METALLURGICAL & MATERIALS ENGINEERING

Courtney A. Young, PhD, RM

LEWIS S. PRATER DISTINGUISHED PROFESSOR OF MINERAL PROCESSING & EXTRACTIVE METALLURGY

January 1, 2026

EDUCATION

PH.D. METALLURGICAL ENGINEERING, UNIVERSITY OF UTAH, COLLEGE OF MINES AND EARTH SCIENCES, SALT LAKE CITY, UT, 84112, JUNE 1994

M.S. MINING AND MINERALS ENGINEERING, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, BLACKSBURG, VA, 24061, SEPTEMBER 1987

B.S. MINERAL PROCESSING ENGINEERING, MONTANA COLLEGE OF MINERAL SCIENCE AND TECHNOLOGY, BUTTE, MT, 59701, MAY 1984

REGISTRATION

REGISTERED MEMBER (RM) SME – SOCIETY OF MINING, METALLURGY AND EXPLORATION, 2021

AREAS OF EXPERTISE

- **PROCESS ENGINEERING**
- **MINERAL SEPARATIONS**
- **FLOTATION**
- **EXTRACTIVE METALLURGY**
- **HYDROMETALLURGY**
- **MINING SUSTAINABILITY**
- **REMEDIATION**
- **WASTE MINIMIZATION**
- **RECYCLING**
- **SURFACE CHEMISTRY**
- **ELECTROCHEMISTRY**
- **CHARACTERIZATION**
- **ANALYSIS/SPECTROSCOPY**
- **CRITICAL MINERALS**

DR. COURTNEY YOUNG IS A GRADUATE OF THREE PREMIERE MINERAL/COAL PROCESSING AND EXTRACTIVE METALLURGY INSTITUTIONS. HIS SPECIALTIES IN MINERAL PROCESSING AND EXTRACTIVE METALLURGY INCLUDE MINERAL CHARACTERIZATION AND ANALYSIS, FLOTATION, PHYSICAL SEPARATIONS, LEACHING, CYANIDE, URANIUM, BASE AND PRECIOUS METAL PROCESSING, AND ADSORPTION. HE ENJOYS APPLYING THOSE TECHNOLOGIES TO RECYCLING, CRITICAL MINERALS, AND MINING SUSTAINABILITY INCLUDING WASTE PROCESSING, WATER REMEDIATION, TAILINGS AND SLAGS RECYCLING, DUST AND SPENT POT-LINER TREATMENT, ENERGY REDUCTION, AND FLOWSHEET DEVELOPMENT.

AS A FACULTY IN METALLURGICAL & MATERIALS ENGINEERING (M&ME) FOR MORE THAN 33 YEARS, COURTNEY HAS TAUGHT VARIOUS COURSES INCLUDING MINERAL PROCESSING, HYDROMETALLURGY, FIRE ASSAY, SLURRY TRANSPORT, CONVEYOR BELT DESIGN, FLOTATION, MATERIALS CHARACTERIZATION AND ANALYSIS, ENERGY RESOURCES (COAL, URANIUM, SILICON AND RARE EARTH ELEMENTS), PRECIOUS METAL RESOURCES (MOSTLY GOLD), INTERNSHIP AND SEMINAR. DURING THIS TIME, DR. YOUNG HAS WORKED ON NUMEROUS RESEARCH PROJECTS WITH VARIOUS FUNDING SOURCES, PARTICULARLY MINING COMPANIES AND THE CENTER FOR ADVANCED MATERIALS PROCESSING (CAMP).

PROFESSIONAL EXPERIENCE

2001-PRESENT TENURED PROFESSOR, M&ME, MONTANA TECH, BUTTE, MT
1998-2019 DEPARTMENT HEAD, M&ME, MONTANA TECH, BUTTE, MT
1996-2001 ASSOCIATE PROFESSOR, M&ME, MONTANA TECH, BUTTE, MT
1995-1996 ASSISTANT PROFESSOR, M&ME, MONTANA TECH, BUTTE, MT
1994 RESEARCH ASST PROFESSOR AND CAMP POSTDOC, MONTANA TECH, BUTTE, MT
1993 RESEARCH FELLOW AND POSTDOC, MINE WASTE TECHNOLOGY PROGRAM (MWTP), MONTANA TECH, BUTTE, MT

PROFESSIONAL AFFILIATIONS

1999-PRESENT AMERICAN EXPLORATION AND MINING ASSOCIATION (AEMA), TRUSTEE 2015-2018
1998-PRESENT MONTANA MINING ASSOCIATION (MMA), HONORARY LIFETIME MEMBER SINCE 2007
1982-PRESENT SOCIETY FOR MINING, METALLURGY AND EXPLORATION (SME), DISTINGUISHED MEMBER SINCE 2017, BOARD OF DIRECTORS MEMBER, 2024-2027

PROFESSIONAL RECOGNITION

PATENTS

20110259148 (USA), AU2011201892 (AUSTRALIA), AND CA2738382 (CANADA), METHOD FOR AQUEOUS GOLD THIOSULFATE EXTRACTION USING COPPER-CYANIDE PRETREATED CARBON ADSORPTION, WITH M. MELASHVILI AND R.N. GOW, 2011.

20170145527 (USA), SYSTEM AND METHOD FOR FORMING SPHERICAL SILICA-BASED PROPPANT AND PIG IRON UTILIZING MINING SLAG, R. TABISH, D.A. TABISH AND L. MCNAMARA, 2017.

20240123480 (USA), CHEMICAL LIBERATION OF WASTE PRINTED CIRCUIT BOARDS, WITH B. SUSLAVICH AND A. DAS, 2024.

18/900,454 (USA APPLICATION), METHOD FOR RECOVERING METALS FROM METAL

ALLOYS AND INTERMETALLICS AND 63/541,076 (USA PROVISIONAL APPLICATION), METHODS FOR RECOVERING METALS FROM METAL ALLOYS AND COMPOUNDS WHERE ONE OF THE METALS IS LESS NOBLE THAN THE OTHERS, 2024.

A METHOD FOR THE FLOTATION OF RARE EARTH MINERALS AND COMPOUNDS, 2025 (RECENTLY SUBMITTED).

AWARDS

BEST MPD PRESENTATION AT ANNUAL MEETING, SME, 2023.
HENRY KRUMB LECTURER, SME, 2021-2025.
ANTOINE M. GAUDIN AWARD, SME, 2020.
ROSE AND ANNA BUSCH FACULTY ACHIEVEMENT AWARD, MONTANA TECH, BUTTE, MT, 2019.
MERIT, MONTANA TECH, BUTTE, MT, 2018.
SME FELLOW AWARD, SME, FEBRUARY 22, 2017.
LIFETIME DISTINGUISHED RESEARCHER AWARD, MONTANA TECH, BUTTE, MT, 2016.
MINERAL INDUSTRY EDUCATOR AWARD, AIME, 2016.
PRESIDENT'S CITATION, SME, 2015.
MERIT, MONTANA TECH, BUTTE, MT, 2013.
MPD MILLMAN OF DISTINCTION AWARD, SME, 2012.
PRESIDENT'S CITATION, SME, 2009.
FRANK APLAN AWARD, AIME, 2009.
DISTINGUISHED RESEARCHER AWARD, MONTANA TECH, BUTTE, MT, 2009.
ROSE AND ANNA BUSCH FACULTY ACHIEVEMENT AWARD, MONTANA TECH, BUTTE, MT, 2009.
UNDERGRADUATE RESEARCH COMMITTEE APPRECIATION AWARD, MONTANA TECH, BUTTE, MT, 2009.
ROSE AND ANNA BUSCH FACULTY ACHIEVEMENT AWARD, MONTANA TECH, BUTTE, MT, 2003.
COUER D'ALENE FACULTY ACHIEVEMENT AWARD, MONTANA TECH, 1998.
SME/MPD YOUNG ENGINEER AWARD, FEBRUARY 1998.

HONORS

HONORARY ORGANIZER, INTERNATIONAL CONGRESS OF MINERAL FLOTATION, LIMA, PERU, MAY 15-16, 2025.
BLM MINERAL SPECIALIST, INAUGURAL PRESENTER CRITICAL MINERALS LECTURE SERIES, NOVEMBER 18, 2024.
SME BOARD OF DIRECTORS, NOMINATED FEB 2022 AND CONFIRMED FEB 2023 TO SERVE FEB 2024-FEB 2027.
BEST PRESENTATION IN MPD FLOTATION SESSIONS AT SME ANNUAL MEETING, DENVER CO, "HISTORY OF FLOTATION FROM ANCIENT TIMES THROUGH EARLY CHEMICALS AND MACHINES," MARCH 1, 2023.
PLANNING COMMITTEE, INTERNATIONAL MINERAL PROCESSING CONGRESS (IMPC), WASHINGTON DC, SEPT 29-OCT 3, 2024, SME LEAD ON INNOVATION, RESEARCH AND DEVELOPMENT, FEBRUARY 2023-2024.
HONORARY ORGANIZER, INTERNATIONAL CONGRESS OF MINERAL FLOTATION, LIMA, PERU, NOVEMBER 9-11, 2022.
U.S. DOE, ENERGY EFFICIENCY AND RENEWABLE ENERGY, PROPOSAL REVIEWER, MARCH-APRIL, 2022.
REGISTERED MEMBER (RM), SME, 2021-PRESENT.
NASA, PROPOSAL REVIEWER FOR LUNAR SOIL SIMULANT, VIRTUAL, OCT-NOV 2021.
U.S. DOE, ARPA, PROPOSAL REVIEWER, CRITICAL MATERIALS PROCESSING, VIRTUAL, SEPT-OCT 2020.
U.S. DOE, ARPA, PROPOSAL REVIEWER, RARE EARTH ELEMENT PROCESSING, VIRTUAL, FEB-MAR 2020.
COMMITTEE TO WRITE THE ARGUMENT FOR REJECTION OF I-186, STATE OF MONTANA, JULY-AUGUST 2018.
U.S. DOE, NETL, TECHNICAL PROGRAM REVIEWER, RARE EARTH ELEMENT FROM COAL AND COAL BY-PRODUCTS, TASKS 1-8, PITTSBURGH, PA, MAR-APRIL 2018.
25-YEAR RECOGNITION, MONTANA TECH, BUTTE, MT, 2018.
BEST PRESENTATION, TOP 20, AT MOLTEN '16 - 10TH INTERNATIONAL CONFERENCE ON MOLTEN SLAGS, FLUXES AND SALTS, IN SEATTLE WA, "CHARACTERIZATION AND RECOVERY OF VALUABLES FROM WASTE COPPER SMELTING SLAG," P. SARFO, J. YOUNG, G. WYSS AND G. MA, 2016.
BEST PRESENTATION, TOP 20, AT *COPPER COBALT AFRICA – SAIMM 8TH BASE METALS CONFERENCE* IN LIVINGSTONE

ZAMBIA, "XANTHATE CHEMISORPTION AT COPPER AND CHALCOPYRITE SURFACES," J.L. BOWDEN, 2015.
WEBINAR PRESENTATION, "ARD REMEDIATION WITH SLAG: APPLICATION TO BERKELEY PIT," U.S. EPA, SEPT 19, 2012.
QUALIFIED PROFESSIONAL (QP) MEMBER, MMSA, 2006-2021.
LEWIS S. PRATER DISTINGUISHED PROFESSOR OF METALLURGICAL ENGINEERING, 2006-PRESENT.
SME MPD EXECUTIVE BOARD, MEMBER, 2006-2012.
SME MPD, TECHNICAL PROGRAM ADVISOR, 2006-2007.
ORGANIZING CHAIR AND CHIEF EDITOR, BOB SHOEMAKER HYDRO 2008 SYMPOSIUM, PHOENIX, AZ, AUGUST, 2006-2008.
CHAIR, AQUEOUS PROCESSING COMMITTEE, EPD OF TMS, 2005-2006.
NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, U.S. DEPARTMENT OF ENERGY'S INDUSTRIAL TECHNOLOGIES PROGRAM REVIEWER, WASHINGTON DC, 2004-2005.
TMS REPRESENTATIVE, MEMBERSHIP DEVELOPMENT COMMITTEE, EPD, 2004-2006.
ORGANIZING CHAIR AND CHIEF EDITOR, IAN RITCHIE HYDRO 2003 SYMPOSIUM, VANCOUVER, BC, AUGUST, 2003.
SME MILTON E. WADSWORTH HYDROMETALLURGY AWARD COMMITTEE, 2001-2003.
TMS APPLICATION TO PRACTICE, EDUCATOR, AND LEADERSHIP AWARDS COMMITTEE, 2001-2003.
DIPLOMA DE HONOR AND UNIVERSIDAD DEL EXCELENCIA CON CULTURA ANDINA MEDAL, UNIVERSIDAD NACIONAL DEL ALTIPLANO, FACULTAD DE INGENIERIA DE MINAS, PUNO, PERU, 2001.
TMS REPRESENTATIVE, STUDENT AFFAIRS COMMITTEE, EPD, 2000-2004.
TMS EPD COUNCIL, MEMBER, 2000-2006.
NSF ALAN T. WATERMAN AWARD NOMINATION, 1999.
TMS EDUCATION COMMITTEE, 1999-2002.
SIGMA XI YOUNG INVESTIGATOR AWARD, NOMINATION, NORTHWEST REGION NATIONAL REPRESENTATIVE, 1997 & 1999.
SME AND TMS ABET EVALUATION OBSERVER, SEPTEMBER, 1998.
INTERNATIONAL JOURNAL OF MINERAL PROCESSING, ASSOCIATE EDITOR, 1998-2016.
TMS YOUNG LEADER EPD INTERN, 1997-1998.
SME STUDENT MEMBER AFFAIRS SUBCOMMITTEE, 1997-2005.
SME AND TMS ACCREDITATION COMMITTEES, 1996-2004.
ASARCO DISTINGUISHED PROFESSOR OF METALLURGICAL ENGINEERING, 1996-2006.
TMS YOUNG LEADER, 1995-1997.
ASM KEY READER FOR *METALLURGICAL AND MATERIALS TRANSACTIONS, B*, 1996-1998.
ASM BRADLEY STOUGHTON AWARD FOR YOUNG TEACHERS, NOMINATION, 1996-1997.

PLENARY AND KEYNOTE PRESENTATIONS

CONGRESSO BRASILEIRO DE FOSFATOS, "ADDRESSING CRITICAL MATERIALS II: MINERAL PROCESSING AND RECYCLING OF REES," CALDOS NOVAS, GOAIS, BRAZIL, MARCH 8-13, 2026.
INTERNATIONAL CONFERENCE ON MATERIALS ENGINEERING FOR RESOURCES, "HISTORY OF CRITICAL MINERALS AND MODERN APPLICATION OF REE FLOTATION," AKITA, JAPAN, OCTOBER 24-25, 2025.
FLOTATION 2025, LIMA, PERU, "CONFIRMATION OF THE DEPRESSION MECHANISM OF CU WITH ORFOM® D8 IN THE FLOTATION SEPARATION OF CU/MO BULK SULFIDE CONCENTRATE," MAY 15-16, 2025.
FLOTATION 2025, LIMA, PERU, "UNDERSTANDING RARE EARTH MINERAL FLOTATION - OVERCOMING POOR METALLURGICAL PERFORMANCE," MAY 15-16, 2025.
US BUREAU OF LAND MANAGEMENT (BLM) CRITICAL MINERALS LECTURE SERIES, INAUGURAL MINERAL SPECIALIST PRESENTER, "PROCESSING OF CRITICAL MINERALS AND MATERIALS: CU AND REES," VIRTUAL, NOVEMBER 18, 2024.
UPPER PENINSULA SME ANNUAL MEETING, HOUGHTON MI, "PROCESSING CRITICAL MINERALS: APPLICATIONS TO CU AND REES," OCTOBER 24, 2024.
CONGRESSO BRASILEIRO DE FOSFATOS, "ADDRESSING CRITICAL MATERIALS: PROCESSING DOMESTIC CU AND RECYCLING RE MAGNETS," CALDOS NOVAS, GOAIS, BRAZIL, MARCH 7, 2024.
FLOTATION 2022, LIMA, PERU, "MECHANISM OF ORFOM D8 DEPRESSION IN CU-MO SEPARATION," NOVEMBER 9, 2022.

SME ANNUAL MEETING, ANTOINE M. GAUDIN AWARD PRESENTATION, "LOADING THE BASES WITH STUDENTS – HITTING GRAND SLAMS WITH INDUSTRY," MPD PLENARY SESSION, FEB 28, 2021.

SAIMM MEETING, U OF PRETORIA, PLENARY, "SPECTROELECTROCHEMISTRY OF ENARGITE IN ACIDIC AND ALKALINE SOLUTIONS," AND "MINERAL PROCESSING OF SECONDARY RESOURCES FOR MAKING SIMULANT," JUNE 25, 2015.

XXII INTERNATIONAL CONGRESS IN EXTRACTIVE METALLURGY AND MINERAL PROCESSING, PLENARY, "COMPARISON OF GOLD CYANIDE ADSORPTION ON AC TO GOLD THIOSULFATE ADSORPTION ON IMPREGNATED AC," MAZATLAN, MEXICO, APRIL 16-19, 2015.

HYDROPROCESS 2013, PLENARY, "IMPREGNATED ACTIVATED CARBON FOR GOLD EXTRACTION FROM THIOSULFATE SOLUTIONS," SANTIAGO, CHILE', JULY 10-12, 2013.

8TH INTERNATIONAL GOLD SYMPOSIUM, PLENARY, "ALTERNATIVES: THE AFTERMATH OF BANNING CYANIDE LEACHING IN MONTANA," NATIONAL SOCIETY OF MINERALS, PETROLEUM AND ENERGY OF PERU, LIMA, PERU, APRIL 21-23, 2008.

XXVIII CONVENCIÓN MINERA, PLENARY, "PRESSURE EFFECTS ON FLOTATION," AREQUIPA, PERU, SEPT 10-14, 2007.

SOCIETY OF NORTH AMERICAN GOLDSMITHS (SNAG), PLENARY, "ENVIRONMENTAL STEWARDSHIP IN THE GOLD MINING INDUSTRY: CAN CYANIDE AND MERCURY BE USED SAFELY?," MEMPHIS, TN, JUNE 13-16, 2007.

7TH INTERNATIONAL GOLD SYMPOSIUM, PLENARY, "CYANIDE STEWARDSHIP: RECYCLING VERSUS DESTRUCTION," NATIONAL SOCIETY OF MINERALS, PETROLEUM AND ENERGY OF PERU, LIMA, PERU, MAY 3-5, 2006.

ICAMMP-2002, KEYNOTE, "THERMODYNAMICS OF OLEATE CHEMISORPTION AT THE SURFACES OF SEMI-SOLUBLE CALCIUM SALT MINERALS," WITH J.D. MILLER, IITKG-KUAGPUR, INDIA, FEBRUARY 1-3, 2002.

ICMR 2001 SYMPOSIUM, PLENARY, "REVIEW OF TECHNOLOGIES AND THE DEVELOPMENT OF A NOVEL APPROACH FOR SPL REMEDIATION," AKITA UNIVERSITY, AKITA, JAPAN, OCTOBER 11-13, 2001.

TMS ANNUAL MEETING, PLENARY, "CYANIDE: JUST THE FACTS," NEW ORLEANS, LA, 2001.

GUEST PRESENTATIONS

JULIUS KRUTTSCHNITT MINERAL RESEARCH CENTRE, UNIVERSITY OF QUEENSLAND, BRISBANE, AUSTRALIA, MINERAL SEMINARS, "HISTORY OF CRITICAL MATERIALS AND APPLICATION TO RECYCLING REE MAGNET," APRIL 28, 2025.

HENRY KRUMB LECTURES. IN-PERSON AT MT TECH, BUTTE, MT (9/1/21), MS&T, ROLLA, MO (10/7/21), CHEM, MT TECH, BUTTE, MT (9/2/22), MONTANA SME LOCAL SECTION (10/19/22), FLOTATION 2023, LIMA, PERU (9/7/23), CONGRESSO BRASILEIRO DE FOSFATOS (MARCH 7, 2024), UPPER PENINSULA SME, HOUGHTON, MI (10/24/24), SME MPD, SALT LAKE CITY, UT (9/13/25), AND AKITA UNIVERSITY (10/23/25) AS WELL AS ON-LINE AT SME (3/10/21), PENNSTATE, STATE COLLEGE, PA (4/22/21), SDSM&T, RAPID CITY, SD (9/22/21), FEDERAL UNIVERSITY OF CATALÃO, BRAZIL (9/29/21), SOUTHERN U OF S&T, SHENZHEN, CHINA (10/14/21), CENTRAL SOUTH U, CHANGSHA, CHINA (10/14/21), AKITA U/CMR CONFERENCE, JAPAN (10/20/21), CHEVRON-PHILLIPS/ ORFOM D8 CONFERENCE (11/9/21), WSU, PULLMAN WA (9/16/22), AND BLM CRITICAL MINERALS LECTURE SERIES (11/18/24).

SDSM&T, "MINERALS ARE MATERIALS TOO," SUMMER UNDERGRADUATE RESEARCH PROGRAM, SEMINAR, SEPTEMBER 22, 2021.

UNR MINING/METALLURGICAL ENGINEERING, "INDUSTRIAL OUTREACH AND RESEARCH FOR MINING SUSTAINABILITY," SEMINAR, MARCH 3, 2017.

UNR MINING/METALLURGICAL ENGINEERING, "HELPING MINING COMPANIES WITH RESEARCH," SEMINAR, JULY 1, 2016.

TECHNOLOGICAL INSTITUTE OF SALTILLO, "MINERAL PROCESSING AND EXTRACTIVE METALLURGY APPLICATIONS – TAILINGS RECYCLING AND ARD REMEDIATION," MAZATLAN, MEXICO, APRIL 20, 2015.

MICHIGAN TECH, SENIOR SEMINAR CLASS, "SYNTHETIC LUNAR SOIL," JANUARY 28, 2013.

MICHIGAN TECH, SURFACE ENGINEERING CLASS, "AC FOR GOLD THIOSULFATE RECOVERY," JANUARY 28, 2013.

SDSM&T, HYDROMETALLURGY CLASS, "AC FOR GOLD THIOSULFATE RECOVERY," APRIL 20, 2012.

SDSM&T, MINERAL PROCESSING CLASS, "SYNTHETIC LUNAR SOIL," APRIL 20, 2012.

U OF UTAH METALLURGICAL ENGINEERING DEPARTMENT, "SOLUBILITY OF As_2S_3 IN RELATION TO AS PRECIPITATION FROM PROCESS SOLUTION," SALT LAKE CITY, UT, APRIL 12, 2000.

NWGS LOCAL SECTION MEETING, "CYANIDE: JUST THE FACTS," SEATTLE, WA, APRIL 11, 2000.

U OF WASHINGTON GEOLOGICAL ENGINEERING, "THE CU-S-H_2O SYSTEM," SEATTLE, WA, APRIL 11, 2000.
U OF IDAHO MINING ENGINEERING, "CYANIDE: JUST THE FACTS," MOSCOW, ID, APRIL 10, 2000.
U OF IDAHO MINING ENGINEERING, "SOLUBILITY OF As_2S_3 IN RELATION TO AS PRECIPITATION FROM PROCESS SOLUTIONS," MOSCOW, ID, APRIL 10, 2000.
NORTHWEST MINING ASSOCIATION, "CYANIDE: JUST THE FACTS," SPOKANE, WA, DECEMBER 2, 1999.
MONTANA MINING ASSOCIATION, "CYANIDE: JUST THE FACTS," HELENA, MT, JANUARY 7, 1999.
MONTANA SECTION OF ACS, "CYANIDE AND MONTANA INITIATIVE 137," HELENA, MT, OCTOBER 22, 1998.
UNR CHEMICAL/METALLURGICAL ENGINEERING, "SURFACE ELECTROCHEMISTRY OF COPPER AND CHALCOCITE IN WATER/XANTHATE SYSTEMS," SURFACE CHEMISTRY COURSE, NOVEMBER 20, 1997.
UNR CHEMICAL/METALLURGICAL ENGINEERING, "PHOTOLYTIC REMEDIATION OF CYANIDE CONTAMINANTS IN WATER," SEMINAR, NOVEMBER 21, 1997.
RREL, EPA OFFICE, "CYANIDE REMEDIATION BY PHOTOLYSIS," CINCINNATI, OH, OCTOBER 20, 1995.
SIGMA XI, LOCAL SECTION, BUTTE, MT, "SURFACE ANALYSIS BY FT-IR SPECTROSCOPIC TECHNIQUES," APRIL 10, 1995.

RESEARCH INTERESTS

AS AN ACCOMPLISHED RESEARCHER, *DR. COURTNEY YOUNG* HAS BEEN RECOGNIZED WITH SME'S ANTOINE M. GAUDIN AWARD IN 2020 AS WELL AS MONTANA TECH'S LIFETIME DISTINGUISHED RESEARCHER AWARD IN 2016 AND RESEARCH AWARD IN 2009. MOST OF HIS RESEARCH INVOLVES MINERAL PROCESSING AND EXTRACTIVE METALLURGY AND THEIR APPLICATION TO RECYCLING, CRITICAL MINERALS, AND MINING SUSTAINABILITY. CONSEQUENTLY, HIS RESEARCH HAS BEEN VARIED. EXAMPLE RESEARCH INCLUDES BUT IS NOT LIMITED TO USING DRONES FOR FROTH ANALYSIS, IMPROVING AU RECOVERY, REMEDIATING CYANIDE, SELECTING UNIT OPERATIONS, TESTING ORES, RECYCLING SPENT POT-LINER, MAKING SYNTHETIC LUNAR SOIL, TREATING ACID-ROCK DRAINAGE, REPURPOSING SLAGS AND TAILS, DETERMINING DEPRESSANT ACTION IN CU-MO FLOTATION, CONDUCTING CU ELECTROWINNING FOR ENERGY SAVINGS, MODELLING FLOTATION, EXAMINING NOVEL COLLECTORS IN REE FLOTATION, MAKING PIG FE FROM SLAG, DESIGNING FLOWSHEETS, PRECIPITATING NANO-AU, RECOVERING VALUABLES FROM SLAGS AND TAILS (PGMS, CU, GARNET, ETC.), SURFACE-MODIFYING PLASTICS FOR FLOTATION, MAKING PHOTOCATALYTIC TiO_2 NANO-PARTICLES FOR CLEANING WATER, AND DETERMINING SURFACE REACTIONS OF SULFIDE MINERALS IN FLOTATION AND LEACHING.

GRANTS AND CONTRACTS

FEDERAL PROGRAMS

1. ARMY RESEARCH LAB (WITH RONALD WHITE/CAMP AS PI), "ADVANCED PROCESSING OF REE FROM ORES, RECYCLABLES AND COAL/BY-PRODUCTS," YEARS 1-5, $1,800,000 (2022-27).
2. ARMY RESEARCH LAB (WITH RONALD WHITE/CAMP AS PI), "ADVANCED PROCESSING OF REE NATURAL RESOURCES," YEAR 1 (2015), YEAR 2 (2016), YEAR 3 (2017) AND YEARS 4/5, $1,250,000 (2018-19).
3. ARMY RESEARCH LAB (WITH RONALD WHITE/CAMP AS PI), "RARE EARTH PROCESSING BY FLOTATION USING NOVEL COLLECTORS AND OTHER REAGENTS," U OF ALABAMA-BIRMINGHAM, $450,000 (2014-2015).
4. OFFICE OF NAVAL RESEARCH, "REE SELECTIVE PROCESSING BY LEACHING AND CHELATING SPCS," $300,000 (2012-2016).
5. NASA, MATCHING GRANT, "LUNAR SOIL SEPARATES," $1000 (2013).
6. NASA TRAVEL GRANT, "LUNAR SOIL SEPARATES," WITH MONTANA SPACE GRANT CONSORTIUM AT MSU-BOZEMAN, $1500 (2012-2013).
7. NASA RALPH STECKLER/SPACE GRANT SPACE COLONIZATION RESEARCH AND TECHNOLOGY PROGRAM, "MULTIPLE TERRESTRIAL RESOURCES FOR SIMULATING LUNAR SOIL," WITH MONTANA SPACE GRANT CONSORTIUM AT MSU-BOZEMAN, $85,000 (2010).
8. CENTER FOR ADVANCED SEPARATION TECHNOLOGIES (CAST), "ENHANCEMENT OF HIGH SODIUM COAL: SODIUM REMOVAL TECHNOLOGY DEVELOPMENT," WITH J. MCCLOSKEY (CO-PI), W. GLEASON, D. CAMERON AND L.G. TWIDWELL, $322,785 (2008-2011).
9. NSF/EPSCOR – MONTANA TECH UNDERGRADUATE RESEARCH PROGRAM, $450,000, WITH J. FIGUEIRA (2007-10).

10. CENTER FOR ADVANCED SEPARATION TECHNOLOGIES (CAST), "RECOVERY OF GOLD THIOSULFATE FROM SOLUTION USING A NOVEL CARBON ADSORPTION TECHNIQUE," $185,000, WITH L.G. TWIDWELL AND G. HOPE (2006-2010).
11. NSF/EPSCOR – MONTANA TECH UNDERGRADUATE RESEARCH, $250,000, WITH JOE FIGUEIRA (2005-2007).
12. U.S. ENVIRONMENTAL PROTECTION AGENCY AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM ON "DUAL ECOSYSTEM ENHANCEMENT BY SLAG REMEDIATION OF ARD," WITH D. BERG AND H.H. HUANG, $60,000 (2005-2006).
13. CENTER FOR ADVANCED SEPARATION TECHNOLOGIES (CAST), "SIMULTANEOUS ELECTROLYSIS OF COPPER AND FERROUS IONS," $150,000, WITH CES FABIAN AND HSIN-HSUIN HUANG (2003-2005).
14. U.S. EPA AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM ON "SULFATE REMOVAL," $50,000, WITH LARRY TWIDWELL (2002-2004).
15. NSF/EPSCOR – MONTANA TECH UNDERGRADUATE RESEARCH, $200,000, WITH JOE FIGUEIRA (2002-2004).
16. U.S. DOE – MINING INDUSTRIES OF THE FUTURE, "A REAL-TIME COAL CONTENT/ORE GRADE (C2OG) SENSOR," $220,000, WITH TOM MOON OF GEOPHYSICAL ENGINEERING DEPT AND RAND SWANSON OF ADVR (2001-2004).
17. U.S. STATE DEPARTMENT, MONTANA TECH INTERNATIONAL EXCHANGE PROGRAM, (A) CMRDI, CAIRO, EGYPT, (B) UNSW, SYDNEY, AUSTRALIA, (C) IIT-KHARAGPUR, INDIA, (D) LULEA UNIVERSITY, LULEA, SWEDEN, (E) AKITA UNIVERSITY, JAPAN, (F) MONASH UNIVERSITY, MELBOURNE, AUSTRALIA, (G) GRIFFITH UNIVERSITY AND JKMRC, BRISBANE, AUSTRALIA, (H) MURDOCH UNIVERSITY, PERTH, AUSTRALIA, (I) MCGILL UNIVERSITY, MONTREAL, CANADA, (J) GHANA UNIVERSITY, TARKWA, GHANA, AND (K) CRETE UNIVERSITY, CHANIA, GREECE, $142,000 (2000-PRESENT).
18. U.S. ENVIRONMENTAL PROTECTION AGENCY AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM, "SELECTIVE METAL RECOVERY FROM ARD," $80,000 (1999-2000).
19. U.S. ENVIRONMENTAL PROTECTION AGENCY AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM, "ANALYSIS OF SEDIMENTS IN THE BERKELEY PITLAKE," WITH LARRY TWIDWELL (PI) AND DICK BERG, $80,000 (1998-1999).
20. U.S. ENVIRONMENTAL PROTECTION AGENCY AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM, "COMPARISON OF SYNTHETIC AND NATURALLY-OCCURRING PHOTOCATALYZED EVENTS IN THE BERKELEY PITLAKE," $80,000 (1997-1999).
21. NATIONAL SCIENCE FOUNDATION, MONTANA TECH UNDERGRADUATE RESEARCH PROGRAM, ~$100,000, (1997-2000) – SEE LISTINGS OF STUDENTS AND PROJECTS UNDER STUDENT ADVISEES.
22. NATIONAL SCIENCE FOUNDATION RESEARCH EXPERIENCES FOR UNDERGRADUATES, NSF-REU-93-112, "EVALUATION OF SOLUTION EXTRACTION PROCEDURES FOR GOLD BISULFIDE," $10,000 (1996-1997).
23. U.S. ENVIRONMENTAL PROTECTION AGENCY AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM ON "PHOTOASSISTED ELECTRON TRANSFER REACTIONS OF APPLICATION TO MINE WASTEWATER CLEANUP: BERKELEY PIT ACID MINE WATER," $65,000 (1996-1997).
24. U.S. ENVIRONMENTAL PROTECTION AGENCY AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM ON "PHOTOASSISTED ELECTRON TRANSFER REACTIONS OF APPLICATION TO MINE WASTEWATER CLEANUP: METAL-COMPLEXED CYANIDE," $20,000 (1995-1997).
25. U.S. ENVIRONMENTAL PROTECTION AGENCY AND U.S. DOE INTERAGENCY CONTRACT NO. DE-AC22-881D12735 FOR THE MINE WASTE TECHNOLOGY PROGRAM ON "PHOTOASSISTED ELECTRON TRANSFER REACTIONS OF APPLICATION TO MINE WASTEWATER CLEANUP: CYANIDE AND NITRATE," $12,100 (1995-1996).

STATE/INSTITUTIONAL PROGRAMS

1. HOST TO DR. YASUSHI TAKASAKI, AKITA UNIVERSITY, JAPAN, OVERSEAS TRANSFER PROGRAM, $10,000 (AUGUST 2025 – OCTOBER 2025).
2. HOST TO DR. KAZUTOSHI HAGA, AKITA UNIVERSITY, JAPAN, OVERSEAS TRANSFER PROGRAM, $10,000 (SEPTEMBER – OCTOBER, 2022) AND $15,000 (SEPTEMBER – NOVEMBER, 2023).
3. HOST TO DR. SENGPASITH HOUNGALOUNE, FULLBRIGHT SCHOLAR, NATIONAL UNIVERSITY OF LAOS, VIENTIANE CAPITAL, LAOS, $20,000 (SEPTEMBER 2018 – DECEMBER 2018).

4. HOST TO DR. IYIOLA "TUNJI" OTUNNIYI, SABBATICAL, VAAL UNIVERSITY, VANDERBIJLPARK, S. AFRICA, "FUNDAMENTAL UNDERSTANDING OF PENTLANDITE-PYRRHOTITE FLOTATION," $10,000 (MARCH 2018 – JUNE 2018).
5. HOST TO DR. YASUSHI TAKASAKI, AKITA UNIVERSITY, JAPAN, OVERSEAS TRANSFER PROGRAM, $10,000 (JUNE 2016 – AUGUST 2016).
6. HOST TO DR. GUOJUN MA, CHINA SCHOLARSHIP PROGRAM AND INTERNATIONAL PROGRAM OF WUHAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, "SLAG RECYCLING," $20,000 (JANUARY 2015 – DECEMBER 2015).
7. HOST TO DR. YASUSHI TAKASAKI, AKITA UNIVERSITY, JAPAN, OVERSEAS TRANSFER PROGRAM, $10,000 (AUGUST 2012 – OCTOBER 2012).
8. MONTANA BOARD OF RESEARCH AND COMMERCIALIZATION TECHNOLOGY (MBRCT), "ENHANCEMENT OF MONTANA COAL TO SUPPORT FUTURE EXPANSION: ADVANCED COAL CHARACTERIZATION," WITH C.G. ANDERSON (PI), J. MCCLOSKEY, C.A. YOUNG, W. GLEASON, P.J. MIRANDA AND L.G. TWIDWELL, $80,133, (2008-2009).
9. MONTANA SPACE GRANT CONSORTIUM, "SUPPORT FOR UNDERGRADUATE RESEARCH," $32,000, 2005-2013.
10. HOST TO DR. HESHAM MAHMOUD, EGYPTIAN FULBRIGHT SCHOLAR PROGRAM, "PETROLEUM CATALYST RECYCLING," $20,000 (FEBRUARY 2001 – AUGUST 2001).
11. HOST TO DR. HESHAM MAHMOUD, CENTRAL METALLURGICAL RESEARCH AND DEVELOPMENT INSTITUTE (CMRDI), INTERNATIONAL PROGRAM, "PETROLEUM CATALYST RECYCLING," $15,000 (AUGUST 2000 – JANUARY 2001).
12. MONTANA TECH FOUNDATION MINI-GRANT PROJECT ON "GOLD LABORATORY EXERCISES II," $1500 (1995-1996).
13. MONTANA TECH FOUNDATION MINI-GRANT PROJECT ON "GOLD LABORATORY EXERCISES," $1500 (1994-1995).

INDUSTRIAL PROGRAMS

1. CONTACT MINING COMPANY, "TUNGSTEN RECOVERY PROJECT," TBD, 2025-PRESENT.
2. CPCHEM, "CONFIRMATION OF ORFOM D8 MECHANISM, PHASES IV-V," $154,000, 2023-2026.
3. DISA, "NOVEL ABLATION PROCESS FOR INCREASED RECOVERY OF TAILINGS," $40,000, 2021-2023.
4. CLARIANT, "CHARACTERIZATION OF FROTHERS USING ERT AND COLUMN FLOTATION," $30,000 (2020-2021).
5. CPCHEM, "SPECTROELECTROCHEMISTRY OF NOVEL REAGENTS FOR SULFIDE FLOTATION, PHASE III," $13,500, 2020.
6. INTEGRATED RECYCLING TECHNOLOGIES, WITH A. DAS AS CO-PI, "PCB RECYCLING," $150,000, 2018-2020.
7. CHEVRON-PHILLIPS CHEMICAL, "SPECTROELECTROCHEMISTRY OF NOVEL REAGENTS FOR SULFIDE FLOTATION, PHASE II," $186,500, 2018-2019.
8. UTRS, "RECYCLING OF SLAG FROM PROPRIETARY PROCESS," $22,110, 2018.
9. CHEVRON-PHILLIPS CHEMICAL (CPCHEM), "SPECTROELECTROCHEMISTRY OF NOVEL REAGENTS FOR SULFIDE FLOTATION," $173,000, 2016-2018.
10. BARRICK GOLDEN SUNLIGHT, "RECOVERING CU FROM SLAG VIA MATTE-PHASE REACTIONS," $16,000, 2017-2018.
11. STILLWATER MINING CORP., "RECOVERING PT FROM SLAG VIA CARBOTHERMAL REDUCTION," $16,000, 2017-2018.
12. FX SOLUTIONS, WITH A. DAS AS CO-PI, "RECOVERING GLASS FROM SLAG VIA CARBOTHERMAL REDUCTION," $180,000 (2019-2020) AND $210,000 (2017-2018).
13. AMINPRO, "CROWDING OF BUBBLES IN FROTH FLOTATION, WITH R. LADOUCEUR" SUBAWARD TO FREEPORT-MCMORAN, $16,000, 2017.
14. GMA MINING, "UTILIZATION OF TAILINGS FROM GARNET PROCESSING PLANT," $33,130, MARCH-SEPT, 2016.
15. FREEPORT MCMORAN, PROPRIETARY SUBCONTRACT FROM DR. MIKE MOATS AT MISSOURI S&T, $12,000, MAY-AUGUST, 2015.
16. CLIFFS NATURAL RESOURCES (FORMERLY CLEVELAND CLIFFS), $15,000, METALLURGICAL & MATERIALS ENGINEERING UNDERGRADUATE RESEARCH, MONTANA TECH FOUNDATION, 2008-2011.
17. BASF AND NEWMONT, "ENHANCING AU LEACHING KINETICS WITH SURFACTANTS," WITH H.H. HUANG, $88,000, 2009-2010.
18. NEWMONT MINING COMPANY, $360,000, METALLURGICAL & MATERIALS ENGINEERING UNDERGRADUATE AND GRADUATE RESEARCH SUPPORT, MONTANA TECH FOUNDATION, 2005-PRESENT.

19. POSITRONICS, $20,000, WITH KEVIN JAANSALU (PI), METALLURGICAL & MATERIALS ENGINEERING SENIOR DESIGN & RESEARCH SUPPORT, MONTANA TECH FOUNDATION, 2005-2008.
20. CENTER FOR ADVANCED MINERAL PROCESSING (CAMP), MONTANA TECH OF THE UNIVERSITY OF MONTANA, VARIOUS CONTRACTS AND PROJECTS, > $750,000 (1994-PRESENT):
    a. BASIN INDUSTRIAL SERVICES (FX SOLUTIONS), PROCESSING OF ANACONDA SLAG, $10,000 MATCH, 2015-2016.
    b. RARE EARTHS UNIVERSITY COLLABORATION INITIATIVE WITH MOLYCORP (INCLUDES $100K FEEDER), 2011-2012.
    c. STILLWATER MINING, PROPRIETARY PROJECT, $100K, 2007-2010.
    d. HYDROGEN PROJECT, RESEARCHER ON $300K INITIATIVE PROJECT, 2007-2010.
    e. TEMPER, INITIATOR AND RESEARCHER ON $1M INITIATIVE, 2005-2009.
    f. ASIMI, PROPRIETARY PROJECT, $10,000, 2004-2005.
    g. MONTANA RESOURCES, "FLOTATION RESPONSE WITH NEW WATER SOURCE," $5000, 2004.
    h. ASIMI, PROPRIETARY PROJECT, $10,000, 2003.
    i. STILLWATER MINING, PROPRIETARY PROJECT, $5,000, 2003.
    j. LUZENAC AMERICA, "TALC ZETA POTENTIAL," $1000, 2002.
    k. ASIMI, PROPRIETARY PROJECT, $10,000, 2000-2001.
    l. MOUNT HAGGIN DEVELOPMENT, "CYANIDE ALTERNATIVES TO GOLD RECOVERY," $2500, 1998-1999.
    m. R.K. GEORDGE MINING, "GOLD FLOTATION AND ENHANCED GRAVITY SEPARATION," $2500, 1997-1998.
    n. HARNOLE AND ASSOCIATES, "GRAVITY SEPARATION OF GOLD ORES," $2500, 1996.
    o. STILLWATER MINING, "DEVELOPMENT OF SMELTER GYPSUM AS A CEMENT FEED STOCK," $19,500, 1995-1996.
    p. MCCALLUM POLE, "BARITE PROCESS DESIGN," $4000, 1995.
    q. RDM MULTI-ENTERPRISES, "PHYSICAL CHARACTERIZATION OF SLAGS," $1000, 1995.
    r. SILVER VALLEY RESOURCES, "MINERALOGICAL ANALYSES OF COUER AND GALENA CONCENTRATES," $3100, 1995.
    s. MONTANA ENVIROMET, INC., "AMMONIA REMOVAL FROM WATER," $2000, 1995.
    t. MONTANA ENVIROMET, INC., "MERCURY REMOVAL FROM SOIL," $2000, 1994-1995.
    u. MONTANA TUNNELS, "DETERMINATION OF SILVER LOSSES IN FLOTATION TAILINGS," $3,500, 1994.
    v. MYCOTECH, "DEVELOPMENT OF FUNGI FOR REMEDIATION OF ACID MINE WATERS," $150,000, 1994-1995.
21. MAJOR FLOTATION EQUIPMENT MANUFACTURER, "PARAMETRIC EFFECT ON FLOTATION," $15,000, (1998-1999).
22. MSE-TA, INC., "DEVELOPMENT OF RECYCLING STRATEGIES FOR SPENT POT LININGS, PART II" $7,500 (1997-1998).
23. MSE-TA, INC., "DEVELOPMENT OF RECYCLING STRATEGIES FOR SPENT POT LININGS," $20,000 (1996-1997).
24. LANDSGAARD AND ASSOCIATES, "CYANIDE LEACHING OF NATIVE GOLD ORES," $2500, 1996-1997.
25. YES TECHNOLOGIES, INC., "BIOLOGICAL LEACHING OF GOLD," $100,000, (1995-1999).
26. MSE-TA, INC., "UPGRADING SPENT LIME INTO A MARKETABLE COMMODITY," $5000 (1995-1996).

PUBLICATIONS

ANNUAL, FINAL AND PROPRIETARY REPORTS

1. "ADVANCED PROCESSING OF REES – COAL AND COAL BY-PRODUCTS, ORE FLOTATION, AND MAGNET AND BATTERY RECYCLING," ARMY RESEARCH LAB (ARL), 2023-2027.
2. "RARE EARTH PROCESSING BY FLOTATION USING NOVEL COLLECTORS AND OTHER REAGENTS," ARMY RESEARCH LAB (ARL), 2016, 2017, 2018, 2019 AND 2021.
3. "CONFIRMATION OF ORFOM D8 MECHANISM, PHASES IV-V," CPCHEM, 2023, 2024, AND 2026.
4. "UTILIZATION OF TAILINGS FROM GARNET PROCESSING PLANT," GARNET U.S.A., 2016.
5. "REE SELECTIVE PROCESSING BY LEACHING AND CHELATING SPC'S," OFFICE OF NAVAL RESEARCH (ONR), WASHINGTON DC, 2016.
6. "PROPRIETARY REPORT," FREEPORT MCMORAN/MISSOURI S&T/DR. MICHAEL MOATS, 2015.
7. "RARE EARTH PROCESSING BY FLOTATION USING NOVEL COLLECTORS AND OTHER REAGENTS," ARMY RESEARCH LAB (ARL), U OF ALABAMA-BIRMINGHAM, 2015.

8. "RECOVERY OF GOLD FROM THIOSULFATE SOLUTION USING A NOVEL CARBON ADSORPTION PROCESS," CENTER FOR ADVANCED SEPARATION TECHNOLOGIES (CAST), BLACKSBURG, VA, 2008 AND 2010.
9. "SURFACTANTS FOR ENHANCING AU LEACHING RATES AND EFFICIENCIES," BASF, LUDWIGSHAFEN, GERMANY, 2009.
10. "DUAL ECOSYSTEM ENHANCEMENT – ARD REMEDIATION WITH SLAG," EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-255, MSE-TA, BUTTE, MT, 2007.
11. "SIMULTANEOUS ELECTROLYSIS OF COPPER AND FERROUS IONS," CENTER FOR ADVANCED SEPARATION TECHNOLOGIES (CAST), BLACKSBURG, VA, 2006.
12. "SULFATE REMOVAL TECHNOLOGY DEVELOPMENT," WITH L.G. TWIDWELL, EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-240, MSE-TA, BUTTE, MT, 2005.
13. "MONTANA TECH UNDERGRADUATE RESEARCH PROGRAM," WITH JOE FIGUEIRA AS PART OF THE BROADER PROGRAM FOR STATE OF MONTANA, NATIONAL SCIENCE FOUNDATION, NEW YORK, NY, 2004.
14. "REAL-TIME COAL CONTENT/ORE GRADE (C^2OG) SENSOR," WITH TOM MOON IN GEOPHYSICAL ENGINEERING DEPT AND RAND SWANSON, PRESIDENT, ADVR, U.S. DOE – MINING INDUSTRIES OF THE FUTURE, WASHINGTON DC, 2004.
15. "METALLURGICAL & MATERIALS ENGINEERING INTERNATIONAL COLLABORATIONS," WITH JOE FIGUEIRA AS PART OF THE BROADER MONTANA TECH INTERNATIONAL EXCHANGE PROGRAM, U.S. STATE DEPT, WASHINGTON DC, 2004.
16. "SELECTIVE METAL RECOVERY FROM ARD," EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-224, MSE-TA, BUTTE, MT, 2003.
17. "ANALYSIS OF SEDIMENTS IN THE BERKELEY PITLAKE," WITH LARRY TWIDWELL AND DICK BERG, EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-202, MSE-TA, BUTTE, MT, 2001.
18. "MONTANA TECH UNDERGRADUATE RESEARCH PROGRAM," WITH JOE FIGUEIRA AS PART OF THE BROADER PROGRAM FOR STATE OF MONTANA, NATIONAL SCIENCE FOUNDATION, NEW YORK, NY, 2001.
19. "COMPARISON OF SYNTHETIC AND NATURALLY-OCCURRING PHOTOCATALYZED EVENTS IN THE BERKELEY PITLAKE," EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-191, MSE-TA, BUTTE, MT, 2000.
20. "EVALUATION OF SOLUTION EXTRACTION PROCEDURES FOR GOLD BISULFIDE," RESEARCH EXPERIENCES FOR UNDERGRADUATES, NATIONAL SCIENCE FOUNDATION, NEW YORK, NY, 1999.
21. "PHOTOASSISTED ELECTRON TRANSFER REACTIONS OF APPLICATION TO MINE WASTEWATER CLEANUP: BERKELEY PIT ACID MINE WATER," EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-162, MSE-TA, BUTTE, MT, 1998.
22. "PHOTOASSISTED ELECTRON TRANSFER REACTIONS OF APPLICATION TO MINE WASTEWATER CLEANUP: METAL-COMPLEXED CYANIDE," EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-152, MSE-TA, BUTTE, MT, 1997.
23. "PHOTOASSISTED ELECTRON TRANSFER REACTIONS OF APPLICATION TO MINE WASTEWATER CLEANUP: CYANIDE AND NITRATE," EPA MINE WASTE TECHNOLOGY PROGRAM, MWTP-135, MSE-TA, BUTTE, MT, 1996.

PEER-REVIEWED JOURNALS (IN PREPARATION)

24. "SYNTHESIS OF GOLD NANOPARTICLES FROM CHLORIDE AND CYANIDE SOLUTIONS," K. BOZER AND T. BAYLESS, 2025.
25. "NOVEL PRODUCTION OF ANATASE VIA PHOTOCATALYSIS," G. WILSON AND T. BAYLESS, 2025.
26. "UNDERSTANDING RARE-EARTH MINERAL FLOTATION: COMPARISON OF SILICATES TO OXIDES, CARBONATES AND PHOSPHATES," A. MAMUDU AND T. BAYLESS, 2025.
27. "CONFIRMATION OF ADSORPTION MECHANISM OF ORFOM® D8 ON CHALCOPYRITE," P.J. MENSAH, 2025.
28. "ERT MEASUREMENTS IN COLUMN FLOTATION - PART I: PURE HYDROPHOBIC SYSTEMS," V. VILAYPHONE AND P. AMELUNXEN, 2025.
29. "ERT MEASUREMENTS IN COLUMN FLOTATION - PART II: PURE HYDROPHILIC SYSTEMS," V. VILAYPHONE AND P. AMELUNXEN, 2025.
30. "MINING SUSTAINABILITY THROUGH WASTE REPURPOSING: MICA REMOVAL FROM GARNET TAILINGS FOR THE CONSTRUCTION INDUSTRY," M. EGLOFF, J. CARLSON, C. MARTINEZ, P. ROSSITER AND A. DAS, 2025.
31. "CONSIDERATION AND CONSTRUCTION OF POTENTIAL-pO^{2-} DIAGRAMS WITH EMPHASIS ON MOLTEN SALT ELECTROLYSIS OF NEODYMIUM FROM FLUORIDE BATHS," P. SARFO AND H.H. HUANG, 2025.
32. "CONSIDERATION OF THE PULP/FROTH INTERFACE IN THE COMPARTMENT MODEL OF FLOTATION," R. LADOUCEUR AND

P. AMELUNXEN, 2025.

PEER-REVIEWED JOURNALS (ACCEPTED)

33. "REVIEW OF THE MECHANISM FOR ORFOM® D8 DEPRESSION OF CHALCOPYRITE IN CU-MO SEPARATION DURING CLEANER FLOTATION," A. DAS, R. LADOUCEUR, S. TIMBILLAH AND S. CHILDRESS, *IJ SOC MAT ENG FOR RES*, 25(1):18-22, 2022.
34. "EFFECT OF FROTHERS ON GAS DISPERSION IN A CAVITATION SPARGER AS DETERMINED WITH ELECTRICAL RESISTANCE TOMOGRAPHY," R. LADOUCEUR AND P. HOLDSWORTH, *MINERALS ENGINEERING*, 160:106655, 2021.
35. "THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE INTERACTION OF A NOVEL ORGANIC DEPRESSANT, DISODIUM CARBOXYMETHYL TRITHIOCARBONATE, IN CU-MO FLOTATION," S. TIMBILLAH, R. LADOUCEUR AND A. DAS, *MINERALS ENGINEERING*, 169:106943, 2021.
36. "EXTRACTION AND OPTIMIZATION OF NEODYMIUM BY MOLTEN FLUORIDE ELECTROLYSIS," *SEPARATION & PURIFICATION TECH.*, P. SARFO AND A. DAS, 256(7), 117770, 2021.
37. "HYDROMETALLURGICAL RECOVERY AND PROCESS OPTIMIZATION OF RARE EARTH FLUORIDES FROM RECYCLED MAGNETS," P. SARFO, T. FRASZ AND A. DAS, *MINERALS*, 10(4):340-353, 2020.
38. "CHARACTERIZATION AND PROCESSING OF PLANT TAILINGS FOR THE RECOVERY OF FINE GARNET – A CASE STUDY," A. DAS, B. HILL, P. ROSSITER AND G. WYSS, *SEPARATION SCIENCE AND TECHNOLOGY*, 56(2):76-88, 2020.
39. "STUDIES ON THE NATURE OF SALICYLHYDROXAMATE ADSORPTION AT THE SURFACE OF NEODYMIUM OXIDE," M. SIME, A. DAS, G. GALT AND G. HOPE, *J. DISP. SCI & TECH*, 40(10): 1488-1498, 2019.
40. "STABILITY DIAGRAMS FOR COPPER-SULFIDE AND COPPER-RECYCLE SYSTEMS APPLIED TO EXTRACTIVE METALLURGICAL PROCESSES," H.H. HUANG AND L.G. TWIDWELL, *IJ SOC MAT ENG FOR RES*, 23(2):128-136, 2018.
41. "PHENOMENOLOGICAL MODEL OF ENTRAINMENT AND FROTH RECOVERY FOR INTERPRETING LABORATORY FLOTATION KINETIC TESTS, P. AMELUNXEN, R. AMELUNXEN, AND R. LADOUCEUR, *MINERALS ENGINEERING*, 125:60-65, 2018.
42. "CARBOTHERMAL REDUCTION OF COPPER SMELTER SLAG FOR RECYCLING INTO PIG IRON AND GLASS," P. SARFO, G. WYSS, G. MA AND A. DAS, *MINERALS ENGINEERING*, 107:8-19, 2017.
43. "RECOVERY OF METAL VALUES FROM COPPER SLAG AND REUSE OF RESIDUAL SECONDARY SLAG," P. SARFO, A. DAS AND G. WYSS, *WASTE MANAGEMENT*, 70:272-281, 2017.
44. "XANTHATE CHEMISORPTION AT COPPER AND CHALCOPYRITE SURFACES," J.L. BOWDEN, *J OF SAIMM, 116:503-8,* 2016.
45. "UTILITY OF MASS-BALANCED E_H-PH DIAGRAMS II – APPLICATIONS OF GIBBS RULE," R.N. GOW AND H. HUANG, *MINER. METALL. PROCESS, 33(3):107-115,* 2016.
46. "UTILITY OF MASS-BALANCED E_H-PH DIAGRAMS I – APPLICATIONS TO CU-AS-S-H_2O SYSTEM," R.N. GOW AND H. HUANG, *MINER. METALL. PROCESS, 33(2):58-67,* 2016.
47. "SPECTROELECTROCHEMISTRY OF ENARGITE III: REACTIVITY IN ALKALINE SULFIDE SOLUTIONS," R.N. GOW, H. HUANG AND G. HOPE, *MINER. METALL. PROCESS, 32(1):14-21,* 2015.
48. "SPECTROELECTROCHEMISTRY OF ENARGITE I: REACTIVITY IN ALKALINE SOLUTIONS," R.N. GOW, H. HUANG, G. HOPE AND Y. TAKASAKI, *MINER. METALL. PROCESS, 32(1):6-13,* 2015.
49. "BENEFICIATION OF STILLWATER COMPLEX ROCK FOR THE PRODUCTION OF LUNAR SIMULANTS." D.L. RICKMAN, D. STOESER AND J. EDMUNSON, NASA/TM—2014–217502, 2014.
50. "PRELIMINARY INVESTIGATION OF THE EFFECT OF PRESSURE ON FLOTATION PERFORMANCE," *JOM*, 59(10)48-520, 2007.
51. "MERCURY CONCENTRATIONS OF FISH, RIVER WATER, AND SEDIMENT IN THE RÍO RAMIS-LAKE TITICACA WATERSHED, PERU," WITH C.H. GAMMONS, D.G. SLOTTON, B. GERBRANDT, W. WEIGHT, R.L. MCNEARNY, E. CÁMAC, R. CALDERÓN, H. TAPIA, AND A. HUAMANI, *SCI. TOTAL ENVIRON.*, 368(2-3):637-48, 2005.
52. "DEEP WATER SEDIMENT/PORE WATER CHARACTERIZATION FROM AN ACIDIC METAL-LADEN PITLAKE," L.G. TWIDWELL AND R. BERG, *MJMP&EP*, 3:266-281, 2004.
53. "THE DISSOLUTION OF COPPER SULFIDES UNDER REDUCING CONDITIONS," ERIC DAHLGREN AND BOB ROBINS,

HYDROMETALLURGY 41:118-130, 2002.

54. "CONFORMATION OF CHEMISORBED OLEATE ADSORBED AT A CALCITE SURFACE." J.D. MILLER, *MINER. METALL. PROCESS*, 18:38-44, 2001.
55. "EFFECT OF TEMPERATURE ON OLEATE ADSORBED AT A CALCITE SURFACE: FT-IR/IRS STUDY AND REVIEW." J.D. MILLER, *INTERN. J. MINER. PROC.,* 31:248-266, 1999.
56. "SURFACE PHASE TRANSITIONS OF ADSORBED COLLECTOR MOLECULES AS REVEALED BY IN-SITU FT-IR/IRS SPECTROSCOPY." J.J. KELLAR, M.R. YALAMANCHILI, W.M. CROSS AND J.D. MILLER, *MIN. MET. PROC.*, 10:75-80, 1993.
57. "SIGNIFICANCE OF TEMPERATURE CONTROL IN FT-NIR SPECTROMETERS." K. KNUTSON AND J.D. MILLER, *APPL. SPECTROSC.*, 47:7-11, 1993.
58. "IN-SITU FT-IR/IRS INVESTIGATION OF DOUBLE-BOND REACTIONS OF ADSORBED OLEATE AT A FLUORITE SURFACE," J.J. KELLAR AND J.D. MILLER, *INTER. J. MINER. PROC.*, 32:239-251, 1992.
59. "THERMOTROPIC PHASE TRANSITIONS OF ADSORBED OLEATE SPECIES AT A FLUORITE SURFACE BY IN-SITU FT-IR/IRS SPECTROSCOPY," J.J. KELLAR, K. KNUTSON AND J.D. MILLER, *J. COLL. INTERF. SCI.*, 144:381-389, 1991.
60. "THERMODYNAMICS OF CHALCOCITE-XANTHATE INTERACTIONS." C.I. BASILIO AND R.H. YOON, *INTER J. MINER. PROC.*, 31:265-279, 1991.
61. "ETHYL XANTHATE CHEMISORPTION ISOTHERMS AND E_H-PH DIAGRAMS FOR THE COPPER/WATER/XANTHATE AND CHALCOCITE/WATER/XANTHATE SYSTEMS." R. WOODS AND R.H. YOON, *INTER. J. MINER. PROC.*, 30:17-33, 1990.
62. "E_H-PH DIAGRAMS FOR STABLE AND METASTABLE PHASES IN THE COPPER-SULFUR-WATER SYSTEM." R. WOODS AND R.H. YOON, *INTER. J. MINER. PROC.*, 20:109-120, 1987.

PEER-REVIEWED BOOKS AND PROCEEDINGS

63. "PRELIMINARY INVESTIGATION OF A NOVEL PROCESS FOR RECYCLING SAMARIUM-COBALT MAGNETS BY SELECTIVE OXIDATION," M. HARVEY AND M. CACCIA, IMPC 2024, WASHINGTON DC, SEPT 30-OCT 1, 2024.
64. "FUNDAMENTALS OF RARE EARTH MINERAL FLOTATION – UNDERSTANDING SILICATES TO INCREASE METALLURGICAL PERFORMANCE," A.W. MAMUDU, V. VILAYPHONE, AND T. BAYLESS, IMPC 2024, WASHINGTON DC, SEPT 30-OCT 1, 2024.
65. "SURFACE CHEMISTRY OF DISODIUM CARBOXYMETHYL TRITHIOCARBONATE (ORFOM® D8) FOR DEPRESSING CU IN CHALCOPYRITE-MOLYBDENITE SEPARATION," P.J. MENSAH AND T. BAYLESS, IMPC 2024, WASHINGTON DC, SEPT 30-OCT 1, 2024.
66. "SYNTHESIS AND CHARACTERIZATION OF THE HYDROXAMIC ACID N,3-DIHYDROXY-2-NAPTHAMIDE AND ITS COPPER (II) COMPLEX – AN INVESTIGATION ON KETO/ENOL FORMS AND RARE EARTH FLOTATION," B. SUSLAVICH, R. LADOUCEUR, A.W. MAMUDU, MINERALS AND MINERAL MATERIALS, 3:1, 2024.
67. "CHAPTER 4: FLOTATION PRINCIPLES AND KINETICS - APPLICATION OF NOVEL DEPRESSANTS TO RARE EARTH MINERALS," ACCEPTED IN Y. MURTY, M. ALVIN AND J. LIFTON (EDITORS), RARE EARTH METALS AND MINERALS INDUSTRIES: STATUS AND PROSPECTS, R. LADOUCEUR AND P. AMELUNXEN, SPRINGER, P. 103-122, PP. 518, 2024.
68. "ORFOM® D8: A VIABLE REPLACEMENT FOR NAHS AS A DEPRESSANT IN THE CHALCOPYRITE-MOLYBDENITE FLOTATION SYSTEM," S. TIMBILLAH, R. LADOUCEUR AND A. DAS, IN: COPPER 2019, 10TH COPPER INTERNATIONAL CONFERENCE, VANCOUVER, BC, AUGUST 2019.
69. "CHAPTER 10.19: AQUEOUS PHASE REDOX PRECIPITATION," H.H. HUANG, *MINERAL PROCESSING AND EXTRACTIVE METALLURGY HANDBOOK*, SME, LITTLETON, CO, 2019.
70. "CHAPTER 12.13: GRAPHENE," G. WILSON, *MINERAL PROCESSING AND EXTRACTIVE METALLURGY HANDBOOK*, SME, LITTLETON, CO, 2019.
60. "CHAPTER 12.33: SILICA, QUARTZ AND SILICON," D.C. LYNCH, *MINERAL PROCESSING AND EXTRACTIVE METALLURGY HANDBOOK*, SME, LITTLETON, CO, 2018.
61. "CHAPTER 1.1: MINERAL PROPERTIES, CHARACTERIZATION AND PROCESSING." A. DAS, *MINERAL PROCESSING AND EXTRACTIVE METALLURGY HANDBOOK*, SME, LITTLETON, CO, 2018.

62. "FUNDAMENTAL UNDERSTANDING OF THE FLOTATION CHEMISTRY OR RARE EARTH MINERALS," S. TRANT, G. GALT AND A. DAS, PROCEEDINGS OF EXTRACTION 2018, CIM, OTTAWA, ONTARIO, CANADA, AUGUST 26-29, 2018.
63. "A FUNDAMENTAL STUDY OF DI-SODIUM CARBOXYMETHYL TRITHIOCARBONATE (ORFOM® D8) IN FLOTATION SEPARATION OF COPPER-MOLYBDENUM SULFIDES," S. TIMBILLAH AND A. DAS, PROCEEDINGS OF EXTRACTION 2018, CIM, OTTAWA, ONTARIO, CANADA, AUGUST 26-29, 2018.
64. "MODELING AND OPTIMIZATION OF RARE EARTH MINERAL FLOTATION USING SALICYLHYDROXAMIC ACID." R. LADOUCEUR AND P. AMELUNXEN, IN: XXVIII INTERNATIONAL MINERAL PROCESSING CONGRESS, CIM, WESTMOUNT, QUEBEC, CANADA, 2016.
65. "DEVELOPMENT OF A NOVEL TECHNOLOGY TO REDUCE ENERGY CONSUMPTION DURING ELECTROWINNING OF COPPER." A. DAS AND F. DAKUBO, IN: XXVIII INTERNATIONAL MINERAL PROCESSING CONGRESS, CIM, WESTMOUNT, QUEBEC, CANADA, 2016.
66. "CHARACTERIZATION AND RECOVERY OF VALUABLES FROM WASTE COPPER SMELTING SLAG." P. SARFO, J. YOUNG AND G. MA, PROCEEDINGS OF 10TH INTERNATIONAL CONF. ON MOLTEN SLAGS, FLUXES AND SALTS, PP. 889-898. 2016.
67. "XANTHATE CHEMISORPTION AT COPPER AND CHALCOPYRITE SURFACES," J.L. BOWDEN, *PROCEEDINGS OF COPPER COBALT AFRICA – 8TH BASE METALS CONFERENCE*, LIVINGSTONE ZAMBIA, SAIMM, PP. 117-128, 2015.
68. "SPECTROELECTROCHEMISTRY OF ENARGITE II: REACTIVITY IN ACIDIC SOLUTIONS," R.N. GOW, H. HUANG AND G. HOPE, *HYDROMETALLURGY 2014* (E. ASSELIN ET AL, EDITORS), CIM, QUEBEC, CANADA, PP. 397-408, 2014.
69. "IMPREGNATED ACTIVATED CARBON FOR GOLD EXTRACTION FROM THIOSULFATE SOLUTIONS,"R.N. GOW, M. MELASHVILI AND M. LEVIER, HYDROPROCESS 2013, SANTIAGO, CHILE', JULY 10-12, 2013.
70. "SPECTROELECTROCHEMISTRY OF ENARGITE I," R.N. GOW, H. HUANG AND G. HOPE, HYDROPROCESS 2013, SANTIAGO, CHILE', JULY 10-12, 2013.
71. "ELECTROCHEMISTRY OF ENARGITE I: REACTIVITY IN ALKALINE SOLUTIONS," R.N. GOW, H. HUANG, G. HOPE AND Y. TAKASAKI, 2012 EPD CONGRESS, TMS, ORLANDO, FL, 2012.
72. "CARBON ADSORPTION FOR GOLD THIOSULFATE RECOVERY FROM SOLUTION," R.N. GOW, M. MELASHVILI AND M. LEVIER, IN: *R.H. YOON SYMPOSIUM*, C. YOUNG AND J. LUTTRELL, ORGANIZERS, SME, LITTLETON, CO, 2012.
73. "ENHANCEMENT OF MONTANA COAL SODIUM REMOVAL TECHNOLOGY, EVALUATION AND DEVELOPMENT," J. MCCLOSKEY, L. TWIDWELL, P. MIRANDA, S. DUDLEY, D. CAMERON AND B. PASCOE, IN: INTERNATIONAL COAL PREPARATION CONGRESS, R.Q. HONAKER (EDITOR), LEXINGTON, KY, 2010.
74. "APPLICATION OF DESIGN FOR RECYCLABILITY CONCEPT TO SPL TREATMENT: SPLASH TECHNOLOGY," J. DOWNEY, IN: *REWAS 2008*, TMS, WARRENDALE, PA, 2008.
75. "SURFACE WATER CHARACTERIZATION OF THE BERKELEY PITLAKE," L.G. TWIDWELL AND M. BENNETT, IN: *HYDROMETALLURGY 2008*, ED. C. YOUNG, C.G. ANDERSON, P.R. TAYLOR AND Y. CHOI, SME, LITTLETON CO, 2008.
76. "CUPROUS CYANIDE ADSORPTION ON ACTIVATED CARBON: PRETREATMENT FOR GOLD TAKE-UP FROM THIOSULFATE SOLUTIONS," R.N. GOW, L.G. TWIDWELL, G.K. PARKER AND G.A. HOPE, IN: *HYDROMETALLURGY 2008*, ED. C.A. YOUNG, C.G. ANDERSON, P.R. TAYLOR AND Y. CHOI, SME, LITTLETON CO, 2008.
77. "SPECTROELECTROCHEMICAL INVESTIGATION OF THE REACTION BETWEEN ADSORBED CUPROUS CYANIDE AND GOLD THIOSULFATE IONS AT ACTIVATED CARBON SURFACES," R.N. GOW, L.G. TWIDWELL, G.K. PARKER AND G.A. HOPE, IN: *HYDROMETALLURGY 2008*, ED. C. YOUNG, C.G. ANDERSON, P.R. TAYLOR AND Y. CHOI, SME, LITTLETON CO, 2008.
78. "ARD REMEDIATION BY SLAG ADDITION: DUAL ECOSYSTEM ENHANCEMENT," K. FILIUS, E.A. STREICH, D. BERG AND L.G. TWIDWELL, IN: *HYDROMETALLURGY 2008*, ED. C.A. YOUNG, C.G. ANDERSON, P.R. TAYLOR AND Y. CHOI, SME, LITTLETON CO, 2008.
79. "POINT OF ZERO CHARGE (PZC) AND DOUBLE LAYER ADSORPTION – AN EQUILIBRIUM CALCULATION APPROACH," H.H HUANG AND L.G. TWIDWELL, PROCEEDINGS OF COM 2005 & 35TH ANNUAL HYDROMETALLURGICAL MEETING, CALGARY, CANADA, 2005.
80. "SPECIATION FOR AQUEOUS SYSTEMS - AN EQUILIBRIUM CALCULATION APPROACH," H.H HUANG AND L.G. TWIDWELL, PROCEEDINGS OF COM 2005, 35TH ANNUAL HYDROMETALLURGY MEETING, CALGARY, 2005.

81. "CHEMICAL TITRATION SIMULATION - AN EQUILIBRIUM CALCULATION APPROACH," H.H HUANG, C.G. ANDERSON AND L.G. TWIDWELL, PROCEEDINGS OF COM 2005 & 35TH ANNUAL HYDROMETALLURGICAL MEETING, CALGARY, CANADA, 2005.
82. "DEEP WATER SEDIMENT/PORE WATER CHARACTERIZATION FROM AN ACIDIC METAL-LADEN PITLAKE," L.G. TWIDWELL AND R. BERG, PROCEEDINGS OF 1ST INTERNATIONAL CONFERENCE ON ADVANCES IN MINERAL RESOURCES MANAGEMENT AND ENVIRONMENTAL GEOTECHNOLOGY, JUNE 2004, CHANIA, CRETE, GREECE, 2005.
83. "ENVIRONMENTAL ASSESSMENT OF GOLD PROCESSING BY MERCURY AMALGAMATION IN A DEVELOPING COUNTRY: UPDATE," R. MCNEARNY AND C.H. GAMMONS, IN: *EPD CONGRESS 2003*, TMS, WARRENDALE, PA, 2003.
84. "THE DEVELOPMENT OF A NOVEL APPROACH FOR SPL REMEDIATION," IN: *RECYCLING AND WASTE TREATMENT IN MINERAL AND METAL PROCESSING: TECHNICAL AND ECONOMICAL ASPECTS*, LULEA, SWEDEN, 2002.
85. "SULFURIC ACID-CHLORIDE LEACHING OF PLATINUM, PALLADIUM AND RHODIUM FROM CATALYST RESIDUE," M.H. MAHMOUD AND C.G ANDERSON, IN: *RECYCLING AND WASTE TREATMENT IN MINERAL AND METAL PROCESSING: TECHNICAL AND ECONOMICAL ASPECTS*, LULEA, SWEDEN, 2002.
86. "ENVIRONMENTAL ASSESSMENT OF GOLD PROCESSING BY MERCURY AMALGAMATION IN A DEVELOPING COUNTRY," R. MCNEARNY AND C.H. GAMMONS, IN: *RECYCLING AND WASTE TREATMENT IN MINERAL AND METAL PROCESSING: TECHNICAL AND ECONOMICAL ASPECTS*, LULEA, SWEDEN, 2002.
87. "UTILIZATION OF AN EQUILIBRIUM CALCULATIONAL PROGRAM FOR TEACHING HYDROMETALLURGY," L.G. TWIDWELL AND H.H. HUANG, *EPD CONGRESS 2002*, TMS, WARRENDALE, PA, 2002.
88. "THERMODYNAMICS OF OLEATE CHEMISORPTION AT THE SURFACES OF SEMI-SOLUBLE CALCIUM SALT MINERALS." J.D. MILLER, ADVANCEMENTS IN MATERIALS AND MATERIALS PROCESSING, ICAMMP-2002, IITKG-KUAGPUR, INDIA, FEBRUARY 1-3, 2002.
89. "REVIEW OF TECHNOLOGIES AND THE DEVELOPMENT OF A NOVEL APPROACH FOR SPL REMEDIATION," PROCEEDINGS OF 2001 ANNUAL MEETING OF THE NWMA, SPOKANE, WASHINGTON, DECEMBER 4-7, 2001.
90. "REVIEW OF TECHNOLOGIES AND THE DEVELOPMENT OF A NOVEL APPROACH FOR SPL REMEDIATION," PROCEEDINGS OF FOURTH INTERNATIONAL CONFERENCE ON MATERIALS ENGINEERING FOR RESOURCES (ICMR 2001 SYMPOSIUM), AKITA UNIVERSITY, AKITA, JAPAN, OCTOBER 11-13, 2001.
91. "REMEDIATION TECHNOLOGIES FOR THE MANAGEMENT OF AQUEOUS CYANIDE SPECIES," INVITED, IN: *CYANIDE: SOCIAL, INDUSTRIAL AND ECONOMIC ASPECTS*, C.A. YOUNG, L.G. TWIDWELL AND C.G. ANDERSON (EDITORS), TMS, WARRENDALE, PA, 2001.
92. "CYANIDE: JUST THE FACTS," PLENARY, IN: *CYANIDE: SOCIAL, INDUSTRIAL AND ECONOMIC ASPECTS*, C.A. YOUNG, L.G. TWIDWELL AND C.G. ANDERSON (EDITORS), TMS, WARRENDALE, PA, 2001.
93. "SOLUBILITY OF As_2S_3 IN RELATION TO AS PRECIPITATION FROM PROCESS SOLUTIONS." B. ROBINS, INVITED, IN: *MINOR ELEMENTS 2000*, C.A. YOUNG, (EDITOR), SME, LITTLETON, CO, 2000.
94. "IN-SITU FT-IR/IRS AND MLRS EXAMINATION OF OLEATE ADSORPTION AT FLUORITE AND CALCITE SURFACES." J.D. MILLER, IN: *TECHNOLOGIES IN THE MINERALS INDUSTRIES,* E. MILOSLAVJIC (EDITOR), TMS, WARENDALE, PA, 1999.
95. "MECHANISM FOR THE PHOTOCATALYTIC DESTRUCTION OF CYANIDE SPECIES," IN *EPD CONGRESS 1998*, P. TAYLOR (EDITOR), PROCEEDINGS OF THE TMS ANNUAL MEETING, SAN ANTONIO, TX, FEBRUARY 8-12, 1998.
96. "A NEW ALTERNATIVE TO CYANIDATION: BIOCATALYZED BISULFIDE LEACHING." R. HUNTER, F. STEWART, T. DARSAW, M. FOGELSONG, D. MOGK AND E. ABBOTT, IN: PROCEEDINGS OF THE THIRD INTERNATIONAL CONFERENCE ON MINERALS BIOPROCESSING AND BIORECOVERY/BIOREMEDIATION IN MINING, BIG SKY, MT, P. 71-88, 1996.
97. "MASS-BALANCED CALCULATIONS OF E_H-PH DIAGRAMS WITH STABCAL." H.H. HUANG, INVITED, IN: P.E. RICHARDSON, R. WOODS AND F.M. DOYLE (EDITORS), *ELECTROCHEMISTRY IN MINERAL AND METAL PROCESSING IV*, THE ELECTROCHEMICAL SOCIETY, PENNINGTON, NJ, PP. 227-237, 1996.
98. "PHOTOLYSIS FOR CYANIDE AND NITRATE REMEDIATION OF WATER." S.P. CASHIN AND F.E. DIEBOLD, INVITED, IN: M. MISRA (ED.), *SEPARATION PROCESSES: HEAVY METALS, IONS AND MINERALS*, TMS, WARENDALE, PA, 61-80, 1995.
99. "A VOLTAMMETRIC STUDY OF CHALCOCITE OXIDATION TO METASTABLE COPPER SULFIDES." R. WOODS AND R.H.

YOON, IN: P.E. RICHARDSON AND R. WOODS (EDITORS), *ELECTROCHEMISTRY IN MINERAL AND METAL PROCESSING II*, THE ELECTROCHEMICAL SOCIETY, INC., PENNINGTON, NJ, PP. 3-17, 1988.

NON-REFEREED *PROCEEDINGS*

100. "TOWARDS POINT-OF-NEED MANUFACTURING TO REPLACE FAILED COMPONENTS ON THE BATTLEFIELD, M. PEPI, N. ZANDER, I. JAQUA AND B. GLEASON, IN: MFPT 2018, PROCEEDINGS OF THE SOCIETY FOR MACHINERY FAILURE PREVENTION TECHNOLOGY, VIRGINIA BEACH, VA, MAY 15-18, 2018.
101. "MODELING OF SALICYLHYDROXAMIC ACID ADSORPTION ON RARE EARTH OXIDES," F. SIME AND A. DAS, PREPRINT NUMBER 17-123, SME, LITTLETON, CO, 2017.
102. "ADSORPTION KINETICS OF SALICYLHYDROXAMIC ACID ON THE OXIDES AND CARBONATES OF RARE EARTH ELEMENTS," G. GALT, A. DAS AND R. JAMES, PREPRINT NUMBER 17-124, SME, LITTLETON, CO, 2017.
103. "ADSORPTION OF SALICYLHYDROXAMIC ACID ON THE OXIDES OF SELECTED RARE EARTH ELEMENTS," W. NICHOLAS, R. LADOUCEUR AND A. DAS, PREPRINT NUMBER 16-294, SME, LITTLETON, CO, 2016.
104. "SURFACE CHEMISTRY OF RARE EARTH ELEMENTS USING SALICYLHYDROXAMIC ACID," W. NICHOLAS, R. LADOUCEUR AND A. DAS, PREPRINT NUMBER 16-295, SME, LITTLETON, CO, 2016.
105. "CARBON ADSORPTION FOR GOLD THIOSULFATE RECOVERY FROM SOLUTION," R.N. GOW, M. MELASHVILI AND M. LEVIER, IN: *GOLD & URANIUM SYMPOSIUM*, ALTA CONFERENCE, PERTH, AUSTRALIA, 2012.
106. "BENEFICIATION OF TERRESTRIAL RESOURCES FOR THE PRODUCTION OF LUNAR SIMULANT SEPARATES," E. DAHLGREN, S. NORDWICK, J. GRAHAM AND R. LAMBSON, PREPRINT 11-188, SME, LITTLETON, CO, 2012.
107. "THERMODYNAMICS OF OLEATE CHEMISORPTION AT THE SURFACES OF SEMI-SOLUBLE CALCIUM SALT MINERALS," J.D. MILLER, PREPRINT NUMBER 02-28, SME, LITTLETON, CO, 2002.
108. "CONFORMATION OF CHEMISORBED OLEATE ADSORBED AT A CALCITE SURFACE." J.D. MILLER, PREPRINT NUMBER 02-29, SME, LITTLETON, CO, 2002.
109. "COPPER SULFIDE HYDROMETALLURGY: REVIEW AND FUTURE IMPROVEMENTS," CES FABIAN AND H.H. HUANG, PREPRINT NUMBER 02-202, SME, LITTLETON, CO, 2001.
110. "THE DISSOLUTION OF COPPER SULFIDES UNDER REDUCING CONDITIONS," ERIC DAHLGREN AND BOB ROBINS, PREPRINT NUMBER 01-170, SME, LITTLETON, CO, 2001.
111. "CYANIDE LEACH PROCESS BANS: THE TECHNICAL SIDE," PREPRINT NUMBER 01-169, SME, LITTLETON, CO, 2001.
112. "PHOTOLYSIS FOR REMEDIATION OF ARD AND CYANIDE WASTES," MONTANA TECH RESEARCH PUBLICATION, 1999.
113. "DEVELOPMENT OF A BIOCATALYZED NON-CYANIDE LIXIVANT FOR GOLD LEACHING." R. M. HUNTER AND M. L. FOGELSONG. PREPRINT NO. 98-141, SME, LITTLETON, CO, 1998.
114. "CYANIDE REMEDIATION TECHNOLOGIES." S.P. CASHIN AND T.S. JORDAN, PREPRINT NO. 96-149, SME, LITTLETON, CO, 1996.
115. "CYANIDE REMEDIATION: PAST AND PRESENT TECHNOLOGIES." T.S. JORDAN, INVITED, IN: PROCEEDINGS OF THE HAZARDOUS WASTE RESEARCH CONFERENCE, GREAT PLAINS-ROCKY MOUNTAINS HAZARDOUS SUBSTANCE RESEARCH CENTER, MANHATTAN, KS, PP. 101-121, 1995.
116. "COMPARISON OF PHOTOLYTIC METHODS FOR THE REMEDIATION OF CYANIDE." S.P. CASHIN, INVITED, IN: PROCEEDINGS OF THE BLACK HILLS FIFTH WESTERN REGIONAL CONFERENCE ON PRECIOUS METALS, COAL AND THE ENVIRONMENT, SME BLACK HILLS CHAPTER, RAPID CITY, SD, PP. 83-97, 1994.

PRESENTATIONS (NOT ASSOCIATED WITH PROCEEDINGS)

1. "RECYCLING NDFEB MAGNETS II: PRODUCTION OF REES BY FUSEDSALT ELECTROLYSIS," M. MORO, P. SARFO, T. BAYLESS, H. HUANG, AND M. CACCIA, SALT LAKE CITY, UT, FEB 24, 2026.
2. "CRITICAL MINERALS - HISTORICAL PERSPECTIVES AND CURRENT EFFORTS," SME MPD UT, SLC, UT, AUG 13, 2025.
3. "COAL AND CRITICAL MINERALS" EXPLORATION AND DEVELOPMENT BREAK-OUT SESSION, MMA, JULY 15, 2025.
4. "CRITICAL MINERALS THROUGHOUT HISTORY," MT MINING ASSOCIATION (MMA), BUTTE MT, JULY 14, 2025.

5. "UNDERSTANDING RARE EARTH MINERAL FLOTATION: OVERCOMING POOR RECOVERIES," FLOTATION 2025, LIMA, PERU MAY 15-16, 2025.
6. "FLOTATION MODELLING (APPLICATIONS TO REES)," POSTER, PADMORE AMANKWAH, SME ANNUAL MEETING, DENVER CO, FEB 24 AND 26, 2025.
7. "FUSED-SALT ELECTROLYSIS OF REES USING HALIDE SALT BATHS," POSTER, MOHAMMED MORO, SME ANNUAL MEETING, DENVER CO, FEB 24 AND 26, 2025.
8. "PRECIPITATION PATHWAYS FOR REE DOUBLE SALTS AFTER NDFEB MAGNET LEACHING," POSTER, ISAAC COBBINAH, SME ANNUAL MEETING, DENVER CO, FEB 24 AND 26, 2025.
9. "REVIEW OF ABET CRITERIA FOR MINERAL PROCESSING ENGINEERING OR SIMILARLY-NAMED PROGRAMS," IMPC 2024, WITH MICHAEL MOATS, WASHINGTON DC, SEPT 30-OCT 3, 2024.
10. "RARE-EARTH MINERALS – WHERE FLOTATION IS HEADED," CONGRESSO BRASILEIRO DE FOSFATOS, MARCH 7, 2024.
11. "SELECTIVE OXIDATIVE ROASTING FOR RECYCLING RARE EARTH MAGNETS," CONGRESSO BRASILEIRO DE FOSFATOS, MARCH 8, 2024.
12. "DETAILED SYNOPSIS OF THE FIRE ASSAY SHORT COURSE: HISTORY, FUNDAMENTALS, AND APPLICATION," WITH CORBY ANDERSON, IPMI SAMPLING AND ANALYSIS SYMPOSIUM III, GOLDEN CO, OCT 16, 2023.
13. "EFFECT OF MINERAL TYPE ON THE FLOTATION OF REES," A. DAS, FLOTATION 2022, LIMA, PERU, NOV 9-11, 2022.
14. "VERIFICATION OF 3-ZONE MODEL FOR FLOTATION – AN APPLICATION TO COLUMN CELLS," RICK LADOUCEUR AND PHIL HOLDSWORTH, FLOTATION 2022, LIMA, PERU, NOV 9-11, 2022.
15. HENRY KRUMB LECTURES. GAVE IN-PERSON PRESENTATIONS AT MT TECH (9/1/21 AND 9/2/22), MS&T (10/7/21), MONTANA SME LOCAL SECTION (10/19/22) AS WELL AS VIRTUAL PRESENTATIONS AT SME (3/10/21), PENNSTATE (4/22/21), SDSM&T (9/22/21), BRAZIL (9/29/21), CHINA (10/14/21), AKITA JAPAN CONFERENCE (10/20/21), ORFOM D8 CONFERENCE/CHEVRON-PHILLIPS (11/9/21), PERU (11/9/22) AND WSU (9/16/22).
16. "LOADING THE BASES WITH STUDENTS – HITTING GRAND SLAMS WITH INDUSTRY," 2020 GAUDIN AWARD LECTURE, VIRTUAL PRESENTATION AT SME ANNUAL MEETING, DENVER CO, 2021.
17. "CHALCOPYRITE DEPRESSION WITH ORFOM® D8 DURING CLEANER FLOTATION OF CU-MO BULK CONCENTRATE: THEORY AND PRACTICE," SME ANNUAL MEETING, PHOENIX AZ, 2020 (ELECTED AS SME HENRY KRUMB LECTURE).
18. "EFFECT OF FROTHERS ON GAS DISPERSION IN A CAVITATION SPARGER AS DETERMINED WITH ELECTRICAL RESISTANCE TOMOGRAPHY," R. LADOUCEUR AND P. HOLDSWORTH, FLOTATION '19, CAPE TOWN, S. AFRICA, NOV 11-14 2019.
19. "THE PROCESSING AND RECYCLING OF GARNET TAILINGS FOR RECOVERY AND MASS REDUCTION PURPOSES," A. DAS, G. WYSS, M. EGLOFF AND P. ROSSITER, AEMA ANNUAL MEETING, RENO NV, DEC 1-6, 2019.
20. "REPURPOSING TAILINGS FOR ADDED VALUE," A. DAS, G. WYSS, M. EGLOFF AND P. ROSSITER, MINING AND MINERAL SYMPOSIUM, MBMG, MONTANA TECH, BUTTE MT, OCT 9-11, 2019.
21. "CHEMISTRY OF RARE EARTH MINERAL FLOTATION WITH SALICYL HYDROXAMIC ACID," A. DAS, M. SIME AND S. TRANT, SME ANNUAL MEETING, DENVER CO, FEBRUARY 24-27, 2019.
22. "CONSIDERATION AND CONSTRUCTION OF POTENTIAL-PO_2^- DIAGRAM WITH EMPHASIS ON MOLTEN SALT ELECTROLYSIS OF NEODYMIUM FROM ITS OXIDE," P. SARFO AND H.H. HUANG, 233RD ANNUAL MEETING OF ELECTROCHEMICAL SOCIETY, SEATTLE WA, MAY 13-17, 2018.
23. "PHENOMENOLOGICAL MODEL OF ENTRAINMENT AND FROTH RECOVERY FOR INTERPRETING LABORATORY FLOTATION KINETIC TESTS, P. AMELUNXEN, R. AMELUNXEN, AND R. LADOUCEUR, *MEI FLOTATION '17*, CAPE TOWN, S. AFRICA, NOVEMBER 13-16, 2017.
24. "STABILITY DIAGRAMS FOR COPPER-SULFIDE AND COPPER-RECYCLE SYSTEMS APPLIED TO EXTRACTIVE METALLURGICAL PROCESSES," H.H. HUANG AND L.G. TWIDWELL, ICMR 2017, AKITA, JAPAN, OCTOBER 25-27, 2017.
25. "ENERGY REDUCTION IN COPPER PRODUCTION USING FERROUS-MEMBRANE EW," A. DAS, COLORADO SME/MPD SECTION, COLORADO SPRINGS CO, 2017.
26. "MINERAL PROCESSING EDUCATION: PERSPECTIVE OF A SMALL SPECIALTY SCHOOL," XXVIII INTERNATIONAL MINERAL PROCESSING CONGRESS, CIM, WESTMOUNT, QUEBEC, CANADA, SEPTEMBER 13, 2016.

27. "CARBOTHERMAL REDUCTION OF COPPER SMELTER SLAGS FOR RECYCLING INTO PIG IRON AND GLASS," P. SARFO, G. WYSS, A. DAS AND G. MA, PRESENTED AT SUSTAINABLE MINERALS '16, FALMOUTH UK, JUNE 24, 2016.
28. "ADSORPTION KINETICS OF SALICYL HYDROXAMIC ACID ON THE OXIDES OF VARIOUS RARE EARTH ELEMENTS," G. GALT, A. DAS AND R. JAMES, POSTER PRESENTED AT SUSTAINABLE MINERALS '16, FALMOUTH UK, JUNE 23, 2016.
29. "FLOWSHEET DEVELOPMENT FOR MAKING LUNAR SOIL SIMULANT FROM GEOMATERIALS." F. ASIRIFI, SME ANNUAL MEETING, PHOENIX, AZ, FEBRUARY 24, 2016.
30. "ADSORPTION OF SALICYLHYDROXAMIC ACID ON THE OXIDES OF SELECTED RARE EARTH ELEMENTS," W. NICHOLAS, G. GALT, R. LADOUCEUR AND A. DAS, SME ANNUAL MEETING, PHOENIX, AZ, FEBRUARY 23, 2016.
31. "SPECTROELECTROCHEMISTRY OF ENARGITE IN ACIDIC AND ALKALINE SOLUTIONS," R.N. GOW, 1ST OF 2 PLENARIES, SAIMM REGIONAL MEETING, U OF PRETORIA, JUNE 25, 1015.
32. "MINERAL PROCESSING OF PRIMARY AND SECONDARY RESOURCES FOR MAKING LUNAR SOIL SIMULANT," F. ASIRIFI, 2ND OF 2 PLENARIES, SAIMM REGIONAL MEETING, U OF PRETORIA, JUNE 25, 1015.
33. "UTILITY OF MASS-BALANCED E_H-PH DIAGRAMS II – APPLICATIONS TO CU-AS-S-H_2O SYSTEM," R.N. GOW AND H. HUANG, SME ANNUAL MEETING, FEBRUARY 15-18, 2015.
34. "BENEFICIATION OF GEOMATERIALS FOR THE PRODUCTION OF LUNAR SOIL SIMULANT," POSTER, F. ASIRIFI, AMERICAN SOCIETY FOR GRAVITATIONAL AND SPACE RESEARCH (ASGSR), PASADENA, CA, OCTOBER 25, 2014.
35. "UTILITY OF MASS-BALANCED E_H-PH DIAGRAMS I – APPLICATIONS OF GIBBS RULE," R.N. GOW AND H. HUANG, SME ANNUAL MEETING, FEBRUARY 28-MARCH 2, 2014.
36. "SPECTROELECTROCHEMISTRY OF ENARGITE III: REACTIVITY IN ALKALINE SULFIDE SOLUTIONS," R.N. GOW, H. HUANG AND G. HOPE, SME ANNUAL MEETING, FEBRUARY 28-MARCH 2, 2014.
37. "IMPREGNATED ACTIVATED CARBON FOR GOLD EXTRACTION FROM THIOSULFATE SOLUTIONS," R.N. GOW, M. MELASHVILI AND M. LEVIER, HYDROPROCESS 2013, SANTIAGO, CHILE', JULY 10-12, 2013.
38. "CARBON ADSORPTION FOR GOLD THIOSULFATE RECOVERY FROM SOLUTION," R.N. GOW, M. MELASHVILI AND M. LEVIER, IN: IPMI ANNUAL MEETING, LAS VEGAS, 2012.
39. "ARD REMEDIATION WITH SLAG: AN APPLICATION TO BERKELEY PITLAKE WATER," AWRA CONFERENCE, FAIRMONT HOT SPRINGS, MT, OCTOBER 11, 2012.
40. "ARD REMEDIATION WITH SLAG: AN APPLICATION TO BERKELEY PITLAKE WATER," U.S. EPA HARDROCK MINING CONFERENCE 2012: ADVANCING SOLUTIONS FOR A NEW LEGACY, DENVER, CO, APRIL 3-5, 2012.
41. "BENEFICIATION OF TERRESTRIAL RESOURCES FOR THE PRODUCTION OF LUNAR SIMULANT SEPARATES," J N. GRAHAM, R.S. LAMBSON, S.M. NORDWICK AND E.J. DAHLGREN, WORKSHOP FOR THE LUNAR APPLICATIONS OF MINING AND MINERAL BENEFICIATION, BUTTE MT, OCTOBER 5-7, 2010.
42. "PRELIMINARY STUDY OF LUNAR SEPARATE PRODUCTION FROM STILLWATER DEPOSITS," J.N.GRAHAM AND DANIELLE GRANLUND, WORKSHOP FOR THE LUNAR APPLICATIONS OF MINING AND MINERAL BENEFICIATION, BUTTE MT, OCTOBER 5-7, 2010.
43. "MINERAL LIBERATION ANALYSIS OF STILLWATER NORITE FEEDSTOCK PILES," J.N. GRAHAM AND P.J. MIRANDA, WORKSHOP FOR THE LUNAR APPLICATIONS OF MINING AND MINERAL BENEFICIATION, BUTTE MT, OCT 5-7, 2010.
44. "TREATMENT AND CHARACTERIZATION OF BERKELEY PITLAKE WATER," L.G. TWIDWELL AND M. BENNETT, COLORADO SME/MPD SECTION, COLORADO SPRINGS CO, 2008.
45. "ALTERNATIVES: THE AFTERMATH OF BANNING CYANIDE LEACHING OF GOLD IN MONTANA," PLENARY, C.G. ANDERSON, 8TH INTERNATIONAL GOLD SYMPOSIUM, NATIONAL SOCIETY OF MINERALS, PETROLEUM AND ENERGY, LIMA, PERU, APRIL 21-23, 2008.
46. "THE EFFECT OF PRESSURE ON FLOTATION," PLENARY, XXVIII CONVENCIÓN MINERA, AREQUIPA, PERU, SEPTEMBER 10-14, 2007.
47. "ENVIRONMENTAL STEWARDSHIP IN THE GOLD MINING INDUSTRY: CAN CYANIDE AND MERCURY BE USED SAFELY?" PLENARY, SOCIETY OF NORTH AMERICAN GOLDSMITHS (SNAG) ANNUAL MEETING, MEMPHIS, TN, JUNE 13-16, 2007.

48. "MEMBRANIC ELECTROWINNING OF COPPER WITH SIMULTANEOUS OXIDATION OF FERROUS TO FERRIC," F. DAKUBO, C. FABIAN AND E. DAHLGREN, SME ANNUAL MEETING, DENVER, CO, FEBRUARY 26-28, 2007.
49. "MINERALOGICAL ANALYSIS OF THE COUER AND GALENA CONCENTRATES: COMPARISON OF MLA AND ICP MEASUREMENTS," C.G. ANDERSON AND P. MIRANDA, PRECIOUS METALS 2007, TUCSON, AZ, OCTOBER, 2007.
50. "DUAL ECOSYSTEM ENHANCEMENT: REMEDIATION OF ARD WITH SILICATE SLAGS," R.G. ROBINS, E. STREICH AND K. FILIUS, SME ANNUAL MEETING, DENVER, CO, FEBRUARY 26-28, 2007.
51. "CHARACTERIZATION OF THE BERKELEY PITLAKE I: SURFACE WATERS" L.G. TWIDWELL AND M. BENNETT, SME ANNUAL MEETING, DENVER, CO, FEBRUARY 26-28, 2007.
52. "CHARACTERIZATION OF THE BERKELEY PITLAKE II: DEEP WATER, SEDIMENTS AND PORE WATER," L.G. TWIDWELL AND R.B. BERG, SME ANNUAL MEETING, DENVER, CO, FEBRUARY 26-28, 2007.
53. "CYANIDE STEWARDSHIP: RECYCLING VERSUS DESTRUCTION," PLENARY, 7TH INTERNATIONAL GOLD SYMPOSIUM, NATIONAL SOCIETY OF MINERALS, PETROLEUM AND ENERGY, LIMA, PERU, MAY 3-5, 2006.
54. "EFFECT OF PRESSURE ON FLOTATION PERFORMANCE," INVITED, NORTHWEST MINING ASSOCIATION (NWMA), SPOKANE, WA, DEC. 7, 2005.
55. "HETEROGENEOUS PHOTOCATALYTIC MECHANISM BY ANATASE (TiO_2) NANOPARTICLES FOR CYANIDE DESTRUCTION," POSTER, THE UNIVERSITY OF MONTANA - TOYO UNIVERSITY SYMPOSIUM ON BIO-NANO TECHNOLOGY AND SCIENCES, SEPTEMBER 29-30, 2004.
56. "ENVIRONMENTAL ASSESSMENT OF GOLD PROCESSING BY MERCURY AMALGAMATION IN A DEVELOPING COUNTRY," R. MCNEARNY AND C.H. GAMMONS," INVITED, NORTHWEST MINING ASSOCIATION (NWMA), SPOKANE, WA, DEC. 5, 2002.
57. "SOLUBILITY OF As_2S_3 IN RELATION TO AS PRECIPITATION FROM PROCESS SOLUTION," INVITED, NORTHWEST MINING ASSOCIATION (NWMA), SPOKANE, WA, DEC. 5, 2000.
58. "CYANIDE: JUST THE FACTS," INVITED, MONTANA TECH, METALLURGICAL AND MATERIALS ENGINEERING DEPARTMENT SEMINAR, AND HAZARDOUS WASTE TREATMENT AND STORAGE COURSE, BUTTE, MT, NOV. 1, 2000 AND NOV. 22, 2000.
59. "SOLUBILITY OF As_2S_3 IN RELATION TO AS PRECIPITATION FROM PROCESS SOLUTION," INVITED, UNIVERSITY OF UTAH, APRIL 12, 2000.
60. "THE CU-S-H_2O SYSTEM," U OF WA, GEOLOGY DEPARTMENT SEMINAR, SEATTLE, WA, APRIL 11, 2000.
61. "CYANIDE: JUST THE FACTS," NWGS SECTION MEETING, SEATTLE, WA, APRIL 11, 2000.
62. "CYANIDE: JUST THE FACTS," U OF ID, METALLURGICAL ENGINEERING SEMINAR, MOSCOW, ID, APRIL 10, 2000.
63. "SOLUBILITY OF As_2S_3 IN RELATION TO AS PRECIPITATION FROM PROCESS SOLUTIONS," INVITED, U OF ID, METALLURGICAL ENGINEERING, WASTE WATER REMEDIATION COURSE, MOSCOW, ID, APRIL 10, 2000.
64. "CYANIDE: JUST THE FACTS," INVITED, NWMA MEETING, SPOKANE, WA, NOV. 29-DEC. 3, 1999.
65. "CYANIDE: JUST THE FACTS," MONTANA MINING ASSOCIATION MEETING WITH THE 1999 MONTANA LEGISLATURE, INVITED, JANUARY 7, 1999, HELENA, MT.
66. "PHOTOCATALYTIC MECHANISM FOR CYANIDE DESTRUCTION," POSTER, SIGMA XI ANNUAL MEETING, VANCOUVER, BC, NOVEMBER 1-4, 1998.
67. "CYANIDE AND MONTANA INITIATIVE 137," MONTANA SECTION OF THE AMERICAN CHEMICAL SOCIETY, HELENA, MT, INVITED, OCTOBER 22, 1998.
68. "PROPOSED MECHANISM FOR CYANIDE DESTRUCTION BY PHOTOCATALYSIS," 4TH BIENNIAL MEETING OF THE SNAKE RIVER SECTION OF SOCIETY FOR APPLIED SPECTROSCOPY, GRAND TARGHEE, WY, JUNE 27, 1998.
69. "PHOTOLYTIC REMEDIATION OF CYANIDE CONTAMINANTS IN WATER," UNIVERSITY OF NEVADA-RENO, DEPARTMENT OF CHEMICAL AND METALLURGICAL ENGINEERING, INVITED, SEMINAR; NOVEMBER 21, 1997.
70. "SURFACE ELECTROCHEMISTRY OF COPPER AND CHALCOCITE IN WATER/XANTHATE SYSTEMS," UNIVERSITY OF NEVADA-RENO, DEPARTMENT OF CHEMICAL AND METALLURGICAL ENGINEERING, INVITED, SURFACE CHEMISTRY COURSE, NOVEMBER 20, 1997.

71. "METAL-COMPLEXED CYANIDES AND THEIR REMEDIATION BY PHOTOLYSIS," M. PRUSS, K. SLAYBAUGH, AND B. MIKELSON, SME ANNUAL MEETING, DENVER, CO, FEBRUARY 24-27, 1997.
72. "FUNGAL BIOSORPTION OF HEAVY METALS," J.J. BALLARD (PRESENTER) AND D. DYSINGER, ENVE 539 COURSE, MONTANA TECH, BUTTE, MT, JANUARY 29, 1997.
73. "FACTORS INFLUENCING CYANIDE PHOTOLYTIC REMEDIATION," S.P. CASHIN, 3RD BIENNIAL MEETING OF THE SNAKE RIVER SECTION OF SOCIETY FOR APPLIED SPECTROSCOPY, WHITEFISH, MT, JUNE 29, 1996.
74. "FUNGAL BIOSORPTION OF HEAVY METALS," J.J. BALLARD AND D. DYSINGER, 3RD BIENNIAL MEETING OF THE SNAKE RIVER SECTION OF SOCIETY FOR APPLIED SPECTROSCOPY, WHITEFISH, MT, JUNE 29, 1996.
75. "FUNGAL BIOSORPTION OF HEAVY METALS," J.J. BALLARD AND D. DYSINGER (PRESENTER), RESEARCH SEMINAR SERIES, CENTER FOR ADVANCED MINERAL PROCESSING (CAMP), JK SIMMET SHORT COURSE, JUNE 18, 1996.
76. "INFLUENCE OF IRRADIATION WAVELENGTH, OXYGEN AND PH ON CYANIDE PHOTOLYSIS," S.P. CASHIN, 1ST MEPYS REUNION, MINERAL EDUCATION PROGRAM FOR YOUNG SCHOLARS, TECHNICAL OUTREACH CENTER, BUTTE, MT, MAY 17, 1996.
77. "INFLUENCE OF IRRADIATION WAVELENGTH, OXYGEN AND PH ON CYANIDE PHOTOLYSIS," 15TH INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL ASPECTS OF ELECTROCHEMISTRY AND PHOTOELECTROCHEMISTRY, THE ELECTROCHEMICAL SOCIETY ANNUAL MEETING, LOS ANGELES, CA, MAY 6-9, 1996.
78. "CYANIDE REMEDIATION BY PHOTOLYSIS," INVITED, RREL, EPA OFFICE, CINCINNATI, OH, NOVEMBER 1, 1995.
79. "SURFACE ANALYSIS BY FT-IR SPECTROSCOPIC TECHNIQUES," INVITED, SIGMA XI LOCAL MEETING, BUTTE, MT, OCTOBER 12, 1995.
80. "CYANIDE REMEDIATION BY PHOTOLYSIS," MINE WASTE FIELD CAMP '95, THE FIFTH ANNUAL MINE WASTE REMEDIATION TECHNOLOGY CONFERENCE, FAIRMONT HOT SPRINGS, MT, AUGUST 8-12, 1995.
81. "REMEDIATION OF ANIONS IN MINE-WASTE WATERS BY PHOTOCATALYSIS," S.P. CASHIN (PRESENTER) AND F.E. DIEBOLD, TMS ANNUAL MEETING, LAS VEGAS, NV, FEBRUARY 12-15, 1995.
82. "THE DESTRUCTION OF CYANIDE BY PHOTOLYSIS," S.P. CASHIN (PRESENTER), MONTANA ACADEMY OF SCIENCES SECOND BIENNIAL CONFERENCE, HELENA, MT, JANUARY 14, 1995.
83. "OLEATE ADSORPTION AT CALCIUM SEMI-SOLUBLE SALT SURFACES," 2ND BIENNIAL MEETING OF THE SNAKE RIVER SECTION OF SOCIETY FOR APPLIED SPECTROSCOPY, FAIRMONT HOT SPRINGS, MT, JUNE 25, 1994.
84. "THERMODYNAMIC ANALYSIS OF OLEATE CHEMISORPTION AT SEMI-SOLUBLE CALCIUM SALT SURFACES," J.D. MILLER, ENGINEERING FOUNDATION CONFERENCE ON SURFACE CHARACTERIZATION OF ADSORPTION AND INTERFACIAL REACTIONS, HILO, HI, JANUARY 9-14, 1994.
85. "LASER APPLICATIONS OF VIBRATIONAL SPECTROSCOPY TO MINERAL AND COAL PROCESSING," POSTER, Q. YU, K. KNUTSON AND J.D. MILLER, THIRD TOPICAL MEETING ON LASER APPLICATIONS TO CHEMICAL ANALYSIS, OPTICAL SOCIETY OF AMERICA, SALT LAKE CITY, UT, JANUARY 26-29, 1992.

STUDENT ADVISEES

PH.D. STUDENTS

NATALIE DERINGER, "COLLECTOR DEVELOPMENT FOR FLOTATION OF ALL RARE EARTH MINERALS," IN PROGRESS.

MITCHEL HARVEY, "RECYCLING OF SMCO BATTERIES USING A NOVEL LEEP TECHNOLOGY," IN PROGRESS, MAY 2026.

SEAN DUDLEY, "FORMATION OF LONG-RANGE RARE EARTH ELEMENT COMPLEXES VIA LIGAND INTERACTION IN CIX/PIX RESINS," MATSCI PHD PROGRAM (WITH BILL GLEASON AS HONORARY CHAIR), MONTANA TECH, DECEMBER 2021.

PRINCE SARFO, "IMPROVING MOLTEN SALT ELECTROLYSIS OF RARE EARTH BY NOVEL PROCESS," MATSCI PHD PROGRAM (WITH H.H. HUANG AS CO-CHAIR), MONTANA TECH, DECEMBER 2019.

SIMON TIMBILLAH, "SULFIDE FLOTATION USING NOVEL DEPRESSANTS," MATSCI PHD PROGRAM, MONTANA TECH, MAY 2019.

RICHARD "RICK" LADOUCEUR, "HIGH FIDELITY KINETIC MODEL FOR FLOTATION: APPLICATIONS TO RARE EARTH ELEMENTS AND COPPER/MOLYBDENUM SEPARATIONS," MATSCI PHD PROGRAM, MONTANA TECH, APRIL 2018.

ROBERT "NICK" GOW, COMMITTEE CHAIR, "SPECTROELECTROCHEMISTRY OF ENARGITE," IIP PROGRAM (WITH ED ROSENBERG AS CO-CHAIR), MONTANA TECH AND THE UNIVERSITY OF MONTANA, MAY 2015.

BILL GLEASON, COMMITTEE MEMBER, "SILICA GEL COMPOSITE TECHNOLOGY FOR METAL RECOVERY AND WASTE WATER REMEDIATION," CHEMISTRY AND METALLURGICAL ENGINEERING, IIP PROGRAM (WITH ED ROSENBERG AS CHAIR), THE UNIVERSITY OF MONTANA AND MONTANA TECH, JULY 2007.

M.S. THESIS STUDENTS

ERIC STREICH, "HEAT BALANCES BEFORE AND AFTER NATURAL GAS BURNER INSTALLATION," IN PROGRESS, DEC 2026.

ETHAN MISHLER, "REE RECOVERY FROM COAL, FLY ASH AND MINERAL CONCENTRATES," IN PROGRESS, DEC 2026.

JOEL PATTON, "PROCESS IMPROVEMENT FOR ENHANCING MOLYBDENITE RECOVERY," IN PROGRESS, MAY 2026.

PADMORE AMANKWAH, "COLUMN AND MECHANICAL FLOTATION OF RARE EARTH ORES," IN PROGRESS, MAY 2026.

ANGELICA PLENGE, "USE OF NOVEL CHEMICALS IN PROCESSING PERUVIAN ORES," IN PROGRESS, MAY 2026.

MOHAMMED MORO, "RECYCLING NDFEB MAGNETS II: PRODUCTION OF REES BY FUSEDSALT ELECTROLYSIS," DEC 2025.

ISAAC COBBINAH, "RECYCLING NDFEB MAGNETS I: DEVELOPMENT OF A NOVEL LPC PROCESS," DEC 2025.

ABDUL MAMUDU, "ADSORPTION OF NOVEL COLLECTORS FOR THE FLOTATION OF RE SILICATES," IN PROGRESS, MAY 2025.

PATRICK "JEFF" MENSAH, "VERIFICATION OF THE DEPRESSION MECHANISM FOR ORFOM D8," DEC 2024.

VIMEIPHA "MEI" VILAYPHONE, "COLUMN FLOTATION MODELLING OF PURELY HYDROPHOBIC MATERIALS," MAY 2024.

MITCHELL HARVEY, "IMPROVING RECOVERY WITH A NOVEL ABLATION PROCESS," MAY 2023.

KATIE BOZER, "PRECIPITATION OF NANO-GOLD BY MINERAL PROCESSING REAGENTS," MAY 2022.

PHILLIP HOLDSWORTH, "COLUMN FLOTATION MODELLING IN THE ABSENCE OF SOLID," MAY 2020.

BEN SUSLAVICH, "RECYCLING OF PRINTED CIRCUIT BOARDS," WITH A. DAS AS CO-CHAIR, MAY 2020.

GARY WILSON, "TiO_2 PHOTOCATALYST SYNTHESIS AND USE FOR ORGANIC DESTRUCTION," JANUARY 2020.

ADILBEK BAIGABELOV, "RECYCLING OF PLASTICS BY FLOTATION," WITH A. DAS AS CHAIR, DECEMBER 2019.

STEPHANIE TRANT, "RE PHOSPHATE SURFACE CHEMISTRY WITH SALICYLHYDROXAMATE," NOVEMBER 2018.

MARC SIME, "MODELING OF COLLECTORS AT RE MINERAL SURFACES," WITH A. DAS AS CO-CHAIR, OCTOBER 2018.

NATALIE DERINGER, "MATTE AND CARBOTHERMAL REACTIONS FOR METAL RECOVERY," SEPTEMBER 2018.

GREER GALT, "RE OXIDE AND CARBONATE SURFACE CHEMISTRY WITH SALICYLHYDROXAMIC ACID," MAY 2017.

PRINCE SARFO, "RECYCLING SLAG INTO VALUABLE MATERIALS," DECEMBER 2016.

TYLER BRODEN, ""ELECTROCHEMISTRY OF XANTHATE CHEMISORPTION ON ENARGITE," MAY 2016.

JESSE BOWDEN, "ELECTROCHEMISTRY OF XANTHATE CHEMISORPTION ON CHALCOPYRITE," MAY 2015.

FRANK ASIRIFI, "BENEFICIATION OF GEOMATERIALS FOR THE PRODUCTION OF LUNAR SOIL SIMULANT," MAY 2015.

TODD FAYRAM, "GERMANIUM PRODUCTION FROM SPHALERITE CONCENTRATES," MAY 2014.

KERI CALDWELL, "COMPARISON OF INDUSTRIAL ROTORS AND STATORS AND THEIR POSITION," AUGUST 2012.

MARIAM MELASHVILLI, "OPTIMIZATION AND STRIPPING OF AU-LOADED PRETREATED ACTIVATED CARBON," MAY 2009.

LEO MYELSWAMY, "MLA COMPARISON TO TRADITIONAL ANALYSES FOR CU AND TI ORES," CAMP, MAY 2008.

NICK GOW, "PRETREATED ACTIVATED CARBON FOR GOLD RECOVERY FROM THIOSULFATE SOLUTION," MAY 2008.

KRAG FILIUS, "MANGANESE AND ARD REMEDIATION BY SLAG ADDITION," MWTP, MAY 2007.

PHILIP TEINTZE, "UNDERSTANDING NANOSILICON POWDER FORMATION," ASIMI, AUGUST 2006.

TOM MCINTYRE, "FERRIC LEACHING OF CZO," CAST, MAY 2006.

FRANCIS DAKUBO, "SIMULTANEOUS ELECTROWINNING OF CUPRIC AND FERROUS IONS," CAST, MAY 2006.

RON JOHNSON, "ON-LINE ANALYSIS FOR ORE ASSAY DETERMINATION BY SPECTROSCOPY," MAY 2004.

TOM MCMILLAN, "SELECTIVE RECOVERY OF METALS IN BERKELEY PITLAKE WATER," MWTP, MAY 2001.

MARTY BENNETT, "PHOTOLYSIS IN THE SURFACE WATERS OF THE BERKELEY PITLAKE," MWTP, MAY 1999.

YU-CHUAN TAI, "SELECTIVE RECOVERY OF METAL VALUES FROM BERKELEY PITLAKE WATER," MWTP, MAY 1997.

KELVIN GEBHARDT, "DEVELOPMENT OF SMELTER GYPSUM AS A CEMENT PLANT FEEDSTOCK," MAY 1996.

STEVE CASHIN, "CYANIDE OXIDATION BY ADVANCED OXIDATION PROCESSES," MWTP, MAY 1996.

JENNIFER BALLARD, "USE OF A FUNGAL BIOMASS FOR REMEDIATION OF ACID-MINE DRAINAGE," DECEMBER 1995.

M.S. NON-THESIS STUDENTS

HEIDI STEIGER, 2025.
ANA ANTUNES-SILVA, 2019.
WILL NICHOLAS, 2015.
RUSLAN BUKENOV, 2015.
DAVE DOUGLAS, 2005.
DAVE FOWLER, 2004.
AMY WILKINS, 2001.
TOM VALENTINE, 1998.
AMY LAMB, 1996.

B.S. UNDERGRADUATE RESEARCH STUDENTS

1. ETHAN DUTZI, "REE FLOTATION WITH COLLECTOR BLENDS," WITH PADMORE AMANKWAH, 2026.
2. RAMEY PAYTON, "ORFOM® D8 DEPRESSION IN CU/MO FLOTATION," WITH PADMORE AMANKWAH, 2026.
3. MAX SCHAERER, "REE FLOTATION WITH NOVEL COLLECTORS," WITH PADMORE AMANKWAH, 2025.
4. ETHAN MISHLER,"COLD-FINGER CONSTRUCTION/USE IN REE RECOVERY FOLLOWING VAPOR EXTRACTION," 2025.
5. JOE 'TRIP' LOVE, "PYROMETALLURGICAL REE RECOVERY FROM NDFEB MAGNETS," WITH MITCHELL HARVEY, 2025.
6. ETHAN DUTZI, "HYDROMETALLURGICAL REE RECOVERY FROM COSM MAGNETS," WITH ISAAC COBBINAH, 2025.
7. CAROLYN BELLUSCIO "REE RECOVERY FROM COAL FLY ASH, PART II," WITH ETHAN MISHLER, 2025.
8. EVAN DAVISON, "REE RECOVERY BY FUSED-SALT ELECTROLYSIS," WITH MOHAMMED MORO, 2025.
9. ETHAN DUTZI, "ENHANCING PERFORMANCE OF NEWMONT-GHANA PROCESS CONTROL INSTRUMENTATION," 2024.
10. CHANCE GREEN, ETHAN MISHLER, AND JOE 'TRIP' LOVE, "SURF: ZNS AND REE RECOVERY FROM TAILINGS" 2023.
11. JOE "TRIP" LOVE, "FLOTATION OF REE SILICATES," WITH TRENIN BAYLESS AND ABDUL MAMUDU, 2023.
12. ETHAN MISHLER, "RECYCLING REE MAGNETS," WITH TRENIN BAYLESS AND MITCHELL HARVEY, 2023.
13. CHANCE GREEN, "REE RECOVERY FROM COAL FLY ASH," WITH TRENIN BAYLESS AND HEIDI STEIGER, 2023.
14. RENNEE MCCLOY, "ENHANCED FLOTATION OF AU TAILINGS FOLLOWING ABLATION ," WITH MITCHELL HARVEY, 2022.
15. GAGE MCFARLAND, "NANOAU PRECIPITATION USING MINERAL PROCESSING REAGENTS," WITH KATIE BOZER, 2022.
16. NATHANAEL RAWLINS, "ABLATION FOR ENHANCED FLOTATION RECOVERY," WITH MITCHELL HARVEY, 2022.
17. STEVE FOSTER, "NANOGOLD PRECIPITATION USING MINERAL PROCESSING REAGENTS," WITH KATIE BOZER, 2021.
18. GARRET WANNER, "USING HYDRAZINE ON PURPLE OF CASSIUS FOR CLEANING NANOAU," WITH KATIE BOZER, 2021.
19. TYLER SALISBURY, "CHARACTERIZING FROTHERS WITH ERT TECH IN COLUMNS," WITH RICK LADOUCEUR, 2021.
20. MARK POORE, "VERIFYING A COLUMN FLOTATION MODEL," WITH RICK LADOUCEUR AND PHIL HOLDSWORTH, 2020.
21. GANNON, RYAN, "COLUMN AND BOTTLE ROLL LEACHING OF PROPRIETARY ORES," 2019.
22. KATIE BOZER AND CAMERON HUGHES, "PRECIPITATION OF NANO GOLD," WITH ANA ANTUNES SILVA, 2019.
23. SIGURDSON, ERIK, "RECYCLING OF CIRCUIT BOARDS," WITH AVIMANYU DAS AND BEN SUSLAVICH, 2019.
24. MORGAN ASHBAUGH, "IMPROVING THE BRASS RECYCLING OF SPENT BULLET CASINGS," WITH BILL GLEASON AND IAN "MILES" JAQUA, 2018-2019.
25. KATIE BOZER AND AIMEE EUBANKS, "COLUMN FLOTATION FOR CRITICAL MATERIALS AND PLASTICS RECYCLING," WITH RICK LADOUCEUR AND AVIMANYU DAS, 2018-2019.
26. CAMERON HUGHES AND REED HARDER, "CONSTRUCTION OF NOVEL COMBINED-UNIT SEPARATION PROCESS," WITH AVIMANYU DAS AND MATT EGLOFF, 2018.
27. JAKE BENTLEY, "CROWDING A CU/MO CONCENTRATE IN FLOTATION," WITH RICK LADOUCEUR, 2017-2018.
28. AIDAN YORK, "SLAG ANALYSIS BEFORE AND AFTER CARBOTHERMAL REDUCTION," WITH NATALIE DERINGER, 2017.
29. LUKE MCCULLOCH, "CROWDING OF ORE IN FLOTATION," WITH RICK LADOUCEUR, 2017.
30. CONNOR WINDMUELLER, "SPECTROELECTROCHEMISTRY OF D8 DEPRESSANT ON CU," WITH SIMON TIMBILLAH, 2017.
31. IAN "MILES" JAQUA, "RECYCLING OF SPENT BULLET CASINGS BY SAND-CASTING," WITH BILL GLEASON, 2017.

32. ALEESHA AASVED, "FLOTATION OF A RE ORE USING NOVEL COLLECTORS," WITH RICK LADOUCEUR, 2016-2018.
33. ETHAN BAILY, "SPECTROELECTROCHEMISTRY OF ADSORBED XANTHATE ON COPPER," WITH SIMON TIMBILLAH, 2016.
34. JARED CLARK AND PAT RUMLEY, "FLOTATION OF RE COMPOUNDS," WITH GREER GALT AND STEPHANIE TRANT, 2016.
35. STEVEN BRODDY AND JACOB HOWERY, "MODELING OF RE FLOTATION COLLECTORS," WITH FREDDY SIME, 2016.
36. BEN SUSLAVICH, "FLOTATION OF RE PHOSPHATES," WITH RICK LADOUCEUR, 2016.
37. JAMIE YOUNG, "CHARACTERIZATION OF SLAG," WITH PRINCE SARFO AND GUOJUN MA, 2015.
38. MARK LEVOIE, "REO AND CARBONATE FLOTATION: Y," WITH WILL NICHOLAS AND RICK LADOUCEUR, 2015.
39. MOLLY BROCKWAY, "REO AND CARBONATE FLOTATION: CE," WITH GREER GALT AND RICK LADOUCEUR, 2014.
40. BRYCE ABSTETAR, "REO AND CARBONATE FLOTATION: LA," WITH WILL NICHOLAS AND RICK LADOUCEUR, 2014.
41. ARIANNE ERICKSON, "CHARACTERIZATION OF A NOVEL CERAMIC COMPOSITE," WITH AL MEIER, 2011.
42. ALLYSE CRUISE, "ARSENITE REMEDIATION WITH NANO-GRAPHENE," WITH NICK GOW, 2010.
43. JESSE BOWDEN, "ARSENATE REMEDIATION WITH NANO-GRAPHENE," WITH NICK GOW, 2010.
44. TYLER BRODEN AND RYAN FOY, "COMPARISON OF MAGNETIC SEPARATORS," WITH CLIFFS NR, 2009.
45. KERI CALDWELL AND IAN ST. JOHN, "PROCESS MODEL DEVELOPMENT," WITH CLIFFS NR, 2009.
46. MERLE KALSTROM AND NICOLE LOEHR, "PARTICLE SIZE AND GREEN BALL STRENGTH," WITH CLIFFS NR, 2009.
47. JACE MOON AND JOSH ROGERS, "FINE PARTICLE SIZE ANALYSIS," WITH CLIFFS NR, 2009.
48. JACQUELINE GRAHAM, "MINERAL SEPARATES AS LUNAR SIMULANTS: MINOR OXIDES," WITH NASA, 2009.
49. DANIELLE GRANLUND, "MINERAL SEPARATES AS LUNAR SIMULANTS: PLAGIOCLASE," WITH NASA, 2009.
50. MICHAEL NELSON, "MINERAL SEPARATES AS LUNAR SIMULANTS: OLIVINE," WITH NASA, 2009.
51. JANET ROBINSON, "MINERAL SEPARATES AS LUNAR SIMULANTS: CLINOPYROXENE," WITH NASA, 2009.
52. PETER ROSSITER, "MINERAL SEPARATES AS LUNAR SIMULANTS: ORTHOPYROXENE," WITH NASA, 2009.
53. TYLER SALISBURY AND JERREY CLARK, "HMS OF A MONTANA COAL FOR ENVIRONMENTAL PURPOSES," 2008.
54. JOE BILANT, "HEAT AND MASS BALANCES OF FINISH MILL OPERATIONS AT ASH GROVE CEMENT," 2008.
55. ALEX MACGREGOR AND KATIE SCHUMACHER, "ANALYSIS OF AU ORE FROM NEWMONT'S TWIN CREEK MINE," 2007.
56. ROB STEPPER AND ERIN STEVENS, "CYANIDE LEACHING OF NEWMONT'S TWIN CREEK GOLD ORE," 2007.
57. KELLY MURPHEY AND NICK GOW, "THIOSULFATE LEACHING OF NEWMONT'S TWIN CREEK GOLD ORE," 2007.
58. TAYLOR FLOTRE AND MATT HUEY, "THIOCYANATE LEACHING OF NEWMONT'S TWIN CREEK GOLD ORE," 2007.
59. CAELEN ANDERSON AND ADAM HAMMES, "AU CYANIDATION IN THE PRESENCE OF $CuFeS_2$ AND Cu_2S," 2006.
60. JOSEF BILANT AND KELLY MURPHEY, "AU CYANIDATION IN THE PRESENCE OF CUS AND CUASS," 2006.
61. MATT HUEY AND ERIN STEVENS, "AU CYANIDATION IN THE PRESENCE OF FEASS AND $Cu_{12}As_4S_{13}$," 2006.
62. NICK GOW AND TAYLOR FLOTRE, "SE TREATMENT PROCESS DEVELOPMENT," 2006.
63. TAYLOR FLOTRE AND NICK GOW, "CN SPECIES THERMODYNAMICS," 2006.
64. ERIC STREICH, "ECONOMIC FEASIBILITY OF CEMENT SLURRY PRE-DRYING BEFORE THE ROTARY KILN," 2005.
65. KAREL PRAMONO, "HEAT BALANCES FOR SCRAP TIRE AS A FUEL/IRON SOURCE FOR CEMENT KILN," 2005.
66. MATT O'LEARY, "INTERACTION OF COMINCO AND KENNECOTT SMELTER SLAGS WITH BERKELEY PITLAKE ARD," 2005.
67. ERIN STEVENS, "PHOTOFORMATION AND CHARACTERIZATION OF TITANIUM DIOXIDE NANOPOWDER," 2005.
68. KELLY MURPHEY, "TITANIUM DIOXIDE NANOPOWDER FOR PHOTOREDUCTION OF SULFATE TO SULFIDE," 2005.
69. PHIL TEINTZE AND KAREL PRAMONO, "RECYCLE OF TEFLON & COPPER FROM CHOPPED WIRE," 2004.
70. MARTIN LYDERS AND KEVIN GOROSKI, "MODIFIED RECYCLING OF TEFLON AND CU FROM CHOPPED WIRE," 2004.
71. SONNY ADAMS AND ARON ANDERS, "VERMICULITE RECOVERY OF DILLON-MONTANA ORE," 2004.
72. DAVE DOUGLAS, RANDY HAMILTON AND BEN WILDE, "PRESSURE EFFECTS ON FLOTATION WITH AIRFLOW," 2003.
73. TYLER ANDERSON, DARBY STACY AND MARIE BOGGESS, "PRESSURE EFFECTS ON FLOTATION IN A GLOVEBOX," 2003.
74. JENNIFER GAMBILL, "CYANIDE MANAGEMENT BY CARBON ADSORPTION," 2003.
75. AMBER LINN, "GOLD-THIOSULFATE RECOVERY BY CARBON ADSORPTION," 2003.
76. JACOB HOHN, MARTIN LYDERS AND KEVIN GOROSKI, "RECYCLE OF TEFLON & COPPER FROM CHOPPED WIRE," 2003.
77. JENNIFER CONNING, "DETERMINATION OF PHYSICO-CHEMICAL CHARACTERISTICS OF ABRESIST CERAMIC TILES," 2002.

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78. AMY STEPAN, ADAM HOUSE AND HUGH SCHIMANN, "PRESSURE EFFECTS ON FLOTATION," 2002.
79. DAN GUTSCHER, "DETERMINATION OF PHYSICO-CHEMICAL CHARACTERISTICS OF ABRESIST BASALT TILES," 2001.
80. ALICE DAVIES-DREW, "THERMODYNAMICS OF CYANIDE ADSORPTION BY VERMICULITE," 2001.
81. SHONNA D'HOOGE, "THERMODYNAMIC EVALUATION OF FE(II) & FE(III) ADSORPTION ON VERMICULITE," 2000.
82. JOSLYN HUNT, "THERMODYNAMIC EVALUATION OF AL (III) AND MN (II) ADSORPTION ON VERMICULITE," 2000.
83. ANDY HADDEN, "MINING TAILINGS SEPARATION FOR A NEW MARKET," 2000.
84. SHAMUS O'KEEFE, "CYANIDE ALTERNATIVE FOR LEACHING GOLD ORES," 1999.
85. ERIC DAHLGREN, "RECOVERING GOLD FROM NON-CYANIDE SOLUTIONS," 1999.
86. MATT GRIFFITH, "ENHANCING MINERAL HYDROPHOBICITY AT NON-SULFIDE MINERAL SURFACES," 1999.
87. ISRAEL JESSOP, "THERMODYNAMIC EVALUATION OF AMD ADSORPTION AT VERMICULITE SURFACES," 1999.
88. KEVIN RITARI, "FURTHER DEVELOPMENT OF A MINING TAILINGS INTO A MARKETABLE PRODUCT," 1999.
89. JOSH KNUTSON, "DEVELOPMENT OF A MINING TAILINGS INTO A MARKETABLE PRODUCT," 1998.
90. MATT GRIFFITH, "CONFIRMATION OF THE METHOD FOR ENHANCING MINERAL HYDROPHOBICITY," 1998.
91. BRENT MIKELSON, "REMEDIATION OF AMD BY ADSORPTION ONTO VERMICULITE," 1998.
92. JIM LLOYD, "GOLD BISULFIDE RECOVERY BY CARBON AND RESIN ADSORPTION," 1997.
93. RAY ZIOLKOWSKI AND TIM BARNETT, "GOLD BISULFIDE RECOVERY BY CEMENTATION," 1997.
94. CORY MARTIN AND DAVE KULZER, "SPL REMEDIATION USING EXTRACTIVE METALLURGY PRINCIPLES," 1997.
95. MARLO PRUSS, "METAL-CYANIDE REMEDIATION BY PHOTOLYSIS," 1996.
96. KIP SLAYBAUGH, "A NEW METHOD FOR ENHANCING MINERAL HYDROPHOBICITY," 1996.
97. BRENT MIKELSON, "CYANIDE REMEDIATION BY PHOTOCATALYSIS," 1996.
98. RAY ZIOLKOWSKI AND TIM BARNETT, "SPL REMEDIATION BY MINERAL PROCESSING TECHNOLOGIES," 1996.
99. RAY ZIOLKOWSKI, "UP-GRADING SPENT LIME FOR INCREASED MARKET VALUE," 1995.
100. D.J. PATRICK, "SILVER ACCOUNTABILITY AT MONTANA TUNNELS," 1995.

ACADEMIC SERVICE

ADVISEE LETTERS

MOHAMMED MORO, $2000, WAIME SCHOLARSHIP, 2025.
ISAAC COBBINAH, $1000, WAIME SCHOLARSHIP, 2025.
HEIDI STEIGER, $15,000 MONTANA TECH CHANCELLOR'S DISTINGUISHED FELLOWSHIP, 2024-2025.
MITCHELL HARVEY, $15,000 MONTANA TECH CHANCELLOR'S DISTINGUISHED FELLOWSHIP, 2022-2023.
KATIE BOZER, $7500 GOLDWATER SCHOLARSHIP, 2020.
KATIE BOZER, $3500, COAL PREPARATION SOCIETY OF AMERICA, 2020.
BEN SUSLAVICH, TMS, 1ST PLACE, UNDERGRADUATE BEST PAPER COMPETITION, 2020.
BEN SUSLAVICH, $3500, COAL PREPARATION SOCIETY OF AMERICA, 2019.
NATHAN BURRINGTON, $5000, ELLWOOD STEEL INTERNSHIP AND SCHOLARSHIP, 2019.
ETHAN BLEVINS, $5000, ELLWOOD STEEL INTERNSHIP AND SCHOLARSHIP, 2019.
LUKE MCCULLOCH, $10,000 COPPER CLUB SCHOLARSHIP, 2018.
JOHN HANSEN-CARLSON, $1000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 2018.
BRIDGER HURLEY, $10,000 COPPER CLUB SCHOLARSHIP, 2016.
STEVE BRODDY, $2,000 RICHARD R. KLIMPEL/MPD SCHOLARSHIP, 2016.
MOLLY BROCKWAY, $7500 GOLDWATER SCHOLARSHIP, 2016.
NICK GOW, $5,000 IPMI SCHOLARSHIP, 2012.
ARIANNE ERICKSON, $10,000 COPPER CLUB SCHOLARSHIP, 2010.
ROGER "SCOTT" LAMBSON, $2000 MONTANA SPACE GRANT CONSORTIUM SCHOLARSHIP, 2010.
NICOLE LOEHR, $10,000 COPPER CLUB SCHOLARSHIP, 2009.
MARIAM MELASHVILLI, $10,000 AIME SMITH SCHOLARSHIP, 2008.
JOE BILANT, $2,000 RICHARD R. KLIMPEL MINERAL/MPD SCHOLARSHIP, 2008.

ADAM HAMMES, $1,000 MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 2007.
NICK GOW, $10,000 ASM INTERNATIONAL SCHOLARSHIP, 2006.
ERIC STREICH, $10,000 AIME SMITH SCHOLARSHIP, 2006.
KELLY MURPHEY, $10,000 COPPER CLUB SCHOLARSHIP, 2005.
NICK GOW, $2000, INTERNATIONAL SOCIETY OF EXPLOSIVE ENGINEERS (ISEE), 2005.
NICK GOW, $1000, INTERNATIONAL SOCIETY OF EXPLOSIVE ENGINEERS (ISEE), 2004.
KAREL PRAMONO, $2000 WAIMME SCHOLARSHIP, 2004.
DARBY STACEY, $1000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 2004.
JAKE HOHN, $2000 WAIMME SCHOLARSHIP, 2003 AND 2004.
JEN PREBLE, $3000 WAIMME SCHOLARSHIP, 2003.

ADAM HOUSE, $1000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 2002.
AMY STEPAN, $1000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 2001.
TIM MCINERNEY, $1000 TAU BETA PI, 2001.
CHRIS MCHENRY, $2500 IRON & STEEL SOCIETY SCHOLARSHIP, 2001.
JENNIFER CONNING, $10,000 COPPER CLUB SCHOLARSHIP, 2000.
ALICE DAVIES-DREW, $1000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 2000.
KELCEY ECCLESTON, $1000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 1999.
JOSLYN HUNT, $10,000 COPPER CLUB SCHOLARSHIP, 1998.
SHAMUS O'KEEFE, $1000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 1998.
KEVIN RITARI, $2000 TMS SCHOLARSHIP, 1998.
KEVIN RITARI, $5000 ASM SCHOLARSHIP, 1997.
LAUREN COCKHILL, $2000 SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 1997.
LAUREN COCKHILL, $10,000 COPPER CLUB SCHOLARSHIP, 1996.
CORY MARTIN, $2000, SME MINERAL AND METALLURGICAL PROCESSING DIVISION (MPD) SCHOLARSHIP, 1996.
AMY LAMB, $1000, SME INDUSTRIAL MINERALS DIVISION SCHOLARSHIP (IMD) SCHOLARSHIP, 1996.

DEPARTMENT

INTERNATIONAL DEPARTMENT STUDENT ADVISOR, 2008-2019.
DEPARTMENT HEAD, METALLURGICAL & MATERIALS ENGINEERING, 1998-2019.
CAREER SERVICES ADVISORY BOARD MEMBER, 1996-2008.
RECRUITER IN BUTTE, LINCOLN, GREAT FALLS, VANCOUVER, ETC., 1997-2008.
STUDENT ADVISOR, 1995-PRESENT.
CLUB MET STUDENT ADVISOR, 1995-PRESENT.
ANDERSON-CARLYLE STUDENT CHAPTER OF AIME ADVISOR (TMS & SME STUDENT CHAPTERS), 1995-PRESENT.

CAMPUS

EMPLOYEE RELATIONS COMMITTEE, CHAIR, 2024-PRESENT.
FACULTY MENTORING AND COURSE EVALUATION SUBCOMMITTEE, 2023-PRESENT.
CONFIDENCE & PROFESSIONALISM RECOVERY (CPR) PLAN SUBCOMMITTEE, 2022-2024.
FACULTY REPRESENTATIVE, ALUMNI ASSOCIATION, 2021-2024.
COMMITTEE OF COMMITTEES, 2019-2020.
FACULTY SENATE, SPRING 2015 (INTERIM) AND 2017-PRESENT.
ADVISING/RETENTION STEERING COMMITTEE, 2016-PRESENT.
TRAFFIC COMMITTEE, 1998-2000; SPRING 2015 (INTERIM).
STRATEGIC PLANNING COMMITTEE, 2012-2016.
MONTANA TECH AND NCSA SOFTBALL CLUB, CO-ADVISOR AND TREASURER, 2006-2011.

FACULTY ADVISORY COMMITTEE FOR COLLEGE RELATIONS AND MARKETING, 2005-2016.
CENTER FOR ADVANCED SUPRAMOLECULAR AND NANO SYSTEMS (CASANS), CO-CHAIR, 2003-2012.
ENROLLMENT SERVICES ADVISORY BOARD MEMBER, 1997-2012.
UNDERGRADUATE RESEARCH COMMITTEE, CHAIR, 2002-2010.
LIBRARY COMMITTEE, INTERIM, 2009.
CURRICULUM REVIEW COMMITTEE, INTERIM, 2009.
BUDGET COMMITTEE, 2002-2006.
SCHOLARSHIP COMMITTEE, 1999-2007.
UNDERGRADUATE RESEARCH COMMITTEE, 1996-2011.
GRADUATE COUNCIL, 1998-2001.
FACULTY SENATE, 1997-1999.
SEARCH COMMITTEES:
- MEMBER, METALLURGICAL & MATERIALS ENGINEERING FACULTY, LED TO HIRING OF GRANT WALLACE, 2025.
- MEMBER, METALLURGICAL & MATERIALS ENGINEERING SECRETARY, LED TO HIRING OF KATELYN MCNAMARA, 2024.
- MEMBER, METALLURGICAL & MATERIALS ENGINEERING FACULTY, LED TO HIRING OF DR. BASAK ANAMERIC, 2023.
- MEMBER, METALLURGICAL & MATERIALS ENGINEERING FACULTY, LED TO HIRING OF DR. MARIO CACCIA, 2021.
- CHAIR, METALLURGICAL & MATERIALS ENGINEERING SECRETARY, LED TO HIRING OF KRIS LEIPHEIMER, 2018.
- MEMBER, METALLURGICAL & MATERIALS ENGINEERING SECRETARY, LED TO HIRING OF DARLENE VOSS, 2017.
- CHAIR, METALLURGICAL ENGINEERING FACULTY, 2016-2017, LED TO HIRING OF DR. AVIMANYU DAS, 2017.
- MTECH REPRESENTATIVE, VP FOR RESEARCH AND CREATIVE SCHOLARSHIP, UM-MISSOULA, 2011-2012.
- MEMBER, VC FOR DEVELOPMENT & ALUMNI RELATIONS/PRESIDENT OF MT TECH FOUNDATION, 2011-2012.
- MEMBER, VC FOR RESEARCH/DEAN OF GRADUATE STUDIES, 2012-PRESENT.
- MEMBER, METALLURGICAL ENGINEERING SECRETARY, LED TO HIRING OF KAREN HOLLAND, 2011.
- CHAIR, METALLURGICAL ENGINEERING SECRETARY, LED TO HIRING OF ROBIN MCKERNAN, 2010.
- MEMBER, METALLURGICAL ENGINEERING FACULTY, LED TO HIRING OF DR. AL MEIER, 2010.
- MEMBER, METALLURGICAL ENGINEERING SECRETARY, LED TO HIRING OF CHERYL DUTOIT, 2008.
- MEMBER, METALLURGICAL ENGINEERING FACULTY, LED TO HIRING OF DR. K.V. SUDHAKAR, 2007.
- CHAIR, METALLURGICAL ENGINEERING NEWMONT LAB DIRECTOR, LED TO HIRING OF DR. BILL GLEASON, 2007.
- MEMBER, ASSISTANT TO THE DEAN, LED TO HIRING OF CRAIG BYINGTON, 2007.
- CHAIR, METALLURGICAL ENGINEERING FACULTY, LED TO HIRING OF DR. JERRY DOWNEY, 2005.
- MEMBER, METALLURGICAL ENGINEERING SECRETARY, LED TO HIRING OF TAMMY ROSS, 2005.
- CHAIR, METALLURGICAL ENGINEERING FACULTY, LED TO HIRING OF DR. KEVIN JAANSALU, 2005.
- CHAIR, METALLURGICAL ENGINEERING SECRETARY, LED TO HIRING OF GAIL BERGMAN, 2003.
- MEMBER, SUB STUDENT SERVICES DIRECTOR, LED TO HIRING OF CHRIS VAN NULAND, 2002.
- CHAIR, METALLURGICAL ENGINEERING SECRETARY, LED TO HIRING OF TRACI FESOLWITZ, 2002.
- MEMBER, SOFTWARE ENGINEERING, LED TO HIRING OF 3 ASSISTANT PROFESSORS, 2001.
- MEMBER, COMPUTER SCIENCE, LED TO HIRING OF SABBATICAL-LEAVE REPLACEMENT PROFESSOR, 2001.
- MEMBER, VCAAR, LED TO HIRING OF DR. DAN BRADLEY, 1998-1999.
- MEMBER, CAREER SERVICES, LED TO HIRING OF STACEY AGUIRRE, 1998.

PROFESSIONAL SERVICE

CHAIRS AND VICE-CHAIRS

SME COUNCIL OF EDUCATION, CHAIR, 2019-2021.
SME IVAN B. RAHN EDUCATION AWARD, CHAIR, 2018-2022.
SME EDUCATION SUSTAINABILITY COMMITTEE, VICE-CHAIR, 2014-2018.
SME PHD GRANT AND CAREER GRANT SELECTION COMMITTEES, CHAIR, 2016-2017.
U OF UTAH, METALLURGICAL ENGINEERING GRADUATE PROGRAMS, WITH CHAIR DR. AMIT MISRA (U OF MICH) AND DR.

BRENT HISKEY (U OF AZ), SEPTEMBER 2016.
SME ACCREDITATION AND CURRICULAR ISSUES SUBCOMMITTEE, CHAIR, 2013-2015.
MINERAL INDUSTRY EDUCATION AWARD, CHAIR, 2013-2014.
SME MPD NOMINATING COMMITTEE, CHAIR, 2013 AND 2014.
AIME JAMES DOUGLAS GOLD MEDAL AWARD COMMITTEE, CHAIR, 2012.
SME MPD OUTSTANDING YOUNG ENGINEER IN HONOR OF SUBHASH CHANDER, CHAIR, 2012.
AIME ROBERT H. RICHARDS AWARD, CHAIR, 2012.
SME MPD EXECUTIVE COMMITTEE, CHAIR, 2011-2012.
ROE-HOAN YOON SYMPOSIUM, CHAIR, 2009-2011.
WORKSHOP FOR THE LUNAR APPLICATIONS OF MINING AND MINERAL BENEFICIATION, CO-CHAIR, 2010.
ROBERT SHOEMAKER INTERNATIONAL 2008 HYDROMETALLURGY CONFERENCE, CO-CHAIR, 2007-2008.
PRECIOUS METALS PROCESSING 2007, CO-CHAIR, 2006-2007.
SME URANIUM SYMPOSIUM, CO-CHAIR, 2006-2007.
TMS EPD AQUEOUS PROCESSING COMMITTEE, CHAIR, 2006-2007.
J.D. MILLER SYMPOSIUM, CO-CHAIR, 2003-2004.
TMS LEADERSHIP, EDUCATOR & APPLICATION TO PRACTICE AWARDS COMMITTEE, CHAIR, 2002-2004.
IAN M. RITCHIE INTERNATIONAL 2003 HYDROMETALLURGY CONFERENCE, CO-CHAIR, 2002-2003.
CYANIDE: SOCIAL, INDUSTRIAL AND ECONOMIC ASPECTS SYMPOSIUM, CO-CHAIR, 2000-2001.
MINOR ELEMENTS 2000: AS, SB, SE, TE AND BI SYMPOSIUM, CO-CHAIR, 1999-2000.
SME MPD REMEDIATION AND SECONDARY PROCESSING COMMITTEE, CHAIR, 1999-2000.
MONTANA TECH CHAPTER OF SIGMA XI, THE SCIENTIFIC RESEARCH SOCIETY, PRESIDENT, 1996-1998.
SNAKE RIVER SECTION OF THE SOCIETY FOR APPLIED SPECTROSCOPY, SECRETARY/TREASURER, 1995-1998.
MONTANA SECTION OF SME, INTERIM CHAIR, 1995-1997.

COMMITTEES

SME BOARD OF DIRECTORS, 2024-PRESENT (TERM ENDS 2027).
SME WORKFORCE DEVELOPMENT COMMITTEE, 2024-PRESENT (TERM ENDS 2027).
SME GOVERNMENT AND PUBLIC AFFAIRS COMMITTEE (GPAC), 2024-PRESENT (TERM ENDS 2027).
SME ROBERT E. MURRAY INNOVATION AWARD COMMITTEE, 2023-2024.
JOHN FRITZ MEDAL COMMITTEE, 2021-2024.
SME MPD EXECUTIVE COMMITTEE, TECHNICAL CONTENT ADVISOR AND FINE GRIND AUTHOR, 2020-2023.
SME NOMINATIONS COMMITTEE, 2020-2022.
IVAN B. RAHN EDUCATION AWARD, 2013-2019.
AIME MINERAL EDUCATION AWARD COMMITTEE, 2009-2011, 2017-2019.
SME PHD GRANT AND CAREER GRANT SELECTION COMMITTEES, 2015-2019.
AEMA, TRUSTEE, 2015-2018.
SME GOVERNMENT AND PUBLIC AFFAIRS COMMITTEE (GPAC), 2013-2016.
TMS VITTORIO DENORA PRIZE FOR ENVIRONMENTAL IMPROVEMENTS IN METALLURGICAL INDUSTRIES, 2012-2015.
SME EDUCATION & SUSTAINABILITY TASK FORCE, 2012-2013.
AIME ROBERT EARLL MCCONNELL AWARD COMMITTEE, 2012.
SME MPD OUTSTANDING YOUNG ENGINEER IN HONOR OF SUBHASH CHANDER, 2010-2012.
AIME ROBERT H. RICHARDS AWARD, 2011-2012.
SME MPD EXECUTIVE COMMITTEE, 2006-2013; PAST CHAIR, 2012-2013.
SME DISTINGUISHED MEMBER AWARD COMMITTEE, 2011-2012.
SME MPD NOMINATING COMMITTEE, 2009-2013.
AIME FRANK F. APLAN AWARD COMMITTEE, 2009-2012.
TMS EPD COUNCIL, 2006-2007.

TMS TECHNOLOGY AND RESEARCH COMMITTEE, 2002-2005.
TMS STUDENT MEMBER AFFAIRS COMMITTEE, EPD COUNCIL MEMBER AND TMS REPRESENTATIVE, 2001-2005.
SME WADSWORTH EXTRACTIVE METALLURGY AWARD COMMITTEE, 2000-2005.
TMS LEADERSHIP, EDUCATOR & APPLICATION TO PRACTICE AWARDS COMMITTEE, 2000-2004.
SME ACCREDITATION AND CURRICULAR ISSUES SUBCOMMITTEE, MPD REPRESENTATIVE, 1998-2000, 2011-2016.
SME STUDENT MEMBER AFFAIRS SUBCOMMITTEE, MPD REPRESENTATIVE, 1997-2005.
SME MPD SEPARATIONS COMMITTEE, 1997-PRESENT.
TMS EPD RECYCLING COMMITTEE, 1997-2020.
SME MONTANA SECTION, SECTION REPRESENTATIVE, 1997.
TMS ABET COMMITTEE, 1996-2020.
SME ABET COMMITTEE, 1996-PRESENT.
SME REMEDIATION AND SECONDARY PROCESSING COMMITTEE, 1995-PRESENT.
TMS AQUEOUS PROCESSING COMMITTEE, 1994-2020.
TMS PYROMETALLURGY COMMITTEE, 1994-2020.

CONFERENCES, SYMPOSIA AND PROGRAMS

SME, DENVER CO, FEB 24-26, 2025, KOMAR KAWATRA SYMPOSIUM, CHAIRS: J. RIPKE, J. UHRIE, AND C. YOUNG.
IMPC, WASHINGTON DC, SEPT 29 – OCT 3, 2024, CHAIRS: JOHN MARSDEN, TARUN BHAMBANI, RONEL KAPPES.
FLOTATION 2023, 4TH INTERNATIONAL CONGRESS ON MINERAL FLOTATION, INTERMET CONFERENCE, HONORARY ORGANIZER, WITH MARCIAL MEDINA (CHAIR), ALFONSO MUNOZ, DAVID ESTRELLA, EMILIO DELGADO, HERNANDO VALDIVIA, DANIEL YATACO, PEDRO PAUCAR, JUAN ANES AND JUAN YIANATOS, LIMA, PERU, NOVEMBER 9-11, 2022.
FRANK F. APLAN SYMPOSIUM: BETWEEN THEORY AND PRACTICE, SME ANNUAL MEETING, WITH BARB ARNOLD, 2022.
GEOMETALLURGY: PREVENTING ORE DEPOSIT MINERALOGY FROM WREAKING METALLURGICAL HAVOC (SESSION I) AND INPUTS FOR PREDICTING RECOVERY – A PANEL DISCUSSION (SESSION II), ORGANIZED WITH D. PALO, R.
HYDROPROCESS 2013, 5TH INTERNATIONAL SEMINAR ON PROCESS HYDROMETALLURGY, GECAMIN CONFERENCE; ORGANIZED WITH GABRIEL MERUANE AND JAVIER GUEVARA, SANTIAGO, CHILE', JULY 10-12, 2013.
ROE-HOAN YOON SYMPOSIUM, ORGANIZED WITH JERRY LUTTRELL, SME ANNUAL MEETING, DENVER, CO, FEBRUARY 28-MARCH 2, 2011.
WORKSHOP FOR THE LUNAR APPLICATIONS OF MINING AND MINERAL BENEFICIATION, ORGANIZED WITH ERIC DAHLGREN, JENNIFER EDMUNSON AND DOUG RICKMAN, BUTTE, MT, OCTOBER 5-7, 2010.
EUROPEAN METALLURGICAL CONFERENCE, GLOBAL GROWTH OF NONFERROUS METALS PRODUCTION, TMS REPRESENTATIVE AND SCIENCE ADVISORY BOARD MEMBER, INNSBRUCK, AUSTRIA, JUNE 28-JULY 1, 2009.
ROBERT SHOEMAKER INTERNATIONAL 2008 HYDROMETALLURGY CONFERENCE, TMS, SME AND CIM JOINT FALL SYMPOSIUM, ORGANIZED WITH CORBY ANDERSON, PAT TAYLOR, AND YEONUK CHOI, PHOENIX, AZ, AUGUST, 2008.
PRECIOUS METALS 2007, TMS AND SME JOINT FALL SYMPOSIUM, ORGANIZED WITH CORBY ANDERSON AND MARC LEVIER, TUCSON, AZ, OCTOBER, 2007.
URANIUM SYMPOSIUM, SME ANNUAL MEETING, ORGANIZED WITH J. KYLE AND G. MCLEMORE, DENVER, CO, 2007.
J.D. MILLER SYMPOSIUM, SME ANNUAL MEETING, ORGANIZED WITH JON KELLAR, JAREK DRELICH AND MIKE FREE, SALT LAKE CITY, UT, FEBRUARY, 2005.
IAN M. RITCHIE INTERNATIONAL 2003 HYDROMETALLURGY CONFERENCE, TMS, SME AND CIM JOINT FALL SYMPOSIUM, ORGANIZED WITH CORBY ANDERSON, AMY JAMES, BRYN HARRIS, DAVE DREISINGER, AND AKRAM ALFANTAZI, VANCOUVER, BRITISH COLUMBIA, AUGUST, 2003.
RECYCLING AND WASTE MINIMIZATION CONFERENCE, TMS FALL SYMPOSIUM, INTERNATIONAL ADVISOR, ORGANIZED WITH SEVERAL OTHERS, LULEA UNIVERSITY, LULEA, SWEDEN, JULY, 2002.
ADVANCEMENTS IN MATERIALS AND MATERIALS PROCESSING, ICAMMP-2002, INTERNATIONAL ADVISOR, ORGANIZED WITH SEVERAL OTHERS, IITKG-KUAGPUR, INDIA, FEBRUARY 1-3, 2002.

WASTE TREATMENT AND MINIMIZATION COMMITTEE, "CYANIDE: SOCIAL, INDUSTRIAL AND ECONOMIC ASPECTS," CO-ORGANIZED WITH LARRY TWIDWELL AND CORBY ANDERSON, 7 SESSIONS, 43 PAPERS ACCEPTED, AND ROUND TABLE DISCUSSION INCLUDED, TMS ANNUAL MEETING, NEW ORLEANS, LA, FEBRUARY 11-15, 2001.

METALLURGICAL PROCESSING FUNDAMENTALS COMMITTEE, "MINOR ELEMENTS 2000: METALLURGICAL AND ENVIRONMENTAL CONCERNS FOR AS, SB, SE, TE AND BI." CO-ORGANIZED WITH LARRY TWIDWELL, BOB ROBINS, TADAHISHA NISHIMURA, BRYN HARRIS, CORBY ANDERSON, KEVIN PURDY, BARB FILAS AND ARTHUR MONHEMIUS. SME ANNUAL MEETING, SALT LAKE CITY, UT, FEBRUARY 28 – MARCH 1, 2000.

SNAKE RIVER SECTION OF SAS, "FOURTH BIENNIAL MEETING," GRAND TARGHEE, WY, JUNE 27, 1998.

AQUEOUS PROCESSING COMMITTEE, "ADSORPTION, ION EXCHANGE AND SOLVENT EXTRACTION," TMS ANNUAL MEETING, SAN ANTONIO, TX, FEBRUARY 15-18, 1998.

RECYCLING COMMITTEE, "GENERAL RECYCLING OF NON-FERROUS METALS," TMS ANNUAL MEETING, SAN ANTONIO, TX, FEBRUARY 15-18, 1998.

YOUNG LEADER TUTORIAL, JOHN K. BORCHARDT, SHELL DEVELOPMENT COMPANY, "THE ROLE OF MINERALS IN PAPER MAKING AND PAPER RECYCLING," TMS ANNUAL MEETING, SAN ANTONIO, TX, FEBRUARY 15, 1998.

YOUNG LEADER TUTORIAL, ANDREW M. SHERMAN, FORD MOTOR COMPANY, "POTENTIAL FOR LIGHT WEIGHT MATERIALS IN AUTOMOBILES," TMS/ASM MATERIALS WEEK FALL MEETING, INDIANAPOLIS, IN, OCTOBER 20, 1997.

SNAKE RIVER SECTION OF SAS, "THIRD BIENNIAL MEETING," 2 SESSIONS, 18 PAPERS, WHITEFISH, MT, JUNE 29, 1996.

SESSION CHAIRS

SME ANNUAL MEETING, KAWATRA SYMPOSIUM: IRON ORE, CO-CHAIR: JAYSON RIPKE, FEB 24-26, 2025.

IMPC 2024, HUMAN CAPITAL I, WITH MICHAEL MOATS, WASHINGTON DC, SEPT 30-OCT 3, 2024.

SME ANNUAL MEETING, "FLOTATION I," CO-CHAIR WITH TARUN BHAMBANI, 2023.

FLOTATION 2022, SESSION IX, CO-CHAIR WITH MARCIAL MEDINA, NOV 10, 2022.

FLOTATION 2022, SESSION III, CO-CHAIR WITH HERNANDO VALDIVIA, NOV 11, 2022.

SME ANNUAL MEETING, "FRANK F. APLAN SYMPOSIUM: BETWEEN THEORY AND PRACTICE SESSIONS I AND II," CO-CHAIR WITH BARB ARNOLD, 2022.

SME ANNUAL MEETING, "GEOMETALLURGY SESSION II AND PANEL DISCUSSION," CO-CHAIR WITH DAN PALO, 2022.

SME ANNUAL MEETING, "FLOTATION I," VIRTUAL CO-CHAIR WITH TARUN BHAMBANI, 2021.

SME ANNUAL MEETING, "FLOTATION I," CO-CHAIR WITH B. VAZIRI HASSAS, 2020.

SME ANNUAL MEETING, "FLOTATION I," CO-CHAIR WITH RICK LADOUCEUR, 2019.

SME ANNUAL MEETING, "FLOTATION I," CO-CHAIR WITH TARUN BHAMBANI, 2018.

AEMA, "MINERAL PROCESSING /METALLURGICAL EXTRACTION FOR MINING SUSTAINABILITY," CO-CHAIR WITH MELANIE BOND, DECEMBER 8, 2017.

XXVIII INTERNATIONAL MINERAL PROCESSING CONGRESS (IMPC), "PHYSICAL CHEMISTRY OF FLOTATION VI," CO-CHAIR WITH MAREK PAWLIK, 2016.

XXVIII IMPC, "PHYSICAL CHEMISTRY OF FLOTATION V," CO-CHAIR WITH SUNMENG HU, 2016.

XXVIII IMPC, "PHYSICAL CHEMISTRY OF FLOTATION IV," CO-CHAIR WITH JAAKKO LEPPINEN, 2016.

MEI SUSTAINABLE MINERALS CONFERENCE, "TECHNICAL SESSION 3," CO-CHAIR WITH M. BENZAAZOUA, 2016.

SAIMM COPPER COBALT AFRICA CONFERENCE, "COPPER TECHNOLOGIES II," 2015.

HYDROMETALLURGY 2014, "RARE EARTH 2," 2014.

SME ANNUAL MEETING, "RESIDUAL METALS AND BY-PRODUCTS FROM WATER TREATMENT," CO-CHAIR WITH BRETT WATERMAN, 2014.

SME ANNUAL MEETING, "FLOTATION," CO-CHAIR WITH R. KAPPES, SEATTLE, WA, FEBRURARY 20, 2012.

MPD PLENARY SESSION CO-CHAIR, "MPD AWARDS," SME ANNUAL MEETING, DENVER, CO, MARCH 1, 2011.

WORKSHOP FOR THE LUNAR APPLICATIONS OF MINING AND MINERAL BENEFICIATION, "PROBLEM STATEMENTS," BUTTE, MT, OCTOBER 5-7, 2010.

HYDROMETALLURGY 2008, "THIOSULFATE," CO-CHAIR WITH G.A. HOPE, PHOENIX, AZ, AUGUST 17-20, 2008.

HYDROMETALLURGY 2008, "PLENARY SESSION," CO-CHAIR WITH P.R. TAYLOR, C.G. ANDERSON AND Y. CHOI, PHOENIX, AZ, AUGUST 17-20, 2008.

PRECIOUS METALS 2007, "RECOVERY PROCESSES FOR PRECIOUS METALS," CO-CHAIR WITH RONG YU WAN, TUCSON, AZ, 2007.

SME ANNUAL MEETING, "NANOSTRUCTURES AND NANOFLUIDS," ST. LOUIS, MO, MARCH 27-29, 2006.

TMS ANNUAL MEETING, "GENERAL ABSTRACTS," SAN ANTONIO, TX, MARCH 13-16, 2006.

SME ANNUAL MEETING, "PROCESS FUNDAMENTALS," CO-CHAIR WITH J. KELLAR AND M. FREE, SALT LAKE CITY, UT, FEBRUARY 28-MARCH 2, 2005.

MAM '04, 2ND IUPAC INTERNATIONAL SYMPOSIUM ON MACRO- AND SUPRA- MOLECULAR ARCHITECTURE AND MATERIALS: FUNCTIONAL AND NANO SYSTEMS, "SESSION 4," MISSOULA, MT, JUNE 13-17, 2004.

TMS ANNUAL MEETING, "GENERAL SESSION I," CO-CHAIR WITH JOHN CHEN, CHARLOTTE, NC, MARCH 6-10, 2004.

HYDROMETALLURGY 2003, "METALLURGICAL FUNDAMENTALS," TMS FALL SYMPOSIUM, CO-CHAIR WITH PAT TAYLOR, VANCOUVER, BC, CANADA, AUGUST 23-27, 2003.

TMS ANNUAL MEETING, "MERCURY III," CO-CHAIR WITH KUMAR GANESAN, SAN DIEGO, CA, MARCH 11-15, 2003.

SME ANNUAL MEETING, "FILLER MATERIALS II," CHAIR, CINCINNATI, OH, FEBRUARY 28-MARCH 1, 2003.

RECYCLING AND WASTE MINIMIZATION CONFERENCE, TMS FALL SYMPOSIUM, CO-CHAIR WITH ANDREAS SIEGMUND, LULEA, SWEDEN, JULY 20-22, 2002.

TMS ANNUAL MEETING, "POLITICS AND SPILLS," CO-CHAIR WITH RAY BEEBE, NEW ORLEANS, LA, FEB 11-15, 2001.

SME ANNUAL MEETING, "GOLD PROCESSING," CO-CHAIR WITH L.G. TWIDWELL, SALT LAKE CITY, UT, FEBRUARY 28-MARCH 1, 2000.

SME ANNUAL MEETING, "METALLURGICAL PROCESSING FUNDAMENTALS I," CO-CHAIR WITH R. SPEARS, DENVER, CO, MARCH 1-4, 1999.

TMS ANNUAL MEETING, "GENERAL RECYCLING III: PHYSICAL PROCESSING" CO-CHAIR WITH R. STEPHENS, SAN DIEGO, CA, MARCH 1-4, 1999.

SNAKE RIVER SECTION OF THE SOCIETY FOR APPLIED SPECTROSCOPY, "FOURTH BIENNIAL MEETING," CO-CHAIR WITH R. RODRIGUEZ AND J. INGRAM, IDAHO FALLS, ID, JUNE 27, 1998.

SME ANNUAL MEETING, "METALLURGICAL PROCESSING FUNDAMENTALS II: ENVIRONMENTAL," CO-CHAIR WITH R.G. REDDY, ORLANDO, FL, MARCH 9-12, 1998.

TMS ANNUAL MEETING, ADSORPTION, ION EXCHANGE AND SOLVENT EXTRACTION VII: GENERAL HYDROMETALLURGY" CO-CHAIR WITH R.G. ROBINS, SAN ANTONIO, TX, FEBRUARY 8-12, 1998.

TMS ANNUAL MEETING, "GENERAL RECYCLING III: PHYSICAL PROCESSING" CO-CHAIR WITH SINHA DREW, SAN ANTONIO, TX, FEBRUARY 8-12, 1998.

SME ANNUAL MEETING, "METALLURGICAL PROCESSING FUNDAMENTALS I," CO-CHAIR WITH B. PESIC, DENVER, CO, FEBRUARY 24-27, 1997.

SNAKE RIVER SECTION OF THE SOCIETY FOR APPLIED SPECTROSCOPY, "THIRD BIENNIAL MEETING," CO-CHAIR WITH L. PALMER AND D. STROMMEN, WHITEFISH, MT, JUNE 29, 1996.

ELECTROCHEMICAL SOCIETY ANNUAL MEETING, "FOURTH INTERNATIONAL SYMPOSIUM ON ELECTROCHEMISTRY IN MINERAL AND METAL PROCESSING," CO-CHAIR WITH D. SCHUMANN, LOS ANGELES, CA, MAY 6-9, 1996.

SME ANNUAL MEETING, "METALLURGICAL PROCESSING FUNDAMENTALS I," CHAIR, PHOENIX, AZ, MARCH 11-14, 1996.

TMS ANNUAL MEETING, "GENERAL PYROMETALLURGY III," CO-CHAIR WITH O. ISHIKAWA, ANAHEIM, CA, FEB 4-8, 1996.

SME ANNUAL MEETING, "MINERAL PROCESSING FUNDAMENTALS VII - GENERAL II," CO-CHAIR WITH J.J. KELLAR, DENVER, CO, MARCH 6-9, 1995.

TMS ANNUAL MEETING, "INTERNATIONAL SYMPOSIUM ON THE TREATMENT AND MINIMIZATION OF HEAVY METAL-CONTAINING WASTES IV - PROCESSING OF FLY ASH, FLUE DUSTS AND SLAGS," CO-CHAIR WITH F. DOYLE, LAS VEGAS, NV, FEBRUARY 12-16, 1995.

PEER-REVIEWS

EDITOR FOR INTERNATIONAL MINERAL PROCESSING CONGRESS (IMPC 2024), 2023-2024.
EDITOR FOR *MINERAL PROCESSING AND EXTRACTIVE METALLURGY HANDBOOK*, 2013-2018.
NATIONAL ACADEMIES, "URANIUM MINING IN VIRGINIA," 2011.
ASSISTANT EDITOR FOR *MINERAL ENGINEERING*, 2010-2013.
CO-EDITOR FOR PROCEEDINGS OF "ROE-HOAN YOON SYMPOSIUM," SME, LITTLETON, CO, 2011.
CO-EDITOR FOR PROCEEDINGS OF "HYDRO 2008," SME, LITTLETON, CO, 2008.
CO-EDITOR FOR PROCEEDINGS OF "J.D. MILLER SYMPOSIUM," SME, LITTLETON, CO, 2005.
CO-EDITOR FOR PROCEEDINGS OF "HYDRO 2003," TMS, WARRENDALE, PA, 2003.
KEY READER FOR *EUROPEAN JOURNAL OF MINERAL PROCESSING AND ENVIRONMENTAL PROTECTION*, 2002-2012.
CO-EDITOR FOR PROCEEDINGS OF "CYANIDE: SOCIAL, INDUSTRIAL AND ECONOMIC ASPECTS," TMS, PA, 2001.
EDITOR FOR PROCEEDINGS OF "MINOR ELEMENTS 2000," SME, LITTLETON, CO, 2000.
ASSOCIATE EDITOR FOR *INTERNATIONAL JOURNAL OF MINERAL PROCESSING*, 1998-2014.
KEY READER FOR ASM *METALLURGICAL AND MATERIALS TRANSACTIONS, B*, 1996-1998.
245 PUBLICATIONS AND 79 PROPOSALS FOR VARIOUS JOURNALS, AGENCIES, AND ORGANIZATIONS, 1994-PRESENT.
12 THESES/DISSERTATIONS FROM ABROAD (CURTIN U, MURDOCH U, GRIFFTH U, UNSW, U CAPETOWN, U NEWCASTLE).

SHORT COURSES

PRINCIPLES OF MINERAL AND METALLURGICAL PROCESSING WITH DR. CORBY ANDERSON OF COLORADO SCHOOL OF MINES:
INTERNATIONAL MINERAL PROCESSING CONGRESS (IMPC), WASHINGTON DC, SEPT 29, 2024.
SME ANNUAL MEETING, SALT LAKE CITY, UT, FEB 21, 2025, DENVER CO, FEB 22, 2025, PHOENIX AZ, FEB 25, 2024, SALT LAKE CITY, UT, FEB. 27, 2022; PHOENIX, AZ, FEB. 23, 2020; MINNEAPOLIS, MN, FEB. 28, 2018.
AEMA, RENO NV, DEC 9, 2025, DEC. 3, 2024, DEC 5, 2022, DEC. 7, 2021; DEC. 3, 2019; DEC. 5, 2017; DEC. 6, 2016; DEC. 2, 2014; DEC 3, 2013; NOV. 29, 2011; SPOKANE WA, DEC. 1, 2015; DEC. 4, 2012; DEC. 5, 2010.
GLOBAL URANIUM SYMPOSIUM, LARAMIE WY, SEPTEMBER 15, 2011.
NATIONAL SUMMIT OF MINING, FAIRMONT HOT SPRINGS RESORT, GREGSON MT, MAY 2, 2010.
FUNDAMENTALS AND APPLICATIONS OF FIRE ASSAY WITH CORBY ANDERSON, TOM MCINTYRE, GARY WYSS, JOHN KRSTULICH, CHRIS CRISTOPHERSON, WAYNE OLMSTEAD (RIP) AND PERIODICALLY MITCHELL HARVEY, BILL GLEASON AND PAUL MIRANDA, MONTANA TECH, BUTTE MT, 1997-PRESENT.

COMMUNITY SERVICE

MEMBER, BUTTE NATURAL RESOURCE COUNCIL, 2021-PRESENT.
MEMBER, KIWANIS BUTTE-SUNSHINE CAMP FOR CHILDREN, 2021-PRESENT.
BOARD OF DIRECTORS, KIWANIS BUTTE-SUNSHINE CAMP FOR CHILDREN, PUBLIC RELATIONS COMMITTEE, 2012-2023.
TREASURER, TEAM DIGGER VOLLEYBALL, 2007-2008.
COACH, WEST ELEMENTARY, VOLLEYBALL, 5TH GRADE, 2005 (2ND PLACE) AND 6TH GRADE, 2006 (CITY CHAMPIONS).
LEAD JUDGE, SW REGIONAL SCIENCE FAIR, 2001-2008.
COACH, TEAM DIGGER VOLLEYBALL, U12 AND U14 TEAMS, 2000-2006.
CO-DEDICATOR, ARCO GREENWAY PROJECT, COLORADO TAILINGS SECTION IN HONOR OF SAM WORCESTER, 2000.
INSTRUCTOR, EXPANDING YOUR HORIZONS, 2000.
JUDGE, SW MONTANA COMMEMORATIVE COIN ARTIST COMPETITION, 1999.
COACH, NORTHWEST LITTLE LEAGUE SOFTBALL, EMBROIDERY PLUS TEAM, 1998-2008 (CHAMPIONS IN 2001 AND 2002).
EXPERT WITNESS, MONTANA LEGISLATURE, ANTI-INITIATIVE 137: CYANIDE PROCESSING OF OPEN PIT ORES, 1998-1999.
PRESENTER, 1ST MEPYS REUNION, MINERAL EDUCATION PROGRAM FOR YOUNG SCHOLARS, TECHNICAL OUTREACH, 1996.
JUDGE, SW REGIONAL FAIR, 1995-2002, 2005.
JUDGE, WEST ELEMENTARY AND MARGARET LEARY ELEMENTARY, SCIENCE FAIRS, 1995-2006.