**Figure 1**

How would you describe your section's current relationship with SME?



**S**ME 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.

## 2018 Student Chapter Membership Challenge

The 2018 SME Student Chapter Fall Membership challenge was considered a success. Student chapters recruited 489 new student members and 480 students renewed membership in 2018. Six student chapters Indian Institute of Technology (ISM), Universidad Nacional De Moquegua, Universidad Nacional de San Agustin, Universidad Nacional Mayor De San Marcos, Universidad Pedagogica Y Tecnologica De Colombia and University of Nevada-Reno earned a bonus for

recruiting more than 25 new members.

## New Chapters

Eight new chapters were added to SME in 2018 to bring the total to 80. The new chapters are Universidad Alas Peruanas, Indian Institute of Technology (IEST), Universidad Católica de Santa María, Nazarbayev University in Astana City, Kabanbay, Republic of Kazakhstan, Universidad Tecnológica del Perú, Universidad Central del Ecuador, Universidad Peruana de Ciencias Aplicadas-UPC and University of Texas, El Paso, Texas.

## Outstanding student chapter contest

**Winner:** Indian Institute of Technology (ISM)

**First Runner-up:** Universidad Nacional De Moquegua

**Second Runner-up:** Universidad Nacional de San Agustin

**Third Runner-up:** Universidad Nacional Mayor De San Marcos

## SME Student Chapters

China Univ of Mining & Tech (CUMT)  
Colorado School of Mines  
Colorado School of Mines UCA  
Delft Univ of Technology  
Escuela Superior Politecnica Del Litoral  
Indian Inst of Engineering Science & Tech-Shibpur (IEST)  
Indian Institute of Technology (BHU)  
Indian Institute of Technology (ISM) \*  
Indian Institute of Technology  
Laval University  
Mehran University of Engineering & Technology  
Michigan Tech University  
Middle East Technical University  
Missouri University of Science & Technology  
Minnesota State University-Iron Range Engineering  
Montana Tech  
Nazarbayev University \*  
New Mexico Institute of Mining and Technology  
National University of Apurimac Micaela Bastidas  
Pennsylvania State University  
Pontificia Univ Catolica De Chile  
Pontificia Univ Catolica Del Peru  
Queens University  
South Dakota School of Mines & Technolgy  
Southern Illinois University  
Suez University  
Technische Universitaet Clausthal (Minex)  
Tehran Polytechnic University  
Universidad Alas Peruanas-Arequipa (UAP) \*  
Universidad Autonoma De Chihuahua  
Universidad Catolica De Santa Maria \*  
Universidad Central Del Ecuador \*  
Universidad Cesar Vallejo  
Universidad De Chile

Universidad De Oviedo  
Universidad Del Azuay  
Universidad Federal Do Rio Grande Sul  
Universidad Nacional De Colombia  
Universidad Nacional De San Agustin De Arequipa  
Universidad Nacional De San Antonio Abad Del Cusco  
Universidad Nacional Mayor De San Marcos  
Universidad Pedagogica Y Tecnologica De Colombia (UPTC)  
Universidad Peruana De Ciencias Aplicadas-UPC \*  
Universidad Nacional De Altiplano  
Universidad Nacional De Ingenieria  
Universidad Nacional De Moquegua  
Universidad Nacional De Piura  
Universidad Nacional De Trujillo  
Universidad Nacional Del Centro Del Peru  
Universidad Nacional Jorge Basadre Grohmann Officers  
Universidad Nacional Santiago Antunez De Mayolo  
Universidad Tecnologica Del Peru \*  
University of Alaska  
University of Arizona  
University of British Columbia  
University of Kentucky  
University of Minnesota Duluth  
University of Minnesota  
University of Nevada-Reno  
University of New South Wales  
University of Petroleum Energy  
University of Texas-El Paso (UTEP) \*  
University of Utah  
Virginia Polytech Inst & State University  
West Virginia University

\* Chapter added in 2018



## Membership 25-yearMembers

James Almaas, Gilbert, AZ  
M. Nelson Anderson, Las Vegas, NV  
Paul Axelrod, Scottsdale, AZ  
Darcey Baker, Rapid City, SD  
R. Douglas Bartlett, Scottsdale, AZ  
Michael Battersby, Cardiff, United Kingdom  
Stephen Blaskovich, Clancy, MT  
Charles Bolin, Elko, NV  
Sandro Borghesi, Niagara Falls, ON, Canada  
Christian Breckenridge, Coraopolis, PA  
John Bullock, Charleston, WV  
Robert Buto, West Valley City, UT  
Barry Carlson, Fort Collins, CO  
Rodney Chase, Boise, ID  
Gang Chen, Fairbanks, AK  
Robert Clifford, Denver, CO  
Thomas Cochran, Durango, CO  
Jay Colinet, Irwin, PA  
Arnold Connelly, Washington, NJ  
Gregory Cornett, Henderson, KY  
Fred Crabill, Plant City, FL  
Roderick Davey, Salt Lake Cty, UT  
Peter DeSantis, El Paso, TX  
Steven Dischler, Sauk City, WI  
Donald Doe, Greenwood Village, CO  
Peter Dolph, Littleton, CO  
Anna Domitrovic, Tucson, AZ  
Arthur Durnan, Laramie, WY  
Wayne Erickson, Englewood, CO  
Joseph Farinelli, Billings, MT  
Pablo Fehlandt, Las Condes, Chile  
Sean Fleming, Chester, VA  
Richard Frechette, Greenwood Village, CO

Francisco Garcia, Oro Valley, AZ  
Jay Gendron, Gilbert, AZ  
Frederick Gomez, Casa Grande, AZ  
Robert Haecker, Juneau, AK  
Doug Halverson, Cloquet, MN  
Jerald Harris, Tucson, AZ  
Gary Hartsog, Beckley, WV  
Clifford Hawley, Kingsport, TN  
Alan Hernandez, Oro Valley, AZ  
Michael Hopkins, Houston, TX  
Carl Horecky, Golden, CO  
Thomas John, Reno, NV  
Michael Johnson, Old Fort, NC  
David Kashuba, Phoenix, AZ  
Todd Keay, Tucson, AZ  
Lauro Lacerda, Salt Lake City, UT  
David Lauder, Sherwood, QLD, Australia  
William Lehmbeck, Tucson, AZ  
Andrew Liffing, Apo, AP  
Luis Lozada, Lima, Peru  
William Maloney, Davidson, NC  
William Martinich, Yuma, AZ  
Patrick McCann, Helena, MT  
Thomas McGuire, Tyler, TX  
Edward Metz, Crawford, NE  
William Mitchell, Kelsey, CA  
William Moll, Crystal Lake, IL  
Moe Momayez, Tucson, AZ  
William Moreo, Richland, MI  
Richard Mullen, Birmingham, AL  
Patrick Okita, Arlington, VA  
Edward Orbock, Gardnerville, NV  
Jennifer Pakula, Snow Lake, MB, Canada  
Duane Peck, Valmy, NV

James Pentony, Greenwood Village, CO  
Mark Petersen, Toronto, ON, Canada  
Scott Peterson, Morgantown, WV  
David Pierce, Spring Creek, NV  
Aaron Poole, Greenwood Village, CO  
Marinus Pouls, Saarbruecken, Germany  
Brian Prosser, Clovis, CA  
Matthew Puderbaugh, Grants, NM  
Terry Rice, Kingman, AZ  
Scott Rielly, Pelham, NH  
Victor Romero, Auckland, New Zealand  
Charles Ross, Ely, NV  
Daniel Roy, Quebec, QC, Canada  
Shigeki Sakurai, Kyoto, Japan  
Donald Sanderson, Canonsburg, PA  
Scot Sandoval, Tucson, AZ  
Michael Sapko, Finleyville, PA  
Krishna Sinha, Salt Lake City, UT  
John Spencer, Vernal, UT  
David Sperling, Cortez, CO  
Karen Swager, Lithia, FL  
Joe Swan, Saint Louis, MO  
Karl Swanson, Larkspur, CO  
Dean Turner, Littleton, CO  
Danny Van Roosendaal, Morris Plains, NJ  
Peter VanDelinder, Hibbing, MN  
Rob VanDerWall, Crete, IL  
Qun Wang, Reno, NV  
Robert Way, Morristown, AZ  
Richard Williams, Salt Lake City, UT  
Denver Winslow, Libby, MT  
Courtney Young, Butte, MT  
Steven Young, Golden, CO  
Jinrong Zhang, Bartow, FL



### George A. Fox Conference

The 2018 George A. Fox Conference was held Jan. 23, 2018, at the City University of New York Graduate Center in New York, NY. There were a total of 378 attendees, 31 Gold Sponsors, three Silver Sponsors and two Bronze Sponsors.

### 2018 SME Annual Conference & Expo

The 2018 SME Annual Conference & Expo and 91st Annual Meeting of the SME-MN Section was held on Feb. 25-28, 2018, at the Minneapolis Convention Center in Minneapolis, MN. There were 5,083 attendees and 727 exhibit booths. Of the 5,083 attendees, there were 597 International attendees from 40 countries and 498 student attendees. The 2018 SME Annual Conference & Expo was sponsored by 54 companies.

Other events that were held in conjunction with the 2018 Annual Conference were:

- Seven short courses
- 121 technical sessions
- Move Mining Live competition
- Press & media room with exclusive live streamed presentations
- A two-day field trip to the Northern Minnesota Iron Range
- Curling funspiel social event
- Indoor Health & Safety Division 5K at US Bank Stadium
- Women of SME, WAAIME and WIM Breakfast

### North American Tunneling Conference

The North American Tunneling Conference 2018 was held June 24-27, at the Marriott Wardman Park in Washington, D.C. Drawing an attendance of more than 1,100 people, the event featured 175 exhibit booths and 25 sponsoring companies. The event featured networking opportunities, such as an offsite event for UCA Young Members and a Women in Tunneling event. The next NAT will be held in 2020 in Nashville, TN.

### International Conference on Ground Control in Mining

In its 37th year, the International Conference on Ground Control in mining was held at the Lakeview Resort in Morgantown, WV July 23-26, 2018. The ICGCM was attended by 175 professionals and was sponsored by six companies.

### Extraction 2018

SME partnered with the Metallurgy & Materials Society of the Canadian Institute for Mining, Metallurgy and Petroleum (MetSoc) and the Min-

erals, Metals & Materials Society (TMS) to host Extraction 2018. The event was held Aug. 26-29, 2018, in Ottawa, ON, Canada and had more than 830 attendees. The event had 43 exhibit booths and 17 sponsoring companies.

### SME THRIVE Conference and Midyear Meeting

New for 2018, SME hosted the THRIVE 2018 Innovations Advancing Mining Conference in Pittsburgh, PA. Held in conjunction with the SME Midyear Meeting, this one-day conference took place on September 27. Supported by 19 sponsoring companies, there were 179 attendees registered.

Following the THRIVE Conference, SME's leadership met for strategic sessions at the 2018 Midyear Meeting. In addition to Strategic Committee Meetings and Division Executive Committee Meetings, SME's leadership also enjoyed dinner on a Pittsburgh Three-Rivers Boat cruise.

### PE Review Course

SME held a multi-day Review Course for the Professional Engineer (PE) Examination of Mining/Mineral Processing Engineers Sept. 29 – Oct. 3, 2018. The event was held at the Sheraton Denver Hotel in Denver, CO. The review course attracted 48 attendees for several days of intense professional exam preparation.

### Florida Conference

SME managed the 32nd Annual FLSME Regional Mining Conference in Lakeland, FL on Oct. 3-4, 2018. The Conference, which attracted 438 attendees, featured two days of technical programming and multiple networking opportunities.

### Cutting Edge

The 2018 Cutting Edge Conference was held Oct. 29-31, 2018, at the Loews Atlanta Hotel in Atlanta, GA. The conference had 174 attendees and 29 companies that sponsored the event. In addition to sessions on advances in tunneling technology, the event featured a field trip to the City of Atlanta Water Supply Program site.

### SME Arizona Conference

The Arizona Conference was held Dec. 2-3, 2018, at the JW Marriott Starr Pass Resort in Tucson, AZ. Attended by 556 participants, the conference had 32 companies participate as sponsors or exhibitors. The 2018 event again featured a diversity workshop the day before technical sessions.



## 2018 Meetings



## 2019 SME Meetings

### **George A. Fox Conference**

Jan. 22, 2019, Graduate Center, City University of New York, NY

### **SME Annual Conference & Expo and CMA 121st National Western Mining Conference**

Feb. 24-27, 2019, Colorado Convention Center, Denver, CO

### **92nd Annual Meeting of the SME-MN Section**

April 15-17, 2019, Duluth Convention Center, Duluth, MN

### **Rapid Excavation and Tunneling Conference**

June 16-19, 2019, Hyatt Regency Chicago, Chicago, IL

### **International Conference on Ground Control**

July 22-25, 2019, Lakeview Resort, Morgantown, WV

### **PE Review Course**

Sept. 13-18, 2019, Hilton St. Louis Airport, St. Louis, MO

### **SME THRIVE Conference and Midyear Meeting**

Sept. 29 to Oct. 2, 2019, Vail Mountain Marriott, Vail, CO

### **Florida SME Regional Mining Conference**

Oct. 9-10, 2019, The Lakeland Center, Lakeland, FL

### **Cutting Edge**

Nov. 19-20, 2019, Hilton Miami, Miami, FL

### **SME Arizona Conference**

Dec. 8-9, 2019, JW Marriott Starr Pass Resort, Tucson, AZ



**M**ining Engineering (ME) is SME's flagship publication. 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 at [www.miningengineeringmagazine.com](http://www.miningengineeringmagazine.com).

#### Mining Engineering

In addition to regular feature articles and peer-reviewed technical papers, content in *Mining Engineering* during 2018 included several special editorial sections. Included were special sections on coal, industrial minerals, minerals processing, exploration, wastewater and filtration, surface and underground mining, aggregates, and underground and surface haulage equipment. Regional issues covered Australia, Canada and Latin America.

The January and February issues of *Mining Engineering* included the SME Annual Conference & Expo Showguide. The April issue included the SME Publications Catalog. In May were the annual reviews of global exploration and mining activities during 2017, both provided by the U.S. Geological Survey. July featured the annual review of more than 40 industrial minerals and construction materials and aggregates. The Industrial Minerals & Aggregates Division's Technical Committee coordinated the content.

*Mining Engineering's* website includes mining industry news stories, updated daily, a commodities ticker and some feature articles that are not published in the print version. Those items are also open to nonmembers. The current issue of *Mining Engineering* is also online, but available only to SME members. An advertising program was developed for the website. Current and archived issues of *Mining Engineering* are available to SME members to read or download. The ME website is currently undergoing a redesign that will make it more useful to users on mobile devices.

#### 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 recipients 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) magazine is published in March, June, September and December. The June 2018 issue was available at the North American Tunneling (NAT) conference. An NAT showguide listing the conference's exhibitors was included in this issue. In addition to NAT, T&UC is made available at other industry





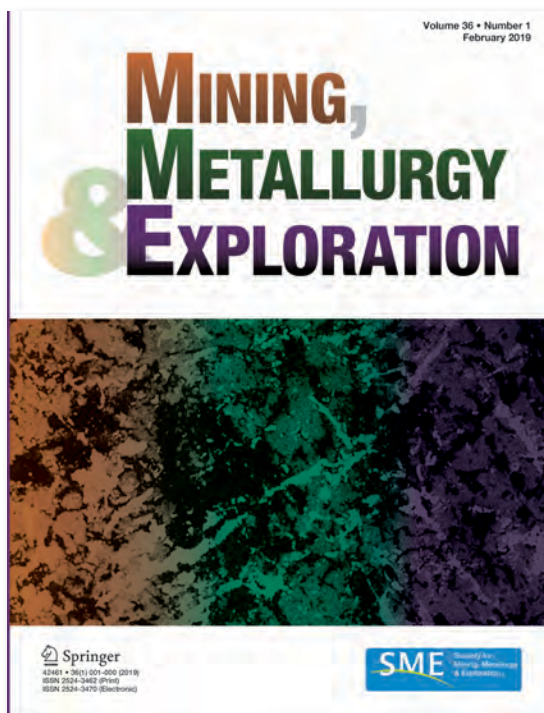
conferences and exhibitions throughout the year, including the Rapid Excavation & Tunneling Conference, the George A. Fox Conference, Cutting Edge and the SME Annual Conference & Expo.

Along with general project features, 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 included. Editorial material for the magazine comes from a variety of sources, UCA of SME conferences, staff-generated material and possible feature articles submitted by readers.

Other sections of **T&UC** include the UCA of SME chairman's column, industry news items, new products, underground construction events and short courses. Each issue of the magazine also includes UCA of SME news pages.

The Tunnel Demand Forecast (TDF) remains one of **T&UC's** most popular sections. Information for the TDF is supplied by Jonathan Klug. An updated TDF is published in each issue. The TDF is also available on the UCA of SME website ([www.uca.smenet.org](http://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. They are posted to the website after verification.

Each issue of *Tunneling & Underground Construction* is also available online as a pdf to UCA of SME members, as well as SME members. **T&UC** can be accessed at the magazine's website, [www.tucmagazine.com](http://www.tucmagazine.com), or the UCA of SME's website, [www.uca.smenet.org](http://www.uca.smenet.org). The magazine is also linked through SME's website, [www.smenet.org](http://www.smenet.org), as well as the *Mining Engineering* website, [www.miningengineeringmagazine.com](http://www.miningengineeringmagazine.com).



### **Mining, Metallurgy & Exploration journal**

Starting with the Vol. 36, No. 1 (2019) issue, the *Minerals & Metallurgical Processing (M&MP)* journal will have the new name of *Mining, Metallurgy & Exploration (MME)*. All of SME's peer-reviewed technical papers will be consolidated into **MME**, with the *SME Transactions* and the "Technical Papers" section of *Mining Engineering* merged into **MME** to form an all-SME journal that covers the breadth of the Society's fields of interest.

**MME** will be published in partnership with Springer Nature and will be accessible online for free by all SME members through Springer Link, as a new member benefit. Paid print subscriptions will be available at the same rates as **M&MP** in 2018. Through the extensive Springer network, **MME** papers can further reach up to 7,000 libraries and institutions and 20 million desktops worldwide. Importantly, **MME** will retain the Journal Impact Factor from **M&MP** and will continue to be included in the Journal Citation Reports, as well as abstracted and indexed in Science Citation Index Expanded; Current Contents-Engineering, Computing & Technology; Scopus; EBSCO; and Proquest. All papers published in **MME** will also have their abstracts published in *Mining Engineering* magazine.

The Publications staff at SME includes Steve Kral, editor; Bill Gleason, managing editor; Georgene Renner, senior editor; Chee Theng, managing technical editor; Ken Goering, advertising/media manager; and Ted Robertson, graphic designer.

**S**ME continues to be the most prestigious publisher of technical books for the mining and underground construction industries.

During 2018, SME published three new titles and acquired an additional three titles from other publishers. In 2019, SME plans to publish four new titles including the long-anticipated *SME Mineral Processing & Extractive Metallurgy Handbook*.

The SME Bookstore continued to travel during 2018. Attendees at several industry conferences were able to purchase SME books at the SME Annual Conference & Expo, the Prospectors & Developers Association of Canada convention and the North American Tunneling conference.

### Titles published in 2018

#### **North American Tunneling Conference: 2018 Proceedings**

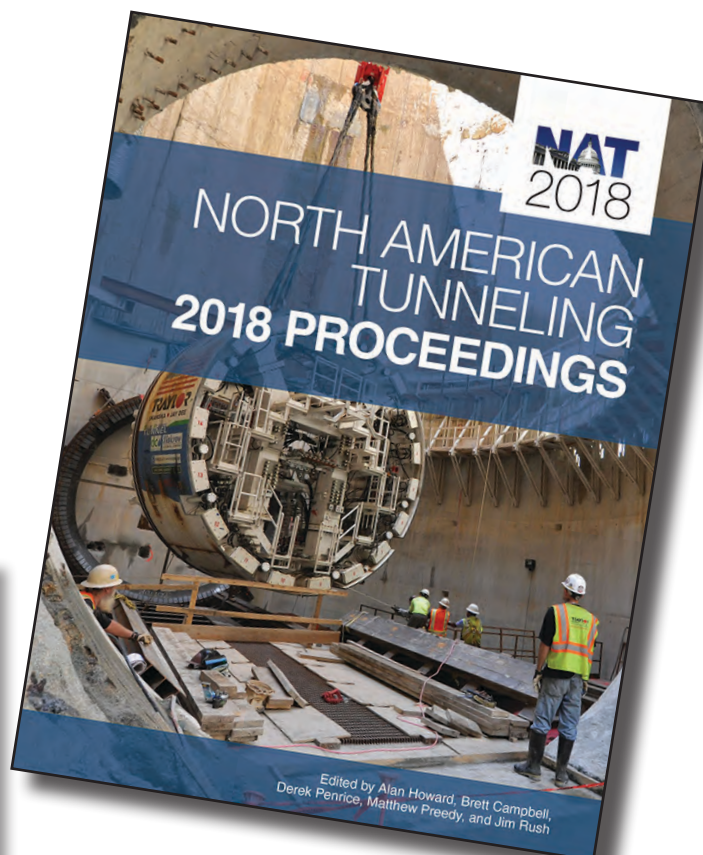
Edited by Alan Howard, Brett Campbell, Derek Penrice, Matthew Preedy, and Jim Rush

#### **Proceedings of the 37th International Conference on Ground Control in Mining**

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

#### **Rock Slope Stability, Second Edition**

Edited by Charles A. Kliche



### Titles acquired in 2018

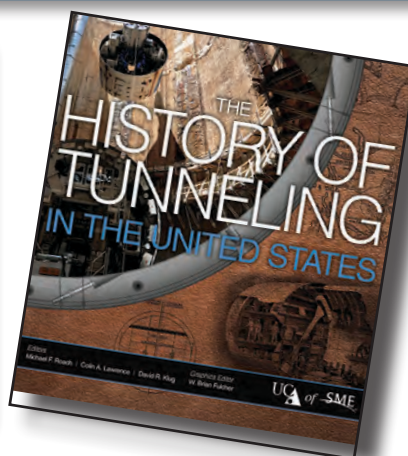
#### **Applied Mining Geology** by Marat Abzalov

#### **Mineral Exploration: Practical Application** by G.S. Roonwal

#### **Mineral Resource Estimation** by Mario E. Rossi and Clayton V. Deutsch

### Top sellers in 2018

1. **North American Tunneling: 2018 Proceedings**
2. **SME Mining Engineering Handbook**
3. **Project Management for Mining**
4. **How Mining Works**
5. **Chemistry of Gold Extraction**
6. **History of Tunneling in the United States**



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

During 2018, SME increased the number of Facebook followers to nearly 18,700, more than 34,500 LinkedIn members and about 6,375 Twitter followers.

## SME Community 2018 totals:

Web pages viewed	65,234 (-33% from 2017)
Unique Logins	3,537 (-13% from 2017)
New members	1,031 (-23% from 2017)

## SME Twitter (@SMEcommunity):

6,374 5,911 followers (+463 from Jan. 2018)

Between January & February 2018, SME tweets had more than 198,300 views. (+7.62% from 2017)

## SME LinkedIn group:

34,551 members (+2,673 from Jan. 2018)

SME Company page 7,811 followers (+2,436 from Jan. 2018)

## SME YouTube Channel:

17,900 video views in 2018 (+133% from 2018)

## SME Facebook page:

18,698 followers (+1,577 from Jan. 2018)

## Communications numbers for 2018

### Press releases:

23 press releases about “all things SME” = 20.33% average email open rate.

Most popular: SEC Acts to Modernize Resource Disclosure Standards for Mining, and SME announces recipients of 2018 mining academic grants.

## SME Facebook Insights : Snapshot

Total Likes 7  
**18,698** ↑ 8.4%

## Facebook Insights : Likes by Region

United States	2.6K
Peru	2.3K
India	2.2K
Other	10K

## Media Contacts:

948 media contacts currently receive weekly press releases.

## ENews:

24 issues of SME eNews sent to all SME members = 20.85% average open rate.

Four issues of UCA of SME eNews sent to all UCA members = 23.31% average open rate.

## Webinars:

Number of sessions: 26

Number of attendees: 709

Most popular webinars:

Rules of Thumb for Geologic Modeling.

IG7 Update.

UCA Webinar: Why Geology Matters – Tunneling Case Studies.

## Facebook Insights : Gender Summary





## Coal & Energy

**Richard Wagner**  
2018-2019 Coal & Energy Division Chair

The Coal & Energy Division continues to see a decline in membership, which is a serious concern. Downturn in the coal industry employment appears to be the major reason.

The C&E Executive committee has welcomed two SME Young Leader representatives into the committee meetings as another way to encourage membership in the division and to gain more insight on how to attract the next generations.

### Actions taken

At the SME Midyear Meeting, the C&E Division members agreed to pursue the development of a mentorship program for the C&E Young Leader Committee (YLC) members. Rachael Boothby from YLC was tasked with soliciting feedback from her committee for ideas on how to make this program successful.

Rosa Marie Rojas presented a brief discussion

on her project to measure diversity within the industry. The C&E Division agreed to present the real-time survey and encourage luncheon members to participate.

The C&E Division continued the discussion on an annual, or perhaps a biannual, Eastern Coal Meeting. SME Pittsburgh and Southern Appalachian would likely merge their annual meetings to accomplish this.

### Scholarships

Seven mining engineering schools qualified for C&E grants this year with only one program represented by eight awards under the Marshall trust fund income of \$9,500 this year (last year four programs, 13 awards).

The very first \$5,000 Mine Ventilation Scholarship scholarship was awarded this year.

### Robert Murray Innovation Award

The C&E Division presented the first Robert E. Murray Innovation Award to the National Institute for Occupational Safety and Health.



**Richard Wagner**  
2018-2019 Coal & Energy  
Division Chair

## Environmental

**Barbara Nielsen**  
2018-2019 Environmental Division Chair

Environmental Division members finalized the 6th in a series of SME handbooks *Management Technologies for Metal Mining Influenced Water*. Volume 6: "Sampling and Monitoring for the Mine Life Cycle" was edited by Virginia T. McLemore, Kathleen S. Smith and Carol C. Russell.

### 2018 Outstanding Papers

*Investigating the Key Parameters of an Agent-based Model of Mining Community Preferences for Managing Social Risks?* – Kwame Awuah-Offei, Ph.D., University of Missouri.

*Automated Sluice Gate to Reduce Acid Rock Drainage and Sediment Loading of a Lake Near the Chevron Mining Inc., Questa Mine, New Mexico* – Jose Gallegos.

### 2018-2019 scholarship recipients

The Environmental Division presented the following scholarships of \$2,000 each.

- Isabel Casasbuenas Cabezas, Colorado School of Mines
- Miranda Gorman, Carnegie Mellon University
- Alyssa Gese, Virginia Tech

Veolia Technologies Scholarship:

- Brody Rastall, University of Arizona

### 2018-2019 award recipient

The Environmental Division Distinguished Service Award was presented to Evelyn Bingham, a past Environmental Division Chair and Henry Krumb lecturer.



**Barbara Nielsen**  
2018-2019  
Environmental Division  
Chair



**Susan Moore**  
**2018-2019 Health & Safety Division Chair**

## Health & Safety

**Susan Moore**  
**2018-2019 Health & Safety Division Chair**

The Health & Safety Division continued to grow in membership and its offerings in 2018.

### Accomplishments

The Certified Mine Safety Professional (CMSP) exam was fully integrated into SME under the guidance of the International Academy for Mine Safety & Health (IAMSH). Two exams were given in 2018.

### 2018 Strategic Planning

**Needs Assessment Survey.** The Division developed and administered a Needs Assessment Survey to better understand the resources and services it provides to its members — 90 respondents provided input from Nov. 1, 2018 to Jan. 10, 2019. The SME Board will receive a separate report and presentation at the annual meeting related to the survey findings and conclusions.

**Credentialing Strategy Survey.** The Division also

coordinated with the IAMSH Board to develop a survey regarding the IAMSH Board's proposed, two-tier credentialing strategy. The survey has been designed for a broad array of respondents; however, current CMSP holders will be the primary group targeted for input.

### Communications

- The Division has provided seven Safety Share pages to *Mining Engineering* and supported four health and safety-related webinars in 2018.
- NIOSH's National Occupational Research Agenda (NORA) — the national agenda for mining is currently in place. Moving forward, NIOSH will focus its NORA councils on partnership and improved diffusions, dissemination, and adoption of health and safety best practices and interventions.
- SME's H&S Technical Briefing document was updated.
- H&S Division Vision Statement is currently under development.



**Vishal Gupta**  
**2018-2019 Industrial Minerals & Aggregates Division Chair**

## Industrial Minerals & Aggregates

**Vishal Gupta**  
**2018-2019 Industrial Minerals & Aggregates Division Chair**

The Industrial Minerals & Aggregates Division (IMAD) technical committee published 46 industrial minerals reviews in the July 2018 issue of *Mining Engineering*.

The Division considered ideas for the best way to utilize the Dreyer funds. The Scholarship Committee decided to split the fund to award one undergraduate and one graduate student a scholarship. IMAD brochure was presented to the team to use as a marketing tool to increase the membership.

The Executive Committee discussed forming an ad hoc group that will manage the IMAD community site to approach the members and keep them updated on division activities and other news.

### Actions taken

- In conjunction with the local section in Colorado, the Division discussed using the Dreyer fund to sponsor field trips for a geologist pursuing careers in industrial minerals and

aggregates minerals.

- The IMAD brochure was circulated to a wider SME group and universities.

### Fundraising

Four luncheon sponsors were secured for the 2019 Annual Division Luncheon — EP Minerals LLC, US Gypsum, Agapito Associates and Golder Associates.

A raffle was organized at the luncheon meeting to raise money for the scholarship fund.

A company sponsored (Golder Associates) luncheon table for students will be initiated at the 2018 Annual Conference. 8-10 students will be given free admission to the Luncheon to provide them the opportunity to experience and become involved with the Division.

### Annual SME Conference Programming

IMAD will conduct 13 sessions with a total of 81 abstract submissions. Both the number of sessions and abstract submission increased about 30 percent and 26 percent, respectively, from 2018. One session was collaborated with the Health and Safety Division. Some sessions on industrial minerals and aggregates were combined.

## Mineral & Metallurgical Processing

**D. Erik Spiller**  
2018-2019 Mineral & Metallurgical Processing Division Chair

### Technical programming

- The technical sessions at the 2019 annual conference include a symposium honoring Professor Emeritus Douglas W. Fuerstenau.
- MPD provided SME's technical programming for the highly successful, new Extraction 2018 conference, which is a collaboration of three societies: SME, MetSoc and TMS.
- MPD supported SME's successful bid to host the International Mineral Processing Congress (IMPC) 2024 in the United States.
- MPD initiated contact with AusIMM, SAIMM and CIM on joining the World Gold conference series. This is a biennial conference with the potential to organize every 10 years, and 2025 has been proposed for SME to host in the United States.
- MPD is participating in the organization of Copper 2019 in Vancouver, BC, Canada.

### Fundraising

The 2018-2019 MPD Calendar sponsorship drive raised \$21,000, netting \$15,357 after expenses. There were 5,500 calendars printed and distributed with the attendee bags at the annual conference, and at the MPD luncheon and other events.

The MPD Scotch Nightcap was also a success in 2018, where income for the event was \$30,760 and expenses were \$13,010, resulting in a surplus of \$17,750.

The 2018 division luncheon was financially successful with revenues of \$16,925 and expenses of \$13,592.

### MME Journal and Journal Oversight Committee

*Mining, Metallurgy & Exploration* is the new name of the *Minerals & Metallurgical Processing* journal. Ronel Kappes is the Editor-in-Chief of the Mineral and Metallurgical Processing section, and MPD representative Pat Taylor is the Chair of the new Journal Oversight Committee.

### MPD Sections

The Colorado MPD, essentially an independent and highly successful entity with its own yearly meeting going back some 69 years, appears to be spawning a couple more geographically based sections. SME-MPD is facilitating the formation of a Northern Nevada MPD section and a Utah/Intermountain MPD section. Both anticipate annual meetings focusing on technology and innovation.



**D. Erik Spiller**  
2018-2019 Mineral & Metallurgical Processing Division Chair

## Mining & Exploration

**Jami Dwyer**  
2018-2019 Mining & Exploration Division Chair

The Mining & Exploration Division has a strong financial balance and excellent scholarship funding in place. The division was able to increase the amount of the divisional scholarships to help keep pace with the rising costs of college tuition. Scholarship funds are healthy with much success from Silent Auctions and Luncheon Sponsorships at the Annual Conference division luncheon.

M&E committees and M&E representation on standing committees need to be re-evaluated and membership firmed up to ensure adequate representation, participation and understanding of responsibilities and length of terms.

Technical programming for the M&E Division at the SME Annual Conference will feature 209 presentations in 31 sessions. That is up from 94 presentations in 23 sessions at the annual conference in Minneapolis, MN in 2018. The Denver 2019 program is significantly larger than the Minneapolis 2018 program due to higher attendance and more submissions. The M&E Division continues to focus on quality over quantity and rejected numerous abstracts and reduced planned sessions from 33 to 31. Division programming falls into the areas of geosciences, innovations and technologies, management and operations. The division is also participating in a joint session with SME Health & Safety Division.

### Scholarships

Scholarship award amounts are determined each year by the M&E Division at the midyear meet-



**Jami Dwyer**  
2018-2019 Mining & Exploration Division Chair

ing and are based upon percentages of account balances. On occasion, if there are insufficient funds within an account, a scholarship may not be given or the amount disbursed may be reduced for a period of time until account balances recover. However, the M&E Division scholarship funds currently have healthy balances and very successful fundraising continues to be realized during the Annual Conference Division Luncheon silent auctions. This year \$20,000 in total scholarships will be awarded.

The division found that the screening questions need to be improved in order to get better qualified applicants for each of the scholarships. The division Executive Committee and SME staff are working on an update.

The Henry DeWitt Smith Graduate Scholarship assists worthy graduate students in their pursuit of mining, metallurgical, materials or petroleum studies, focusing on the operation of mines. \$5000 is available.

The Eugene P. Pfeider Memorial Scholarship is awarded annually to promising students who have chosen a field of study in mining engineering or

other specialty consistent with the technical specialties of the M&E Division. The M&E Executive Committee set aside \$14,000 during the midyear meeting. Due to a multi-way tie a special vote was conducted in December and additional \$1000 was approved for distribution to the winners. Because of the three-way tie, the M&E Division Executive Committee wishes to put into place tiebreaker criteria in place for all scholarships and will work on finalizing and updating procedures in 2019.

The Steven C. Potter Scholarship is awarded annually to a graduate student whose studies relate to the field of economic geology. Unfortunately, of the 23 applicants that applied for the Potter Scholarship in 2018, none were qualified. The M&E Executive Committee has requested assistance from SME to update the scholarship screening questions and to update the scholarship guidelines and procedures documents before scholarship applications open in 2019.

The Stewart R. Wallace Memorial Scholarship is awarded annually to a master's degree candidate in geology or geological science who plans to pursue a career in the field of explorations and geology.



**Mike Roach**  
**2017-2019 UCA of SME**  
**Division Chair**

## UCA of SME

**Mike Roach**  
**2017-2019 UCA of SME Division Chair**

In 2018, the UCA of SME hosted the annual George A. Fox Conference in New York City on Jan. 23 at the City University New York Graduate Center. This conference attracted 378 attendees, 31 Gold sponsors, three Silver sponsors and two Bronze sponsors.

The UCA of SME also hosted the North American Tunneling Conference June 24-27, 2018 at the Wardman Park Marriott in Washington, D.C. More than 1,161 people attended the conference that featured 175 exhibit booths and 25 sponsoring companies. The technical program featured rich content and networking opportunities, including offsite events for UCA Young Members, Women in Tunneling and an Owners' forum.

In October, 2018 the annual Cutting Edge Conference was held in Atlanta, GA in conjunction with the *Tunneling Journal*. More than 174 people attended the conference that included two days of technical programming and a field trip to the Bellwood Quarry, site of the City's new water supply tunnel.



In 2019, Cutting Edge will move to Miami, FL, November 18-20. During this event, UCA will also be hosting the International Tunneling Awards.

The UCA of SME will be active at the Rapid Excavation and Tunneling Conference (RETC) June 16-19, 2019 in Chicago.

The UCA is putting the finishing touches on the update to its previously published book "Recommended Contract Practices for Underground Construction." This book will be available at the aforementioned RETC.



## WAAIME

### Lydia Hull

#### 2018-2019 WAAIME Division Chair

WAAIME Members from Canada, Chile, Peru, Mexico, as well as across the United States attended the Midyear meeting in Pittsburgh, PA. WAAIME leadership became more proactive and added numerous activities for members to socialize and add a level of camaraderie to the group, and they were well received. A presentation was made by Charles Zimmerman, on behalf of the MEC Scouting Subcommittee. After his presentation, the Executive Committee voted to donate \$10,000 towards MEC participation in the 2019 World Scout Jamboree to be held at The Summit Bechtel Reserve, near Beckley, WV in July.

#### Education Liaison

The division approved the creations of two positions, an Education Liaison (Margaret Ann Bays) and a Membership Liaison (Rebecca Siwale). Each will have a budget of \$2,000.

#### Executive Committee

Jean Davin will assume the Western Representative position to complete that term. Upon the completion of Eastern Representative Lydia Hull's term, Ms. Davin will step in as the Eastern Representa-

tive. Winnell Burt will join the committee as the Western Representative.

The Executive Committee chose Elisabeth Price, Nevada-Reno Section, as the recipient of the prestigious Founders Award for her continued dedication to WAAIME.

#### International Sections

Our International Sections in Chile, Peru, and Mexico continue to grow their memberships, present interesting and informative programs, as well as provide much needed scholarships.

#### Scholarships

The WAAIME scholarship website is in its second season and continues to be well received by the students, faculty, and the WAAIME reviewers. The window for accepting WAAIME scholarship applications continues to be Jan. 15 – Feb. 5 each year. In 2018, WAAIME awarded \$270,000 in scholarships to students.

#### Membership

A membership application has been added to the WAAIME website to make it easier for anyone interested in the WAAIME organization. Applicants are able to identify their areas of interest on the form.



**Lydia Hull**

**2018-2019 WAAIME  
Division Chair**

## 2018 WAAIME Scholarship Recipients

### Arizona State University

Fatemeh Molaei.

### Colorado School of Mines

Varum Maruvanchery, Hui Lui, Anuradha Khetwal, Natalie Soares Rodrigues, Kinsley Costner, William Fraser, Marie Hetherington, Miguel Moreira.

### Marshall University

Patrick Warf.

### Missouri University of Science and Technology

Charles Abbey, Tyler Collier, Phillip Rangsitsch.

### New Mexico Institute of Mining and Technology

Salla Diallo, Christopher Vanpelt.

### Pennsylvania State University

Behzad Vaziri Hassas, Zoya Banan, Pooya Khodaparast, Mohamed Al Bahri, Reece de Wardener, Cristian Dominguez, Thomas Greene, Steven Langballe, Brandon Matejik,

Diegue Tchienga, Kevin Toe.

### Saint Francis University

Annamarie Bolt, Jonathan Bruno, Shannon Szymusiak, Jan Vit Sutar.

### South Dakota School of Mines & Technology

Jon Barkl, Miranda Berge, Rahel Dean-Pelikan, Eric Dobbs, Kayla Gill, Anna Haydock, Karl Keller, Walida Praseuth, Randi Seiwald, Patrick Today, Mathew Volkmer.

### University of Arizona

Cayley Brooks, Juanita Parkerson, Joseph Quinones, Rachel Saufley.

### University of Kentucky

Anand Kumar, Douglas Addo, Ravi Chandon Ray, Tushar Gupta, Vasileios Androulakis, Xinbo Yang, Ryan Anderson, William Fulsang, Zebulon Hart, Bryce Maikranz, Sibley Miller, Jessica Nelson, Harry Park, Jr., Wenjie Pitcock, Samantha Schloder, Kayla Thurman, Dirk-Philip Van den Berg, Timothy Watkins.

### University of Nevada-Reno

Marcus Alsagoff, Ignacio Chamorro, Sage Gandolfo, Nikolas Papameletiou, Hector Solorio, Haylee Wiecezorek, Nickolas Winter, Lianza Yap.

### University of Pennsylvania

Justin Qian.

### University of Utah

Benjamin Bonney, Trey Campbell, Chase Carroll, Annaleigh Seeley.

### Virginia Polytechnic Institute and State University

Chad Sechrist, Juan Jose Monstvalve Valencia, Samuel Akinyemi, Emily Bautista, Abigail Bladen, Luke Farinholt, Leah Frost, Alyssa Gedse, Sarah Gorski, Alex Norris, Christopher Osterhout, Alexandra Russell, Alexandria Smith, Bethany Witter.

### West Virginia University

Caleb Gates, Robert Harless, Emily Horowitz, Michael Kalski.



**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.

The Board of Trustees would like to take this opportunity to express its gratitude and thank all of the 2018 corporate and individual donors who have contributed to the SME Foundation (SMEF). The progress we are making in many ways is due to your donations. The strength of the Foundation is not only reflected by the amount of financial support we receive, but also by the countless hours of volunteerism provided by SME members, Foundation Trustees and staff throughout the year. Many passionate people are contributing their time and, in many cases, contributing their own resources to ensure our programs are first-rate and have maximum impact. Because of this, the SME Foundation stands strong and will continue to ensure that each program's mandate and plan are fulfilled. As a result, our programs such as the Ph.D. Fellowship and Career Development Grants, Minerals Education Coalition (MEC), Professional Engineer Exam (PE), ABET and Miners Give Back (MGB) remain successful.

A total of \$1.127 million was raised in FY2018 from 2,864 individual and corporate donors. We are particularly heartened that, 2828 individual donors, representing more than 20 percent of SME's membership, contributed to our programs.

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

- Freeport-McMoRan Inc. (\$200K)
- Newmont Mining Corporation (\$75K)
- Murray Energy Corporation (\$50K)
- Royal Gold Inc. (\$50K)
- Mining & Metallurgical Society of America (\$30K)
- Alliance Resource Partners, LP (\$25K)
- Bechtel Corporation (\$25K)
- Boart Longyear (\$25K)
- Caterpillar Inc. (\$25K)
- CONSOL Energy (\$25K)
- Fluor Corp. (\$25K)

- J.H. Fletcher & Company (\$25K)
- Kinross Gold USA (\$25K)
- Komatsu (\$25K)
- Stantec (\$25K)
- Vulcan Materials Company (\$25K)

Recognizing that industry support is crucial, we will increase the number of Trustees assigned to the Corporate Giving Committee from 50 percent to 67 percent, with the remaining 33 percent of the Trustees assigned to the Individual Fundraising Committee.

The Corporate Giving Committee continues to strive to secure commitments to the SME Foundation through its corporate contacts within the mining industry. As a result, we were pleased to welcome three new Corporate Roundtable Partners in 2018 (Consol Energy, J.H. Fletcher & Co., and Stantec). We are grateful for the dedication and support we receive from our CRPs. Their financial contributions provide an ongoing significance to the Foundation so that it can continue to affect the community and industry through education, outreach and professional development. Likewise, the Individual Fundraising Committee continues to foster donor relationships and steward SME members. Increasing donor support to the Foundation programs is imperative to our ongoing success. This year the Individual Fundraising Committee piloted a Phone-a-Thon and contacted more than 87 members who had previously been donors to the Foundation and, for whatever reason, had lapsed or discontinued their giving. This resulted in a gain of almost \$4,000 of additional contributions, renewed donor commitment, executive business meetings and important conversations that restored lost connections with members. As a pilot project, it was viewed as a success. Future Phone-a-Thons will be considered in an effort to further reach out to our valued donors.

At the 2019 Foundation Gala Dinner, Scott P. Lawson will receive the 2018 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 2019 support of two \$100,000 per year Academic Career

Development Grants to associate and assistant professors:

- Jaehoon Lee, Associate Professor of Mining and Geological Engineering, University of Arizona.
- Javad Sattarvand, Assistant Professor of Mining and Metallurgical Engineering, University of Nevada, Reno.

And two \$60,000 Ph.D. Fellowship grants to graduate students:

- Robert D. Weyher, University of Utah.
- Aaron Young, University of Utah.

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
- CONSOL Energy
- R. Gene Dewey
- C. Dale and Kathy Elifrits
- Freeport-McMoRan Inc. (exclusive funding of the Academic Career Development Grants)
- Kinross Gold
- Boart Longyear
- Ronald and Connie Parratt
- Royal Gold
- Robert Shoemaker Fund (exclusive funding of one Ph.D. Fellowship Grant per year)
- Stantec/McIntosh Fund (exclusive funding of one Ph.D. Fellowship Grant per year)
- William and Pamela Wilkinson.

Our sincerest thanks to these generous donors for their vision to build a stronger industry through education.

### Miners Give Back

In the fall of 2018, Miners Give Back partnered with Engineers Without Borders, in our final joint project together. Miners Give Back awarded a \$5,000 grant to the Northeastern University Chapter who will collaborate with a community in Nakanyeni, Uganda. The Northeastern University team will focus on a project to identify and extract a clean source of water through a hydrogeological survey and well-drilling. The grant funding will

## FUNDING SOLUTIONS to mining's challenges



not only contribute to these associated costs, but it will also bring them one step closer to their end goal of sustainably improving the lives of 14,000 people living in that community.

### Scholarships

Additionally, SMEF looks forward, once again, to awarding numerous scholarships to deserving SME students at the 2019 SME Annual Conference & Expo. With the faithful support of our funders the Foundation offers the following 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.
- Stantec/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 or mineral, ore and coal processing.

*(Continued on page 36)*



**T**he 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 Karen Rose and vice-chair Katie Kosloski, the 2018-2019 MEC Committee provided 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.

In 2018, MEC served its audiences with programs, materials, web information and social media.

## MEC Website, Educational Materials and Social Media

The MEC website is the primary vehicle through which MEC reaches its audience. There were approximately 407,000 visitors to the site in 2018. Ongoing updates and website enhancements continue to enrich the materials and usefulness of MineralsEducationCoalition.org. The MEC News page, Spotlight, and Weekly Fun Fact change throughout the year, and the K-12 Education Resources Database and the Mineral Resources Database receive new information and updates as appropriate, such as the addition of Project NEED's three comprehensive coal units. The Interactive Periodic Table continues to be popular, as are many of the low-cost supplemental educational items available in the MEC online store (2,012 items were purchased this year).

MEC social media interaction this year included

Facebook, Twitter and Pinterest (total of 7,656 instances of engagement) and MEC YouTube (48,000 views) and Mining in Society (MiS) Merit Badge YouTube (24,300 views).

## Earth Science Week 2018

Each year, MEC partners with the American Geosciences Institute's Earth Science Week (ESW) to provide educational resources across the globe at [www.earthsciweek.org](http://www.earthsciweek.org) and in the 14,000 copies of the ESW Toolkit. MEC collaborated with the Ohio Industrial Minerals and Aggregates Association and Ohio Aglime Council to produce the "From Quarry To Crop" set of resources. This set of resources lets students experience one of the ways our food requires both farming and mining. A postcard explaining the new resource set and the new calendar activity "Determining Mineral Reserves" were included in the 14,000 Earth Science Week Toolkits made available to teachers via mail as well as on the AGI website. In the new "From Quarry to Crop: Growing More with Aglime" activity and accompanying step-by-step video, students create different types of soil conditions, plant seeds and observe growth under each condition to assess the importance of pH to crop growth. A video about the importance and use of aglime in agriculture is provided to round out the lesson. All of these resources are available free to teachers on the MEC website and are correlated with state and national educational standards. This postcard directs teachers to the new resources on the MEC website.

## MEC Outreach Events

### USA Science & Engineering Festival 2018.

MEC provided a booth at the 5th USA Science & Engineering Festival, April 6-8, 2018 at the Walter E. Washington Convention Center, Washington, D.C. The importance of mining and the use of minerals in everyday life were the focus at the MEC booth. An estimated 450,000 people attended the festival, including students, teachers and families, and an estimated 1,000 people visited MEC's booth. MEC staff and local volunteers invited children to see rock and mineral samples from Luck Stone Corp., try on mine safety equipment and challenge their thinking about the minerals they use in their daily lives. Attendees received coal samples from the American Coal Foundation, and information about Move Mining Next Gen for their consideration.

### National Science Teachers Association

(NSTA) Area Conferences. Each year, the Minerals Education Coalition (MEC) participates



at three NSTA Area Conferences to provide K-12 educators educational resources. MEC is working with SME members, mining companies and other geoscience organizations to prepare for this year's conferences. MEC provided K-12 educators with educational resources at the 2018 National Science Teachers Association (NSTA) area conferences. MEC worked with SME members, mining companies and other geoscience organizations to fund, plan and conduct this year's conferences.

In all, about 3,000 rock and mineral kits were distributed to teachers who attended the events in Reno, NV; National Harbor, MD; and Charlotte, NC. Major sponsors of the NSTA area conventions were Luck Stone, Kinross Bald Mountain, SME member Dale Elifrits and Kathy Elifrits, and Kappes, Cassidy & Associates.

### The Move Mining Program

In 2018, MEC took on full responsibility for leadership of the Move Mining program, SME's public perception campaign, and responsibility for the Move Mining websites MoveMining.org and MoveMiningNextGen.org. The sites were revised and maintained for the current season's programs. MoveMining.org had 17,000 visitors and MoveMiningNextGen.org had 3,300 visitors in the past year.

Move Mining, was recognized by the American Society of Association Executives (ASAE) and was awarded the 2018 Power of A Silver Award.

During Move Mining Season 2 (2017-2018), there were 9,350 views on the Move Mining website with votes from 113 countries. Move Mining Next Gen included 100 submissions from 242+ participants, teams, voters and viewers from 70 countries and all 50 states.

In winning the award, Move Mining will be recognized by ASAE through press releases, their Association Spotlight message to members, and letters to elected officials.

### Move Mining and Move Mining Next Gen in 2018

Move Mining and Move Mining Next Gen for 2017-2018 were great successes. Team "Teaching Kids," won the 2017-2018 Move Mining competition. This team of five students from Colombia shared their idea on how to change the public's perception of mining by motivating youth during key developmental years.

### Move Mining Season 3

Season 3 of Move Mining opened late summer



of 2018. It will conclude at the SME Annual Conference & Expo in Denver on Feb. 25, 2019. Submissions came from 15 teams from five countries. More than 6,000 votes were cast for People's Choice. Five teams have taken the top spots as the finalists in the Season 3 Move Mining competition.

Move Mining Next Gen is a companion competition for K-12 students. The goal is to have students consider the role of mining and minerals in their everyday lives. Their final product is a short video that demonstrates how the mining industry makes their lives better. This year, six qualifying entries were considered by a panel of experts. This program also relied on People's Choice voting to determine one of the winners. Upon review, the results will be made public.

### MEC Scouting Outreach Program

The MEC Scouting Subcommittee is working with MEC staff to plan and fund MEC's efforts to help Scouts learn about the mining industry and its impact on their lives. As a part of its outreach, the committee is planning participation in the 2019 World Jamboree to be held July 22 – Aug. 2, 2019, at the Summit Bechtel Family National Scout Reserve in West Virginia. The first World Jamboree in North America since 1967, it is expected to engage Scouts from all over the world.

Additional projects include work to update the MIS handbook and outreach to local Girl Scout groups. The MEC Scouting Subcommittee is also working on fundraising plans to ensure that outreach to Scouting groups will continue into the future, and has helped garner several donations this year. Among a variety of individual and corporate donors, MEC would like to thank Consol Energy and the SME WAAIME Division donation, each giving \$10,000. The 50/50 Raffle by the SME Foundation at the SME Annual Conference & Expo will also support this outreach work.

MEC continues offering a webpage with extensive information about the Mining in Society merit badge at <https://www.MineralsEducationCoalition.org/Scouts>, and BSA staff recently expressed their appreciation of the site.



**Professional Engineers  
Exam Committee**

**Dr. Randy Reed, PE,  
2017-2018 Chair**

The SME Professional Engineers Exam Committee prepares problems for the Mining and Mineral Processing (M/MP) engineering exam for licensure as a Professional Engineer (PE).

## Historical M/MP PE examination statistics

Figure 1 shows the number of Mining/Mineral Processing PE examinees for years 1990 to 2018. For years 2014 through 2018, total examinee count equaled 95, 71, 62, 76 and 82, respectively.

The 2018 count of 82 examinees reflects the continuing mining industry recovery. The 29-year average count of test takers equals 76. The five-year goal is to build to 100 examinees.

The overall passing percentage (including first time examinees and repeat test takers) for the M/MP PE exam for the years 2014 to 2018 is 83 percent, 68 percent, 58 percent, 58 percent and 55 percent respectively. The graph representing 13 years of overall passing history 2006 to 2018 follows:

The 2018 overall pass rate of 55 percent compares to the 29-year average of 57 percent. Figure 2 also shows the timing of the Anchor exam, whereby Subject Matter Experts who are licensed PEs take the same PE exam given to the examinees to determine passing metrics for the next seven years.

In the United States, 24 engineering disciplines have professional engineering exams. For the last exam cycle, 15,339 examinees took PE exams. There were 8,356 total examinees who passed (first time and repeat) for an overall pass rate of 54 percent.

The mining and mineral processing exam performs at the median of examination results.

## M/MP PE examination preparation

The exam consists of 80 multiple-choice questions and is offered once each year in October. The committee assembles the exam each year and sends prob-

lems and solutions to the National Council of Examiners for Engineering and Surveying (NCEES). NCEES formats the exam and transmits it to the individual jurisdictions for administration. The next M/MP PE Exam will take place Oct. 26, 2019.

In 2018, 61 problems were added to the bank bringing the total questions available to 715. The bank has grown from 341 in 2009, doubling in eight years due to the hard and efficient work of the 60-member PE Exam Committee. The committee has 48 problems in process to add to the bank in first half of 2019.

Two face-to-face PE Exam Committee meetings occurred in Clemson, SC: March 16-17, 2018 with 15 SME PEs attending, and Aug. 17-18, 2018 with 14 SME PEs attending. Problems were written and reviewed, examinations were assembled, pilot-tested, and work applied to the single reference.

## PE Review Course

The PE exam review course for 2018 was held in Denver, CO in September 2018 under the direction of Dr. Raja Ramani. Forty-seven engineers completed the review course.

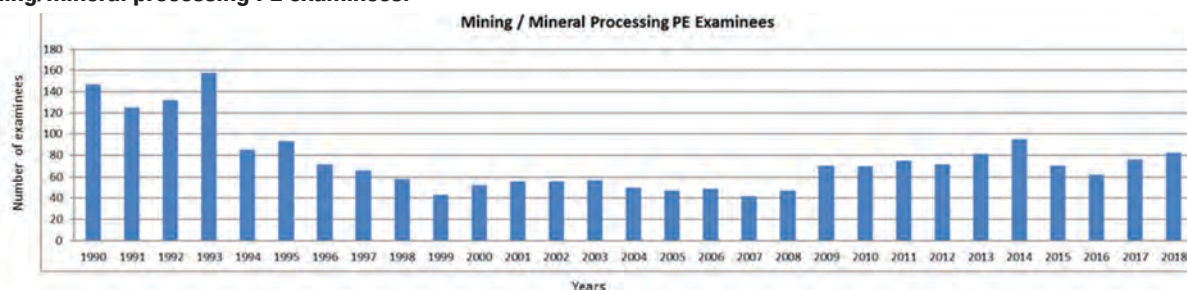
Feedback from the participants continues to be excellent. Revenue generated by tuition more than covers the cost of conducting the review course. The next review course is scheduled for late September 2019 in St. Louis, MO.

## Mining Reference Handbook

The *Mining Reference Handbook* is being revised. This effort is required by a decision of the State Boards of Licensing to have just one reference that can be brought into the PE testing center for the computer-based exam in October 2021. Heather Dougherty, PE and Dr. Andrew P. Schissler, PE are co-editors. Activities in 2018 included updating existing chapters, final edits on the new chapter on mining methods, and releasing draft chapters to technical reviewers. The objective is to have the

**Figure 1**

**Mining/mineral processing PE examinees.**



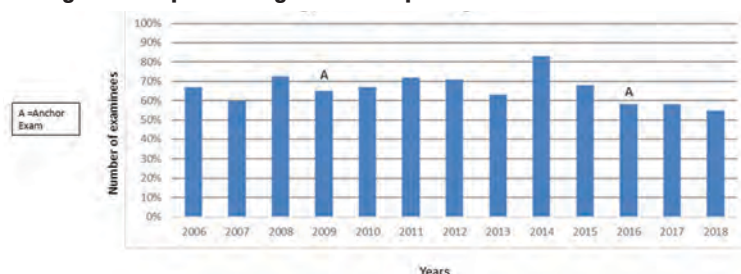
second edition of the Mining Reference Handbook for sale at the 2020 SME Annual Conference & Expo. The draft chapters are 85 percent completed, and SME Publishing is beginning the compilation of the book for publication.

### Professional Engineering Licensure Advocacy

The PE Exam Committee continued participation in the Licensing That Works (LTW) committee. This committee is composed of engineering societies representing more than half of all U.S. engineers. The LTW committee opposes an initiative to increase the educational credential for becoming a Professional Engineer from a Bachelor's degree to Master's degree or equivalent education (MOE). The American Society of Civil Engineers, the main proponent of MOE, continues to seek states willing to entertain MOE bills in their respective legislatures. The LTW had continued success in 2018 to keep the MOE initiative from being implemented in several states. LTW has successfully opposed these state-level bills. LTW influenced the removal of the MOE requirement in NCEES Model Law. Monthly LTW teleconferences were attended by the PE Coordinator.

Another initiative opposed by the LTW is the

**Figure 2**  
Mining/mineral processing PE overall pass rate.



MOE-like “desirable” education goals that have been included in NCEES Policy Statement 35. LTW’s 2019 effort will be to remove these goals. If successful, this should minimize the chances for a facile reintroduction of the MOE requirement in NCEES Model Law.

The SME continues to work with PEs in California to possibly place a bill in the legislature for the State to license engineers in the Mining/Mineral Processing area of specialization. California is one of five states or territories that do not offer a Mining PE license.

SME submitted a letter to the Federal Communications Commission requesting they properly use the term “Professional Engineer” denoting licensure in Policy Statements.

## Certified Mine Safety Professional Certification

The International Academy for Mine Safety & Health of the Society for Mining, Metallurgy and Exploration (IAMSH of SME) continues to move the Certified Mine Safety Professional (CMSP) program forward.

On Aug. 25, the IAMSH offered the CMSP exam for the first time at SME’s offices in Englewood, CO. Eight people passed the test. The test was offered again in conjunction with the SME Arizona Conference in December in Tucson, AZ. In all, 13 people tested and test had a pass rate of 77 percent. The test was offered for a third time on Feb. 23 in conjunction with the 2019 SME Annual Conference & Expo in Denver, CO.

There are now 245 Certified Mine Safety Professionals.

The IAMSH will develop a business plan for further development of the CMSP program to include:

- Define final CMSP credential structure and the viability of a lower tiered program.
- Growth estimate for program

- Create rationale for computer-based testing investment
- Revise accreditation timeline
- Make recommendations for program expansion
- Develop a minimum of 75 exam questions and pilot test new questions as necessary
- Compile and test 2019 exam form
- Work with SME Health & Safety Division to launch a CMSP Prep Course
- Host exam up to five times in 2019 with the goal of testing 110 candidates:
- Expand marketing and public relations efforts
- Develop and refine policies and procedures required for NCCA accreditation



**International Academy for Mine Safety & Health (IAMSH)**

**Bruce Huber,  
2018 Chair**





**T**he Accreditation and Curricular Issues ad hoc subcommittee consisting of Will Wilkinson, Jon Price and Dale Elifrits, chair, presented ABET a draft geology degree program criteria document, which the SME Board approved at its February meeting.

SME, as the lead Society for the accreditation of geology and similarly named degree programs, forwarded these program-specific criteria to ABET's Applied and Natural Science Commission (ANSAC) for consideration/acceptance and publication for public comment in the ANSAC Criteria. ANSAC's Criteria Committee has now examined the draft, made some editorial changes to the introductory parts of the document, and made wording changes in the curricular parts to make these statements parallel in grammar and sentence structure to other program criteria curricular statements. The version from the Criteria Committee was approved by the ANSAC Commission Board of Delegates at its meeting Oct. 31, 2018 for public comment for a year.

SME Visitor Selection Committee recommended staffing for seven accreditation visits during the fall of 2018. The visits have been successfully completed:

**Colorado School of Mines** — Geological Engineering (B.S.) was visited by Chuck Kliche, Sept. 30 – Oct. 2, 2018.

**Colorado School of Mines** — Mining Engineering (B.S.) was visited by Dan Alexander, Sept. 30 – Oct. 2, 2018.

**Colorado School of Mines** — Geophysical Engineering (B.S.) was visited by Hamid Akbari, Sept. 30 – Oct. 2, 2018.

**University of Jordan** — ANSAC – Environmental and Applied Science was visited by Earl Hoskins, Nov. 11- 13, 2018.

**Khalifa University of Science and Technology (KUST)** — Petroleum Geosciences (B.S.) was visited by Dave Hammond and Gary McMahon. This visit requires two PEVs.

**University of Wisconsin** — Madison — Geological Engineering (B.S.) was visited by Lee Saperstein, Oct. 15–17, 2017.

### 2018 New Program Evaluator training and preparation

During the spring of 2018, SME sent three new program evaluators to face-to-face ABET Program Evaluator Candidate (PEV-C) training workshops held at the ABET Headquarters in Baltimore, MD. ABET covers the expenses of this training. Hence, neither the professionals nor SME pays travel, food and lodging. The three program evaluators are Ashley Heckman, John Gierke and Paul Conrad. These professionals successfully completed the PEV-C training and will now be scheduled for observation visits on regular campus accreditation teams this fall.

Submitted by,  
C. Dale Elifrits



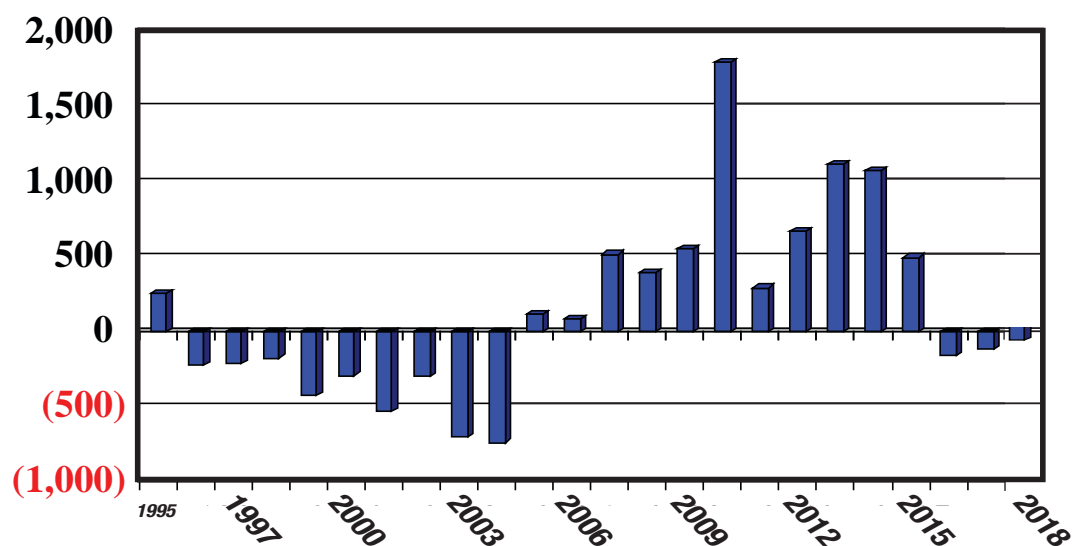


Excluding investment income, SME incurred a small operating deficit of \$146,889 for the year ended Sept. 30, 2018. However, with investment income of \$901,030, SME had an overall surplus of \$754,141, which continued to improve the

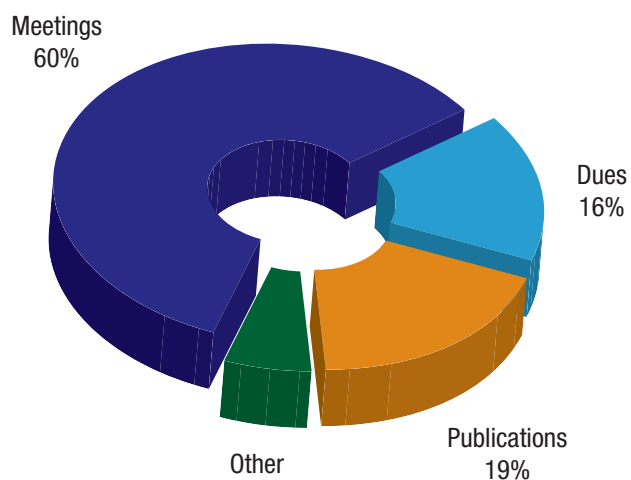
financial condition of the Society. As of Sept. 30, 2018, SME and its affiliates had net assets of \$32,562,694. Of this amount, \$10,249,270 was unrestricted and available for future operations.

## Operating Surplus (Deficit)

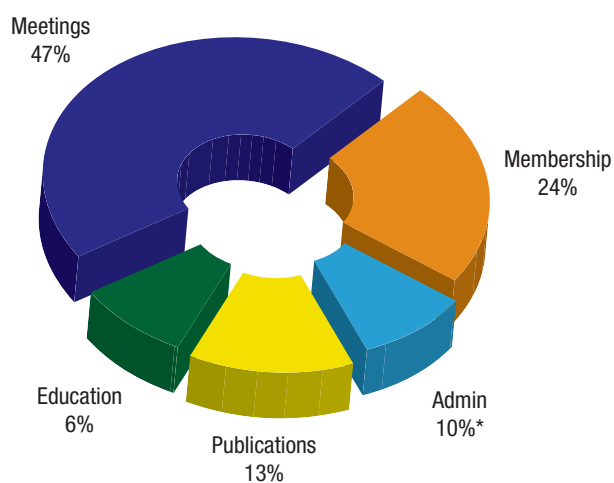
Thousands



## Operating Revenue (Sources)



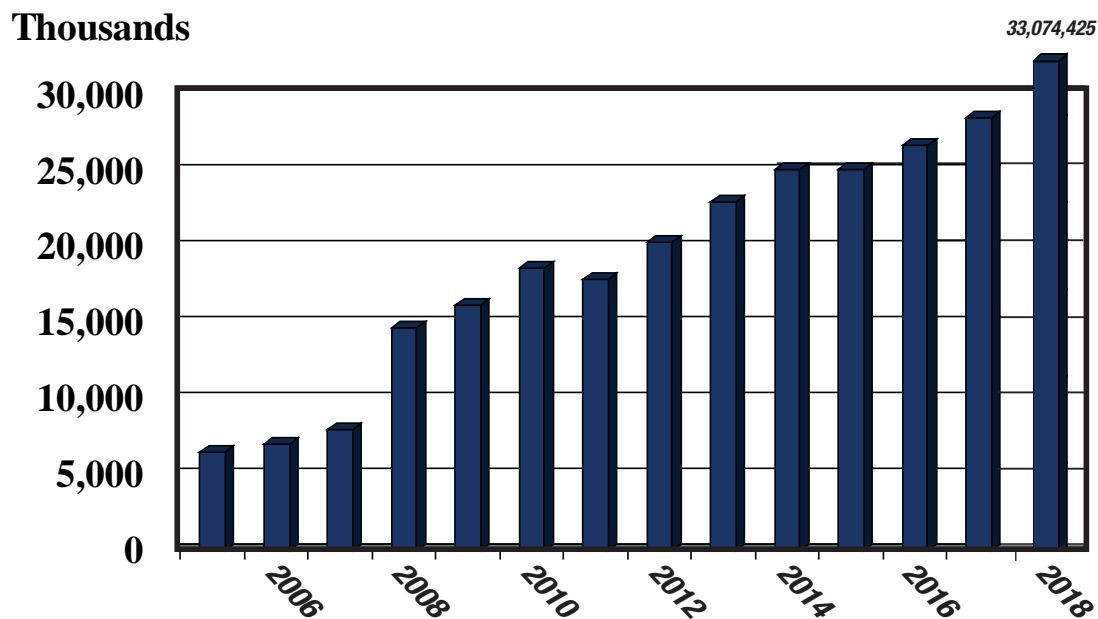
## Operating Expenses



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

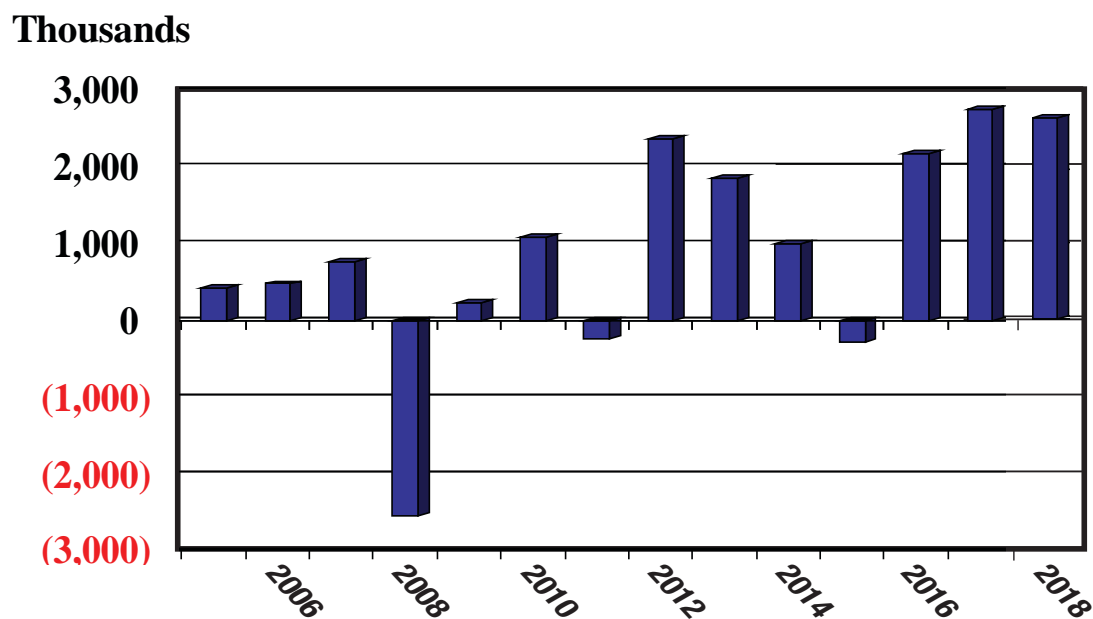


## Cash and Investments



As of September 30, 2018, SME and its affiliates had \$33,074,425 in cash and investments. Of this amount, \$12,663,403 was held for SME Divisions, \$6,013,710 was held for the SME Foundation, and \$3,009,862 was held for SME Sections.

## Investment Income (Loss)



## AIME Awards

AIME Honorary Member	John O. Marsden
Frank F. Aplan Award	Jaisen N. Kohmuench
Mineral Economics Award	Michael D. Doggett
Mineral Industry Education Award	Manoj K. Mohanty
Charles F. Rand Memorial Gold Medal	Alexander J. Davidson

## SME Awards

Robert M. Dreyer Award	Dennis P. Bryan
Robert E. Murray Innovation Award	NIOSH
SME Distinguished Member	Mark E. Emerson
SME Distinguished Member	James D. Humphrey
SME Distinguished Member	John Wiebmer
SME Distinguished Member	William G. Pariseau
Outstanding Student Chapter	Colorado School of Mines
President's Citation	Thomas A. Hethmon
President's Citation	Bruce E. Huber
President's Citation	Mary M. Poulton
President's Citation	Chee Theng
Ivan B. Rahn Education Award	Nikhil Trivedi
Robert H. Richards Award	Jaime E. Sepulveda
Past President's Plaque	Barbara J. Arnold

## SME Foundation Awards

MEC Leadership Award	Pamela A.K. Wilkinson
MEC Organization Recognition Award	Central Appalachian Section in collaboration with the University of Kentucky Explosives Research Team
MEC Partnership Appreciation Award	Minnesota Museum of Mining
MEC Student Chapter Award	University of Kentucky Norwood
Syd S. Peng Ground Control in Mining Award	Zacharias G. Agioutantis





## SME Division Award Recipients

### Coal & Energy Division Awards

Coal & Energy Division Distinguished Service Award	Thomas Novak
Erskine Ramsay Medal	Sukumar Bandopadhyay
Howard N. Eavenson Award	Thomas A. Gray
Stefanko Best Paper Award	Khaled Morsy Mohamed, Gamal Rashed, Morgan M. Sears, John A. Rusnak, Mark Alexander Van Dyke
J.W. Woomer Young Engineer Award	Aaron Noble
Coal & Energy Division Past Chair Award	Richard Wagner

### Environmental Division Awards

Environmental Division Distinguished Service Award	Evelyn L. Bingham
Environmental Division Past Chair Award	Barbara Nielsen

### Health & Safety Division Awards

Individual Excellence	Bruce Watzman
Research & Educational Excellence	Jurgen Brune
Health & Safety Division Past Chair	Susan Moore

### Industrial Minerals & Aggregates Division Awards

Industrial Minerals & Aggregates Distinguished Service Award	Rajesh Raitani
Industrial Minerals & Aggregates Division Young Scientist Award	Sarah Gaillard
Hal Williams Hardinge Award	Jessica Elzea Kogel
Industrial Minerals & Aggregates Division Past Chair	Vishal Gupta

### Mineral & Metallurgical Processing Division Awards

MPD Outstanding Young Engineer	Qingqing Huang
Arthur F. Taggart Award	Hamid-Reza Manouchehri
Milton E. Wadsworth Award	Kathryn Sole
Recognition and Appreciation of Exceptional Service Award	S. Komar Kawatra
M&MD Mill Gentelman of Distinction Award	D. Erik Spiller

### Mining & Exploration Division Awards

Ben F. Dickerson Award	Robert V. Washnock
Mining & Exploration Division Distinguished Service Award	Samuel J. Shoemaker
Daniel C. Jackling Award	Mary M. Poulton
Mining & Exploration Division Outstanding Young Professional Award	Rosa M. Rojas Espinoza
Robert M. Peele Memorial Award	Emily J. Haas
Miner of the Year	Andrew P. Cole
Rock Mechanics	Gabriel S. Esterhuizen
William L. Saunders Gold Medal	Timothy D. Arnold
M&E Division Past Chair	Jami G. Dwyer

### WAAIME Division Award

WAAIME Founders Day Award	Elisabeth Price
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### Coal & Energy Division Scholarships

**Kristopher B. Schaff**, *Montana Tech*; **Taylor Greer**, *University of British Columbia*; **Lukas Masseth**, *South Dakota School of Mines*; **Nikolas Papameletiou**, *University of Nevada - Reno*; **Annaleigh Seeley**, *University of Utah*; **John Durica**, *New Mexico Institute of Mining and Technology*; **Nicholas Buczacki**, *Pennsylvania State University*; **Keegan Patrick**, *West Virginia University*; **Brent Davis**, *Missouri University of Science & Technology*; **Rishabh Gurjar**, *Indian Institute of Technology*.

### John Sidney Marshall Memorial Scholarships (AIME/C&E Division)

**Shivam Singh Bhadoria**, *Indian Institute of Technology*; **Erik Blinkhorn**, *West Virginia University*; **Branden Fraser**, *Montana Tech*; **Robert H. Congleton**, *University of Kentucky*; **Branden Fraser**, *Montana Tech*; **Prashant Kashyap**, *Indian Institute of Technology*; **Akash Kumar**, *Indian Institute of Technology*; **Andre Pereira**, *West Virginia University*; **Prashant Ratrey**, *Indian Institute of Technology*; **Emilayne Waiandt**, *Montana Tech*; **Shikhar Singh**, *Indian Institute of Technology*; **Jared Urcheck**, *West Virginia University*; **Vikrant Verma**, *Indian Institute of Technology*; **Schuyler Brock**, *University of Utah*; **Chase Carroll**, *University of Utah*.

### Environmental Division Scholarships

**Rahul Bhargava**, *South Dakota School of Mines and Technology*; **Rushikesh Battulwar**, *University of Nevada Reno*; **Branden Fraser**, *Montana Tech*; **Jiancong Chen**, *University of California, Berkeley*.

### Veolia Water Solutions and Technologies Scholarship

**Adewale Adeniji**, *West Virginia University*

### Industrial Minerals & Aggregates Division Scholarship

**Gerald V. Henderson Memorial**  
**Bethany Witter**, *Virginia Tech*

### Mineral & Metallurgical Processing Division Scholarships

**Taylor Greer**, *University of British Columbia*; **Alyssa Gedse**, *Virginia Polytech Institute and State University*; **John Hansen-Carlson**, *Montana Tech*; **Timothy Lambert**, *Virginia Polytech Institute and State University*.

### Richard Klimpel Memorial

**Nestor A. Santa**, *Universidad Nacional de Colombia*

### Rong Yu Wan Scholarship

**Wencai Zhang**, *University of Kentucky*

### Outstanding Junior Scholarship

**Alexandra Russell**, *Virginia Polytech Institute and State University*

### Outstanding Graduate Student

**Biao Li**, *Virginia Polytech Institute and State University*

### Graduate Student scholarships

**Sriam Valluri**, *Michigan Tech*; **Charles Ebenezer Abbey**, *Missouri University of Science & Technology*

### Mining & Exploration Division Scholarships

**Annaleigh Seeley**, *University of Utah*

**Emilayne Waiandt**, *West Virginia University*

### Eugene Pfeider Memorial

**Evan Klouse**, *University of Nevada Reno*

### Steven C. Potter

**Elizabeth Hollingsworth**, *University of Nevada Reno*

### Stewart R. Wallace Memorial Scholarship

**Venkata Aneesh Kona**, *South Dakota School of Mines & Technology*

## 2018 SME Foundation Scholarship Recipients

### J.H. Fletcher & Co. Scholarship

**Branden Fraser**  
Montana Tech

**Timothy Lambert**  
Montana Tech

**Conan Moore**  
Montana Tech

### McIntosh Engineering Scholarship

**Conan Moore**  
Montana Tech

### MMSA/SMEF Presidential Scholarship

**Bethany Witter**  
Virginia Tech

### George V. Weisdack Scholarship

**Timothy Lambert**  
Montana Tech

### Syd S. and Felicia F. Peng Ground Control in Mining Scholarship

**Rushikesh Battulwar**  
University of Nevada

**Neel Gupta**  
West Virginia University

**Hua Jiang**  
West Virginia University

**Elaheh Talebi Esfandarani**  
New Mexico Tech

### Ernest K. Lehmann Memorial Scholarship

**Zoe Scopa**  
Virginia Tech

*WAAIME Division Scholarships are listed on page 23*

## SME Foundation

*(Continued from page 25)*

### VIP Pass

The VIP Access Conference Pass has been a proven success. All SMEF individual donors who contributed \$1,000 or more in the calendar year qualify for VIP Access at the SME Annual Conference & Expo. In 2018, there were 59 donors who received this experience; in 2018 there were 62 donors who qualified for this prestigious distinction.



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- Herbert Welhener – John T. Boyd Challenge
- Boart Longyear – John T. Boyd Challenge
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- Kinross Gold Corporation – Ruby Circle

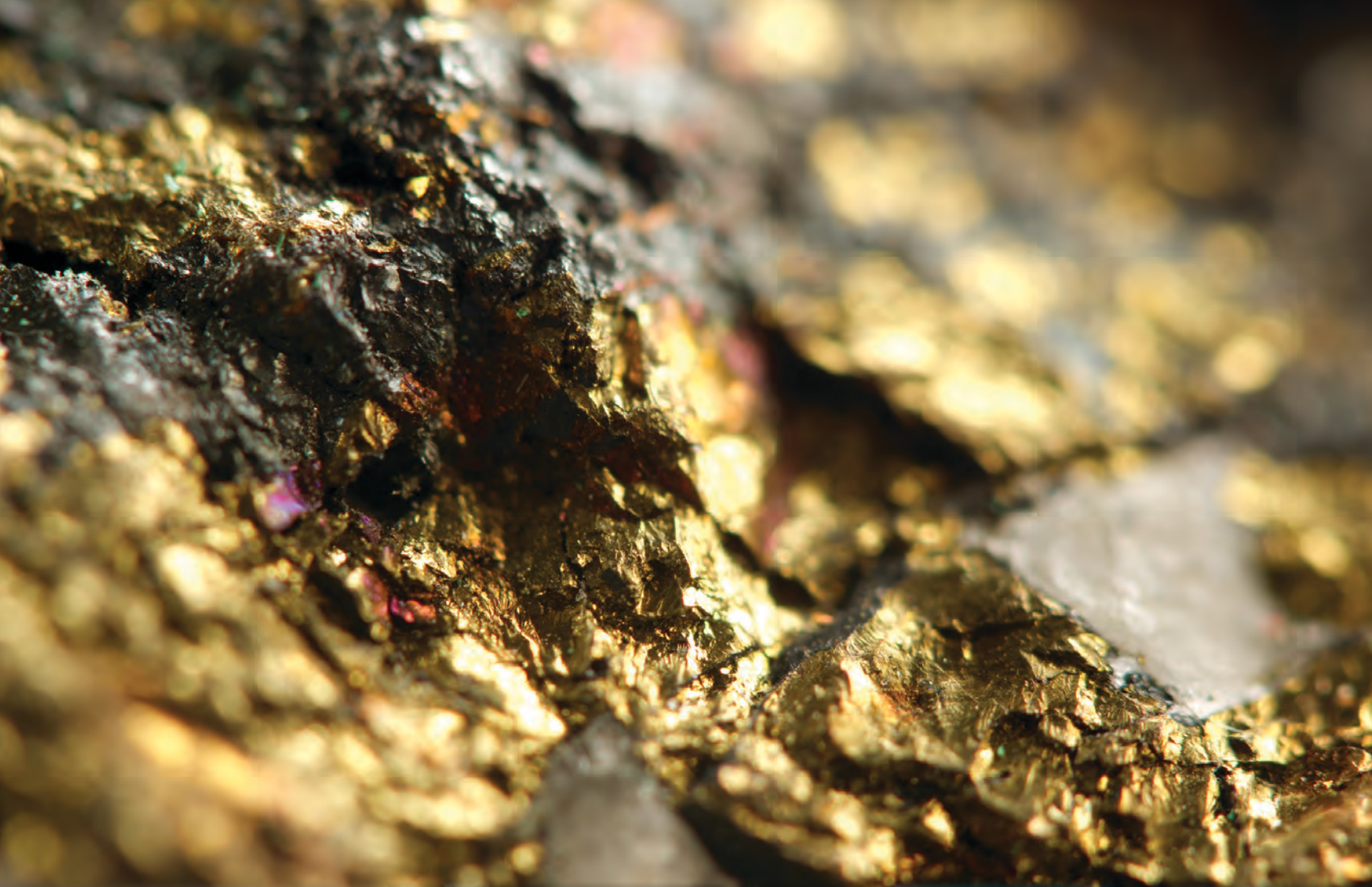
As the President of the SME Foundation, and on behalf of the entire SMEF Board of Trustees and SME staff, I thank you for your generous support of the programs which SMEF promotes. Your contributions have made a significant difference. Once again, I ask for your continued financial support for one or more Foundation programs in the year ahead to help strengthen and enhance our industry for the next generation.

Respectfully submitted,

Bill A. Hancock

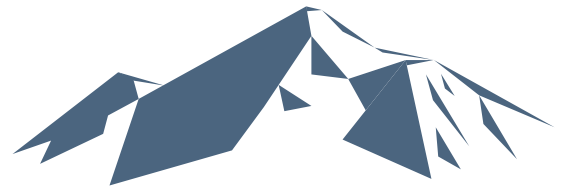
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**2018**  
*Annual Report*



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