







27th SOMP Annual Meeting and Conference



Conference Program

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

Second Circular and Brochure



 27^{th} SOMP Annual Meeting and Conference Liaison Capitol Hill, Washington, DC, USA, September 21-24, 2016

Invitation from the Organizing Committee



Prof. Vlad Kecojevic 2015-2016 SOMP President

Dear SOMP Members,

It is with great pleasure and excitement that we invite 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 cohosted 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.

Our program is now well advanced. 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 12 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 planned a pre-meeting optional tour of mines, academic departments, and research and industrial facilities. Please note that the "largest mining show on and under the Earth", MINExpo, will be held in Las Vegas, Nevada from the 26th through the 28th of September 2016.

We invite you to register for the meeting and conference by June 1, 2016. You are advised to use the conference hotel, as a very competitive rate has been negotiated for this central area of Washington.

We look forward to greeting you in Washington, DC in September 2016.

Best regards/Mit freundlichen Grüßen und Glückauf



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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,
- Prof. Helmut Mischo, TU Bergakademie Freiberg,
- Prof. Ludger Rattman, TH Georg Agricola, Germany
- Assoc. Prof. Oscar Jaime Restrepo Baena, Universidad Nacional de Colombia, Colombia
- Prof. Ronny Webber-Youngman, University of Pretoria, South Africa

Conference Secretariat

Ms. Elizabeth Caton Virginia Tech phone: +1 540-231-6002

email: ecaton@vt.edu

Mr. Jarreau Williams Virginia Tech Phone: +1-571-858-3365

email: jaws0509@vt.edu

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

A block booking of 60 rooms has been reserved for SOMP members at the Liaison Capitol Hill DC hotel which is also 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 Tuesday, September 20th (check-in) through Sunday, September 25th, 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 dcreservations@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.







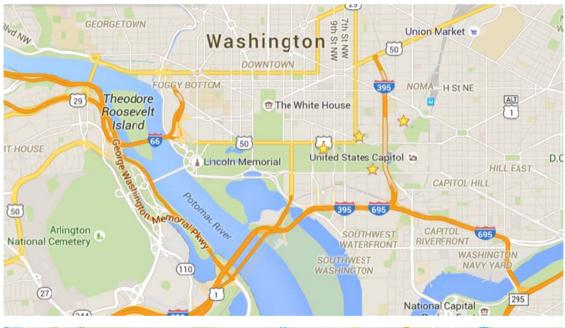




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The Liaison Capitol Hill DC is centrally located between the US Capitol Building and Union Station. It is easily accessible by metro (Union Station Metro Station on the Red Line). The hotel boasts the biggest DC rooftop pool and lounge in the entire 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

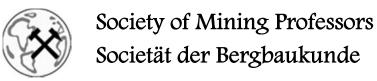
Conference Fees (US\$)

SOMP Members

Early Conference Registration Fee (on or before July 1st, 2016)	US\$790
Standard Conference Registration Fee (after July 1 st , 2016)	US\$840

Accompanying Guests

	Early Accompanying Guest Fee (on or before July 1st, 2016)	US\$520
\triangleright	Standard Accompanying Guest Fee (after July 1 st , 2016)	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	•	
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	
	Joe Manchin, United States Senator (tentative)	
9:00 am – 9:30 am	Overview of mining education in United States	
	Michael Karmis	
	Virginia Tech, USA	
9:30 am – 10:00 am	Keynote Address	
	Future of mine safety and health research and directions for the NIOSH	
	program	
	Jessica E. Kogel	
	Associate Director for Mining, National Institute for Occupational Safety	
	and Health (NIOSH), USA	
10:00 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	
1:10 pm – 1:30 pm	German coal-industry management and production systems and their	
	future potential	
	Martin Junker	
	RAG Mining Solutions GmbH, Germany	
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4.00	
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
5:30 pm	2016 SOMP Group Photo
6:30 pm – 10:00 pm	Potomac River Cruise and Dinner

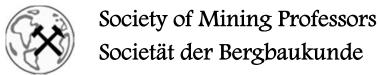
Friday, September 23, 2016	
	Session V: Education I
8:15 am – 8:40 am	Introductory Remarks & Survey Report
	Oliver Langefeld, Technische Universitaet Clausthal, Germany
8:40 am – 9:00 am	The role and application of Immersive technology in mining engineering
	education
	Ronny Webber-Youngman
	University of Pretoria, South Africa
9:00 am – 9:20 am	Making mining engineering programs more resilient
	Peter Knights, The University of Queensland, Australia



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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"
40.00	Discussion
12:25 pm – 1:25 pm	Lunch
	Session VII: Members Development
1:25 pm – 1:45 pm	Introductory Remarks
4.45	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
2.10 2.25	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?
6,20 pm 7,20 pm	
6:30 pm – 7:30 pm	Awards Reception
7:30 pm	Awards Dinner

Saturday, September 24, 2016	
	Session VIII: Capacity Building
8:30 am – 8:50 am	Introductory Remarks/Plenary
	Pinyo Meechumna
	Chulalongkorn University, Thailand



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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	Capacity Building Open Discussion
	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
Evening	Free

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 and Kray Luxbacher

Virginia Tech, USA

A novel approach to the design and analysis of mineral processing circuits: fundamental considerations and applications

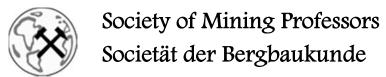
Amini Hassan, Xue Zhai, Qingqing Huang and Aaron Noble

West Virginia University, USA

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

Yuting Xue and Brijes Mishra

West Virginia University, USA



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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

¹Institute of Management. Università della Svizzera Italiana, Switzerland.

² Universidad Nacional de Colombia sede Medellin, Medellin, 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

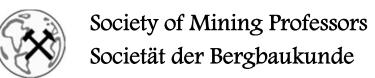
Characterizing the Deer Creek Mine Pool near Pittsburgh, Pennsylvania to Optimize Water Treatment Strategies

Anthony Iannacchione and John VanNess

University of Pittsburgh, USA

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		
10:00pm – 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 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

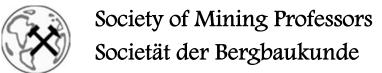
The SOMP will present its major awards and recognitions during the meeting: the Guenter Fettweis Award, the Ludwig Wilke Award and the Emeritus Member Award. A new recognition this year is the Tim Shaw Award, recognizing young academics for innovations in teaching and learning. The recipient of this 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 on Tuesday, September 20th. Visits will include operating mines, academic departments, research and industrial facilities. At this point, the cost of the tour is estimated about US\$550 per participant (include 3 nights of accommodation, meals and transportation). Accompanying persons, sharing hotel accommodation, will be charged US\$150. If you plan to attend, you must include a down payment of US\$100 at registration (accompanying person must also declare that they are attending but an advanced down payment is not necessary). The schedule and cost will be finalized based on the number of participants who respond and included advanced payment by July 1st, 2016.

<u>Tentative Pre-Conference Tour Itinerary:</u>

 Saturday, September 17- Meet at a designated hotel in the Washington/Northern Virginia Area. Visit a major local quarry using advance automation technologies, travel to the scenic Blue Ridge Parkway and arrive in Blacksburg, home of Virginia Tech. Dinner and overnight in Blacksburg.



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- Sunday, September 18- Tour of Virginia Tech, visit the New River and travel to Morgantown, West Virginia. Dinner with a speaker representing the coal industry. Overnight in Morgantown.
- **Monday, September 19** Tour West Virginia University, visit a shale gas site. Dinner and overnight in Canonsburg, Pennsylvania.
- Tuesday, September 20- Visit architect's Frank Lloyd Wright famous creation Fallingwater, tour a mountain top mining operation, return to Washington. Drop at the conference hotel (Tuesday evening accommodation is not included in the tour fee). Evening Free.

Post-Meeting Option

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

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 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 miles 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.

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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 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, suites and ties for the men and dresses for the ladies are recommended.

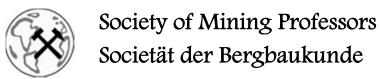
Banking / Credit Cards

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



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Questions related to hotel booking should be addressed to Mr. Jarreau Williams at

phone: +1-571-858-3365 email: <u>jaws0509@vt.edu</u>

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