

Paul Tallon

MATERIALS ENGINEER · M.A.Sc

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30 Forensic Engineering

July 19, 2018

40 UNIVERSITY AV
TORONTO, ON M5J 1T1

Cover Letter: Engineering Technologist

To Whom it May Concern,

About Me

My name is Paul Tallon and I would like to take this opportunity to explain my history in materials engineering and apply for a position at 30 Forensic Engineering. Firstly, a position at 30 Forensic Engineering is an exceptional opportunity for an aspiring materials engineer, and specifically I believe my academic and industrial experience align with your company.

I am a recent graduate from the accelerated M.A.Sc program in Materials Science and Engineering at McMaster University with a total of three years of industrial experience. In this program I completed course requirements and a thesis project on an *intelligent design of powder metallurgy steel in efforts to increase hardenability*, being the first graduate student to complete this program in only twelve months. Furthermore, I was able to publish and present three papers in the POWDERMET2018 conference in San Antonio this year, and one in 2017.

My undergraduate degree was also in Materials Science Engineering and Society at McMaster. I completed a full year of Co-Op experience and a minor in business. The working year I experienced was in Fort McMurray, Alberta at Suncor Inc. where I worked in the quality assurance department on tracking and investigating many failures throughout plant operations. This resulted in the opportunity to gain many certifications including API 571 Failure Mechanisms, and a rare opportunity to present my work to the GM's of Suncor Inc.

On my return to school I continued on the metallurgical track of materials engineering, founding a popular blacksmith club that focused on forging, casting and failure analysis. This club allowed me to further my knowledge of metallic materials, specifically aluminium, brass and high strength steels. This club has been successful in producing a blade for the TMS Bladesmithing Competition, which occurs every two years. It has also given me exceptional time in the laboratory completing many different tests.

In my final year capstone project I was paired with a team of undergraduate students and worked tirelessly on a feasibility study on a new stainless steel material for automotive exhaust systems. In this 8-month project I quickly became a leader for the group in corrosion testing that included acid condensation testing, high temperature oxidation and potentiodynamic testing. Through this project I furthered my knowledge on the corrosion characteristics, and different methods of destructive and non-destructive material analysis. This study resulted in securing 100,000 dollars for the continuation of the project.

The rare opportunity at 30 Forensic Engineering is one I could not pass up. My attention to detail and hard work has been shown and proven through extracurricular activities, being the top performer in a prestigious accelerated school program and being recognized during industrial experience for excellence. I am jumping at the opportunity to use my experience in materials engineering, and academic knowledge, in a diverse and intelligent team of professionals. More information on myself, the many projects I have been apart of, papers I have published and work examples can be seen at paultallon.com.

Warmest Regards,

Paul Tallon

Attached: Curriculum Vitae

Paul Tallon

MATERIALS ENGINEER · RESEARCH AND EXPERIMENTATION EXPERT

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"A hard-working and enthusiastic professional, well-versed in the study of material science and engineering with three years of industrial experience."

Highlights of Qualifications

- Positive and has a great interpersonal skills to effectively work with a variety of people as proven through many successful group projects
- Accelerated M.A.Sc fuelled a well read student on material science and engineering concepts, specifically the field of metallurgy
- Extracurricular activities further added to skills in material selection and design, along with heat treating and production techniques of PM and wrought steels
- Industrial experience has lead to excellent skills in critically defining and assessing responses to problematic situations
- Experienced using Microsoft Word, Excel, PowerPoint, has a large professional knowledge of SAP, with skills in Matlab, Python, LaTeX, Minitab, AutoCAD and Simulation software, namely StelCal and ANSYS

Education

McMaster University

Hamilton Ontario

ACCELERATED MASTERS OF APPLIED SCIENCE - MATERIALS SCIENCE AND ENGINEERING

May 2017-2018

- First student in the materials engineering department to successfully defend thesis in only twelve months
- Research involved hands on experimentation with PM steel manufacturing in order to intelligently design a high hardenable PM Steel resulting in three publications in POWDERMET2018
- Able to hold academic discussions while working closely with Dr. Dmitri Malakhov on experimental design and research topics
- Completed requirements while taking courses in Scanning Electron Microscopy and Advanced Finite Element Analysis using ANSYS

McMaster University

Hamilton Ontario

Co-OP DESIGNATED B.ENG IN MATERIALS SCIENCE AND ENGINEERING AND SOCIETY - MINOR IN BUSINESS

September 2011-2017

- Focused in metallurgy, thermodynamic processes and materials characterization, production and design
- Experience in the creation of different phases in steel, aluminum as well as nanomaterial synthesis
- Final capstone project in partnership with Arcanum and Tenneco on a new stainless steel material for exhaust systems
- Successfully achieved and acceded during twelve month work term at Suncor Inc. Fort McMurray AB
- Completed requirements for a minor in business from the DeGroote School of Business to gain an understanding of work environments, business frameworks and employer/employee relationships

Relevant Experience

DURING GRADUATE DEGREE

Graduate Student Researcher

Hamilton, Ontario

Intelligent Design of Lean High-Strength Ferrous Powder Metallurgy Alloys

ADVISOR: DR. DMITRI MALAKHOV

September 2016 - May 2018

- Worked alongside a professor and masters student in collaboration with Stackpole International
- Added specific academic knowledge by the continuous study of academic journals pertaining to the research topic
- Familiarized with industrial techniques in PM Steel production by spending a significant amount of time at Stackpole International using different methods and equipment to characterize metal powders
- Produced ferrous powder metal blends, and fully sintered and heat treated PM Steel following industrial processes
- Continued testing of PM greenbody's and fully sintered and heat treated steels at McMaster University
- Efforts produced four papers and conference talks at POWDERMET 2017/2018 in Las Vegas and San Antonio

DURING UNDERGRADUATE DEGREE

Failure Analysis Metallurgical Engineering Co-op

Fort McMurray, Alberta

MATERIALS ENGINEERING CO-OP STUDENT

May 2013 - May 2014

- 1 of 5 chosen out of 100 co-op students to present work term to the GM's of Suncor Energy, showing my work and skills stood above that was expected
- Provided day-to-day metallurgical support to manager, engineers and EIT's
 - Lab work for Metallurgical and Microbiological/DNA analyses
 - Advanced NDT projects in the field, as well as managed different teams of workers in the field
 - Wide variety of metallurgical projects, as well as co-ordinated in the field
- Performed metallurgical failure analysis on failed equipment/piping/fittings
- Gained a strong foundation of understanding the industry and the role materials play within it
- Worked extensively with SAP, excel database and created macros for efficient inspection management systems

Additional Professional Experience

Bartender and Assistant Brewer

Hamilton, Ontario

FAIRWEATHER BREWING COMPANY

January 2018 - Present

- Offered opportunity through home-brewing experience and genuine qualities
- Express excellent customer service skills while serving drinks and food to customers
- Able to convey a high level knowledge concerning beer production and tasting notes

Teaching Assistant

Hamilton, Ontario

Fourth Year Materials Sustainable Manufacturing Processes

TWO SCHOOL TERMS

September 2016 - January 2018

- Produced lesson plans and taught core concepts in tutorial as well as to other teaching assistants
- Helped in teaching the core concepts, including sustainable development, materials cycles, methods for measuring environmental impact, life cycle analysis, waste treatment and recycling technologies
- Marked assignments and tests fairly without bias, as well as held office hours weekly
- Prepared feedback for the course instructor on ways to improve for the following year
- Organized time schedule to keep up with the fast pace of an accelerated masters degree, undergraduate courses, and teaching assistant duties

Extracurricular Activity

McMaster's MacSmiths Leader

McMaster University

STUDENT RUN, WORKING WITH MCMASTER UNIVERSITY MATERIALS DEPARTMENT

December 2016 - Present

- Helped found and lead a group of 8 materials engineering students to manufacture a forge and compete in the TMS bladesmithing competition
- Increased knowledge on ferrous material design and analysis
- Expanded leadership and teamworking qualities
- This goal included the following tasks:
 - Design, analysis and fabrication of a working furnace to safely reach temperatures above 1100C
 - Material selection and design of blade: 4340 300M Tanto blade
 - Experimental design to find proper heat treatment for a design hardness profile on blade followed by final manufacturing
 - Competition against 32 other schools across Europe and North America

Certifications

CCEM	Scanning Electron Microscopy , Certified to safely and efficiently operate the JOEL 6610LV SEM	Sept-2017
Höganäs	Höganäs PM School , Course on PM Production, properties and characterization, pressing, sintering and secondary operations as well as PM properties and testing methods	Sept-2016
HS	Defensive Driving , Certified to safely operate vehicle around campus	Sept-2015
CASTI	API RP 571 , CASTI certified from 4 day course on API 571 Failure Mechanisms	Dec-2014
Bear Scare	Bear Awareness and Safety , Certified to work outside in operations with wilderness hazards	Sept-2014

References

AVAILABLE UPON REQUEST