

TORINO, ITALY

JULY 3-6, 2017







INVITATION FROM THE ORGANIZING COMMITTEE

Greetings from Italy!

July is approaching and the beginning of the 28th Annual Meeting and Conference in Turin is really at the gates. It is a great honor for me to host this meeting for the first time in Turin, and for the second time in Italy, after many years! I want to write this brief greeting with my heart and thank all those who, with their great help and enthusiasm, have made this important meeting possible.

First of all I want to thank our Secretary General, Bruce Hebblewhite, for his precious and constant help and indispensable suggestions during the last months; in addition, Oliver Langefeld, Serkan Saydam, Emily Sarver and Jürgen Kretschmann have done an excellent job in organizing the sessions, which present this year some novelties in terms of components and initiatives, also thanks to the contribution of Elisabeth Clausen.

I add that I would not be here without the support of Vlad Kecojevic, my friend for years, who not only contributed to my entry to SOMP in 2010, but has been trusting me over these years and has always given me extremely useful suggestions; thanks especially to him, I am now part of this great Society, which is enriched every year by so many new members from around the world.

The organization is well under way, and I hope for a successful outcome of the meeting, though... we will only discover in the end if it has given a contribution to our small world: the world of Mining Professors!

I'm sure all of us are excited to face new challenges, and I am confident that, with the help of all of you, we will spend some days working together, to produce ideas, to cooperate in innovative research scenarios, to analyze the present and to evaluate the future of education, to foster the enhancement of knowledge transfer, to attract new members, especially from developing countries, to highlight progress over the past years, to understand members' needs with respect to teaching, research and professional development.

As Mining Professors, I believe we have the duty to help our students and our young colleagues to invent the future, a future appropriate to their expectations and, why not, to their dreams!

Then, I am really happy to host the 28th SOMP Annual Meeting and Conference in Torino! I'd like to thank you in advance for your important contribution and involvement in our future activities and I'm confident all of you will continue to support SOMP; waiting to meet you and to share so many initiatives, let's continue to support Mining and the continuing need of mankind for raw materials!

Best regards / Mit freundlichen Grüßen und Glückauf

Marilena Cardu Associate Professor at DIATI Environment, Land and Infrastructures Department, Politecnico di Torino



COMMITTEES

National Organizing Committee

Prof. Marilena Cardu (снак), DIATI Politecnico di Torino - Italy Prof. Gian Andrea Blengini, DIATI Politecnico di Torino - Italy Prof. Claudio Oggeri, DIATI Politecnico di Torino - Italy Prof. Pierpaolo Oreste, DIATI Politecnico di Torino - Italy Prof. Deborah Shields, DIATI Politecnico di Torino - Italy • Colorado State University - USA

International Organizing Committee

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Prof. Mario Cedron, Pontificia Universidad Católica del Perú
Prof. Peter Dowd, University of Adelaide - Australia
Prof. Bruce Hebblewhite, University of New South Wales - Australia
Prof. Michael Karmis, Virginia Tech - USA
Prof. Vlad Kecojevic, West Virginia University - USA
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Prof. Pinyo Meechumna, Chulalongkorn University - Thailand
Dr. Ludger Rattman, TH Georg Agricola - Germany
Prof. Oscar Jaime Restrepo Baena, University of Pretoria - South Africa



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INFORMATION

REGISTRATION FEES

Standard fee

SOMP Members: € 800,00 Retired/Emeritus SOMP Members: € 650,00 Junior SOMP Members: € 650,00

Early registration fee (by April 21, 2017): SOMP Members: € 750,00

Retired/Emeritus SOMP Members: € 600,00

Junior SOMP Members: € 600,00

The registration fees include:

- access to all scientific sessions;
- conference kit;
- welcome cocktail reception (July 3);
- conference dinner (July 4);
- awards dinner (July 5);
- coffee breaks and buffet lunches as scheduled in the conference program.

Accompanying persons

Full programme's registration fee: € 390,00 The registration fee includes:

- welcome cocktail reception;
- conference dinner;
- awards dinner;
- one full-day guided city tour including lunch
- one half-day guided city tour

All fees are Italian VAT 22% included.

REGISTER NOW

Access to the online registration system via the conference website registration page (www.symposium.it/somp2017).



Cancellation policy

- There will be no penalty for registration cancellations received 90 days before the first day of the conference. The full amount paid minus a processing fee € 20,00) and wire transfer or credit card costs will be refunded.
- A cancellation fee of 50% of the full registration fee plus a processing fee (€ 20,00) and wire transfer or credit card costs will be applied for cancellations received between 89 to 45 days before the first day of the conference.
- A cancellation fee of 75% of the full registration fee plus a processing fee (€ 20,00) and wire transfer or credit card costs will be applied for cancellations received between 44 to 20 days before the first day of the conference.
- No refund will be issued for cancellations received less than 20 days before the first day of the conference.

All cancellations must be sent in writing via e-mail to the conference secretariat. Cancellation confirmation will be sent within one week.

The conference organising committee and secretariat are not responsible for problems beyond our control such as weather conditions, public order issues, strikes, etc. No refunds will be given in these situations. No reimbursement will be made for late arrival, unused services, unattended events or early departure from the congress. The final decision on refunds rests with the SOMP conference organizers.

All refunds will be made within 30 days after the conference ending.

When you register for the conference, you will be confirming that you have reviewed and understood this conference registration refund policy.





VENUE

The SOMP conference will be held at the 4-star NH Santo Stefano (via Porta Palatina 19), located in in the heart of Torino in the fashionable Quadrilatero Romano district, an area known for its fantastic shopping, restaurants and nightlife.

This beautiful design hotel is at walking distance from all the major tourist attractions.

Conference facilities include comfortable fully-equipped meeting rooms with a capacity up to 200 seats.

TRAVEL AND ACCOMMODATION

How to get to Turin

Turin lies in the centre of Europe and takes advantage of a well structured connection system by plane, trainand car.

Caselle International Airport (www.aeroportoditorino. it), 20 minutes away from the city centre, allows daily connections with the main European cities. Moreover Malpensa International Airport (*www.milanomalpensa1.eu/en*), one of the main European hubs connected to more than 120 cities all over the world, is located only 60 minutes' drive from Turin.

Turin has two main railway stations, Porta Nuova and Porta Susa, both in the city centre. They are connected, also with frequent high speed rail services, to the main destinations in Italy and France, and from there to the rest of Europe. Lyon can be reached in 2.5 hours, Paris in about 5 hours and Milan in only 50 minutes. Partie Contraction











Motorways: A6 Turin-Savona • A4 Turin-Milan-Venice A21 Turin-Piacenza-Bologna • A5 Turin-Aosta A32 Turin-Bardonecchia connect Turin to most Italian cities, to France, Switzerland, Austria and the rest of Europe.

About Torino, the hosting city

Roman castrum, medieval town, first capital of Italy. Turin offers a lasting memory of castles, old beautiful palaces, royal residences, monuments.

Turin is one of the cultural leading cities in Italy. The city's lively cultural scene includes music, theatre, visual arts, photography, film, design, dance and heritage as well as a wide choice of museums, 46 in town, such as the world famous Egyptian Museum, the beautiful Galleria Sabauda with Italian and Flemish painting collections, the Automobile Museum, the Modern Art Gallery, the Rivoli Museum of Contemporary Art, the National Cinema Museum with its unique interactive approach.

Moreover, Turin is one of the undisputed world capital of taste. It has always boasted a renowned food and wine tradition. The region's extraordinary cuisine can be enjoyed in over 600 city restaurants.

Turin and its area are a unique location for shopping top level "made in Italy" products: from design to fashion, from food delicacies to jewelry.

Around Turin thousands of excursion opportunities: the Alps, the lakes, the artistic cities and villages, the golf courses, the wine and food tours.

More info on Turin at www.turismotorino.org











Accommodation

An allotment of 80 rooms has been reserved for the conference participants at the conference venue 4-star NH Hotel Santo Stefano. Its rooms combine chic, minimalist design with rustic elegance. Rooms are soundproofed for a peaceful night's sleep. The hotel's restaurant serves traditional Piedmont cuisine, alongside a choice of local wines.

There is a nice inner courtyard with outdoor seating for the summer months.

Conference rates per night, including bed and breakfast treatment, at the NH Hotel Santo Stefano are:

- Standard double room single use: € 135,00
- Standard double room: € 155,00
- Superior double room single use: € 155,00
- Superior double room: € 175,00
- Superior XL double room single use: € 175,00
- Superior XL double room: € 195,00

City tax: € 3,70 per day per person.

There are still rooms available at the conference venue. Book now your room!

Reservations can be made via the organizing secretariat using the reservation form available at the accommodation page of the conference website (*www.symposium.it/somp2017*).











SOCIAL AND ACCOMPANYING PERSONS' PROGRAMME

Social events

We have an exciting social programme planned for the SOMP conference.

You will discover stunnig venues, taste the famous food and wines of Piedmont and meet old and new colleagues in a nice, relaxing atmosphere.

The social programme will include a welcome cocktail reception on Monday July 3 at the beautiful Castello del Valentino, a 16th century royal residence of impressive external architecture and beautiful interior spaces.

The first conference dinner will be held on July 4 in a typical restaurant.

The Awards dinner will be held on July 5 at the Museo Nazionale dell'Automobile (National Car Museum, *www.museoauto.it*), a fascinating, interactive museum which was recently renovated with a modern, innovative design.

A real architectural work of art. A jewel for all car lovers. This social event will be a fantastic occasion to discover one of Torino's most interesting cultural and touristic sites and enjoy the well-known Italian food and wine tradition.

Accompanying persons' programme

The accompanying persons will have the opportunity to attend all the conference social events (welcome cocktail reception, social dinner, awards dinner) as well as enjoy two full-day tours to discover Turin's enchanting royal residences, baroque and liberty palaces and world-renown museums.











Post-conference tour

CARRARA MARBLE QUARRIES TUSCANY AND THE CINQUE TERRE

July 6, 2017

Departure by bus at the end of the Conference. Destination: Lucca, a wonderful medieval city in Tuscany.

Dinner in a typical inn in the city centre and overnight in a four-star hotel.

July 7, 2017

Breakfast buffet and departure for the Carrara Marble Quarries. Morning: visit to the Quarries. Lunch at the Quarriers Canteen. Afternoon: visit to the Quarries. Return to the hotel to relax. Dinner at a charming restaurant.

<mark>July</mark> 8, 2017

Breakfast buffet and departure for Florence.

Morning: guided visit of the city centre.

Lunch in the heart of Florence, in one of the most beautiful Renaissance Palaces.

Afternoon: visit to the Mineralogical Collection of the Museum of Natural History of the University of Florence and free time.

On the way back, stop in Pisa. Guided visit of the Piazza dei Miracoli and dinner. Return to the hotel for the overnight.











July 9, 2017

Breakfast buffet and departure for La Spezia.

Boarding on motorboat. English speaking guide to discover the Poet Gulf and the Cinque Terre (a rugged portion of coast on the Italian Riviera) villages from the sea.

Then stop in one of the Cinque Terre and sea lunch in a typical inn. In the early afternoon departure for Turin by bus.

Pricing and inclusion

Price per person: Adult in double room: € 680,00 Added fee for double room single use: € 130,00 Child up to 14 years in parents' room: € 540,00 *Rate includes*:

- Professional Licensed tour leader
- Luxury Air Conditioned Vehicle for all transfers
- 3 overnights in a four-star hotel, breakfast buffet included
- All meals and beverages as included in the menu
- Guided tours in English
- Shared boat ride along the Cinque Terre (or local train when boat is unavailable)

Vat and local taxes • 24/7 Assistance

<u>Attention:</u>

deadline for post-conference tour reservations has already expired. Acceptance of further requests of participation will be subject to place availability.

Interested people are kindly required to contact the organizing secretariat (chiarapalieri@symposium.it).













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ORGANIZING SECRETARIAT



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PROGRAM

Sunday, July 2

10:00 Strategic Planning Committee.

Monday, July 3

- 12:00 18:00 Attendees' registration.
- **12:30 14:30** Council Meeting.
- 14:30 17:30 Education Committee Meeting.
- 14:30 17:30 Research and Industry Committee Meeting.
- 14:30 17:30 Capacity Building Committee Meeting.
- 14:30 17:30 Members Development Committee Meeting.
- 18:00 20:00 Welcome cocktail reception

Tuesday, July 4

- 7:30 Attendees' registration.
- 8:30 Welcome M. Cardu • 2017-2017 SOMP President, Politecnico di Torino, Italy
- 8:45 Welcome address B. Chiaia • Vice Rector - Internationalization, Politecnico di Torino, Italy
- 9:00 Key-note Address Past and present mining activity in Italy in the European framework. V. Badino • Emeritus SOMP Member
- 9:30 SOMP Business session B. Hebblewhite • SOMP Secretary-General
- 10:30 Coffee break



EDUCATION SESSION

10:50 Educational standards in Mining Engineering

Introduction: O. Langefeld

Statement and discussion: J. Kretschmann, L. Rattmann, D. Shields, O. Langefeld

11:50 E-learning • Oral communications (and discussion)

- A virtual mining objects exhibition. L. Rattmann, S. Döppenschmitt, M. Lukas
- Experiences with a mining MOOC. *S. Hall*
- Computer simulation programs in mine rescue education and training, on the example of student mine rescue teams. *H. Mischo, J. Brune*

13:00 Standing buffet lunch

14:00 Creative teaching • Oral communications (and discussion)

- Implementation of CDIO in mining engineering education. E. Clausen, C. Edelbro, J. Herrera, K. Edström, K. Jonsson
- Creative teaching and learning in mining education. *E. Posada, O. J. Restrepo-Baena, S. Indisa*
- Addressing social risk through development of intercultural competence in the mining curriculum: a Canadian case study. *L. K. Daneshmend, E. A. Johnson*

15:20 Coffee break

15:50 Sustainability in Mining Education Oral communications (and discussion)

- Linking sustainability and underground mining course development in the master mining engineering.
 A. Binder, O. Langefeld, E. Clausen, A. Hutwalker
- Student membership as an element to bolster mining engineering education and develop essential skills for future mining engineers. *D. J. Carvajal, J. Kretschmann*



16:50 **Tim Shaw Award**. Presentation by recipient plus questions/discussion.

20:00 Dinner

Wednesday, July 5

RESEARCH AND INDUSTRY SESSION

8:30 Introductory remarks

Raw Materials Information System 2.0 and EU Raw Material Policy C. Ciupagea, D. Pennington • European Commission DG JRC, Land Resources Unit

9:15 / Oral communications (and discussion)

- Safety in confined underground space. Proximity detection in no-go-zones. *N. A. Sifferlinger, P. Moser*
- A review of misleading methods and biased practices in evaluating the feasibility of rare earth mining projects *G. Barakos, H. Mischo*
- Ore-reserve and labour planning in underground narrow reef mines. *L. D. Meyer*
- Socio-technical effects and tactics on work safety in China. *X. Q. He, Z. X. Li, L. Song, Z. L. Li*

10:30 Coffee break

10:50 Mines of the Future Project

Introduction. Serkan Saydam

Operational efficiency. Serkan Saydam

Sustainable mining practices. Michael Karmis

Novel mining systems. Bruce Hebblewhite

Research. Serkan Saydam

Education. Bruce Hebblewhite



- 11:35 Panel Discussion on future mining research and education directions. Facilitated by S. Saydam Panelists: G. A. Blengini, M. Cedron, R. Mitra, J. Seccatore
- 12:50 Standing buffet lunch

13:30 Poster session

- Life cycle based evaluation and internalization of externalities associated with rare earths exploitation at Bayan Obo. *Z. Li, B. Zhou, Y. Zhao*
- Optimisation of energy consumption in Namibia Skorpion Zinc mines. A case study. N. Nolten, T. Hollenberg, I. Samataa
- Geomechanical mine design at underground diamond mines. D. Apel, M. Sepehri
- Mining, geotechnical and environmental engineering education in Croatia. Historical overview and future challenges.
 B. Kovačević Zelić, G. Bedeković, A. Jaguljnjak-Lazarević, P. Hrženjak, I. Sobota
- Current projects of the Research Institute of Post-Mining at TH Georg Agricola University. *M. Hegemann, P. Goerke-Mallet*
- The role of Humanitarian Engineering in mining engineering education. D. J. Carvajal Gomez, J. Lucena, J. Smith

MEMBERS DEVELOPMENT SESSION

14:00 Introductory remarks

Review of committee activities and progress over past year. *F. Nejad Rashidi*

14:15 Key-note lecture

External review for academic promotion and tenure - an insight in the process. *V. Kecojevic*



14:50 Panel discussion

Faculty development-perspectives and experiences of junior faculty. D. Shields Panelists: A. Binder, A. Brickey, V. Karu, N. Nguyen

15:50 Coffee break

16:10 World Café

Discussion of members' needs with regard to teaching, research and professional development. *E. Clausen*

20:00 Awards dinner

Thursday, July 6

CAPACITY BUILDING SESSION

8:50 Introductory remarks

Committee work, next planned regional meetings. *J. Kretschmann*

9:05 Oral communications (and discussion)

- The system of training of mining engineers in Russia. *V. L. Petrov*
- Support from society of mining professors for enhancement of knowledge transfer in Southeast Asia.
 J. Kretschmann, D. Laurence, N. Nguyen
- A perspective on the status and future direction of the department of mining and process engineering in Namibia.
 H. Musiyarira, J. Ralston, D. Tesh, G. Dzinomwa
- Integral education in mining.
 M. Cedron

10:45 Coffee break



- 11:05 Panel discussion How can SOMP be more attractive for new members, especially from developing countries? *H. Musiyarira, H. Mischo, N. Nguyen*
- **11:40** The future role of SOMP in the SME. *M. Karmis, B. Hebblewhite*
- 12:00 Closing Ceremony



Afternoon
Post-Conference Tour Departure





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