



SEG
www.segweb.org

Education and Training Curriculum Course Catalog 2018

- ✂ **Mentorship**
- ✂ **Education**
- ✂ **Opportunity**
- ✂ **Exploration**
- ✂ **Discovery**



SOCIETY OF ECONOMIC GEOLOGISTS



SEG
www.segweb.org

The 2018 Committee

Douglas J. Kirwin, *President-Elect, Chair*

J. Bruce Gemmill, *President*

Laurence J. Robb, *Past President*

Shaun L.L. Barker, *Publications Board Chair*

William X. Chávez, Jr., *Field Trip Coordinator*

Elizabeth R. Sharman, *Member-at-Large*

Roberto P. Xavier, *Member-at-Large*

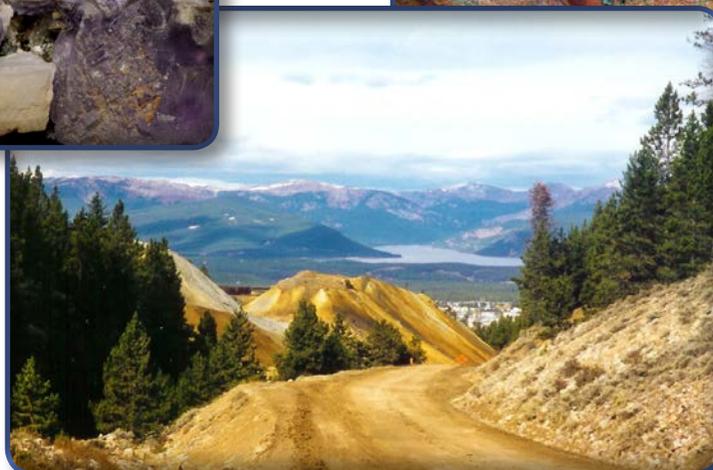
Brian G. Hoal, *Executive Director ex officio*

Elizabeth Holley, *Program Coordinator ex officio*



Contents

Preliminary 2017 Education and Training Curriculum	4–5
Copper-Silver-Gold Metallogeny of Northern Chile: Copiapó to Antofagasta.....	6
Short Course on Orogenic Gold in Africa and Worldwide.....	7
SEG at PDAC — Environmental Geological Models of Mineral Deposits With an Emphasis on North America.....	8
Copper-Silver-Gold Metallogeny of Northern Chile: Copiapó to Antofagasta.....	9
Economic Geology 101 — What Type of Ore Deposit is That?.....	10
SEG 2018 Conference — Metals, Minerals, and Society.....	11–16
SEG at GSA 2018	17
SEG Mapping Course.....	18
SEG/WM — Senior Exploration Management Course.....	19–20
Porphyry Systems of Northern Chile: Antofagasta to Calama	21





PRELIMINARY
2018 Education and Training Curriculum

The following is a preliminary list of short courses (**SC**) and field trips (**FT**) scheduled for 2018.
SEG reserves the right to cancel courses or modify speakers, topics, and locations.

Official registration information will be available about three months prior to the courses.
Visit segweb.org/events for the latest updates on courses and events!

SEG Short Course/ Field Trip	EG SC/ SFT Dates	Conference Dates	Venue/Location	Presenter(s)/ Leader(s)
FT Copper-Silver-Gold Metallogeny of Northern Chile: Copiapó to Antofagasta	January 20–21	N/A	Northern Chile	William Chávez, Jr., Erich Petersen
SC Orogenic Gold in Africa and Worldwide	February 3–4	February 5–8	Mining Indaba, Rondebosch, South Africa	Bob Foster,, Rich Goldfarb, Lynnette Greyling
SC Environmental Geological Models of Mineral Deposits With an Emphasis on North America	March 3	March 4–7	PDAC, Toronto, Canada	Robert Bowell, Robert Seal, Stephen Day Heather Jamieson Amy Prestia
FT Copper-Silver-Gold Metallogeny of Northern Chile: Copiapó to Antofagasta	May 25– June 2	N/A	Northern Chile	William Chávez, Jr., Erich Petersen
Economic Geology 101	June 22	June 16–21	Resources for Future Generations, Vancouver BC	TBD
SC Applied Structural Geology of Precious Metal-Bearing Hydrothermal Mineralizing Systems	September 21–22	September 22–25	SEG Keystone, Colorado	Wayne Barnett, Stephen Cox, David Rhys, Julie Rowland, James Siddorn
SC Introduction to Geology- Driven Resource Domaining and Modeling	September 21–22	September 22–25	SEG Keystone, Colorado	Peter Gleeson, SRK, Leapfrog
SC Geophysics for Geologists: Relevance of Case Histories	September 21–22	September 22–25	SEG Keystone, Colorado	Alan King
SC Mineral Vectoring in Hydrothermal Ore Deposits: A Multiscale Approach	September 21–22	September 22–25	SEG Keystone, Colorado	Brigette Martini, Cari Deyell-Wurst
SC Exploration Geochemistry: From Fundamentals to the Field	September 26–27	September 22–25	SEG Keystone, Colorado	Peter Winterburn
SC Cu-Mo Porphyry Deposits: Multiscale Practical Approach from Magmas to Minerals	September 26–27	September 22–25	SEG Keystone, Colorado	John Dilles, Kalin Kouzmanov
SC Rare Earth and Critical Elements in Ore Deposits	September 26–27	September 22–25	SEG Keystone, Colorado	Murray Hitzman, Simon Jowitt, Phillip Verplanck, Anthony Williams-Jones

Please note that the 2018 calendar is provisional.
Dates, locations, and courses subject to change. For up-to-date information, see www.segweb.org/events.

2018 Education and Training Curriculum *(continued)*

SEG Short Course/ Field Trip	EG SC/ SFT Dates	Conference Dates	Venue/Location	Presenter(s)/ Leader(s)
FT Central and South Kamchatka Mining Districts, Far East of Russia	September 13–19	September 22–25	SEG Keystone, Colorado	Daria Bukhanova
FT Rare Earth and Precious Metal Systems of the Mojave Desert Region	September 17–22	September 22–25	SEG Keystone, Colorado	William Chávez, Jr. Erich Petersen
FT Lithium and Gold Associated with Rhyolites	September 18–21	September 22–25	SEG Keystone, Colorado	Jonathan Price, Ruth Carraher, Ted Wilton
FT Uncovering the Bingham and Stockton Cu-Mo-Au Porphyries	September 20–21	September 22–25	SEG Keystone, Colorado	Kitty Gundy, Rudy Ganske, Ken Krahulec
FT Cripple Creek and Victor Mines	September 21	September 22–25	SEG Keystone, Colorado	Douglas White
FT Paradox Basin Fluids and Colorado Plateau Copper, Uranium, and Vanadium Deposits	September 25–28	September 22–25	SEG Keystone, Colorado	Jon Thorson, Isabel Barton, Mark Barton
SEG at GSA 2018	November 4–7	November 4–7	GSA Indianapolis, Indiana	
SC Field Mapping	November 4–10	N/A	Mineral Park Mine Ithaca Peak District, Arizona	William Chávez, Jr., Erich Petersen
SC Senior Exploration Management	November 27–30	N/A	SEG Littleton, CO	Jon Hronsky, Steven Bussey, Brad Margeson, Jeff Welborn
SC Porphyry Systems of Northern Chile: Antofagasta to Calama	December 1–7	N/A	Antofagasta, Chile	William Chávez, Jr., Erich Petersen



SEG
www.segweb.org

Copper-Silver-Gold Metallogeny of Northern Chile: Copiapó to Antofagasta

Copiapó, Chile | January 12–20, 2018

DESCRIPTION

This Field Course is offered by the SEG Education and Training Committee and emphasizes the alteration-mineralization mineralogy and geochemistry of hydrothermal systems characterizing northern Chile from Copiapó to Antofagasta. Core reviews and mine visits will comprise porphyry Cu-Mo, Cu-Au skarn-manto-vein, high-sulfidation Au-Ag-(Cu) epithermal, and Chilean “manto-type” Cu-Ag systems, with visits complemented by evening “take-away” discussion sessions. Use of activity diagrams to explain the alteration and mineralization assemblages will help participants understand the geochemistry of hydrothermal systems and their vagaries.

This field course is appropriate for professional geologists and graduate students with interest in applied geochemistry and mineral exploration. This course starts in Copiapó, Chile on Friday, 12th January, and ends on Saturday morning, 20th January, 2018. The course is limited to twenty participants. We will travel by commercial bus, the “SEG Traveling Classroom” with a professional driver. Participants are responsible for providing their own PPE gear (hardhat, reflective vest, steel-toe boots, gloves, eye protection, and long-sleeve shirts). Course registration cost includes bus transportation from Copiapó to Antofagasta, double-occupancy lodging, course notes, breakfasts, and some lunches. Participants should plan on attending a Safety and Logistics Meeting in Copiapó at 7:00PM on Friday, 12th January, and may plan on departing Antofagasta on the morning of Saturday, 20th January.

INSTRUCTORS



- Dr. William X. Chávez, Jr.**

A professor of geological engineering at the New Mexico School of Mines since 1985, Dr. Chávez has instructed field and in-class workshops for the Society of Economic Geologists involving a variety of ore deposit types, with emphasis on the practical application of geochemistry to mineral exploration.



- Dr. Erich U. Petersen**

A professor of geology and geophysics at the University of Utah in the Latin American Studies Program, Dr. Petersen’s geographical regions of interest include Central and South America. He has worked closely with the Society of Economic Geologists over the years through several field trips, short courses, and workshops.

REGISTRATION Online at www.segweb.org/events#18RCHILE

Early Registration

(through December 1, 2017)

Member: US\$1,295
Non-member: US\$1,495
Student: US\$695
Student Non-member: US\$795

Late Registration

(after December 1, 2017)

Member: US\$1,395
Non-member: US\$1,595
Student: US\$795
Student Non-member: US\$895

**The course is limited to 20 participants.
 Student participants are limited to 2 at the attendee minimum or 3 at attendee maximum.**

Please note that SEG reserves the right to cancel this event should minimum attendance numbers not be met by December 1, 2017. For further information on cancellation policy, event photography, and dietary restrictions, visit www.segweb.org/tc.



SEG
www.segweb.org



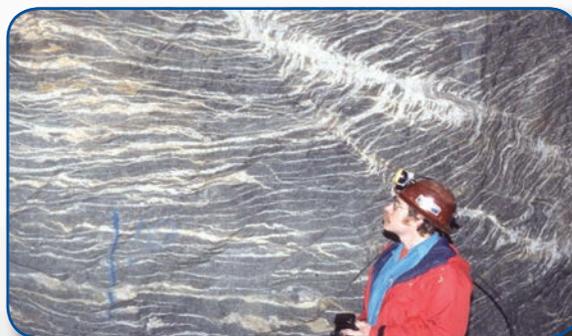
Short Course on Orogenic Gold in Africa and Worldwide

The University of Cape Town |
Rondebosch, South Africa
February 3–4, 2018

DESCRIPTION

This workshop on orogenic gold will be held at the University of Cape Town from February 3 to 4, 2018, the weekend prior to the Mining Indaba meeting. The two-day course will focus on the geology of and exploration for orogenic gold deposits, the most widespread type of gold deposit globally. Leading experts will provide descriptions of the most important Precambrian and Phanerozoic examples of orogenic gold ores formed in the world's young accretionary orogens and old cratonic greenstone belts. Topics to be covered include tectonic and structural controls, geological characteristics, geochemical and geophysical signatures, geochronological relationships, and exploration strategies. A large component of the program will be the detailed description of gold metallogensis and recent exploration successes throughout Africa. Other gold deposits with some overlapping features will be compared and contrasted to indicate what type of resources are the most favorable targets for the explorationist in various provinces. The course is aimed at geoscientists from both industry and academia, as well as students of economic geology who desire a comprehensive understanding of modern concepts on the geology of orogenic gold deposits.

SEG gold courses in Cape Town have filled up quickly in previous years—we recommend registering early for the 2018 event.



PRESENTERS



• **Bob Foster**
UK-based consulting geologist who commenced his career in Zimbabwe and most recently spent 10 years as Chief Executive of AIM-listed Stratex International, focused on gold exploration and project development in Africa and Turkey.



• **Richard J. Goldfarb**
Research professor at Colorado School of Mines and China U. of Geosciences Beijing, as well as USA-based consulting geologist; spent 35 years as research geologist at USGS, specializing in the geology and geochemistry of orogenic gold.



• **Lynnette N. Greyling**
Lecturer and researcher based at UCT, South Africa, with industry experience in West and Central Africa and currently working on orogenic gold mineralization hosted in African greenstone belts.

REGISTRATION Online at segweb.org/events#18RGOLDUCT

Early Registration (through January 15, 2018)

Member: US\$895
Non-member: US\$995
Student: US\$395
Student Non-member: US\$445

Late Registration (after January 15, 2018)

Member: US\$995
Non-member: US\$1095
Student: US\$445
Student Non-member: US\$495

Please note that SEG reserves the right to cancel this event should minimum attendance numbers not be met by January 15, 2018. For further information on cancellation policy, event photography, and dietary restrictions, visit www.segweb.org/tc.



SEG at PDAC 2018

Environmental Geological Models of Mineral Deposits With an Emphasis on North America

Organizer: Society of Economic Geologists (SEG)
Saturday, March 3, 2018 | 8:00 AM – 5:00 PM
Toronto Convention Centre, Toronto, Canada



DESCRIPTION

The aim of this course is to present the environmental implications of mining by looking at the most common mineral deposits in North America from a geologic-geochemical perspective. Through this study, participants will examine the implications for these deposits and their design, operation, and closure with respect to minimizing environmental impacts. The presenters of the course have spent much of their careers in the assessment and management of mine waste.

The individual deposits to be covered will be:

- Base metals (porphyry, VMS, SEDEX and MVT)
- Gold (orogenic, epithermal, Carlin)
- Nickel
- Coal
- Gemstones

Mining of strategic commodities (lithium, molybdenum, graphite, REE, tin-tungsten, fluorite, and barite) and uranium will also be discussed. The course will benefit those involved in the management and assessment of environmental impacts associated with mineral deposits, particularly in North America. Researchers, practitioners, students, and regulators will benefit from this course.

PRESENTERS



Robert Bowell (SEG 1996 F), SRK Consulting (UK)

Rob Bowell is a geochemist with SRK Consulting (UK) Limited. He has 30 years of experience, with a background in applied geology in tropical and deeply weathered terrains and mining consulting in the fields of due diligence, financial and technical audits, process chemistry, environmental geochemistry, environmental engineering, and mineralogy.



Robert R. Seal (SEG 1991 F), U.S. Geological Survey

Bob has been a research geologist with the Mineral Resources Program of the U.S. Geological Survey for 29 years. He specializes in environmental geology and geochemistry related to mining, and he has conducted research on topics ranging from abandoned mines to proposed mining projects. He has organized and presented numerous short courses and workshops around the world.



Stephen Day, SRK Consulting (Canada)

Stephen is a corporate consultant (geochemistry) at SRK in Vancouver, BC. He has worked as a geochemist specializing in mine waste management for 28 years, primarily focused on geologic settings in the Americas, including porphyry deposits in both North and South America, coal deposits in the Rockies, and magmatic nickel deposits in the Duluth Complex.



Heather Jamieson, Queen's University

Heather's expertise is in the area of environmental geochemistry, particularly the mineralogical controls on the mobility and bioaccessibility of metals and metalloids such as As, Sb, REEs, and Pb in mine waste. She has pioneered the application of synchrotron-based X-ray experiments and other microanalytical methods to metal speciation in mine tailings, soils, and sediments.



Amy Prestia, SRK Consulting (USA)

Amy Prestia is a registered professional geologist specializing in the geochemistry of the environment as it pertains to mine waste characterization and prediction of acid generation potential. Over the past 16 years at SRK, Amy has contributed to over 20 mine permitting projects.

REGISTER at

www.segweb.org/events#18PDACSEG

ATTENTION SEG MEMBERS

You must complete the SEG Member Registration Form to receive the member rate for this course. No discounts are offered on PDAC 2018 registration. www.segweb.org/18PDACSEG-Form

Level of Comprehension: Intermediate

Course Fee (including course material, continental breakfast, three-course lunch, and refreshments):

Early Registration

(through February 2, 2018)

PDAC or SEG Member: C\$499.99
Non-member: C\$599.99
Student Member: C\$249.99

Late Registration

(after February 2, 2018)

PDAC or SEG Member: C\$699.99
Non-member: C\$799.99
Student Member: C\$249.99

Please note that SEG/PDAC reserves the right to cancel this event should minimum attendance numbers not be met by February 3, 2018.



Copper-Silver-Gold Metallogeny of Northern Chile: Copiapó to Antofagasta

Copiapó, Chile | May 25–June 2, 2018

DESCRIPTION

This Field Course is offered by the SEG Education and Training Committee and emphasizes the alteration-mineralization mineralogy and geochemistry of hydrothermal systems characterizing northern Chile from Copiapó to Antofagasta. Core reviews and mine visits will comprise porphyry Cu-Mo, Cu-Au skarn-manto-vein, high-sulfidation Au-Ag-(Cu) epithermal, and Chilean “manto-type” Cu-Ag systems, with visits complemented by evening “take-away” discussion sessions. Use of activity diagrams to explain the alteration and mineralization assemblages will help participants understand the geochemistry of hydrothermal systems and their vagaries.

This field course is appropriate for professional geologists and graduate students with interest in applied geochemistry and mineral exploration. This course starts in Copiapó, Chile on Friday, 25th May, and ends on Saturday morning, 2nd June, 2018. The course is limited to twenty participants. We will travel by commercial bus, the “SEG Traveling Classroom” with a professional driver. Participants are responsible for providing their own PPE gear (hardhat, reflective vest, steel-toe boots, gloves, eye protection, and long-sleeve shirts). Course registration cost includes bus transportation from Copiapó to Antofagasta, double-occupancy lodging, course notes, breakfasts, and some lunches. Participants should plan on attending a Safety and Logistics Meeting in Copiapó at 7:00PM on Friday, 25th May, and may plan on departing Antofagasta on the morning of Saturday, 2nd June.

INSTRUCTORS



- Dr. William X. Chávez, Jr.**

A professor of geological engineering at the New Mexico School of Mines since 1985, Dr. Chávez has instructed field and in-class workshops for the Society of Economic Geologists involving a variety of ore deposit types, with emphasis on the practical application of geochemistry to mineral exploration.



- Dr. Erich U. Petersen**

A professor of geology and geophysics at the University of Utah in the Latin American Studies Program, Dr. Petersen’s geographical regions of interest include Central and South America. He has worked closely with the Society of Economic Geologists over the years through several field trips, short courses, and workshops.

REGISTRATION Online at www.segweb.org/events#18RCHILE2

Early Registration

(through March 30, 2018)

Member: US\$1,295
Non-member: US\$1,495
Student: US\$695
Student Non-member: US\$795

Late Registration

(after March 30, 2018)

Member: US\$1,395
Non-member: US\$1,595
Student: US\$795
Student Non-member: US\$895

**The course is limited to 20 participants.
 Student participants are limited to 2 at the attendee minimum or 3 at attendee maximum.**

Please note that SEG reserves the right to cancel this event should minimum attendance numbers not be met by March 30, 2018. For further information on cancellation policy, event photography, and dietary restrictions, visit www.segweb.org/tc.



SEG
www.segweb.org

Economic Geology 101

WHAT TYPE OF ORE DEPOSIT IS THAT?

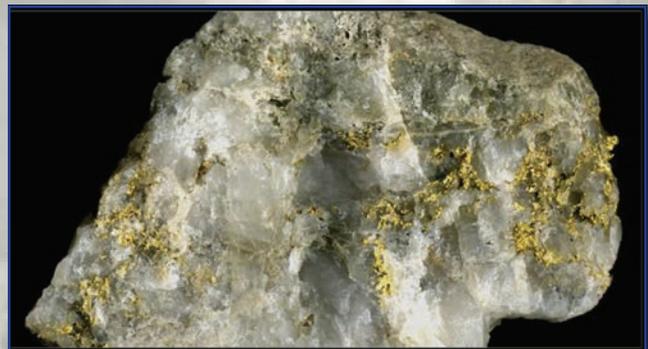
PROPOSED SEG one day course at RFG, Vancouver, 2018

COURSE PRESENTERS: Experienced members of the SEG



OUTLINE & OBJECTIVES:

You have heard about porphyry copper deposits and you have read about fabulously rich lode gold occurrences...you know the Bushveld Complex is somewhere in South Africa but you have no idea what it really is... you are curious about how large scale concentrations of metals form in the Earth's crust...you would like to know more about where, how and when the major mineral occurrences formed...



THEN THIS SHORT COURSE IS FOR YOU!

This course will be presented by senior members of the SEG and aims to provide a one-day introduction to economic geology for earth scientists and professionals from other disciplines. The course comprises several modules that can be selected to fit the audience type and requirements. Each module was constructed by an expert in that particular field. The modules comprise up-to-date ore-body models and spectacular imagery that summarize the principal features of the main ore deposit types, including resource characteristics, geometry, ore-formation process, mineralogy, extraction and mining methods etc.

The course is particularly suited to non-economic geologists who have an interest in natural resources.



COURSE OUTLINE:

MODULE	THEME	TOPIC	TIME
I	Introduction to ore deposits	The role of the SEG; understanding ores; aims of the course	9.00– 9.45
II	Introduction to ore deposits in mafic igneous rocks	Layered mafic complexes; kimberlites	9.45–10.45
COFFEE BREAK			
III	Introduction to ore deposits in felsic igneous rocks	Granites and porphyry deposits	11.00–12.00
IV	Hydrothermal ore deposit case study	Volcanogenic massive sulphide deposits	12.00–13.00
LUNCH			
V	Structurally controlled ore deposits	Orogenic gold	14.00–14.45
VI	Sedimentary-hosted ore deposits	Placer deposits; gold in the Witwatersrand Basin; chemical ore deposits	14.45–15.30
BREAK			
VII	Exploration for ore deposits	Techniques and stages in exploration	15.45–16.15
VIII	Careers in Economic Geology	Options; skills required	16.15–16.45
	Questions		



SEG 2018

September 22–25, 2018
seg2018.org

Metals, Minerals, and Society Keystone, Colorado, USA



Invitation to Attend the SEG 2018 Conference

Every four years of the past 12, SEG members and other geoscientists have gathered in Colorado for the Society’s flagship event. The SEG 2018 Conference, *Metals, Minerals, and Society*, will take place September 22–25 at the Keystone Conference Center. The conference title was chosen to reflect the broadening scope of the field of economic geology, which more than ever encompasses precious and base metals that form the traditional backbone of our exploration and research projects, infrastructure metals needed for the urbanization of our modern world, and technology and energy minerals and metals used in fast-developing industries and markets.

These themes will be the focus of technical sessions, bringing together both invited and submitted presentations and posters to update our community on the latest developments across the breadth of our discipline. The challenges of adapting to and predicting present and future trends, both for economic geologists and society as a whole, will be specific and, we hope, thought-provoking session topics.

The technical program also will feature plenary sessions, again with both invited and submitted talks, focused on recent breakthroughs in economic geology, integration of multidisciplinary geoscience, and the crossover between petroleum and ore deposit geoscience as applied to sedimentary basins. Selected papers will be published in a peer-reviewed SEG Special Publication that will be available for purchase at the conference.

Complementing the technical program is a wide range of high-quality pre- and post-conference workshops and field trips. These offer the opportunity to broaden and deepen exposure to important deposit types, technologies, and practical exploration tools.

Students and young professionals play a critical role as current innovators and future leaders in our society, and the conference will build on the SEG tradition of encouraging and sponsoring their participation with a series of integrated pre- and syn-conference events. This group is encouraged to submit abstracts for oral and poster presentations. Industry sponsorship for these newer practitioners and for the conference is underway. Additional contributions and sponsorship are welcome.

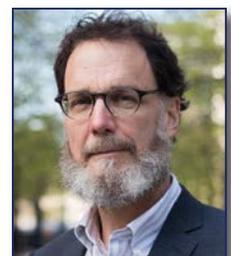
The SEG 2018 Organizing Committee and SEG executive and volunteers look forward to seeing you in the Colorado Rockies for what promises to be an exceptional conference!

Organizing Committee

- Conference Chair:*
M. Stephen Enders
- SEG Executive Director:*
Brian G. Hoal
- Technical Program:*
David W. Broughton
- Publications:*
Antonio Arribas and
Jeffrey L. Mauk
- Field Trips:*
Nathan H. Brewer
- Workshops:*
Andrew T. Wurst
- Posters/Students:*
Regina M. Baumgartner
- Fundraising/Marketing:*
Nikki Morrison
- SEG Executive Assistant:*
Alison Cronk
- Conference Organizer:*
Kathy Basel
- Exhibit Sales Manager:*
Darline Daley



M. Stephen Enders
(SEG 1981 F), *Chair*



David W. Broughton
(SEG 2003 F), *Technical Program*

WORKSHOPS

The number of places is limited. Sign up now at www.seg2018.org/workshops.html

If you are interested in the Field Trips or Workshops but have not registered for SEG 2018, you're in luck! The pre- and post-conference events are now open to non-registrants.

PRE-CONFERENCE WORKSHOPS

All workshops will be held at the Keystone Conference Center

◀ WS01 ▶

Applied Structural Geology of Precious Metal-Bearing Hydrothermal Mineralizing Systems

DATE September 21–22, 2018
 PRESENTERS Wayne Barnett, SRK Consulting, Stephen Cox, Australian National University, David Rhys,* Consulting Geologist, Julie Rowland,* University of Auckland, James Siddorn, SRK Consulting

Description

This workshop will address the structural styles and controls on Au- and Ag-bearing deposits, as well as methodologies for their assessment in exploration and mining environments. Presentations will review the structural characteristics of deposits and examine controls on fluid flow. Field relationships and workflows for data acquisition and interpretation at core, deposit, and district scale will be reviewed, illustrating the variety of structural features that may be used to constrain deposit-scale geological models. Participants will receive a grounding in the principles of structural control. Although focused on Au-Ag deposits of different types, the information presented here also may be of benefit to workers in other structurally controlled or modified mineral deposits.



Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$895	US\$ 995
Non-member	US\$995	US\$1,095
SEG Student Member	US\$445	US\$ 495
Student Non-member	US\$495	US\$ 545

Students may not exceed 20% of total participants

◀ WS02 ▶

Introduction to Geology-Driven Resource Domaining and Modeling

DATE September 21–22, 2018
 PRESENTERS Peter Gleeson*, SRK Corporate Consultant (Mining and Resource Geology), SRK, Leapfrog

Description

The workshop is jointly run by SEG, SRK, and Leapfrog and is designed to help resource, exploration, and production geologists take field observations and incorporate them successfully into their mining software to produce robust, reliable, and geologically realistic models for use in grade control,



resource estimation, and exploration targeting. It is designed for all mine and exploration geologists and will be led by an experienced consultant from SRK (with help from the Leapfrog team) who operates at the forefront of modern geological modelling and resource estimation. The workshop includes presentations along with hands-on practical sessions. No prior knowledge of the software is necessary, although a general background in geological modelling would be useful.



Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$595	US\$695
Non-member	US\$695	US\$795
SEG Student Member	US\$295	US\$345
Student Non-member	US\$345	US\$395

Students may not exceed 20% of total participants

◀ WS03 ▶

Geophysics for Geologists: Relevance of Case Histories

DATE September 21–22, 2018
 PRESENTER Alan King,* Geoscience North

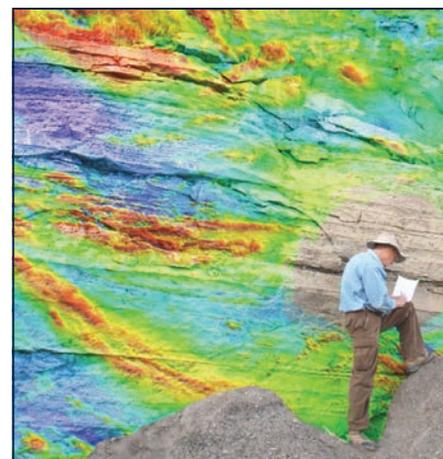
Description

This 1.5-day workshop is designed to communicate the basic principles and common applications of geophysics to geologists by relying on the individual's intuitive understanding of the physics of the world around them—that is, geophysics without equations. It will focus on, but not be restricted to, mining exploration, and is designed to give geologists the tools they need to understand and apply geophysics for all common mining exploration methods, as well as some of the whole-earth geophysical methods that are important in understanding larger scale tectonics and geoscience. It is designed to be an introductory applied course as well as an update for those who may have studied geophysics some time ago.

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$395	US\$495
Non-member	US\$495	US\$595
SEG Student Member	US\$195	US\$245
Student Non-member	US\$245	US\$295

Students may not exceed 20% of total participants



*Workshop organizer

WORKSHOPS

◀ WS04 ▶

Mineral Vectoring in Hydrothermal Ore Deposits: A Multiscale Approach

DATE September 21–22, 2018
 PRESENTERS Brigette Martini,* Corescan,
 Cari Deyell-Wurst,* Corescan

Sponsored by Corescan



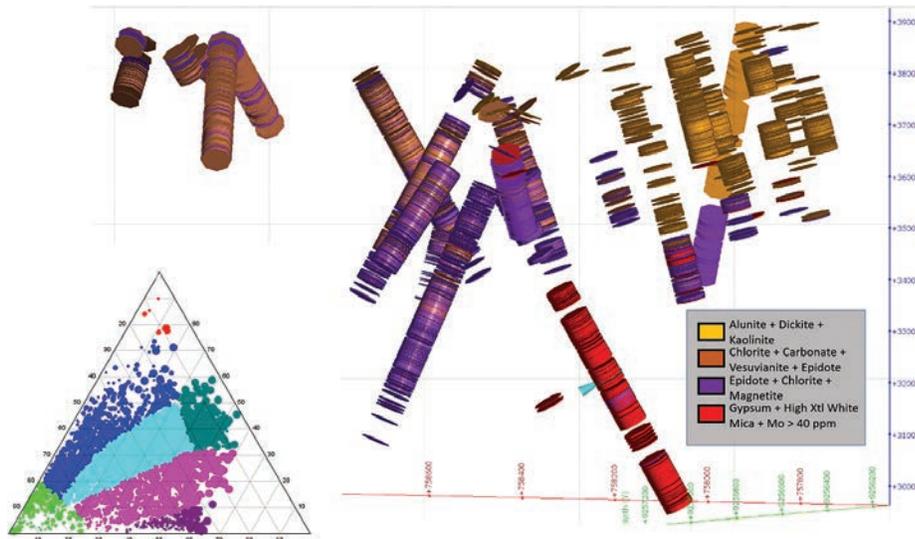
Description

Recent advances in microanalytical techniques have provided explorers with the potential for an unprecedented and detailed level of knowledge into the mineralogy of their ore deposits. However, knowing when and how to deploy these techniques can be challenging. Furthermore, knowing how to scale these diverse technologies from micro- to deposit/district scale is one of the most difficult decisions explorers have to make. This 1.5-day workshop will focus on the use of mineral characteristics as exploration vectors in a range of hydrothermal ore deposits. Techniques covered will include spectral point data, hyperspectral analyses, and targeted mineral geochemistry (i.e., laser ablation ICP-MS, quantitative SEM-EDS, XRD, XRF, Raman spectroscopy). Guest speakers from both industry and academia will present case studies to reinforce the course objectives and give participants guidance on cutting-edge technologies and practical examples in order to incorporate mineral targeting within exploration workflows.

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$395	US\$495
Non-member	US\$495	US\$595
SEG Student Member	US\$195	US\$245
Student Non-member	US\$245	US\$295

Students may not exceed 20% of total participants



POST-CONFERENCE WORKSHOPS

◀ WS05 ▶

Exploration Geochemistry: From Fundamentals to the Field

DATE September 26–27, 2018
 PRESENTER Peter Winterburn,* University of British Columbia

Description

An understanding of the basic geochemical concepts of element distribution and relationships from a global level to a mineral deposit scale will be combined with sampling theory and practices to provide a model-based geochemical exploration workshop. Sampling strategies, sample types, and key analytical methodologies will be discussed, leading into multi-element strategies for data interpretation and

target selection and prioritization. The workshop will focus on porphyry-style mineralization, although other, non-porphyry examples will be discussed.

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$495	US\$595
Non-member	US\$595	US\$695
SEG Student Member	US\$245	US\$295
Student Non-member	US\$295	US\$345

Students may not exceed 20% of total participants

◀ WS06 ▶

Cu-Mo Porphyry Deposits: Multiscale Practical Approach from Magmas to Minerals

DATE September 26–27, 2018
 PRESENTERS John Dilles,* Oregon State University, Kalin Kouzmanov,* University of Geneva

Description

Porphyry-type deposits are the principal world sources of copper and molybdenum, and important sources of gold and silver. This workshop provides an introduction to magmatic, hydrothermal, and ore-forming processes, with examples from the geology of important and well-studied deposits. The goal of the course is to provide the students with knowledge of the basic characteristics of host rocks, styles of alteration and mineralization, and present-day understanding of ore-forming processes in porphyry systems based on recent scientific advances, using modern



*Workshop organizer

WORKSHOPS



analytical studies from the multi-km to micron scale.

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$695	US\$795
Non-member	US\$795	US\$895
SEG Student Member	US\$345	US\$395
Student Non-member	US\$395	US\$445

Students may not exceed 20% of total participants

If you are interested in the Field Trips or Workshops but have not registered for SEG 2018, you're in luck! The pre- and post-conference events are now open to non-registrants.

PRE-CONFERENCE FIELD TRIPS

◀ FT01 ▶

Central and South Kamchatka Mining Districts, Far East of Russia

DATE	September 13–19, 2018
LOCATION	Departing from and returning to Petropavlovsk-Kamchatsky, Russia
FIELD TRIP LEADER	Daria S. Bukhanova, Scientist of Lab of Petrology, Geochemistry and Mineralogy of Institute of Volcanology and Seismology, Far East Branch of the Russian Academy of Sciences

Description

Kamchatka Peninsula is located in the northeastern section of the Pacific Ring of Fire. There are 31 active volcanoes

◀ WS07 ▶

Rare Earth and Critical Elements in Ore Deposits

DATE	September 26–27, 2018
PRESENTERS	Murray Hitzman, Geological Consultant, Simon Jowitt,* University of Nevada, Las Vegas, Phillip Verplanck, US Geological Survey, Anthony Williams-Jones, McGill University

Description

The critical metals are fundamental to our modern way of life, the way modern society operates, and are vital ingredients in modern technologies such as wind turbines, advanced military equipment, smart phone and touch screen technology, and computing hardware. This two-day course covers the majority of key aspects relating to the critical metals, including the concept of criticality, an outline of the metals that are considered critical, the geological processes that generate enrichments in these metals, and key critical metal deposit models. This course is suitable for both novices and experts, and a digital copy of SEG Reviews in



Economic Geology Vol. 18 on critical metals will be provided to all participants.

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$795	US\$895
Non-member	US\$895	US\$995
SEG Student Member	US\$395	US\$445
Student Non-member	US\$445	US\$495

Students may not exceed 20% of total participants

FIELD TRIPS

The number of places is limited. Sign up now at www.seg2018.org/workshops.html

and more than 150 groups of hot springs, countless boiling mud cauldrons, fumaroles, and other forms of volcanic activity.

This is a geologically dynamic area with highly prospective mining districts for the discovery of Cu-Au-Mo porphyry and Au-Ag epithermal deposits. The field trip will provide the opportunity to visit the central Kamchatka mining district with the Aginskoe and Zolotoe low-sulfidation Au-Ag deposits and Kirganik Cu-Au porphyry deposit (a greenfields exploration project). The trip also includes a visit to the south Kamchatka mining district, which is surrounded by active volcanoes and hydrothermal systems. It hosts the Asacha Au-Ag low-sulfidation deposit, Mutnovsky and Gorely active volcanoes (a crater visit is included), the Mutnovsky Geothermal Power Plant, and several groups of hot springs.

Participants must have warm and waterproof field clothing. The temperature in mid-September typically ranges from +10° to -5°C. Transportation from

Petropavlovsk-Kamchatsky to the mining districts will be by truck and locally by all-terrain vehicles. Daily flights to Petropavlovsk-Kamchatsky depart from Moscow, Khabarovsk, and Vladivostok, with connections via Seoul-Incheon, Tokyo-Narita, Hong Kong, and Beijing to Khabarovsk and/or Vladivostok.

Most foreign nationals are required to have an entry visa to Russia (excluding most South American and CIS countries). The visa requirements of Russia can be found on the website of the Embassy of



*Workshop organizer

FIELD TRIPS

the Russian Federation or the Ministry of Foreign Affairs of the Russian Federation. Visas can be obtained at local Russian Embassies or Consulates. To have a visa issued, an official invitation processed by a Russian governmental office or officially authorized company is required. This will be provided by the field trip leader.

ATTENDEE MAXIMUM: 20

**Early Registration ends
July 31, 2018**

	EARLY	LATE
SEG Member	US\$1,595	US\$1,695
Non-member	US\$1,795	US\$1,895
No Student Discounts		

**Refer to www.seg2018.org
for updates**

◀ FT02 ▶

Rare Earth and Precious Metal Systems of the Mojave Desert Region

DATE	September 17–22, 2018
LOCATION	Departing from and returning to Las Vegas, Nevada, USA
FIELD TRIP LEADERS	William X. Chávez, Jr., New México School of Mines, Erich U. Petersen, University of Utah

Description

This field trip emphasizes the exploration geology and geochemistry of Au-Ag epithermal systems of the western Basin-and-Range Province and adjacent Mojave Block; we will also discuss and have a planned visit to the Mesoproterozoic-age (1.38 Ga) Mountain Pass Carbonatite complex. In-the-field observations and discussions of the geochemistry of epithermal systems, complemented by the use of activity diagrams to explain alteration-mineralization assemblages, form the basis for this practical trip. Visits to operating mines and prospects will give participants the opportunity to see hydrothermal systems from various exposure levels. Evening “take-away” sessions allow participants to discuss their observations in a collective forum, adding to the overall learning experience.

ATTENDEE MAXIMUM: 20

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$895	US\$ 995
Non-member	US\$995	US\$1,095
SEG Student Member	US\$445	US\$ 495
Student Non-member	US\$495	US\$ 545

Refer to www.seg2018.org for updates



◀ FT03 ▶

Lithium and Gold Associated with Rhyolites

DATE	September 18–21, 2018
LOCATION	Departing from and returning to Reno, Nevada, USA with three nights in Tonopah, Nevada
FIELD TRIP LEADERS	Jonathan G. Price, NV State Geologist Emeritus, Ruth A. Carraher, C&M Consultants, Ted Wilton, Westwater Resources, Inc.



Description

The field trip will examine active mines and exploration projects, geochemical and geophysical data, and tectonic setting to address a series of questions about lithium and gold deposits. What is the relation of magma chemistry to mineralization? Is melting of peculiar crust necessary? How do lithium-rich brines and lithium-rich clay deposits form? What are the roles

of meteoric water and hydrothermal fluids in the formation of the lithium deposits? How does eruption of tuff impact potential gold mineralization? How important is tectonic setting to the development of world-class lithium and gold deposits? What are the best guides for exploration?

ATTENDEE MAXIMUM: 27

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$ 995	US\$1,095
Non-member	US\$1,095	US\$1,195
SEG Student Member	US\$ 495	US\$ 545
Student Non-member	US\$ 545	US\$ 595

Refer to www.seg2018.org for updates

◀ FT04 ▶

Uncovering the Bingham and Stockton Cu-Mo-Au Porphyries

DATE	September 20–21
LOCATION	Departing from and returning to Salt Lake City, Utah, USA
FIELD TRIP LEADERS	Kitty Gundy, Rio Tinto, Rudy Ganske, Rio Tinto, Ken Krahulec, Utah Geological Survey

Description

The plan for this field trip is a morning visit to the Bingham Canyon mine that will include the east waste rock expansion project and the Manefay scarp. We will make 2-3 stops in the pit followed by a presentation in the 3D room. The second part of the day will be a trip to look from an exploration perspective at the mineral occurrences and alteration surrounding the unmined Stockton Porphyry Cu system 17 km west of the Bingham Canyon Mine. This field trip would be of benefit for those wishing to view a highly developed Cu-Au-Mo porphyry system along with an exploration perspective from a sub-economic buried porphyry system (Stockton).



FIELD TRIPS

ATTENDEE MAXIMUM: 20

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$695	US\$795
Non-member	US\$795	US\$895
SEG Student Member	US\$345	US\$395
Student Non-member	US\$395	US\$445

Refer to www.seg2018.org for updates

◀ FT05 ▶

Cripple Creek and Victor Mines

DATE	September 21, 2018
LOCATION	Departing from and returning to Keystone, Colorado, USA
LEADER	Douglas White, Newmont

Description

The Cripple Creek mining district, a world-class district located 20 miles west of Colorado Springs, Colorado, has produced over 25 Moz of gold (750 tonnes). Mineralization is hosted in a Tertiary-age alkaline volcanic/diatreme complex. Country rocks surrounding the volcanic diatreme are composed of Proterozoic-age Precambrian granites and metamorphic units. Gold mineralization within the Cripple Creek district occurs in two principal styles, although they are commonly overlapping: (1) broad zones of low-grade, gold-pyrite and telluride mineralization, which is microfracture controlled and disseminated, and (2) fracture zones containing high-grade, gold-silver tellurides. Regional and district geology will be discussed during the field trip.

ATTENDEE MAXIMUM: 25

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$195	US\$245
Non-member	US\$295	US\$345
SEG Student Member	US\$ 95	US\$145
Student Non-member	US\$145	US\$195

Refer to www.seg2018.org for updates



POST-CONFERENCE FIELD TRIPS

◀ FT06 ▶

Paradox Basin Fluids and Colorado Plateau Copper, Uranium, and Vanadium Deposits

DATE	September 25–28, 2018
LOCATION	Departing from and returning to Keystone, Colorado, USA
LEADERS	Jon P. Thorson, Consulting Geologist, Isabel Barton, University of Arizona, Mark Barton, University of Arizona

Description

The evaporitic Pennsylvanian Paradox Basin has a long history of generation of acidic bleaching fluids associated with petroleum systems. These fluids have bleached large areas of permeable sandstone on the Colorado Plateau, and bleaching alteration prepared the host rock to trap copper from metal-bearing brines that entered the rocks later and created disseminated Cu(+Ag) deposits in bleached sandstone. This trip will explore the geological, geochemical, and timing relationships among multiple types of basinal fluids and the widespread copper and U+V mineralization in the Uravan mineral belt and Lisbon uranium district, supported by current research results and grants from Keck Foundation and National Science Foundation. Participants will depart for Grand Junction, Colorado, 5:30 PM, September 25, after the closing SEG session; overnight, Grand Junction; Day 2, field trip Grand Junction to Naturita, CO; Day 3, field trip, Naturita to Moab, Utah; Day 4, Moab to Keystone, with a stop at Grand Junction airport for those who want to depart by air.

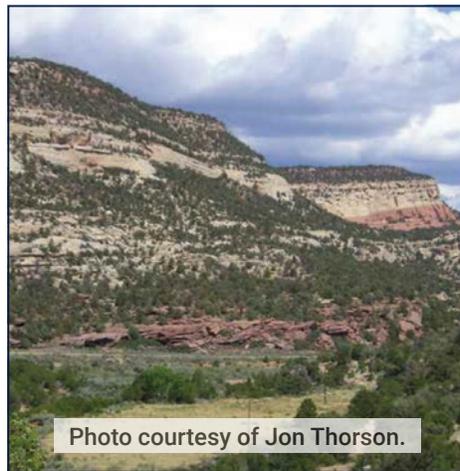


Photo courtesy of Jon Thorson.

ATTENDEE MAXIMUM: 20

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$595	US\$695
Non-member	US\$695	US\$795
SEG Student Member	US\$295	US\$345
Student Non-member	US\$345	US\$395

Refer to www.seg2018.org for updates

◀ FT07 ▶

Colorado Porphyry-Molybdenum Deposits and Leadville District

DATE	September 26–28, 2018
LOCATION	Departing from and returning to Keystone, Colorado, USA each day
LEADERS	Ralph Stegen, Freeport-McMoRan; Tommy Thompson, Economic Geology Consulting, Eric Seedorff, University of Arizona

Description

From Keystone, visit the world-class porphyry Mo deposits at Climax and Henderson (Freeport-McMoRan Copper & Gold) and the carbonate-hosted Ag-Zn-Pb manto deposits at Leadville. The Climax and Henderson deposits have been the source of leading research in porphyry Mo deposits and development of exploration methods. The Leadville district is noted for its long history of production, research on carbonate-hosted Ag-Zn-Pb-(Au) deposits, and the founding of the Guggenheim mining fortune including the formation of ASARCO, Inc. An all-day visit to each of the districts will include surface tours and examination of drill core from the Climax and Henderson deposits, then numerous district stops at Leadville, including a visit to the mining museum. Two overnight stays in Keystone will be attendee's responsibility.



ATTENDEE MAXIMUM: 25

Early Registration ends July 31, 2018

	EARLY	LATE
SEG Member	US\$395	US\$495
Non-member	US\$495	US\$595
SEG Student Member	US\$195	US\$245
Student Non-member	US\$245	US\$295

Refer to www.seg2018.org for updates



SEG at GSA 2018



Geological Society of America Annual Meeting 2018 Sessions • November 4–7, 2018, Indianapolis, Indiana, USA
 SEG Meeting Coordinator, Garth Graham (U.S. Geological Survey)

Proposed SEG-Sponsored Sessions

T30. Geology and Fluid Dynamics of Cr, Ni-Cu-PGE, and PGE Mineralized Magmatic Plumbing Systems

Advocates: E.M. Ripley (Indiana University), C. Li (Indiana University), C.M. Leshner (Laurentian University)

One of the most important and fundamental problems in understanding the genesis of magmatic Cr, Ni-Cu-PGE, and PGE deposits and how to explore for them is how the mineralization is generated/localized in volcanic-subvolcanic-plutonic plumbing systems. This session will focus on the geology, geometry, morphology, fluid dynamics, and genesis of mineralized magmatic plumbing systems, with special emphasis on those in the Mid-Centimeter Rift and Circum-Superior Belt.

T158. Evolution of the Mid-Centimeter Rift: A Window into Proterozoic Environments, a Repository of Minerals and a Lesson in Rifting

Advocates: N.L. Swanson-Hysell (U of California, Berkeley), S. Stein (Northwestern University), T.O. Rooney (Michigan State University)

The Mid-Centimeter Rift hosts a remarkable record of tectonic, magmatic, and sedimentary processes. Geological, geochemical, geophysical, and geobiological research into the rift is expanding understanding of rift formation, Proterozoic earth history, and economic deposits.

T113. Gemological Research in the 21st Century — Characterization, Exploration, and Geological Significance of Diamonds and other Gem Minerals

Advocates: C. Nelms (GIA), J.E. Shigley (GIA), W. Wang (GIA), B.L. Durtow (LSU) * GIA = Gemological Society of America

Gemstones are among the most recognized of all minerals. This session focuses on diverse aspects of gems, including exploration, formation conditions, properties, compositions, treatment, identification, diamonds and their mineral inclusions, and their geological implications.

T32. Energy and Mineral Resources of the Illinois Basin

Advocates: M.D. Mastalerz (Indiana University), L. Lefticariu (Southern Illinois University), Allan Kolker (USGS).

This session considers energy and mineral resources of the Illinois Basin in the context of current societal needs for energy, carbon sequestration, industrial minerals, and potential new resources, such as rare earth elements.



SEG Mapping Course

Mineral Park Mine | Ithaca Peak District, Arizona
November 4–10, 2018



DESCRIPTION

This advanced- to professional-level mapping course is offered by the Education and Training Committee of the Society of Economic Geologists. Working at the Mineral Park Cu-Mo porphyry system in northwest Arizona, participants will map at detailed 1:240 to 1:480 scales, with emphasis on mapping veinlet styles, densities, and alteration mineralogy. In-the-field discussions of the geochemistry of porphyry systems and the development of alteration assemblages and associated hypogene and supergene ore minerals will complement our mapping of rock types and mine-scale structures.

This course is taught in English and Spanish and is appropriate for geologists seeking to enhance their understanding of detailed mapping methods and the geochemistry of large hydrothermal systems, and graduate-level students who desire to enhance their skills at detailed mapping.

Participants will assemble at the Car Rental Center in Las Vegas, Nevada, on Sunday, 4th November at 2 pm, and depart Las Vegas late Saturday morning, 10th November, 12 noon. The course fee covers group transportation from the Car Rental Center to the mine and return, lodging for six nights in Kingman, Arizona, breakfasts, field lunches, base maps, and Certificate of Completion. Participants are responsible for their travel to and from Las Vegas, dinners, and incidental expenses, and must provide safety gear and Brunton compass.

INSTRUCTORS



- Dr. William X. Chávez, Jr.**

A professor of geological engineering at the New Mexico School of Mines since 1985.



- Dr. Erich U. Petersen**

A professor of geology and geophysics at the University of Utah in the Latin American Studies Program.



REGISTRATION [Online at www.segweb.org/events#18RAZMAP2](http://www.segweb.org/events#18RAZMAP2)

Early Registration

(through September 30, 2018)

Member: US\$1,195
Non-member: US\$1,295
Student: US\$595
Student Non-member: US\$645

Late Registration

(after September 30, 2018)

Member: US\$1,395
Non-member: US\$1,495
Student: US\$695
Student Non-member: US\$745

**The course is limited to 16 participants.
 Student participants are limited to 2 at the attendee minimum or 3 at attendee maximum.**

Please note that SEG reserves the right to cancel this event should minimum attendance numbers not be met by September 30, 2018. For further information on cancellation policy, event photography, and dietary restrictions, visit www.segweb.org/t&c.

Senior Exploration Management Course



SEG Course Center | Littleton, CO, USA
November 27–30, 2018, 8:30am – 5:00pm



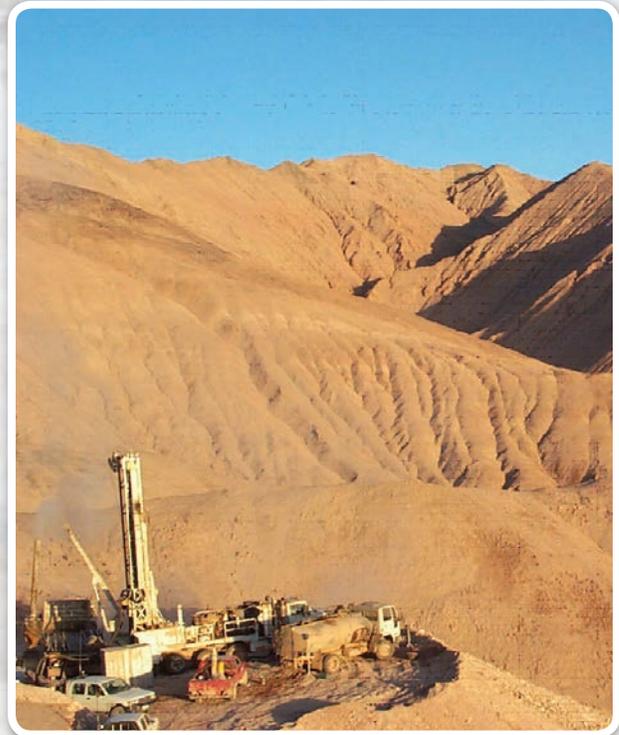
Organizer: Society of Economic Geologists (SEG)
Presenter: Western Mining Services (WMS)

SCOPE

This four-day training course covers the principles and practices of effective mineral exploration management. The curriculum focuses on the broad spectrum of technical and business issues that senior exploration managers typically face.

- Mineral exploration at the strategic scale – the roles of greenfields and brownfields exploration in development and implementation of corporate growth strategies
- The design and management of exploration programs and portfolios
- The importance of group structure, program design, process discipline, and effective people management in achieving exploration group objectives
- Opportunity generation including the exploration search space concept, targeting science, and the application of targeting models
- How to negotiate land and minerals access deals, identify and manage nontechnical project risks, engage in early stage evaluation of project economics, and maintain the important social license to operate exploration projects in varied risk environments

The course format utilizes lecture and workshop and stresses interactive thinking and problem solving. Participants work in teams to design solutions for exploration management challenges and present their results to the larger group.



WHO SHOULD ATTEND?

This course is ideal for regional and country exploration managers, for senior project managers who are on track to move into positions of senior responsibility, and for geoscientists who aspire to senior exploration management roles. The course is also recommended for commercial managers who participate in mineral exploration programs as well as government and academic professionals who interact with the mineral exploration industry.

This SEG-sponsored course in November 2018 will be the 14th public presentation of the SEM Course. WMS has also presented numerous in-house SEG Courses to major mining companies, each tailored to the needs of the individual client.

Senior Exploration Management Course

SEG Course Center | Littleton, CO, USA | Nov. 27–30, 2018



FACULTY

■ **Jon Hronsky (BAppSci, Ph.D., MAIG, FSEG)**



With more than 30 years of experience in mineral exploration, Jon has worked across a diverse range of commodities, including discovery of the West Musgrave nickel sulfide province in Western Australia.

■ **Steven Bussey (BA, M.Sc, PhD)**



Steve's focus is on framework studies, mineral exploration targeting, and project due diligence. He has more than 35 years' experience in mineral exploration.

■ **Brad Margeson (BA, M.Sc., SME, FSEG)**



Brad is a co-founder of WMS and focuses on exploration strategy/planning, greenfield and brownfield exploration targeting, and due diligence.

■ **Jeff Welborn (BA, JD)**



Jeff is a co-founder of WMS and has more than 45 years' experience as a mining, oil & gas and natural resources lawyer.



Registration *(early deadline: November 12, 2018)*

Register online: segweb.org/events#18RWMS

Member (Early / Late) –
US\$3,200 / US\$3,400

Non-member (Early / Late) –
US\$3,500 / US\$3,700

CURRICULUM

Day 1	Day 2	Day 3	Day 4
<ul style="list-style-type: none"> ■ <i>Course Overview; Introduce Exploration Strategy Exercise</i> ■ Mineral Exploration: Business Environment; Key Concepts ■ Mineral Exploration: Principles and Philosophies ■ Strategy, Business Planning and Portfolio Management 	<ul style="list-style-type: none"> ■ Minerals Access and Deal Making ■ Commercial Risk Management (CRM) ■ <i>CRM Group Exercises and Discussion</i> ■ Mineral Exploration: Targeting 	<ul style="list-style-type: none"> ■ <i>Group Discussion</i> ■ Mineral Exploration: Targeting ■ Mineral Exploration: Tactics ■ Mineral Exploration: Culture and People 	<ul style="list-style-type: none"> ■ <i>Strategy Exercise: Presentations, Group Discussion Awards</i> ■ <i>Group Discussion Course Feedback Wrap-up</i>

Please note that SEG reserves the right to cancel this event should minimum attendance numbers not be met by November 12, 2018. For further information on cancellation policy, event photography, and dietary restrictions, visit www.segweb.org/tc.



Porphyry Systems of Northern Chile: Antofagasta to Calama

Antofagasta, Chile | December 1–7, 2018

DESCRIPTION

This course has an itinerary that differs from the previous two SEG Chile field courses, as we will review ore deposits from Antofagasta to Calama. The emphasis will be on porphyry system alteration-mineralization geochemistry, with the mine visits focusing on porphyry systems and their hypogene-supergene mineralization characteristics. Evening “Take-Away” sessions will allow participants to discuss observations and ideas concerning our visits.

This field course (taught in English and Spanish) is appropriate for professional geologists and graduate students with an interest in applied geochemistry and mineral exploration. It starts in Antofagasta, Chile, on Saturday, December 1, and ends in Antofagasta on Friday evening, December 7, 2018. The course is limited to 20 participants. Registration fees include commercial bus transportation, the “SEG Traveling Classroom,” with a professional driver, double-occupancy lodging, course notes, breakfasts, and some lunches. Participants are responsible for providing their own PPE gear (hardhat, reflective vest, steel-toe boots, gloves, eye protection, and long-sleeve shirts). Plan to attend a Safety and Logistics Meeting in Antofagasta at 6:00PM on Saturday, December 1. Participants may depart late on Friday evening, December 7, or any time thereafter.

INSTRUCTORS



- Dr. William X. Chávez, Jr.**

A professor of geological engineering at the New Mexico School of Mines since 1985, Dr. Chávez has instructed field and in-class workshops for the Society of Economic Geologists involving a variety of ore deposit types, with emphasis on the practical application of geochemistry to mineral exploration.



- Dr. Erich U. Petersen**

A professor of geology and geophysics at the University of Utah in the Latin American Studies Program, Dr. Petersen’s geographical regions of interest include Central and South America. He has worked closely with the Society of Economic Geologists over the years through several field trips, short courses, and workshops.

REGISTRATION Online at www.segweb.org/events#18RCHILE3

Early Registration

(through November 1, 2018)

Member: US\$1,495
Non-member: US\$1,695
Student: US\$795
Student Non-member: US\$895

Late Registration

(after November 1, 2018)

Member: US\$1,595
Non-member: US\$1,795
Student: US\$895
Student Non-member: US\$995

**The course is limited to 20 participants.
 Student participants are limited to 2 at the attendee minimum or 3 at attendee maximum.**

Please note that SEG reserves the right to cancel this event should minimum attendance numbers not be met by November 1, 2018. For further information on cancellation policy, event photography, and dietary restrictions, visit www.segweb.org/tc.



SEG
www.segweb.org



Mentorship • Education • Opportunity • Exploration • Discovery

