

# MontanaTech

## **Dr. Larry N. Smith, Professor and Chair of Geological Engineering**

Larry has been teaching in the department since Spring 2009. He primarily teaches, and does research in, clastic sedimentology, Quaternary geology, and field geology. His primary teaching duties are Physical Geology, Sedimentology and Petroleum Geology, Sedimentology-Stratigraphy laboratory, Introduction to Field Geology, Field (Camp) Geology (with Chris Gammons), and Photogeology and Geomorphology. He also has taught GIS in Natural Resources, Geology of the Western US, and Subsurface Methods in Petroleum Geology. He previously worked at the Montana Bureau of Mines and Geology for 16 years as the geologist in the state-wide Groundwater Characterization Program. Before that, he was an exploration geologist for Shell Oil Company in Houston for 5 years. He received a B.S. in Earth Science from University of California, Santa Cruz, and a M.S. and Ph.D. in geology at the University of New Mexico.

## **Dr. Chris Gammons, Professor, Dept. of Geological Engineering**

Chris has been a faculty member with the Department of Geological Engineering since 1997. He got a B.S. in Geology from Bates College (1980) and a Ph.D. in Geochemistry and Mineralogy from Penn State (1988), and is a registered Professional Geologist (Wyoming). Between degrees he worked a couple years as an exploration geologist for Anaconda out of their Denver, Reno, and Anchorage offices. Before Tech, Chris had postdoctoral research appointments at Monash University (Melbourne, Australia), the Swiss Federal Institute of Technology (ETH-Zurich), and McGill University (Montreal). At Tech, Chris teaches a range of non-engineering courses, including Physical Geology, Mineralogy/Petrology, Metallic Ore Deposits, Acid Rock Drainage, Hydrogeochemistry, Isotope Geochemistry, Field Geology, and other special topics courses. Chris' research interests are in ore deposit geochemistry, geochemistry of rivers and lakes, mine waters, and hydrothermal fluids, and applications of stable isotopes to geology. His wife, Colleen Elliott (Ph.D., Univ. of New Brunswick, Structural Geology), works in the mapping division of the Montana Bureau of Mines and Geology.

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## **Steve Bundrock, P.Eng., IAB Co-Chair**

Steve Bundrock is a 2003 Montana Tech graduate in Geological Engineering-Mining. He is employed as the Manager-Operations Support for Norwest Corporation, an energy and natural resources consulting firm. He leads a Calgary, AB and Vancouver, BC based group of engineers, geologists, and technicians who provide field and office support for investigation, design, construction, operations, maintenance, surveillance and mitigation of open pits, waste dumps, tailings dams, water management structures and other infrastructure at mine sites throughout the mine life. Steve has led and contributed to Norwest projects in Canada and the U.S., as well as in Mongolia, Turkey and China. His previous employment includes work as a geologist, mining and geotechnical engineer for open pit and underground gold, copper and phosphate mining operations. Steve was recognized as the Outstanding Graduating Senior in 2003 and is a 2014 recipient of the Alumni Recognition Award.

## **Dr. Dale C. Barnum, IAB Past Chair**

Dale graduated from the Montana School of Mines in 1956 with a degree in Geological Engineering. He worked briefly as a geologist for the Anaconda Mining Corporation before being called to active duty as an Air Force Officer. Dale served 28 years in a variety of key Air Force research and development positions supporting our nation's highest priority programs. He then worked for Harris Corporation for 12 years as a manager of programs. After retirement, Dale continued his effort as a life-long advocate of Montana Tech. Dale served as Chairperson of the Geol Eng IAB for 12 years. Also, he has served two terms on the Montana Tech Foundation's Board of Directors. Dale is a recipient of the Distinguished Alumni Award from Montana Tech. In addition to his degree from Tech, Dale holds both M.S. (Research) and Ph.D. degrees from Saint Louis University.

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## Ericka L. Bartlett

Ericka Bartlett is a Geological Engineer and Project Manager at the Imerys Talc Yellowstone Mine south of Cameron, Montana. She graduated with a degree in Geological Engineering from Montana Tech in December 2008 and has been at the Yellowstone Mine for 6 years. Ericka is responsible for all geology and geotechnical aspects and projects at the site and most recently successfully managed a critical project for the next phase of mining. She is also part of a corporate safety team, which focuses on improving mine safety at Imerys sites throughout the world. Ericka is currently a member of the Society for Mining, Metallurgy, and Exploration (SME) and serves on the Education Committee for the Montana Mining Association. Prior to her current role, her experience included internships in the oil and gas industry as well as exploration.

## Brock Bolin, Chief Geophysicist – Operations, Global Exploration, Newmont Mining Corporation

Brock holds a B.A. in Geology from The University of Montana (1994) and an M.S. in Geophysics from Montana Tech (2003). He is the 2012 recipient of Montana Tech Alumni Recognition Award for Geophysics. He has worked as an engineering geophysicist for CH2M Hill at the Hanford Nuclear Reservation, and as a staff geophysicist for Gradient Geophysics in locations such as Bolivia, Chile, Peru, and the northern Rockies. He joined Newmont in 2003 and has been based in Peru, Nevada, and Colorado. Brock currently oversees all aspects of operational geophysics in support of Newmont's exploration programs worldwide. He focuses on integrating geophysics with geology in defining gold and copper targets at all scales, as well as participating in Newmont's geophysical research efforts.

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### **David J Erickson, PG, CPG**

Mr. Erickson is a fourth generation Montanan, raised on a ranch in the southwestern part of the State. He is married to Elizabeth (B.S. Geophysical Engineering 1988 and M.S. Hydrogeological Engineering 1995) with 3 children: Ariane (B.S. Metallurgical Engineering 2012, PhD University of Washington), Danielle, a Senior in Chemical Engineering and , and Zack, a Sophomore at Tech in Mechanical and Metallurgical Engineering. David has 28 years of experience in the Engineering Consulting field and is now President and Principal with Water & Environmental Technologies in Butte, Montana. WET is a 35 person engineering firm started in 2000 providing engineering, environmental and remediation services in a 10 state region to a wide variety of clients including private, industrial and State agencies. He also serves as President in a real estate holding company and to SepticNET, Inc., a start-up wastewater treatment company specializing in high efficiency nutrient removal for individual and multi-family development. Mr. Erickson received his Geological Engineering degree from Montana Tech in 1988 and moved to Houston where he worked in the petroleum industry and later in the engineering consulting field. He returned to Montana in the early 1990's and is a Registered Professional Geologist in Wyoming and Utah and a Certified Professional Geologist by the American Institute of Professional Geologists. His focus has been on water related issues: study, development, remediation, permitting, litigation and compliance. He now serves as lead expert on several litigation issues as well as Project Manager/ Principal Hydrogeologist on complex remediation and investigation projects in the region including management of waste and water related environmental issues at coal fired generation facilities in Wyoming and Utah. David received the Distinguished Alumni Award in 2003 and is in his second term as a Director on the Montana Tech Foundation. He also serves on other private boards including as President of the Port of Montana.

### **Brian Erickson**

Brian is a 1995 Montana Tech Geological Engineering graduate. After a brief period in Idaho working at an underground silver mine, Brian and his wife Kathryn (M.S. Hydrogeological Engineering 1996) moved to Juneau, Alaska where Brian accepted a Production Geology position at the Greens Creek Mine. Brian has held numerous positions at the operation including the Mine Manager position. In 2010 he selected a different path and now manages the Surface Operations group at the mine and is responsible for operations support, surface infrastructure operation, a dry stack tailings facility, concentrate shipping, port operations, and project management. Brian was named the Outstanding Senior in Mining Geology in 1995, the Outstanding Alum in Geological Engineering in 2002, and is serving his second term on the MT Tech Foundation Board of Directors.

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**Jane Fillmore, Environmental Engineer, Florence Copper**

Jane received her B.S. in Geological Engineering -Hydrogeology option in 2006 and a M.S. in Geoscience - Geological Engineering option in 2009. In February 2008 Jane joined FMC's Environmental Department as an Environmental Engineer specializing in groundwater at their Westvaco facility in Green River, Wyoming. At Westvaco Jane manages an extensive system of groundwater interception wells, and is responsible for monitoring and reporting of site surface water, groundwater, and storm water programs. Jane is an active member of the Southwestern Wyoming Section of SME, serves as Secretary/Treasurer of the Joint Powers Water Board, and is a member of the National Groundwater Association (NGWA) and the Colorado River Water Users Association (CRWUA).

**Leigh Freeman – Principal, Leigh Freeman Consultancy and CEO Blue Sun Energy**

Leigh earned a B.S. in Geological Engineering from Montana Tech in 1971. His wife, Toni, earned her B.S. in Geological Engineering in 1972. They have four grown children and four grandkids. Leigh received a Distinguished Alumni Recognition in Geological Engineering. He started his career as a geophysicist with Placer Dome. In the mid-80s he co-founded Orvana Minerals, a successful international exploration and development company on the Toronto Stock Exchange. Currently Leigh serves as the CEO of Blue Sun Energy, a private technology commercialization company specializing in transportation fuels. Through his consulting company he provides strategic and tactical consulting as well as talent recruiting for domestic and international mining companies. In addition, Leigh has served as a Trustee for Montana Tech Foundation and the Society of Economic Geology Foundation. He works with the National Academy of Sciences and serves on the advisory boards for a number of resource-focused universities in western US.

**Ennis P. Geraghty, Ph.D**

Ennis grew up in northern New York State. He is a graduate of Colgate University (A.B. Geology, 1969) and completed his Graduate Degrees at Syracuse University (M.S. Geology, 1973; Ph.D. Geology, 1978). His graduate work was focused on outcrop field mapping in the Adirondack Mountains where he grew up, an area of Proterozoic shelf-sequence and igneous rocks metamorphosed to upper granulite-facies grade in a multiply folded nappe terrain. Ennis currently is employed by Stillwater Mining Company in Columbus, Montana as Senior Project Geologist working on expansion projects at both the Stillwater and East Boulder palladium-platinum mines. He has been in Mining Geology for 35 years, starting as a Mine Geologist in 1980 with the Climax Molybdenum Company at Henderson molybdenum mine in the Front Range of Colorado. Laid off in 1988, Ennis headed north to Montana and started as Development Geologist with Stillwater Mining Company at Stillwater Mine. He worked his way up through the ranks of the Geology Department from Development to Grade Control to Production to finally Chief Geologist – Stillwater Mine, a position he held from 1994 until 2006. Prior to mining geology, Ennis' first job out of Graduate School was as a Research Structural Geologist for the New York State Geological Survey in Albany, New York from 1977 to 1980. In recent years (2010 to 2012) Ennis has done contract geological work for the Montana Bureau of Mines and Geology (MBMG) and Chevron Mining. For Chevron, he mapped the underground geology of East LHD Production Level at Questa molybdenum mine. Since 1997 Ennis has done independent research and outcrop mapping of the Triangle Zone fault geometries along the Beartooth Mountains front and their effect on the metal zones (Pd-Pt, Cr, and Ni-Cu) within the

Stillwater Complex. This work resulted in publication of a regional map by the MBMG. In 2014 Ennis received the Uuno M. Sahinen Silver Medallion Award from MBMG and Montana Tech for his significant, long-term contributions to the understanding and development of Montana mineral resources.

**Bill Henne, P.E.**

Bill received his B.S. in Environmental Engineering from Montana Tech in 2003. After working for the Montana Bureau of Mines and Geology (MBMG) as a hydrologist/facilities operator at a CERCLA water treatment plant, he worked for Shannon and Wilson as an environmental engineer in Seattle before coming back to Montana Tech in 2009 where he graduated with his M.S. in Geosciences (hydrogeological engineering option) in 2011. Both during and following grad school he was with the MBMG for a second time as a hydrogeologist with the Groundwater Investigation Program focusing on surface water and groundwater continuity to assess anthropogenic impacts in the Four Corners and Belgrade high growth areas. Wanting to do more in the engineering field, Bill was hired as a project engineer by Pioneer Technical Services, Inc. where he worked from 2012 to 2018. During this period, he specialized in on-going engineering support for large scale Superfund surface water and groundwater remediation projects throughout southwest Montana. In February 2018 Bill joined Water and Environmental Technologies in Butte, Montana as a senior hydrogeological engineer providing project management and technical expertise to a diverse range of hydrogeologic and hydrologic tasks throughout all phases of projects that include aspects of groundwater, surface water, geology, and geochemistry.

In addition to being a Geological Engineering Industrial Advisory Board member, Bill is a licensed professional engineer (civil) in Montana, is a member of ASCE, and currently sits on the Montana Tech Alumni Association Board as president.

**Greg Lorenson, P.E.** Greg Lorenson is a 2004 Montana Tech graduate in Geological Engineering. He is employed as a civil engineer and serves on the Board of Directors for Hydrometrics, Inc. in Helena, MT. Greg provides civil and environmental design on large CERCLA and RCRA projects and currently serves as the lead Environmental Professional for Point Ruston, a private development being constructed on the Former Asarco Tacoma Smelter Superfund Site in Tacoma, WA. Greg has design and construction experience with pipelines, dams, landfills, tailings impoundments, building and structure foundations, private development construction, public and private storm water systems, and environmental reclamation. In addition to his degree from MT Tech, Greg received a M.S. in Geology from the University of Vermont, where he studied Geochemistry and Microbiology. He is currently a registered professional engineer in Montana, Idaho, and Washington.

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### **Duane Matt, M.S. Geology/B.S Geology/B.A. Secondary Education**

Duane Matt is a member of the Confederated Salish Kootenai and Pend D 'Oreille tribes located on the Flathead Indian reservation located in western Montana. Mr. Matt currently works as a Physical Scientist with the Office of Surface Mining Reclamation and Enforcement. He previously worked as a Technology Coordinator with the Office of Surface Mining Reclamation and Enforcement (OSMRE) in Denver, CO. OSMRE is part of the Department of the Interior (DOI). Duane is a founding board member of SAIGE. Duane is also a current board member of SAIGE. Recently, he instigated a meeting between SAIGE board members and Google staff to provide SAIGE with the latest technology/tools to help the board work more efficiently. The result was each board member having a Chromebook to work with, and, use to communicate with each other. Before working for OSMRE, Duane worked for the Bureau of Land Management (Initial Attach Fire Dispatcher), Scientific Applications International Corporation (Field Geologist), Bureau of Reclamation (Geological Intern), United States Department of Agriculture (Smokejumper) and National Park Service (Helitack/Firefighter). Duane also worked as a schoolteacher on the Laguna-Acoma reservation in New Mexico. He holds a Master's Degree in Geology and a Bachelor's Degree in both Geology and English/Secondary Education. Mr. Matt was a member of the University of Montana cross-country and track-and-field teams 1986-1990. He also possesses six years of experience coaching both boys' and girls' high school cross-country and track-and-field.

### **John J. Metesh, Ph.D., P.G**

John Metesh graduated from Montana State University in 1986 with a degree in Earth Science (geology), from the Montana School of Mineral Science and Technology (Montana Tech) in 1990 with an MS in Geological Engineering, and from University of Montana in 2004 with a doctorate in Geology. He has been with the Montana Bureau of Mines and Geology for the past 25 years as a Research Hydrogeologist, Research Division Chief, Assistant Director, and since 2012 as Director and State Geologist.

### **David Musselman**

Graduated from Montana College of Mineral Science and Technology May 1993. Worked for Montana Bureau of Mines and Geology in the Billings office for 5 months after graduation. Kinross Candelaria Mine as a Junior Engineer and Mine Engineer. Worked as a consulting engineer for the Kinross Goldbanks project. Day & Zimmermann Family of companies at the Hawthorne Army depot from 1998 to present. Day & Zimmermann Hawthorne Corporation as Civil Engineer, Supervisor, Civil Engineer/Water Programs Supervisor and Manager Facilities and Utilities. Then for SOC LLC. as Manager Maintenance and Utilities and Supervisor Water Department.

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## Russell J. Sheets, P.E.

Russell completed his degree in Geological Engineering (Engineering Geology option) in December 2002; he immediately continued his studies at the University of Wisconsin – Madison graduating in 2004 with an M.S. in Geological Engineering. Russell joined Newmont Mining Corp. in 2005 at their Carlin Surface Mine Operation in Northern Nevada. Since December 2007 he has held the position of Senior Geotechnical Engineer. Upon graduating from Montana Tech, Russell received both the Chester H. Steele Honor Award for Outstanding Graduate in Mining & Geology and the Outstanding Achievement in the Dept. of Geological Engineering Award. In 2009 he received the Alumni Recognition Award for Geological Engineering. Russell has been a licensed Professional Engineer (Civil) in Nevada since March 2008; and is a member of ARMA, ASCE, ISRM, and a SME Registered Member.