# Brijes Mishra

**Associate Professor**

Department of Mining
Engineering University of Utah
135 South 1460 East
312 William Browning Building
SLC, UT 84112

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brijes.mishra@utah.edu


## EDUCATION

**Ph.D** in Mining Engineering, **West Virginia University,** August2004 - December 2007.
(Major: ***Rock Mechanics and Ground Control***)

**M.S** in Mining Engineering, **Indian School of Mines**, August 2002-May 2004.
(Major: ***Surface Mining***)

**B.S** in Mining Engineering, **Nagpur University**, August 1998- May 2002.

## PROFESSIONAL EXPERIENCE

**Associate Professor with Tenure** (May 2021-present), Department of Mining Engineering, University of Utah, Salt Lake City.

- Teaching Undergraduate Courses such as Rock Mechanics and Mine Surveying
- Advising undergraduates
- Conducting research in the area of rock mechanics, coal mining bumps.

**Associate Professor with Tenure** (May 2015-2021), Department of Mining Engineering, West Virginia University, Morgantown

- Teaching Undergraduate Courses such as Rock Mechanics and Mine Surveying
- Advising undergraduates
- Conducting research in area of rock mechanics, coal mining bumps.

**Assistant Professor** (August 2009-May 2015), Department of Mining Engineering, West Virginia University, Morgantown

- Teaching Undergraduate Courses such as Rock Mechanics and Mine Surveying
- Advising undergraduates
- Conducting research in area of rock mechanics, coal mining bumps.

**Assistant Professor** (August 2008- May 2009), Department of Mining and Management, South Dakota School of Mines and Technology, Rapid City

- Teaching Undergraduate Courses such as Rock Mechanics and Mine Surveying
- Advising undergraduates
- Conducting research in area of rock mechanics, coal mining bumps.

**Geomechanical Engineer** (November 2007-August 2008), RESPEC,
Rapid City, South Dakota

## AWARDS/HONORS

- *Syd and Felicia Peng Endowed Professor at West Virginia University*
- *Benjamin M Statler College Outstanding Researcher at West Virginia University*
- *American Rock Mechanics Association-Future Young Leader*
- *SME-WVU chapter Outstanding Teacher*

## PROFESSIONAL SERVICES

- Editorial Board Member- Journal of Rock Mechanics and Geotechnical Engineering
- Editorial Board Member- International Journal of Mining Science and Technology
- Editorial Board Member- Bulletin of Engineering Geology and Environment
- Member of the International Society of Rock Mechanics
- Member of the American Rock Mechanics Association
- Member of the Society of Mining, Metallurgy and Exploration

## TEACHING EXPERIENCES

@ West Virginia University

- MinE201 (Mine Surveying): Fall 2009, 2010, 2011, 2012, 2013, 2014, and 2015
- MinE205 (Underground Mining) Fall 2019
- MinE407 (Longwall Mining): Spring 2013, 2014, 2015
- MinE616 (Advanced Rock Mechanics): Spring 2012, 2013 and 2014
- MinE411 (Rock Mechanics and Ground Control) Fall 2017, 2018, 2019

@ University of Utah

- MG EN 4080 Permitting and Reclamation 2022
- MG EN 2400 Introduction to Surveying 2022

## PUBLICATIONS – PEER REVIEWD JOURNAL ARTICLES

1. Yun Zhao, Brijes Mishra, Qingwen Shi & Gaobo Zhao (2022) A Size-Dependent Bonded-Particle Model for Transversely Isotropic Rock and its Application in Studying the Size Effect of Shale, *Geotechnical and Geological Engineering* (2022) https://doi.org/10.1007/s10706-022-02224-4

2. Qingwen Shi, Brijes Mishra (2022). Numerical Analysis of the Effect of Bedding Plane Strength on Laminated Roof Failure in Underground Entries Using Coupled FDM-DEM. *Mining, Metallurgy & Exploration* (2022). https://doi.org/10.1007/s42461-022-00583-3

3. Qingwen Shi, Brijes Mishra & Yun Zhao (2022). DEM Analysis of the Effect of Lamination Properties on the Stability of an Underground Coal Mine Entry with Laminated Shale Roof. Mining Metallurgy and Exploration. Published, 01/11/2022. https://doi.org/10.1007/s42461-022-00541-z

4. Prasoon Garg, Bharadwaj Pandit, Brijes Mishra & G.L Sivakumar Babu (2021). Development of a polyaxial platen for testing true triaxial behavior of rocks. Canadian Geotechnical Journal. Vol. 58, 1839 - 1854. Published, 12/31/2021. https://doi.org/10.1139/cgj-2020-0247

5. Qingwen Shi, Brijes Mishra, Shuwen Wang & Gang Xu (2021). In Situ Assessment of the Effectiveness of an Undisturbed Single Driving Entry's Relief Borehole in Coal Burst-prone Seam. Mining, Metallurgy & Exploration. Vol. 38, 2443–2452. Published, 10/19/2021. https://doi.org/10.1007/s42461-021-00511-x

6. Qingwen Shi, Jungfen Pan, Shuwen Wang, Shaohong Liu, Brijes Mishra & Shannon Seitz (2021). Field Monitoring

of Delayed Coal Burst in an Advancing Entry of a Deep Coal Mine. Mining, Metallurgy & Exploration. Vol. 38, 2417–2431. Published, 10/19/2021. https://doi.org/10.1007/s42461-021-00508-6

7. Debashis Das, Brijes Mishra & Neel Gupta (2021). Understanding the influence of petrographic parameters on strength of differently sized shale specimens using XRD and SEM. International Journal of Mining Science and Technology. Vol. 31, 953-961. Published, 07/28/2021. https://doi.org/10.1016/j.ijmst.2021.07.004
8. Neel Gupta & Brijes Mishra (2021). Experimental Investigation of Time-Dependent Deformation in Brittle Marcellus Shale. Mining, Metallurgy and Exploration,. Vol. 38, 1943–1953. Published, 07/27/2021. https://doi.org/10.1007/s42461-021-00462-3
9. Neel Gupta & Brijes Mishra (2020). Influence of stress-induced microcracks on viscoplastic creep deformation in Marcellus shale. Acta Geotechnica. Vol. 16, 1575–1595. Published, 11/19/2020.https://doi.org/10.1007/s11440-020-01108-2
10. Qingwen Shi & Brijes Mishra (2020). Discrete element modelling of delamination in laboratory scale laminated rock. Mining, Metallurgy & Exploration. Vol. 38, 433–446. Published, 09/14/2020. https://doi.org/10.1007/s42461-020-00302-w
11. Qingwen Shi & Brijes Mishra (2020). Discrete element modelling of delamination in laboratory scale laminated rock. Mining, Metallurgy & Exploration. Vol. 38, 433–446. Published, 09/14/2020. https://doi.org/10.1007/s42461-020-00302-w
12. Bali B.V & Brijes Mishra (2020). Determination of Suitable Pillar Size for Protecting Gas Well Drilled Through a Longwall Mining Abutment Pillar Using Numerical Modelling Approach – A Case Study. Geotechnical and Geological Engineering. Vol. 39, 1329–1347. Published, 09/14/2020.https://doi.org/10.1007/s10706-020-01561- 6
13. Neel Gupta & Brijes Mishra (2020). Experimental Investigation of the Influence of Bedding Planes and Differential Stress on Microcrack Propagation in Shale Using X-Ray CT Scan. Geotechnical and Geological Engineering. Vol. 39, 213–236. Published, 07/27/2020. https://doi.org/10.1007/s10706-020-01487-z
14. Danqing Gao & Brijes Mishra (2020). Modeling Spatial Variance and Investigating the Effects of Variability on Intact Rock Strength and Stability of Entries in a Longwall Mine. Mining, Metallurgy & Exploration. Vol. 37, 1557–1570. Published, 07/20/2020. http://dx.doi.org/10.1007/s42461-020-00258-x
15. Yuting Xue & Brijes Mishra (2020). Numerical Simulation of the Relaxation Behavior of Failed Sandstone Specimens. Mining, Metallurgy & Exploration. Vol. 37, 1411-1422. Published, 06/25/2020. https://doi.org/10.1007/s42461-020-00250-5
16. Wang J, Weijie W, Jinxing Zhang, Brijes Mishra & Ang Li (2020). Numerical investigation on the caving mechanism with different standard deviations of top coal block size in LTCC. International Journal of Mining Science and Technology. Vol. 30, 583-591. Published, 06/10/2020. https://doi.org/10.1016/j.ijmst.2020.06.001
17. A.Y. Gunes, Neel Gupta, Edward Sabolsky & Brijes Mishra (2020). Mineralogical characterization and strain analysis of the Marcellus shales. International Journal of Rock Mechanics and Mining Sciences. Vol. 130, 104442. Published, 04/16/2020. https://doi.org/10.1016/j.ijrmms.2020.104442
18. Danqing Gao, Brijes Mishra & Yuting Sue (2020). Numerical Simulation of Laboratory Strength Tests Using a Stochastic Approach. Mining, Metallurgy & Exploration. Vol. 37, 709-716. Published, 02/19/2020. https://doi.org/10.1007/s42461-020-00189-7
19. Yuting Xue, Brijes Mishra & Danqing Gao (2018). Laboratory study on the time-dependent behavior of intact and failed sandstone specimens under an unconfined condition with the relaxation test. International Journal of Rock Mechanics and Mining Sciences. Vol. 110, 210-217. Published, 08/23/2018. https://doi.org/10.1016/j.ijrmms.2018.08.011
20. Yuting Xue, Brijes Mishra & Danqing Gao (2017). Using the Relaxation Test to Study Variation in the Time-Dependent Property of Rock and the Consequent Effect on Time-Dependent Roof Failure. Rock Mechanics and Rock Engineering. Vol. 50, 2521-2533. Published, 05/02/2017.
21. Yuting Xue, Brijes Mishra & Danqing Gao (2016). Numerical and Laboratory Analysis of Relaxation Tests for Determining Time-Dependent Properties of Rock. Geotechnical and Geological Engineering. Vol. 35, 615-629. Published, 11/24/2016.https://doi.org/10.1007/s10706-016-0129-0

22. Peter Zhang, Brijes Mishra & Keith Heasley (2015). Experimental investigation on the influence of high pressure, high temperature on the mechanical properties of deep reservoir rocks. Rock Mechanics and Rock Engineering. Vol. 48, 2197–2211. Published, 02/13/2015. https://doi.org/10.1007/s00603-015-0718-
23. S Arora & Brijes Mishra (2015). Investigation of the failure mode of shale rocks in biaxial and triaxial compression tests. International Journal of Rock Mechanics and Mining Sciences. Vol. 79, 109-123. Published, 08/21/2015. https://doi.org/10.1016/j.ijrmms.2015.08.014
24. Brijes Mishra & Xu Tang (2015). Stability analysis of bleeder pillars in longwall mines by displacement-discontinuity program. International Journal of Mining Science and Technology. Vol. 6, 933-941. Published, 11/03/2015. https://doi.org/10.1016/j.ijmst.2015.09.009
25. Priyesh Verma & Brijes Mishra (2014). An experimental investigation of the creep behavior of an underground coal mine roof with shale formation. International Journal of Coal Geology, Vol. 137, 55-65. Published, 11/27/2014. https://doi.org/10.1016/j.coal.2014.11.005
26. Brijes Mishra & Anil Ray (2014). Numerical Analysis of Time-Dependent Behavior of immediate roof with a hypothetical one-entry mine. Mining, Metallurgy, and Exploration. Vol. 66, 45-51. Published, 03/12/2014.
27. Brijes Mishra & Dachao Nie (2013). Experimental investigation of the effect of change in the control modes on the post-failure behavior of coal and coal measures rock. nternational Journal of Rock Mechanics and Mining Sciences. Vol. 60, 363-369. Published, 01/15/2013. https://doi.org/10.1016/j.ijrmms.2013.01.016
28. Brijes Mishra & Bongani Dlamini (2012). Investigation of swelling and elastic property changes resulting from CO2 injection into cuboid coal specimens. Energy and Fuels,. Vol. 6, 3951–3957. Published, 05/08/2012. https://doi.org/10.1021/ef300317k
29. Brijes Mishra, Chandan Bhar & Phalguni Sen (2007). Development of a computer model for determination of cutoff grade in metaliferrous deposits. Journal of Mines Metals and Fuels. Vol. 54, 143-147. Published, 04/19/2007.
30. Brijes Mishra, Chandan Bhar & Phalguni Sen (2004). Development of a model for determination of cutoff grade in metaliferrous deposits. Journal of Mines Metals and Fuels. Vol. 275, 130-135. Published, 10/13/2004.

**INVITED TALK**

- Presented at the SME / APPALCHIAN-2005 meet at Greenbrier on the topic “Modeling of Heat Generated during Linear Rock Cutting Process”.
- Poster Presentation at 25th International Conference on Ground control in Mining, “Correlation of acoustic emission (A.E.) with physical and mechanical properties of different types of rock and coal specimens”
- Presented at the SME / APPALCHIAN-2006 meet at Greenbrier on the topic “Modeling of Heat Generated during Rotary Rock Cutting Process”.
- Nie, D and Mishra, B., (2012), “Investigation of the post-failure behavior of coal and coal measure rocks. 2012 SME Annual Meeting “Mine to Market: Now it is global” Seattle, WA, USA, 19-22, Feb 2012.
- Lecture –CUMT Beijing 2017
- Keynote Speaker- International Conference on Ground Control In mining
- Invited Speaker - Academic Publishing and My Research Academic Experience – CUMT Xuzhou
- Invited Speaker – Fundamental Research in Ground Control in Coal Mines – CUMT Xuzhou

**BOOK CHAPTERS**

Mishra. B. 2013 “Longwall Mining”, In ***Modern American Coal Mining: Methods and Applications*** (2nd ed., pp 283-333) Edited by C.J Bise. Littleton, CO: SME (**Peer-Reviewed**)

**CONFERENCE PAPERS**

- Nie, D and Mishra, B., (2012), "Investigation of the post-failure behavior of coal and coal measure rocks. 20 I 2 SME Annual Meeting "Mine to Market: Now it is global" Seattle, WA, USA, 19-22, Feb 2012.

- Dlamini, B., and Mishra, B., (2012), "CO2 Sequestration in unmineable coal seams: An experimental approach. 46th US Rock Mechanics/ Geomechanics Symposium held in Chicago, IL, USA, 24-27, June 2012.

- Zhang, P, Heasley, K.A, and Mishra, B (2013), "The behavior of Carthage Marble and Terratek Sandstone during high pressure, high temperature (HPHT) Compression tests, 47th US Rock Mechanics/ Geomechanics Symposium held in San Francisco, CA, USA, 23-26, June 2013.

- Arora, S. and Mishra, B. (2014), "Experimental Analysis of failure process of laminated shale under biaxial stress condition for investigating the mechanism underlying "Cutter Roof ' failure in coal measure rocks. 2014 SME Annual Meeting & Exhibit - Leadership in uncertain times" Salt Lake City, Utah, USA, Feb 23-26.

- Xue, Y and Mishra, B (2015), "Underground Mine Roof Crack Formation Simulation with Creep of Rock Mass. 49th US Rock Mechanics/ Geomechanics Symposium held in San Francisco, CA, USA. June 28-July 1, 2015.

- Mishra, B (2015), "Numerical simulation of Heat Generated in Bits in Rotary Coal Cutting, ISRM Regional Symposium-EUROCK 2015.

- Savage, K. Noble, A. Mishra, B and Evans, T. (2016). "Nondestructive methods to estimate rock strength at low temperature: Application for asteroid capture technologies." 2016 SME Annual Meeting & Exhibit. Phoenix, AZ. Preprint No. 16-125.

- Xue, Y., and Mishra, B (2017). "Numerical Simulation of Size Effect of Laminated Rock" Procedia Engineering, Vol 191, pp. 984-991 (EUROCK 2017)

- Gupta, N and Mishra, B (2017). “Creep characterization of Marcellus Shale". 51st US Rock Mechanics/Geomechanics Symposium, 25-28 June, San Francisco, California, USA

- Garg, P, Pandit, B and Mishra, B (2018). "Investigation of the failure mode of intact rock in biaxial compression tests". 52nd US Rock Mechanics/Geomechanics Symposium, 17-20 June, Seattle, Washington, USA

- Xue, D, Gao, D and Mishra, B (2018). "Stochastic simulation of rock size effect with correlation length". 52nd US Rock Mechanics/Geomechanics Symposium, 17-20 June, Seattle, Washington, USA

- Gao, D, Mishra, B and Xue, Y (2018). "Influence of spatial correlation on rock strength and mechanism of failure". 52nd US Rock Mechanics/Geomechanics Symposium, 17-20 June, Seattle, Washington, USA

- Gupta, N, Das, D and Mishra, B (2018). "Analysis of Crack Propagation in Shale Using Microscopic Imaging Techniques". 52nd US Rock Mechanics/Geomechanics Symposium, 17-20 June, Seattle, Washington, USA

- Gao, D, Mishra, B and Xue, Y (2019). "Implementing spatial variance and investigating the effect on the stability of a mine entry roof in a longwall coal mine". 53rd US Rock Mechanics/Geomechanics Symposium, 23-26 June, New York, NY, USA

- Xue, Y, and Mishra, B (2019). "Numerical study on the time-dependent behavior of rock joints". 53rd US Rock Mechanics/Geomechanics Symposium, 23-26 June, New York, NY, USA

- Sebastian, R and Mishra, B (2019). "Numerical investigation of massive roof failure in an underground coal mine in Pittsburgh Seam" Proceedings of the 14th ISRM International Congress (ISRM 2019, Foz do Iguaçu, Brazil, 13-19 September 2019).

**RESEARCH GRANTS (Total $2,789,360)**

- *Coal Bumps Prediction in Longwall Coal Mines*, NIOSH (National Institute of Occupational Health and Safety), Co-PI ($350,000) [11/01/2009 – 10/30/2011]
- *Advanced Rock Mechanics under HPHT Condition,* Department of Energy, Co-PI (100,000) [01/10/2010-08/25/2012]
- *Study of time-dependent coal measures rocks of underground coal mines in West Virginia,* Coal and Energy Research Bureau, PI ($50,000) [01/01/2010 – 05/31/2011]
- *Review of existing knowhow on extended cut method,* Coal and Energy Research Bureau, PI ($15,000) [12/15/2010 -06/30/2011]
- *Generation of geomechanical and time-dependent properties of coal and coal measure rocks*. US DHHS-CDC-National Institute for Occupational Safety & Health, (PI) ($736,172) [09/01/2011 – 08/31/2016]
- *Deep Pillar Recovery Analysis*, Alpha Natural Resources (PI) ($45,361) [05/07/2012 – 11/7/2012]
- *Analysis of stability and support requirement for bleeder entries for their usability as a second escape entry*, Coal and Energy Research Bureau (PI) ($50,000) [07/01/2012 - 06/30/2014]
- *In-situ strength test of coal pillars using Schmidt hammer and laboratory testing of coal specimen* (PI) Coal and Energy Research Bureau (PI) ($30,000) [07/01/2014 – 06/30/2015]
- Robotic In-situ Resource Utilization System, *National Aeronautic and Space Administration* (CO-PI) ($123,000) [01/16/2015 – 01/15/2017]
- *SSCO Technology Development for Robotic Servicing of Orbital Space Assets*, ASRC Aerospace and Defense, Inc. (AS & D) (CO-P1) ($33,538.72) [10/01/2014 – 09/30/2015]
- *Numerical Modeling of Gas Emissions and Cave Ventilation in Block Caving Mines*, South Dakota School of Mines and Technology (PI) ($35,000) [09/01/2014- 08/31/2016]
- Building Capacity and improving mine safety through Experimental rock mechanics, US DHHS-CDC-National Institute for Occupational Safety & Health, PI ($1,249,999.80) [09/14/2016 – 08/31/2021]
- A Practical, Mechanics based approach to pillar design, Alpha Foundation for Mine Safety, Co-PI (16,651) [07/01/2018 – 03/31/2020]

**CONSULTING ($500,000)**

- Stability assessment for a room and pillar mine in France, 2008.
- Salt Cavern Stability Assessment for Stag Energy, England, 2008.
- Subsidence Prediction over Avery Island Salt Mine, 2007.
- Salt Cavern Stability Assessment for Bayou Choctaw, 2007.
- Determination of Cutability of Coal and Rock for Foundation Coal Holdings using numerical modeling techniques, 2007.
- Evaluation of Mine Communication system- Center for Energy Research and Bureau, 2007.
- Determination of Mechanical Properties of Rock, which involved detailed testing of rock and investigation regarding Mechanical properties for a Columbian Mine using stiff testing machine, 2006.
- Determination of Mechanical Properties of Mine Seals for Peabody Energy, 2006.

## STUDENT ADVISING

PhD students

- Changdi He

### Graduated students

### PhD students

1. **Yuting Xue**, *Investigating creep behavior of laminated rock and its effect on stability of coal mines*, August 2019.
2. **Neel Gupta**, *Fundamental Mechanism of Time-Dependent failure in shale,* December 2019
3. **Danqing Gao,** *The influence of spatial variance on rock strength and mechanism of failure*, August 2020
4. **Qingwen Shi,** *Investigation of Geomechanical Behavior of Laminated Rock mass through experimental and numerical approach*, August 2022
5. **Yun Zhao**, *Size Effect and Anisotropy on the strength of shale under compressive stress conditions*, August 2022

Co- Advised (Member of the committee)

1. Alison Sears
2. Ishan Berk Tulu
3. Biao Qiu
4. Deniz Tuncay
5. Gamal Rasheed
6. Haochen Zhao
7. Hua Jiang
8. Kaifang Li
9. Morgan Sears
10. Peter Zhang
11. Robert Croh

**M.S Students**

1. **Jose Raul Concha**, Static Liquefaction in Tailings Dam, 2022
2. **Dakota Faulkner**, Development, Analysis and case studies of impact resistant steel sets for underground roof fall rehabilitations, Dec 2020.
3. **Debashis Das,** *Size effect in rock through microCT and SEM analysis*, Dec 2018
4. **Prasoon Garg**, *Behavior of laminated roof under high horizontal stress*, Aug 2018
5. **Bonaventura Mangu Bali,** *Three-Dimensional Numerical Modeling Encompassing the stability of a vertical gas well subjected to longwall mining operation – A case study*, May 2018
6. **Christian Arteaga**, *Implementing a Parametric Analysis in the LaModel 3.0 Program*, Dec 2014.
7. **Shrey Arora**, *Effect of biaxial and triaxial stresses on coal mine shale rocks*, Dec 2014.
8. **Xu Tang**, *Analysis of stability and support requirement for bleeder entries for their usability as a second escape entry*. Aug 2014.
9. **Priyesh Verma**, *An experimental investigation of the creep behavior of an underground coal mine roof with shale formation*. Dec 2013.
10. **Bongani Dlamini**, *Investigation of swelling and elastic property changes resulting from CO2 injection into cuboid coal specimens*. Dec 2012.
11. **Dachao Nie**, *Experimental analysis of post-failure behavior of coal and rock under laboratory investigation*. Dec 2011.

Co- Advised (Member of the committee)

1. Bisleshana Prakash
2. Bruno Vieira
3. Chris Newman
4. Jack Trackemas
5. Kara Savage
6. Elmouzemill Adam
7. Ming Fan
8. Mustafa Suner
9. Mario Bendezu
10. Marcell Silveria

**Post-Doctoral Students and Visiting Scholars**

- **Resmi Sebastian**, Assistant Professor, Indian Institute of Technology, Ropar.

**SERVICE ACTIVITIES**

**A. Professional Organizations:**

**Editorial Board Member**

- Journal of Rock Mechanics and Geotechnical Engineering.
- International Journal of Mining Science and Technology.
- Bulletin of Engineering Geology and Environment.

**B. <u>Conferences:</u>**

- 39th International Conference on Ground Control in Mining- Member of the Executive Committee and Member of the Organizing Committee (2020)
- 39th International Conference on Ground Control in Mining – Primary Reviewer and Session Chair (2020)
- 38th International Conference on Ground Control in Mining- Member of the Executive Committee and Member of the Organizing Committee (2019)
- 38th International Conference on Ground Control in Mining – Primary Reviewer and Session Chair (2019)
- 37th International Conference on Ground Control in Mining- Chair of the Executive Committee and Member of the Organizing Committee (2018)
- 37th International Conference on Ground Control in Mining – Primary Reviewer and Session Chair (2018)
- 36th International Conference on Ground Control in Mining- Chair of the Executive Committee and Member of the Organizing Committee (2017)
- 36th International Conference on Ground Control in Mining – Primary Reviewer and Session Chair (2017)
- 35th International Conference on Ground Control in Mining- Board of Director and Member of the Organizing Committee (2016)
- 35th International Conference on Ground Control in Mining – Primary Reviewer and Session Chair (2016)
- 34th International Conference on Ground Control in Mining- Board of Director and Member of the Organizing Committee (2015)
- 34th International Conference on Ground Control in Mining – Primary Reviewer and Session Chair (2015)
- 33rd International Conference on Ground Control in Mining- Board of Director and Member of the Organizing Committee (2014)
- 33rd International Conference on Ground Control in Mining – Primary Reviewer and Session Chair (2014)
- 31st, 32nd International Conference on Ground Control in Mining- Board of Director and Member of the Organizing Committee. (2013)
- 32nd International Conference on Ground Control in Mining – Primary Reviewer (2013).
- 32nd International Conference on Ground Control in Mining – Session Chair (2013).
- 31st International Conference on Ground Control in Mining – Session Chair (2012).
- 31st International Conference on Ground Control in Mining - Paper reviewer (2012).

- Society of Mining, Metallurgy and Exploration- Rock Mechanics Award Committee (3/1/2014-2/28/2018), Research Council (3/1/2014-2/28/2017) and Information Publishing Committee Member (3/1/2012 – 2/28/2015).
- American Rock Mechanics Association (ARMA) - US Rock Mechanics / Geomechanics Symposium Paper reviewer (ARMA-2012, 2014, 2015).

**Peer Reviewed Journals**

2022

Bulletin of Engineering Geology
Rock Mechanics and Rock Engineering
International Journal of Mining Science and Technology
Rock Mechanics and Rock Engineering
International Journal of Rock Mechanics and Mining Sciences
International Journal of Geomechanics
Society for Mining, Metallurgy and Exploration
Geotechnical and Geological Engineering
Journal of Rock Mechanics and geotechnical engineering
Acta Geotechnica
Archive of Mining Sciences

2021

International Journal of coal geology
Bulletin of Engineering Geology
Rock Mechanics and Rock Engineering
International Journal of Mining Science and Technology
Rock Mechanics and Rock Engineering
International Journal of Rock Mechanics and Mining Sciences
International Journal of Geomechanics
Society for Mining, Metallurgy and Exploration
Geotechnical and Geological Engineering

2020

International Journal of coal geology
Bulletin of Engineering Geology
Rock Mechanics and Rock Engineering
International Journal of Mining Science and Technology
Rock Mechanics and Rock Engineering
Arabian Journal of Geosciences
International Journal of Rock Mechanics and Mining Sciences
International Journal of Geomechanics
Society for Mining, Metallurgy and Exploration
Geotechnical and Geological Engineering

2018

Rock Mechanics and Rock Engineering
International Journal of Mining Science and Technology
Rock Mechanics and Rock Engineering
Arabian Journal of Geosciences
International Journal of Rock Mechanics and Mining Sciences
International Journal of Geomechanics
Society for Mining, Metallurgy and Exploration Geotechnical and Geological Engineering Tunneling and Underground Space Technology

2017

Acta geodyn geometer Energies
Energy and Fuel
Geotechnical and Geological Engineering International Journal of Coal Geology
International Journal of Rock Mechanics and Mining Sciences Rock Mechanics and Rock Engineering

2016

International Journal of Rock Mechanics and Mining Sciences
Geotechnical and Geological Engineering
International Journal of Coal Geology
International Journal of Rock Mechanics and Mining Sciences
International Journal of Rock Mechanics and Mining Sciences
Bulletin of Engineering Geology and the Environment

2015

International Journal of Rock Mechanics and Mining Sciences
International Journal of Mining Science and Technology
International Journal of Rock Mechanics and Mining Sciences
International Journal of Coal Geology

2010-2014

Society of Mining, Metallurgy and Exploration
Energy and Fuel
International Journal of Rock Mechanics and Mining Sciences
Society of Mining, Metallurgy and exploration
Geotechnical and Geological Engineering
Society of Mining, Metallurgy and Exploration
International Journal of Coal Geology
Geotechnical and Geological Engineering
Society of Mining, Metallurgy and Exploration Energy and Fuels
International Journal of Mining Science and Technology
Journal of Sustainable Mining
International Journal of rock mechanics and mining sciences
International Journal of Earth Sciences Engineering
Journal of Testing and Evaluation
Society of Mining, Metallurgy and Exploration

**Thesis/Dissertation External Reviewer**

- Indian Institute of science (IISC) Bangalore
- Indian Institute of Technology –Indian School of Mines- Dhanbad
- West Australian School of Mines
- Indian Institute of Technology- Kanpur

**Organization**

- National Institute of Occupational Health and Safety (NIOSH) – External Proposal Reviewer "Design Procedures for Gateroad Ground Control" June 19, 2014
- National Institute of Occupational Health and Safety (NIOSH)- External Paper Reviewer "Shale Failure Mechanics and Intervention Measures in Underground Coal Mines: Results from 50 years of Ground Control Safety Research
- National Science Foundation – Panel Reviewer

**Committee Responsibilities**

**@ WVU**

- Member, Conflict of Interest in Research Committee (2010-present)
- Member, Advance STEM implementation team. (2013)
- Professional Development Committee (CEMR) (2014)
- Undergraduate Academic Affairs Committee (2014)
- College Promotion and Tenure Committee
- Statler undergraduate academic affairs committee
- Statler graduate committee

**C. Other**

**Department Committees**

**@ University of Utah**

1. Chair of the Department RPT Committee
2. Director of Graduate Studies

**@ WVU**

1. Chair- Department Promotion and Tenure Committee (2019)
2. Graduate Program Coordinator (2019)
3. Poundstone Organizing Committee. (2009 – Present)
4. Mining Engineering Department - Recruiting
   High School Visitation- 1 Hour Presentation to freshmen: 11/14/09, 04/17/2010, 11/07/2010, 06/12/2014
   Academic Excellence- Laboratory Tour 12/13/2014
   15 Minute Presentation to freshmen: 04/02/2011, 3/13/2012, 08/23/ 2012, 04/06/2013, 11/02/2013
   1 Hour presentation to Articulation Agreement School - November 2009, 11/12/2010
5. Mining Engineering Department - Student Activities
   Student SME Meeting: Fall 2009, Spring 2010, Fall 2010, Fall 2011, Fall 2012, Fall 2013
   Student Social: Fall 2009 Bowling, Spring 2010 Picnic, Fall 2010 Bowling, 8$^{th}$ Grade Day

Spring
2011, Fall 2012, Mine Golfing and cookout Fall 2013