Muriel A. Hayden

915 NW 27th St., Corvallis, OR — 682.227.5415 — haydenm@oregonstate.edu — LinkedIn: murielhayden

EDUCATION

Oregon State University — Honors Bachelor of Science, *Mechanical Engineering* **Corvallis, OR**
Expected Graduation March 2019

Trinity Valley School — May 2014

EXPERIENCE

Allegheny Technologies Inc. Specialty Alloys & Components — Albany, OR

ATI Wah Chang is a global manufacturer of high performance materials & components and a market leader in the manufacturing of specialty alloys, which includes titanium-based alloys, nickel-based alloys and superalloys, zirconium and hafnium. ATI's key markets are aerospace & defense, particularly jet engines (over 50% of sales), oil & gas, automotive, electrical energy, and medical.

Process & Product Development Engineering Intern — April 2017 Present

- Teamed with Research & Development and Process & Product Development groups to develop new processes and establish proper equipment to bring new aerospace products into production
- Supported team of multidisciplinary engineers to produce aerospace and defense components which satisfy unique global consumer needs and advance refractory alloy development
- Responsible for bellows assembly redesign and manufacturing of a critical asset on elevated temperature tensile tester
- Developed new inspection procedure for small thruster to standardize inspection of internal throat profile
- Designed/developed and implemented reusable ring-hold fixture to eliminate scrapped material during production
- Presented project status updates and concept recommendations to senior management bi-weekly
- Supported optimized development of groundbreaking aerospace coatings for refractory alloys
- Designed/developed and implemented 3D-printed fixture to reduce operator setup time for elevated tensile tests by 120 minutes per week
- Designed/developed preliminary process to produce refractory alloy flanges
- Designed/developed high-tolerance fixture to aid development of industry and federal standardized shape memory alloy tensile testing

Oregon State Experimental Sounding Rocketry (ESRA) Competition Rocket — Corvallis, OR

Structures & Integration Sub-team | Sponsorship Lead — June 2017 Present

- Responsible for manufacturing and testing the structural components of a rocket designed to launch to an altitude of 30,000 ft.
- Research, manufacture, and test composite layup for nose cone, boat tail, fins, body tubes, bulkheads, and couplers
- Design and manufacture male plug and female mold to use for layup of nose cone
- Team with 18 multidisciplinary engineers to integrate all rocket sub-systems, including payload and avionics
- OSU ESRA Sponsorship Liaison for all sponsorship and external funding exclusive to Oregon State ESRA 2017-18 Team

Dixon Adventure Leadership Institute — Corvallis, OR

Senior Bike Mechanic — January 2015 Present

- Assist over 75 walk-in customers to repair and maintain their bicycles per 4-hour workday.
- Repair an average of 100 bicycles per week.
- Interface with Corvallis community and Oregon State University students to improve bicycle safety
- Collaborate with a team of 4 bike mechanics to maintain a reputable and professional public repair shop

Oregon State Robotic Pentathlete Design Project **Corvallis, OR**

Objective was to build a robot in accordance with the American Society of Mechanical Engineers (ASME) 2017 Student Design Competition: The Robot Pentathlon, for the Fall 2016 Oregon State Design & Manufacturing Process Competition.

Project Manager September 2016 December 2016

— Team lead on 3-person team to design robot "Fe GIANT" capable of competing in five olympic events
— Placed 12th in competition against 32 teams.
— Robot "Iron Giant" Pentathlete placed 3rd in lift competition.
— Placed in four out of five events: sprint, kick, throw, and climb

Bass Operations & Production Company (BOPCO, LP) **Fort Worth, TX**

Summer Office Intern May 2014 September 2014

— Scanned and integrated 300,100' velum rolls into digital system, then rolled back up within 5-day period
— Filed 190 Logs into preexisting system and tagged with API stickers coded with digital system
— Burned over 100 CDs in 2 days and logged into Excel program
— Overviewed and organized the work on a permit map by creating 500+ informational permit, drilling, completion, and SWD flags to represent important wells in the Poker Lake/Big Eddy area
— Initialized process of refiling the entire Texas Mud Log system consisting of over 21,000 folders for ease of use and efficiency
— Worked alongside Geologists and Petroleum engineers to review and improve upon current gas and oil drilling technology in the Permian and Delaware Basins through more efficient documentation

SKILLS

Applications: SolidWorks, MATLAB, JAVA, R, JGrasp, VBA, Fibersim, Adobe Photoshop, Lightroom, PTGUI

Languages: Conversational French, Fluent in English

Additional: Refractory Alloy Fabrication Processes, Additive Manufacturing, Composite Layup, Machining, and Woodworking experience, Collegiate Rocketry Competition experience, Healthcare Provider First Aid/CPR Certification.

LEADERSHIP & INVOLVEMENT

Structures & Integration; OSU Experimental Sounding Rocketry Association (ESRA)	2015-Present
Oregon State University Chapter, American Institute of Aeronautics & Astronautics (AIAA)	2014-Present
Sponsorship Chair and Liaison for all AIAA Senior Capstone Projects	2017-Present
Propulsion and Launch Systems; OSU Experimental Sounding Rocketry Association (ESRA)	2015-2016
French Club President; Trinity Valley School	2013-2014
Varsity Volleyball Senior Captain; Trinity Valley School	2013-2014

COMMUNITY SERVICE

Be Bright, Be Seen

- A public cooperation between the Corvallis Fire, Police, and Transportation Departments, and the OSU ALI Bike Shop
- Recently established community outreach program to promote safety and awareness for users of alternative transportation in Corvallis and Albany, OR

Trojan Outdoor Experience (T.O.E.)

- Logged over 100 hours of volunteer time leading outdoor trips
- Led 108 seventh-graders up 5 separate rock climbs at Enchanted Rock State Park
- Belayed and led 98 fifth-graders up 7 different rock climbs at Mineral Wells State Park
- Directed the setup of 5 separate climbs

REFERENCES

Brian Van Doren
Senior Technical Fellow
ATI Specialty Alloys & Components
Brian.VanDoren@ATImetals.com
541.926.4211 ext. 6154

Nancy Squires
Senior Instructor
Faculty Advisor of OSU AIAA
squiresn@engr.orst.edu
541.737.2337

Sheila Evans
ALI Instructor & Coordinator
Dixon Adventure Leadership
sheila.evans@oregonstate.edu
541.737.6833