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# Qualifications

**Ph.D. and MS Outer Space Resources** | Colorado School of Mines, Golden, Colorado USA | Jan 2019- Current  
MS complete Dec 2020

**Coding Boot Camp** | University of Adelaide | 2020  
Portfolio: <https://kneema.github.io/20200418updatedprofile/>  
Github: <https://github.com/kneema>

**M.B.A, Executive MBA**|University of Adelaide, Adelaide, Australia | 2018  
**M.B.A, Summer Program** | European Business School, Oestrich-Winkel, Germany |

**Lean Six Sigma Black belt** | Executive Education, University of Adelaide | 2017

**B. Sc. Chemistry** | Colorado School of Mines, Golden, Colorado USA |2013   
**B. Sc. Engineering** | University of Denver, Denver, Colorado USA |

# Experience

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| **Nov 2019-Current** | **Principal Global Technology Strategy,  BHP**   * Developed concept of Operations for assets and functions that looked at detailed interactions, data, information systems, and hardware connecting organizational systems and teams. * Value chain mapping and development of Process Stream Maps through ARIS and stakeholder engagements. Analysis to define gaps and opportunities for improvement. * Developed Technology Strategy for global BHP, aligned to corporate strategy. * Published documents describing Digital Workforce of the Future, particularly focusing on skills required and road map of actions and tactical plan for the business. * Created new methodologies, evaluation, and analysis for our Technology Radar to assess novel technologies and disruptors that would impact global BHP and down to asset and functional levels. * Assessments with Global Portfolio, Strategy, and Decision evaluation with very specific work on determining Social, Political, Economic, and other impacts that can impact global acquisitions, and direction for the company. |
| **Apr 2019- Nov 2019** | **Integrated Operations Superintendent,  BHP**   * Managing Integrated Operations Analysis and Improvement team, guiding on strategic objectives of the asset and of integrated operations. * Developed integrated logistics systems (changed to SAMS system) and improved service offerings. * Assisted Managers of Asset Integrity, Remediation, Services, Training, Governance and Technical Stewardship, Mods and Small Projects, and the General Manager of Integrated Operations. * Introduced five year plan (5YP) and CAP process flow, methodologies and operational disciplines to newly formed Integrated Operations team. * Guided the Integrated Operations leadership team in decision making, marketing, communications, and logistics areas. * Developed methodologies of communication, ranging from different mediums to also determining different strategies depending on internal and external scenarios. * Worked with Asset projects to develop scope for new BHP village project. Engaging with multiple stakeholders and creating new * Developed Safety teams within Integrated Operations and developed novel reporting linked to event management systems to monitor IO’s weakest areas. * Developed technical teams within Integrated Operations, creating stakeholder engagement, Technical cadences to engage and plan with Long term planning, corporate planning, 5YP, projects and portfolio and Asset leaders. This type of forum didn’t exist previously and still continues in all my previous teams. * Leading water stewardship work for Olympic Dam through previous water ownership in production and through transition of execution and maintenance of water to Integrated Operations. Developed integrations and clarity on area boundaries and limits and developed IO portfolio. * Leading social value work with regards to camps and flights and related interactions for the Olympic Dam workforce including leading Creating Communities work to determine quantitative and qualitative measurements for culture within Olympic Dam. * Organized General Manager’s budgets and approval process, and led the beginning of appraisals for 5YP and 2 year budget (2YB) with portfolio and management teams. |
| **Jun 2017- Apr 2019** | **Production Superintendent/ Technical Services Superintendent,  BHP**   * Managing a variety of strategy focused technical and non-technical analysis and improvement teams in production and tailings; influencing execution superintendents, GMs, and asset plans for uranium, gold, silver and copper production. * Liaising with global and regional stakeholders for CAP cycle (5YP, 2YB) production and operation strategies to develop robust strategies and takeover projects that asset level and MOPs projects were unable to deliver. * Change management and embedment of global programs of work and workshops such as Prime, Value Chain Automation, and BHP Operating Systems. * 6 million year on year improvement to copper quality through Electrowinning dendritic growth review and implementation of lean solution. * Significant process flow improvements to gold room system to capture losses, lost product and reduce duplicated processing streams. * CAPEX & budgeting for the Production teams as well as ownership of the execution team portfolio of Capital Projects for 5 years, and consumable budgeting based on metal unit costs. * Crisis during Smelter Campaign maintenance’s external project caused me to be seconded into a SWAT team as the Lead for SCM Options during the SCM 2017. Completed Executive level reporting and requirements within 3 weeks saving 2 months of extra costs $2 million+ per day due to production being delayed. * Working within inclusion and diversity groups; Indigenous employment group, STEM programs, leadership programs, resilience programs, and graduate leadership programs to support corporate BHP’s vision. * Developed robust water strategy in a short period of time (as I entered the business) to prevent regulatory related production shutdowns due to water. Due to proactive studies and action, risk to production was mitigated and water supply reinstated during high frequency periods. * Robust portfolio developments for high risk production areas in processing; gold room, Electrowinning, hydrometallurgical (Uranium packing), and Tailings. * Tailings risk management work was significant to clarify the major risk to the business and particularly the asset, as well as economic ways to mitigate these risks. The portfolio built out requirements for Evaporation pond development, Tailings retention systems, and governance. * Karst system identification across site and implemented strategies and developed a Stewardship board and Engineer of Record for investigation of these areas as well as clearly developed plan for Tailings and asset structural deficiencies. * EPS (Employee perception results) for the year increased dramatically as one of the clear KPIs for this role was to improve team culture. Upwards of 600% improvement, and improvement across the board for all categories; sustainable engagement, engage, lead change, develop, enable, inclusion index, safety & sustainability, teamwork & trust, performance, and wellbeing. |
| **Jan 2016-Jun 2017** | **Head of Innovation,  General Atomics- Heathgate resources**   * Liaising with global stakeholders in U.S., Dresden, and Australia. * Working with multiple research institutions (Colorado School of Mines, University of Adelaide, University of SA, CSIRO, etc.) to develop strategy and scopes for technical R&D. * Working cross departmentally in various areas to implement novel technology strategies to solve business critical problems. Portfolio capital costs, teams, and projects were lean but implemented using agile and lean principles. * Cost efficiencies developed through Oculus Rift modelling of ore bodies, surveying and 3-d modeling through scanning technologies and drones. * Novel equipment and training implementation to be used site wide for functional modelling and review (drones, scanners, industry grade 3-D printers). * Creating communication channels between start-up companies and senior industries to utilize new methods of technological growth (IBM, Orange, GeoSolve, etc.) and executed those solutions for all departments within the company. * Developed and presented innovation developments and recommendations directly to executive leadership (CEO, VPs, President of HGR and president of UIT) of General Atomics. * Worked closely to collaborate with global technical experts to make useful technological transitions for the business and bypass obsolescent trends. |
| **Dec 2015- Jun 2017** | **Chemical and Process Superintendent,  General Atomics- Heathgate Resources**   * Metallurgical balance re-development, review, and production report preparation and review. * Solve complex chemical and geochemical challenges throughout the in-situ wellfield and the production process using kinetic leaching, chemistry, geochemistry, and geophysics. * Utilizing high level thermodynamic and kinetic chemical modelling tools for production forecasting and chemical review of plant and wellfield performance (as well as pilot plants and column leach testing for geochemical feedback). * Allocation and organization of UOC shipment destinations, liaison with General Atomic executives to develop multi-national contracts and develop QA/QC requirements based on penalty limits. |
| **Jun 2015- Dec 2015** | **Chief Chemist,  general Atomics- Heathgate resources**   * Rebuilt laboratory requirements to create a multi-skilled PHD team, turning data into information at a low cost, offering recently graduated PHDs work experience. Upskilled operators and laboratory technicians. * Initiated new column recovery testing regimes and new practices for experimental design/ development for geochemistry and R&D * Developed physical, mathematical, and chemical control measures within the process circuit with QA/QC within the process plant. * Created novel databases, reporting, SWP processes (site-wide) to achieve the most thorough and safe procedures and adhere to regulatory compliances for the business. * Continued review of elution, ion exchange, precipitation, thickeners, iron removal, decant, and waste ponds by managing each project with various technical teams. |
| **Nov 2014- Jun 2015** | **Chemical Engineer/ Senior Metallurgist,  General Atomics- Heathgate resources**   * Set up and execution of testing for new geochemistry from wellfield zones. Purpose was to prove natural attenuation through various geological layers during In-Situ recovery using sulfuric acid and base methodologies for ISR (to regulating bodies). * Prepared lab testing methodologies, iterations, database development, and scheduled deliverables. Project owner and project manager for this initiative. * Result was improved regulatory clearance license and data that supported new wellfield recovery. (Savings of over 40 million in costs for remediation.) * Self-completed review of on-site laboratories determined major flaws in data management, back calculated through chemical testing of products and instrument calibration error which saved legal action, and reputational risk against the company and a total of 30 million in product issues between reported figures. * Complete audit and redevelopment of full site processes and procedures relating to data analytics (non-inline) * Ownership of organizational Metallurgical balance, contributing to financial accounting, planning, and business functions. * Discovered multiple issues with historical product moisture reporting, which led to additional product mass figures, and thus contributing to higher overall production and product to be sold. * Reviewed historical external laboratory results and vetted existing external (BV and ALS) data and proved malpractices, resulting in credit for future external testing, therefore reducing overall costs. * Negotiated and determined best prices for contract partners based on market and relationship to the company, saving several hundreds of thousands of dollars in consultant and external provider fees (BV, ALS, etc.) |
| **Aug 2011- Dec 2013** | **Polymer Researcher,  Colorado School of Mines**   * Researched, synthesized, and tested solar cell polymer; Brush polymer technology using P3HT (Poly 3-hexylthiophene) * Proven efficiency gains compared to standard 20% efficiency of silicon based solar cells as well as thinness to reduce cost of manufacturing. |

# Recognition

* **Finalist Young Achievers**, Premier’s Awards South Australia 2019
* **Named as 40 Under 40**, In Daily 2019
* **Women in Resources National Awards- Winner Exceptional Young Woman in Resources**, Minerals Council of Australia, Rio Tinto and Dyno Nobel 2018
* **Nominated Exceptional Woman in Mining, Australian Institute of Company Directors Scholarship** 2017
* **Nominated Young Woman in Resources Award**, SA Chamber of Mines and Energy 2016
* **“Untapped Potential” Video Series**, Minerals Council of Australia Uranium press tour
* **Witness Nominee**, SA Nuclear Citizens Jury
* **Presenter**, Nexus program
* **Presenter and Host**, STEM Sisters and Misters
* **Golden Key International Honour Society**
* **International Rotary Club Scholarship Winner**
* **Society of Women Engineers and Minority Engineering Program** **Scholarship**
* **Winner of the Susan B. Anthony and Frederick Douglas Award for leadership, philanthropy, and citizenship**
* Vail Valley Institute 17th annual seminar attendee: **China, Friend or Foe** with leading experts and U.S. politicians
* **Vail Valley Foundation Scholarship winner**
* **Published leadership columnist**, AusImm Bulletin, Mining Monthly

# Additional

* Vice President, WIMnet SA
* Treasurer, NPN Network
* Machine Learning for Executives
* Work Health Safety for Managers
* White Card
* Lean Six Sigma Yellow Belt certified
* Lean Six Sigma Green Belt certified
* Lean Six Sigma Black Belt Certified
* Radiation Licenses (handling of radioactive equipment and operating radiation equipment)