



Society of Mining Professors (SOMP)

Societät der Bergbaukunde

27th SOMP Annual Meeting and Conference



Final Conference Program

Liaison Capitol Hill, Washington, DC, USA
September 21 – 24, 2016



Society of Mining Professors Societät der Bergbaukunde

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Welcome from the Organizing Committee



Prof. Vlad Kecojevic
2015-2016 SOMP President

Dear SOMP Members,

It is with great pleasure and excitement that we welcome you to the Society of Mining Professors/Societät der Bergbaukunde annual meeting and conference in Washington, DC, the capital of the United States of America (USA), from the 21st through the 24th of September 2016. It is indeed an honor for us to host it in the USA, the first SOMP meeting and conference in North America. The SOMP meeting and conference is co-hosted by the Department of Mining Engineering at West Virginia University, the Department of Mining and Minerals Engineering at Virginia Tech and the Department of Mining Engineering at University of Kentucky.

We've planned a great meeting and conference this year. We are happy to report that our keynote speaker will be Jessica E. Kogel, Associate Director for Mining at the National Institute for Occupational Safety and Health (NIOSH).

We have selected 18 oral presentations for our Educational, Research and Industry, Members Development, and Capacity Building sessions, as well as 13 poster presentations. A complete list of all presentations and workshops is given in the Program section of this brochure.

The partners program has been designed to be a very interesting time spent with several exciting activities including visits to the National Museum of the American Indian, the Newseum and the Smithsonian Museum of Natural History. We have also finalized a pre-meeting optional tour of underground stone and coal mines, surface coal mine, and academic departments at West Virginia University and Virginia Tech.

We are thrilled to inform you that we will have a record attendance of SOMP members this year. If you have not registered yet, please move fast to plan your travel and book a place for what will be a very worthwhile and enjoyable international meeting of mining academics.

We look forward to greeting you in Washington, DC.

Best regards / Mit freundlichen Grüßen und Glückauf / Saludos cordiales



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National Organizing Committee

- Prof. Vlad Kecojevic, West Virginia University, USA
- Prof. Bruce Hebblewhite, University of New South Wales, Australia
- Prof. Michael Karmis, Virginia Tech, USA
- Prof. Zach Agioutantis, University of Kentucky, USA
- Assoc. Prof. Kray Luxbacher, Virginia Tech, USA
- Assist. Prof. Emily Sarver, Virginia Tech, USA

International Organizing Committee

- Prof. Zach Agioutantis, University of Kentucky, USA
- Associate Prof. Marilena Cardu, Politecnico di Torino, Italy
- 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
- Prof. Jürgen Kretschmann, TH Georg Agricola, Germany
- Prof. Zhongxue Li, University of Science & Technology Beijing, China
- Prof. Pinyo Meechumna, Chulalongkorn University, Thailand
- Prof. Helmut Mischo, TU Bergakademie Freiberg, Germany
- Prof. Ludger Rattman, TH Georg Agricola, Germany
- Assoc. Prof. Oscar Jaime Restrepo Baena, Universidad Nacional de Colombia, Medellin, Colombia
- Prof. Ronny Webber-Youngman, University of Pretoria, South Africa

Conference Secretariat

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Meeting venue

[Liaison Capitol Hill DC](#)
415 New Jersey Ave NW, Washington, DC 20001



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Accommodation

[Liaison Capitol Hill DC](#)

415 New Jersey Ave NW, Washington, DC 20001

Phone: 1-202-638-1616

The Liaison Capitol Hill DC hotel is the conference venue (Group code: VTSOMP). You are advised to use the conference hotel, as a very competitive rate has been negotiated for this central area of Washington (single/double room rate is US\$199/night; there is an additional charge of US\$20/person for the third/fourth persons in the room; children under 12 stay free). This rate is valid only from Wednesday, September 21st (check-in) through Saturday, September 24th, 2016 (check-out). Delegates requiring accommodation must make their own arrangements. A booking link for making hotel reservations is available at:

https://gc.synxis.com/rez.aspx?Hotel=19828&Chain=15564&group=VTSOMP&shell=JV_GCF

You can also call the reservations office directly at 1-888-513-7445 or 1-202-638-1616 or email to dcreervations@jdvhotels.com and identify yourself as part of the 2016 SOMP Conference group (Group code: VTSOMP). Reservations must be made by 5 p.m. local time on Wednesday, August 31, 2016, to be eligible for this rate. Rates do not include applicable taxes.



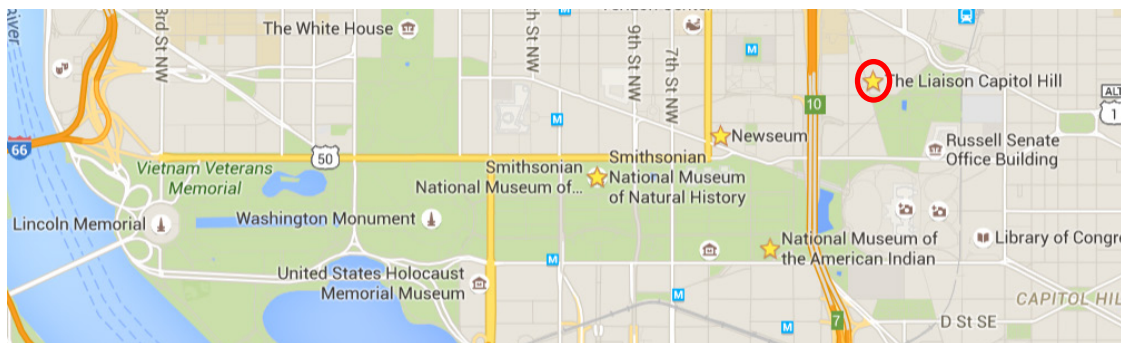
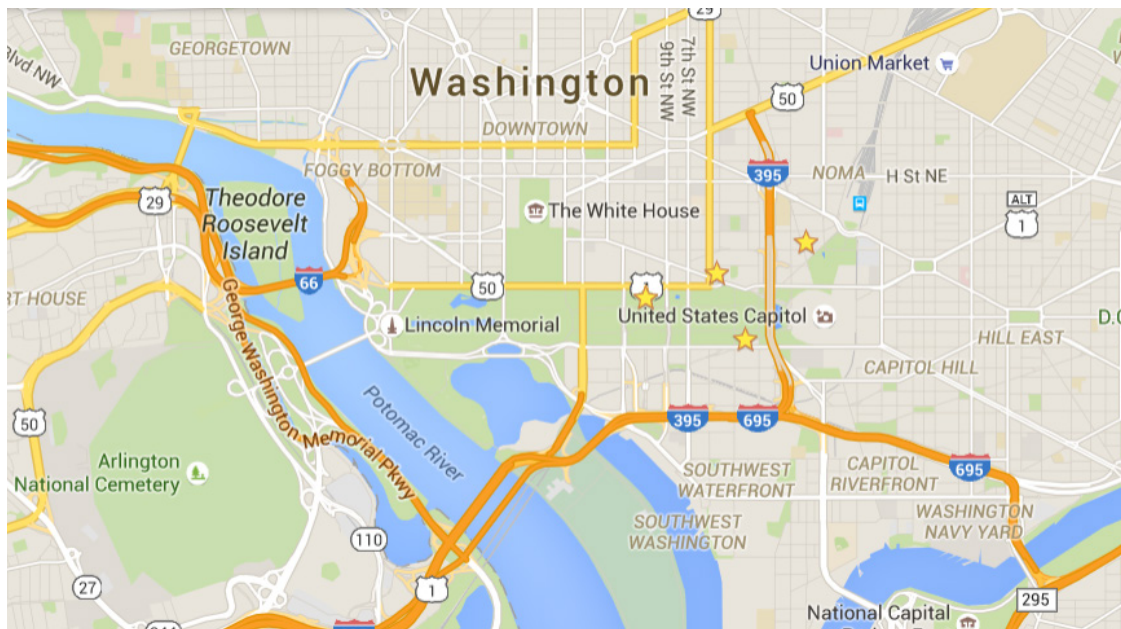


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The Liaison Capitol Hill DC is centrally located between the US Capitol Building and Union Station. It is easily accessible by metro (Union Station Metro Station on the Red Line). The hotel boasts the biggest DC rooftop pool and lounge in the entire city and overlooks the neighborhood, known as the political epicenter of the nation's capital. See location and points of interest on the maps.

Maps and Points of Interest



Points of Interest

-  Meeting Hotel: The Liaison Capitol Hill
-  The Smithsonian National Museum of Natural History
-  The National Museum of the American Indian
-  Newseum



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Conference Registration - Participants

The conference registration fee includes entrance to all conference sessions; all conference materials; an opening reception on Wednesday, September 21st; daily coffee breaks and lunches; Potomac River cruise and dinner on Thursday, September 22nd; and the awards reception and banquet dinner on Friday evening, September 23rd. There is also an optional tour of the Smithsonian Museum of Natural History on Saturday, September 24th. Delegates can directly register for the conference using the following link:

<http://www.cpe.vt.edu/reg/sompac>

Conference Registration - Accompanying Persons

The accompanying guest registration fee includes a tour of the National Museum of the American Indian (lunch included), a visit to the Newseum (with lunch), the Potomac River cruise and dinner on Thursday, awards reception and banquet dinner on Friday, lunch on Saturday, and an optional tour of the Smithsonian Museum of Natural History. Accompanying guests can directly register using the following link:

<http://www.cpe.vt.edu/reg/sompac>

Conference Fees (US\$)

SOMP Members

- Conference Registration Fee US\$840

Accompanying Guests

- Accompanying Guest Fee US\$550



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Meeting and Conference Program

Wednesday, September 21, 2016	
10:00 am – 2:00 pm	WFEO Task Force on Mining and Sustainability
2:00 pm – 6:00 pm	Registration
2:15 pm – 4:00 pm	Council Meeting
4:00 pm – 5:30 pm	Education Committee Meeting
4:00 pm – 5:30 pm	Research Committee Meeting
4:00 pm – 5:30 pm	Members Development Committee Meeting
4:00 pm – 5:30 pm	Capacity Building Committee Meeting
5:30 pm – 8:30 pm	Pool Reception
Thursday, September 22, 2016	
7:30 am – 8:30 am	Registration
	Session I: Opening
8:30 am – 8:45 am	Welcome Vlad Kecojevic 2015-2016 SOMP President, West Virginia University, USA
8:45 am – 9:00 am	Welcome Address The Honorable Senator Joe Manchin Invited. Confirmation Pending.
9:00 am – 9:30 am	Keynote Address Future of mine safety and health research and directions for the NIOSH program Jessica E. Kogel National Institute for Occupational Safety and Health (NIOSH), USA
9:30 am – 10:00 am	Overview of mining education in United States Michael Karmis Virginia Tech, USA
10:00 am – 10:10 am	SME and the PhD fellowship and career development grant program to fill the academic pipeline in US mining schools John Hayden Society for Mining, Metallurgy & Exploration (SME)
10:10 am – 10:30 am	Coffee/Tea Break
	Session II: Business Session
10:30 am – 12:00 am	SOMP Business Session Bruce Hebblewhite SOMP Secretary-General, University of New South Wales, Australia
12:00 pm – 1:00 pm	Lunch
	Session III: Research & Industry I
1:00 pm – 1:10 pm	Introductory Remarks Serkan Saydam, University of New South Wales, Australia



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1:10 pm – 1:30 pm	German coal-industry management and production systems and their future potential Martin Junker RAG Mining Solutions GmbH, Germany
1:30 pm – 1:50 pm	Grand challenges for engineering in mining Ismet Canbulat University of New South Wales, Australia
1:50 pm – 2:10 pm	Research visioning and collaboration opportunities with mining engineering programs in Turkey Nuray Demirel Middle East Technical University, Turkey
2:10 pm – 2:30 pm	Challenges and opportunities with the rare earths industry Baolu Zhou ¹ , Qingxiang Cai ² , Zhongxue Li ¹ , Wei Zhou ² , Yiqing Zhao ¹ ¹ University of Science and Technology Beijing, China ² China University of Mining and Technology, China
2:30 pm – 3:00 pm	Coffee/Tea Break and Poster Presentations
Session IV: Research & Industry II	
3:00 pm – 3:20 pm	European Commission Joint Research Centre activities in support of the raw materials policy and circular economy Gian Andrea Blengini European Commission, DG JRC – Joint Research Centre, Italy
3:20 pm – 3:40 pm	Stakeholder engagement as a facet in minerals education Harmony Musiyarira ¹ , Ditend Tesh ¹ and Godfrey Dzinomwa ² ¹ Namibia University of Science and Technology, Namibia ² Paasol Resources (Pvt) Ltd, Zimbabwe
3:40 pm – 4:00 pm	Managing complexity in a changing world: a global perspective on corporate responsibility in mining Aidan Davy and Tom Butler International Council on Mining and Metals, United Kingdom
4:00 pm – 4:20 pm	Mine closure: environmental and safety challenges and research activities Christoph Dauber TH Georg Agricola, Germany
4:20 pm – 5:00 pm	Research Open Discussion Serkan Saydam, Chairperson, University of New South Wales, Australia
6:00 pm – 10:00 pm	Potomac River Cruise and Dinner

Friday, September 23, 2016

Session V: Education I	
8:15 am – 8:40 am	Introductory Remarks & Survey Report Oliver Langefeld, Technische Universität Clausthal, Germany Oscar Jaime Restrepo Baena, Universidad Nacional de Colombia, Medellín, Colombia



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8:40 am – 9:00 am	The role and application of Immersive technology in mining engineering education Ronny Webber-Youngman University of Pretoria, South Africa
9:00 am – 9:20 am	Making mining engineering programs more resilient Peter Knights, The University of Queensland, Australia
9:20 am – 9:40 am	Communities of practice: A South African mining education case study Clinton Birch ¹ , Grzegorz Majewski ² , Marija Jakovljevic ³ , Kelello Chabedi ¹ ¹ University Witwatersrand, South Africa ² Grabiz Solutions, South Africa; ³ University of South Africa, South Africa
9:40 am – 10:00 am	Integrating the sustainability issues in mining engineering curriculum in Indonesia Rudy Sayoga Gautama, Aryo Prawoto Wibowo and Budi Sulistianto Bandung Institute of Technology, Indonesia
10:00 am – 10:20 am	Coffee/Tea Break
10:20 am – 10:40 am	Evaluating the effectiveness of the Mine Design Laboratory of the School of Mining Engineering at the University of the Witwatersrand, South Africa Bekir Genc and Fred Cawood University of the Witwatersrand, South Africa
10:40 am – 11:00 am	Applying mine planning in a university curriculum Steven Rupprecht and Hennie Grobler University of Johannesburg, South Africa
11:00 am – 11:40 am	Discussion
Session VI: Education II	
11:40 am – 12:25 pm	Innovative Teaching and Learning: Presentation, “Tim Shaw Innovation in Teaching and Learning Award” Discussion
12:25 pm – 1:25 pm	Lunch
Session VII: Members Development	
1:25 pm – 1:45 pm	Introductory Remarks Emily Sarver, Virginia Tech, USA
1:45 pm – 2:10 pm	Plenary A personal view on strategies for creating a competitive academic profile Peter Dowd The University of Adelaide, Australia
2:10 pm – 3:25 pm	Mentoring Workshop: Effective approaches and tools for success
3:25 pm – 3:50 pm	Coffee/Tea Break
3:50 pm – 5:00 pm	Discussion on Diversity: What does the makeup of mining faculty of today mean for the mining engineers of tomorrow?
5:30 pm	2016 SOMP Group Photo
6:30 pm – 7:30 pm	Awards Reception
7:30 pm – 10:00 pm	Awards Dinner



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Saturday, September 24, 2016	
	Session VIII: Capacity Building
8:30 am – 8:50 am	<i>Introductory Remarks/Plenary</i> Pinyo Meechumna Chulalongkorn University, Thailand
8:50 am – 9:10 am	Challenges of an effective international knowledge transfer from the perspective of South East Asian Mining Schools Juergen Kretschmann ¹ , Nga Nguyen ² and Pinyo Meechumna ³ ¹ TH Georg Agricola, Germany; ² Hanoi University of Mining and Geology, Vietnam; ³ Chulalongkorn University, Thailand
9:10 am – 9:30 am	A collaborative capacity building model for mineral education in emerging mining districts Kwame Awuah-Offei and Samuel Frimpong Missouri University of Science and Technology, USA
9:30 am – 10:00 am	Coffee/Tea Break (in Room)
09:30 am – 10:30 am	<i>Capacity Building Open Discussion</i> Pinyo Meechumna, Chairperson, Chulalongkorn University, Thailand
10:30 am – 11:00 am	“Mines of the Future” Project Presentation & Discussion (S. Saydam)
11:00 am – 12:00 pm	Session IX: Closing
12:00 pm – 1:30 pm	Lunch
2:00 pm – 5:00 pm	Tour of the Smithsonian Museum of Natural History

Poster presentations

Implementing social engagement across the mining project lifecycle Carvajal Gómez, Domingo and González Martínez, A. Huelva University, Spain
Novel approach to predict and control ground vibrations from mine operations Jhon Silva-Castro University of Kentucky, USA
Collaborative partnership strategy in providing the manpower needs of the extractive industry in Ghana – the case of UMaT, Tarkwa Peter Arroja Eshun University of Mines and Technology, Ghana
Tenability analysis for improvement of firefighters’ performance in a methane fire event at a coal mine working face Ali Haghighat, Brian Lattimer, Jensen Hughes and Kray Luxbacher Virginia Tech, USA
A novel approach to the design and analysis of mineral processing circuits: fundamental considerations and applications Amini Hassan, Xue Zhai, Qingqing Huang and Aaron Noble West Virginia University, USA



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Experimental and numerical investigation of time-dependent behavior of coal and coal measures rocks

Yuting Xue and Brijes Mishra
West Virginia University, USA

Education for mining policies in developing countries

Erik R. Larsen¹, Santiago Arango², Patricia Jaramillo², Yris Olaya², Ricardo Smith², Carlos Adrián Saldarriaga², Jessica Arias-Gaviria², Juan Felipe Parra², Oscar Jaime Restrepo²
¹Università della Svizzera Italiana, Switzerland; ² Universidad Nacional de Colombia, Colombia.

Characterization of respirable dust in underground coal mines

Cigdem Keles, Meredith Scaggs, Victoria Johahn, Kent Phillips and Emily Sarver
Virginia Tech, USA

Clean coal technology using captured carbon emissions for enhanced gas recovery: results from two pilot sites in Central Appalachia

Ellen Gilliland, Nino Ripepi, A. Kyle Louk, Joseph Amante, Charles Schlosser, Casey Jennings, Cigdem Keles and Michael Karmis
Virginia Tech, USA

Operational considerations of through the earth communications for mine emergency response

Steven Schafrik and Edmund Jong
Virginia Tech, USA

The Development of a Web- based Platform for Ground Control Applications

Zach Agioutantis and Chris Newman
University of Kentucky, USA

Using Risk Assessment to Improve Regulation Compliance for enhancing Health and Safety in the Chinese Mining Industry

Cong Zhang^{1,2}, Zach Agioutantis¹ and Zhongxue Li²
¹University of Kentucky, USA; ²University of Science and Technology, Beijing, China

Accompanying Persons Program

Wednesday, September 21, 2016	
2:00 pm – 6:00 pm	Registration
5:30 pm – 8:30 pm	Pool Reception
Thursday, September 22, 2016	
10:00 am – 4:00 pm	Tour the National Museum of the American Indian and Lunch
6:00 pm – 10:00 pm	Potomac River Cruise and Dinner
Friday, September 23, 2016	
10:00 am – 4:00 pm	Visit the Newseum and Lunch
6:30 pm – 7:30 pm	Awards Dinner Reception
7:30 pm	Awards Dinner
Saturday, September 24, 2016	
12:00 pm – 1:30 pm	Lunch
2:00 pm – 5:00 pm	Tour of the Smithsonian Museum of Natural History



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Newseum (<http://www.newseum.org/>): 555 Pennsylvania Ave., N.W., Washington, D.C., 20001. The Newseum is a dynamic, engaging and interactive museum of news that allows visitors to experience the stories of yesterday and today. Its mission is "*to help the public and the news media understand one another better*" and to "*raise public awareness of the important role of a free press in a democratic society.*"

National Museum of the American Indian (<http://www.nmai.si.edu/>): Located on the National Mall between the Smithsonian's Air & Space Museum and the U.S. Capitol Building. The Museum houses one of the world's largest collections of its kind. The museum's curvilinear architecture, its indigenous landscaping, and its exhibitions, designed in collaboration with tribes and communities from across the hemisphere, combine to give visitors from around the world the sense and spirit of Native America.

Presentation of Society Awards

The SOMP will present its major awards and recognitions during the meeting: the Guenter Fettweis Award, the Ludwig Wilke Award and the Emeritus Member Award. A new recognition this year is the Tim Shaw Award, recognizing young academics for innovations in teaching and learning. The recipient of this award will open the panel discussion of **Session VI: Education** with a plenary presentation.

Pre-Conference Tour

Tour will start from the Washington/Northern Virginia area on Saturday, September 17th and will return back to Washington Dulles International Airport on Tuesday, September 20th. Visits will include operating underground and surface mines, and academic departments at Virginia Tech and West Virginia University. This tour is completely full, and no more participants can be accommodated.

Post-Meeting Option

Begin Sunday, September 25, 2016	
Participants should organize attendance on their own (see information below)	Attend the MINExpo International Conference in Las Vegas, Nevada, September 26-28, 2016. Note that educators and students are offered complementary registration.

MINExpo (<http://www.minexpo.com/>): Advertised as the "Largest Mining Show on and Under Earth", this event is the largest mining exhibition in the world, staged every four years in Las Vegas, USA. Nearly 60,000 participants attended the last Expo in 2012. Sponsored by the



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National Mining Association (NMA) MINExpo® it is the mining industry's premier exhibition for mining equipment, technology and service companies specializing in every facet of mining.

Air service

Washington, DC is served by three large airports, Washington Dulles International Airport (IAD), Ronald Reagan Washington National Airport (DCA), and Baltimore-Washington International Airport (BWI).

Washington Dulles International Airport (IAD) is located 40 km from downtown Washington, DC. It is about a 40 minute drive in non-rush hour traffic. The airport has direct flights to more than 125 destinations around the world and is served by over 30 commercial airlines.

Ronald Reagan Washington National Airport is served by 15 commercial airlines and is located approximately 8 km from downtown Washington, DC.

Baltimore/Washington International Thurgood Marshall Airport is served by 12 commercial airlines and is located approximately 50 km from downtown Washington, DC.

Ground transportation

Ground transportation is available from each of the airports into the heart of Washington, DC. Super Shuttle and Supreme Airport Shuttle offers transportation to and from downtown Washington, DC and the three major airports. When you arrive at the airport, claim your luggage and visit the Super Shuttle or Supreme Airport Shuttle counters in the baggage claim area of your respective airport. Visit the links for information regarding ground transportation:

<http://www.supershuttle.com/>

<http://www.supremeairportshuttle.com/>

Taxi service is available 24/7 to/from your respective airport. No reservations required. Visit the Washington Flyer Taxi counter at the airport upon your arrival.

Visa and travel documents to United States

You may be required to secure a visa to travel to the United States. Processing of these documents often takes several weeks, so apply as soon as possible. Most Canadian citizens and many citizens from Visa Waiver Program countries can come to the United States without a visa if they meet certain requirements. Please contact your local US embassy/consulate for more



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information. If you need an entry visa, we will send you an invitation letter to be submitted with your visa application.

Dress code and climate

The recommended conference attire is business casual. You may also want to bring a light sweater or jacket since meeting rooms are air-conditioned. Temperatures in Washington, DC, range from 15 to 25 degrees Celsius in late September. For the Awards event, suits and ties for the men and dresses for the ladies are recommended.

Banking / Credit Cards

In the USA, there are banking institutions that are affiliated with international banks. Major credit cards are generally accepted throughout the United States including American Express, Diners Club, Master Card and Visa Card.

Questions / Information

Questions related to conference registration should be addressed to Ms. Elizabeth Caton at
phone: +1 540-231-6002
email: ecaton@vt.edu

Questions related to hotel booking should be addressed to Mr. Jarreau Williams at
phone: +1-571-858-3365
email: jaws0509@vt.edu

Request for additional information, including invitation letters, should be directed to Prof. Vlad Kecojevic at
phone: +1-304-293-3859
email: Vlad.Kecojevic@mail.wvu.edu