Claire Elizabeth Kincaid

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Education

Colorado School of Mines, Golden, CO — *Est. Graduation May 2021*
- Candidate for Master's of Science in Earth Resources Development Engineering
- Cumulative GPA: 3.80

Adviser: Dr. Nicole Smith, Assistant Professor of Mining Engineering, Colorado School of Mines

Franklin W. Olin College of Engineering, Needham, MA — *2015 - 2019*
- Bachelors of Science in Mechanical Engineering
- Cumulative GPA: 3.67

Adviser: Dr. John B. Geddes, Professor of Applied Mathematics, Olin College of Engineering

University College Dublin, Dublin, Ireland — *Jan – May 2018*
- Study Abroad in Earth Sciences and Geotechnical Engineering
- Cumulative GPA: 3.63

Program Coordinator: Jamie Wells, Study Abroad Officer, School of Science

Work Experience

Valhalla Engineering Group: Mechanical EIT — *Jun 2020 - Present*
- Assisted mechanical engineering team in designing and analyzing HVAC and plumbing systems
- Assisted various engineering and architecture teams in drafting and administrative tasks
- Trained in project and model management

Supervisor: Doug Deppey, Director, Mechanical Engineering Group

Komatsu America Corp: Graduate Applications Engineering Intern (Surface Mining) — *May - Aug 2019*
- Consulted on equipment needs for various customers, reported on productivity and OPEX
- Consulted on equipment use for customers onsite at various mines in the Southeast United States.
- Assisted test engineers in installing and testing new modifications to equipment prototypes

Supervisor: J.D. Wientjes, Director, Application Engineering, Surface Mining

Resolution Copper Company: Mining Engineering Intern — *May - Aug 2018*
- Conducted 2018 Joint Analysis Study and investigate tunnel wedging and factor of safety
- Reviewed and logged Magma data to establish baselines for environmental management
- Reviewed 2018 Tunnel Boring Machine state of the industry, reported on business opportunities

Supervisor: Mark Groulx, Mining Engineering Manager

TE Connectivity: Product Engineering Intern — *May - Aug 2016*
- Interfaced with customers and engineers to solve problems and meet needs of new customers
- Designed and execute experiment for statistical analysis of highspeed manufacturing techniques
- Assisted in total cost savings of $537,000 and business growth of $250,000, annually

Supervisor: Doug Hoffman, Product Engineering Manager

A Wired Aesthetic: Owner, Operator — *2012 - Present*
- Mined and Cut gemstones for use in handmade jewelry and art
- Designed and fabricated award winning, handmade jewelry and sculpture for sale and display

Graduate Research Experience

Diversity & Inclusion in the Mining Industry — *2019 - Present*
- Built upon undergraduate research project in diversity and inclusion in the mining industry
- Determined the current state of diversity and inclusion in the mining industry
- Determined Diversity & Inclusion best practices in the mining industry via program case study

Supervisor: Dr. Nicole Smith, Assistant Professor of Mining Engineering, Colorado School of Mines

SR-Hybrid and Electric Vehicles for Underground Mining — *2020 - Present*
- Reviewed testing data for several prototype SR-Hybrid and Battery Powered LHDs
- Refined numerical model and created user interface to calculate efficiency, fuel consumption of prototypes

Industry Supervisor: Jim Coe, Chief Engineer, LHD NPD, Komatsu Mining Corp
Academic Supervisor: Dr. Jurgen Brune, Professor of Mining Engineering, Colorado School of Mines

Relevant Skills

CAD/CAM: SOLIDWORKS, PDM, AutoCAD, Civil 3D, Revit, ONSHAPE, PTC Creo, SpaceClaim, FEA/FEM, SAP
Mining and Professional Software: Vulcan, PCBC, Minesite 3D, AmpL
Programming: Excel Solver, MATLAB, Mathematica, LaTeX, Python, R, MiniTab, Tableau, Arduino C, COMSOL
Welding and Machining: MIG, TIG, Oxy/Ace, Manual Mill, 3-axis CNC Mill, Lathe, Casting, Forging, Abrasives
Woodworking: Table/Chop Saws, Rotary/Belt Sanders, Planer, Routers, CNC Shopbot, Wood Lathe
Digital Analysis: Instron, Fischer Box, Diamond Saws, Diamond Grinders, Flat Lap, FTIR, Pycnometer
Microscopy: Metallographic Microscope, Petrological Microscope, SEM, EDS
Field Evaluation: Geophysical Site Evaluation, Geological Field Investigation & Mapping, 3D Geological Visualization
Language: Intermediate-Advanced Japanese, Beginner Spanish, Fluent English
Soft Skills: Presentation & Reporting, Cultural Flexibility, Direct & Indirect Management, Collaborative Teaming

Undergraduate Research Experience

Diversity & Inclusion in the Mining Industry — *2018 - 2019*
- Surveyed recent academic and corporate literature on diversity & inclusion
- Surveyed of current state of diversity & inclusion in the mining industry

Supervisor: Dr. Debbie Chachra, Professor of Engineering, Olin College

Structural Geology and Fault Mapping — *Jan - May 2018*
- Analyzed pictorial dataset of lignite mine near Mavropigi, Greece
- Generated maps and cross sections to create a three-dimensional picture of underlying faults

Supervisor: Dr. Tom Manzocchi, Associate Professor of Earth Sciences, University College Dublin

Systems Engineering, Communication, and Education — *2016 - 2017*
- Analyzed multiple case study using ethnographic methods –collaboratively develop coding scheme to identify boundary objects and their effects on communication and decision making
- Extracted engineering education principles to be applied to the classroom
- Collaboratively developed and wrote multiple presentations and a conference paper

Supervisor: Dr. Alexandra Strong, Assistant Professor of Systems Design and Engineering, Olin College

Teaching Experience

Colorado School of Mines: Corporate Social Responsibility Teaching Assistant — *Jan - May 2020*
- Evaluated student writing and attendance

Supervisor: Dr. Nicole Smith, Assistant Professor of Mining Engineering

Olin College of Engineering: Machine Shop Assistant — *2018 - 2019*
- Assisted in the cleaning and maintenance of the Olin Machine Shop
- Trained students in safe use of the Large Project Building and the Olin Blacksmith's Forge

Supervisor: Dr. Daniela Faas, Director of Fabrication, Professor of Mechanical Engineering

Olin College of Engineering: Quantitative Engineering Analysis Teaching Assistant — *Sep - Dec 2017*
- Assisted in the application and analysis of advanced mathematical principles to common engineering systems involving circuitry, robotics, computer science, and mechanical design.
- Assisted in curriculum development & iterative improvement of overall course structure

Supervisor: Dr. Paul Ruvolo, Assistant Professor of Computer Science

Olin College of Engineering: Multivariable Calculus Teaching Assistant — *Sep - Dec 2016*
- Supplemented class lectures by planning and administering 'mini lectures'
- Discussed student and class progress, understanding, and problems with instructors to assist in understanding of teaching effectiveness and areas of importance

Supervisor: Dr. Aaron Hoffman, Associate Professor of Mathematics

Olin College of Engineering: Linear Algebra Teaching Assistant — *Jan - May 2016*
- Discussed student and class progress, understanding, and problems with instructors to assist in understanding of teaching effectiveness and areas of importance

Supervisor: Dr. Aaron Hoffman, Associate Professor of Mathematics

Service

SME Student Chapter, Colorado School of Mines: *Graduate Student Member* — *2019 - Present*
- Assisted in various club activities including mineral shows, golf tournaments, and formal events

SME Student Chapter, Colorado School of Mines: *Minerals Education Coalition Chair* — *2019 - Present*
- Organized volunteers for a variety of earth science focused outreach & educational events
- Organized the annual Boy Scout Merit Badge event at Colorado School of Mines
- Liaised with the Colorado Section of the MEC for support and alignment

WIM Student Chapter, Colorado School of Mines: *Graduate Student Representative; Denver Chapter Liaison* — *2020 - Present*
- Assisted in organizing various club activities including resume reviews, roundtables, etc.
- Liaised with the Denver chapter of WIM for support alignment

Graduate Student Government, Colorado School of Mines: *Mining Department Representative* — *2020 - Present*
- Represented mining department graduate students to the Graduate Student Government
- Reported important information on events, policy changes, funding, etc. to the mining department
- Represented graduate students to the mining department faculty and staff meetings

SME Young Leaders Committee: *Member, Class of 2020; Member, Membership Committee* — *2020 - Present*
- Represented interests of Young Leaders in greater SME events and Mining & Exploration Chapter
- Assisted on the membership committee in vetting and selecting new members of the YLC

Mining Department Seminar Committee: *Volunteer Organizer* — *2019 – Present*
- Organized and host speakers for mining department weekly seminar

Mining Department DI&A Committee: *Graduate Student Representative* — *2019 – Present*
- Advised and assisted in organizing DI&A policies and programming for the mining department

Certifications

Vulcan Essentials and Block Modeling: *Maptek Online University; Denver, CO.* — *August 2020*
MSHA Underground: *Eagle Safety Trainers; Superior, AZ* — *May 2018*

Field Work

Aggregates Customer Site Study, Multilocation, Georgia, US : *Team of Two, Collaborative Member* — *Jun 2019*
- Conducted site study of customer use of Komatsu loading and hauling equipment at several quarries
- Analyzed time study data, quickly generate and present reports to customers with recommendations
- Assisted in strengthening relationship between Komatsu and large aggregates customer

Supervisor: Michelle Harman, Applications Engineer, Komatsu America Corp.

Contextual Development Fieldwork, Multi-location, South Africa: *Team of Five, Project Manager* — *Feb 2019*
- Engaged and designed with users of proposed sanitation technology in Johannesburg, South Africa
- Attended 5th Annual Fecal Sludge Management Conference in Capetown, South Africa
- Interfaced with sponsors of capstone project and end users of capstone technology

Supervisor: Dr. Scott Hersey, Assistant Professor of Chemical and Environmental Engineering, Olin College

Contextual Development Fieldwork, Kumasi, Ghana: *Team of Six, Documentation Lead* — *Jan 2019*
- Engaged with primary users and manufacturers of food processing technology
- Made incremental design changes based off of engagements and in-country experiences
- Assisted in prototyping and manufacturing of machines in country, act as chief documentarian of work

Supervisor: Dr. Benjamin Linder, Professor of Mechanical Engineering, Olin College

Geological Fieldwork, Co. Mayo, Ireland: *Team of Three* — *Apr 2018*
- Established field relationships and deduce geological history or Paleoproterozoic to Mesoproterozoic Gneiss
- Used basic dykes as structural markers to distinguish Grenvillian from Grampian events
- Linked basement to Cover of Neoproterozoic Dalradian Metasediments

Supervisor: Dr. P.F McDermott, Department Head, University College Dublin Earth Sciences

Geological Fieldwork, Co. Antrim, Northern Ireland: *Team of Four* — *Mar 2018*
- Introduction to geological fieldwork techniques in examining and mapping mineral and sediment sites
- Portraine, Protrush, Ballycastle, Giant's Causeway, Chushendall, and Ballintoy Harbor, in Northern Ireland
- Characterized and mapped geological characteristics of each site, discuss with classmates and mentors

Supervisor: Dr. Stephen Daly, Professor of Geology, University College Dublin Earth Sciences

Presentations & Publications

"My First Five Years in Industry/Academia" — *Feb 2020*
- 1st Author, Conference Presentation, YLC, SME National Conference 2020

"Mining for Talent: Diversity and Inclusion in Mining Today" — *Feb 2020*
- 1st Author, Conference Presentation, SME National Conference 2020

"Increasing Workforce Diversity: A Short Course for Industry Professionals" — *Feb 2019*
- 1st Author, Conference Presentation, SME National Conference 2019

Increasing Workforce Diversity: Panel — *Dec 2018*
- 2018 IMR Short Course Panel Member

"Perspectives on Diversity in Mining" — *Nov 2018*
- 1st Author, Published on LinkedIn in advance of 2018 IMR short course

"Sending Out the Invitations: Developing Diversity in Mining" — *Feb 2018*
- 1st Author, Published in February 2018 issue of SME's Mining Engineering Magazine

"Preparing Students for Engineering Design Work Environment: A Study of Practicing Engineers" — *Feb 2017*
- 2nd Author, Presented at American Society of Engineering Education annual conference June 2017

Awards

WAAIME Scholarship: *WAAIME (a Division of SME)* — *Aug 2020*
SWE Presidential Scholarship: *Society of Women Engineers* — *Aug 2020*
WIM Scholarship: *Women in Mining (a Division of SME)* — *Aug 2020*
SRK Graduate Scholarship: *SRK Consulting* — *Aug 2019*
Resource Capital Fund Graduate Fellowship: *Resource Capital Fund, Colorado School of Mines* — *May 2019*
Grand Challenge Scholar: *NAE GCSP Program, Olin College of Engineering* — *May 2019*
UCD Exchange: *University College Dublin, Olin College of Engineering* — *Oct 2017*
Olin Merit Scholarship: *Olin College of Engineering* — *May 2015*

Professional Affiliations

Society of Women Engineers — *Sep 2015 – Present*
- Graduate Student Member, Scholarship Awardee, Colorado School of Mines Chapter
- Undergraduate Student Member, Fundraising Lead, Olin College of Engineering Chapter

Society for Mining, Metallurgy, and Exploration — *Sep 2017 – Present*
- Graduate Student Member, Colorado School of Mines Chapter, Mining and Exploration Division
- Undergraduate Student Member, At Large, Mining and Exploration Division

Women in Mining — *Sep 2018 –Present*
- Graduate Student Member, Scholarship Awardee, Colorado School of Mines Chapter
- Undergraduate Student Member, At Large

Society for Economic Geology — *Sep 2019 –Present*
- Graduate Student Member, Colorado School of Mines Chapter