

Short Personal Statement by a Geology Student

Growing up in Canada with a life-long fascination for Canadian geography, I have always been interested in returning to the country. Although my family moved to the US before I entered high school, I have always kept my eyes turned north, especially in recent years as I began to read journal articles about research conducted on John Evans Glacier, located about 80° N latitude. Graduating next semester with a B.S. in computer science and engineering and a minor in geographic information systems, I am interested in attending the University of Alberta for graduate study.

Geographic information systems (GIS) is a field especially suited to investigating spatial patterns, modeling diverse scenarios, and overlaying spatial data. This semester, in my advanced GIS course, Spatial Data Structures and Algorithms, I am part of a team developing a temporal database and program for tracing historical trading data. My computer science skills have also been put to use in two summer internship projects, where I acquired proficiency with using LIDAR (light detection and ranging) technology, now favored by NASA in its current 10-year study of Greenland and changes in the ice cap extent. Through my coursework and project experience, I have also accrued skills in using Arc/Info, ArcView, Microstation, and RDBMS software packages, and I am equally comfortable programming in Visual Basic, C++, and Java.

For my graduate research project, I would like to investigate methods for improving current GIS data models to better incorporate time as a variable in studying climate change. Changes in glaciers and polar environments occur rapidly, and these changes become important indicators of broader, potentially catastrophic, global changes. By developing and applying temporal GIS methods to glaciology, I can contribute to improved spatio-temporal analysis techniques for studying the polar environment and glaciers. Also, I can discern which temporal methods serve as the best predictors and provide benefits to the GIS research community that apply to areas other than glaciology.

My long-term goals are to enter the GIS field as a consultant or to extend my research and earn my Ph.D. at a program of international reputation. Having advanced experience with temporal GIS technology would make me a valuable consultant to a company, especially in the twin burgeoning fields of computer science and GIS.

In applying to the University of Alberta, I recognize your strengths in both computer science and glaciology, and the recent application of these areas to field research at Ellesmere Island in Nunavut, Canada, is especially appealing to me. With my deep-rooted interest in Canadian geology and recognition of the quality of your university programs, I hope you will give my application every consideration.

Short Personal Statement by a Paleontology Student

From an early age I was fascinated with fossils. My respect for ancient life has always included an admitted partiality for the study of vertebrates. Upon taking my first college-level paleontology class I knew without a doubt that I had chosen the right path. The study of fossils has never felt like unwarranted labor, but an opportunity to learn about these creatures that lived so long before our time. Throughout my geology coursework my ears have always pricked up at the mention of the word fossil. My college education has been a means to entering the study of vertebrate paleontology.

Naturally when the time to choose a thesis project came, I made sure that I would do mine in the field of paleontology, working directly with fossil specimens. My project involves the taphonomy, stratigraphy, and identification of a middle-Ordovician coral bioherm as well as its bryozoan constituents. The research is now well under way, involving many aspects of a sound paleontological study: sampling, analysis, identification, and finalization into a report. Fossiliferous rock samples were acquired from the field, cut at proper orientations, polished, and peel section slides produced from them. My analysis of these slides led to identification of the specimens utilizing the established literature. Fossil specimen photography will soon follow. The abstract from this research project has been submitted in time for the Northeastern Section Meeting of the Geological Society of America in March. From this project I will take away an understanding of how to conduct a proper paleontological study and I will write a thesis.

My aspirations for study in vertebrate paleontology are primarily in understanding what fossil specimens can tell us about how ancient vertebrates lived, interacted with their environment, and evolved through time. More specifically, my research interests within the field include employing morphology in the phylogenetic analysis of major evolutionary bifurcations such as that involving theropods and birds, exploiting biogeography to better understand vertebrate expansion and speciation, and the use of functional morphology and biomechanics to understand vertebrate movement. My long-term goals are to educate others and spur interest in vertebrate paleontology while conducting research. The position of professor would encompass these goals as well as allow me to publish and maintain a successful presence in the field.

The program at the University of Chicago would prepare me extremely well for what I ultimately intend to do in life. The works of professors within the Division of Biological Sciences, the Department of Geophysical Sciences, as well as the Field Museum are impressive. I appreciated meeting Dr. Paul C. Sereno during his visit at Mythic University in December 2004, and I find his approach toward exploration and his application of cladistics in phylogenetic studies indispensable to the field of vertebrate paleontological study. From this correspondence I feel the research that I would conduct at the university would not only be interesting and rewarding, but give me experience in the field to then apply toward my ultimate goal of becoming an academic professor.

Short Internship Application Essay by a Geography Student

Prior to coming to Mythic College, I had a very skewed view of what geography was. When I thought about geography, visions of memorizing all fifty state capitals and exercises of filling in the world map came to mind. Freshman year, I enrolled in Geography 20 (human geography) simply because it was the only honors class that fit in my schedule. Instead of being bored, I was stimulated to think of the world through a different focus, through the lens of a geographer: to view people and places and examine how each relates to the other. Suddenly, I was thinking of everything in this fashion. When walking to class, I would ponder why the paths were designed the way they were and how this affected the different flows of traffic. I found that geography addresses my varied academic interests well. It offers me a balance of physical, social, and cultural studies. Therefore, it was a natural progression for me to pursue geography as a major.

Throughout my geography experience at Mythic College, I have gained skill in Geographic Information Sciences, which has given me great insight in many fields. For one, I obtained a greater understanding of how the US Census is calculated and this enabled me to be a more informed enumerator. Now, I find myself completely captivated by the various elements of geography and how they all are interwoven in a nexus of relations with historical, economic, physical, social, and cultural nodes. For my Honors Thesis next year, I will be exploring the Rothschild family to see how they fit within these various geographic realms. I am fascinated by how this family began as foreigners and within a few years was able to build a banking empire and become leaders in the economic world. As part of my thesis research, I intend to travel to the various cities where they lived and make observations on both economic and social grounds.

After I complete my undergraduate education in geography, I hope to work for an organization that incorporates geographical education and exploration. I hope to be able to write articles and essays that would be used to increase geographical awareness as well as educate people about lesser-known cultures in the world. I also intend on participating in the Peace Corps and speculate about earning a law degree.

I wish to participate in the Geography Intern Program with the National Geographic Society because, in short, it would be the fulfillment of my dream. It would enable me to work in an environment with people who share similar interests, providing me with an opportunity to contribute to a product that reaches a broad audience of people who subscribe to the magazine, visit Explorer's Hall, or glance through a National Geographic book. It would provide me with the practical experience that would aid me tremendously in pursuing my future goals, and reveal paths I might otherwise never discover.

Short Fellowships Application Essay by a Materials Science Student

As a master's student, I am currently working in the Materials Research Laboratory (MRL) in the Ferroelectrics group spearheaded by Dr. John Teacher. In my research group, we are attempting to design microwave-active materials to facilitate the procurement of a low-powered miniaturized solid-state antenna. I am personally interested in what role highly polarizable ions in the prototypical Perovskite-type crystal structures can play in tunable microwave antennas. Barium Strontium Titanium Oxide (BSTO) in tandem with non-electrical oxides has recently been used in phase array antennas. The addition of non-electrical oxides, for example, magnesium oxide (MgO), has improved the tunability and adjustable electrical properties of the BSTO over wider ranges, as well as improved the impedance matching of the antenna/air interface. Empirical studies suggest that doping BSTO with MgO lowers the impedance by lowering the permittivity of the composite, in turn lowering the insertion losses over appreciable ranges of microwave frequencies. With the aid of the materials science graduate fellowship, I would like to develop this technology and apply it to the miniaturization of solid-state low-powered antennas in my Ph.D. graduate study.

In my previous work experience at the Space and Naval Warfare System Centers San Diego (SSC-SD), I worked side by side with engineers to design innovative communication devices for the Navy. In particular, requirements relating to interoperability, transmission security, and multifunctionality were approached in several ways as teams brainstormed concepts. Based on this experience, my interest in telecommunications and data transmission, coupled with my background in engineering, will provide me with the tools necessary to address tomorrow's communications issues.

Mythic University is a strong research institution with talented faculty and state-of-the-art facilities. My familiarity with Mythic University's faculty and facilities allows me to avoid many of the pitfalls commonly associated with getting a Ph.D. My current lab and the Department of Electrical Engineering have several professors who have overlapping interests, with graduate students often using equipment in both labs freely. This is exactly the type of environment where I can easily merge the two disciplines.

In the long run, I want to be as versed in electrical engineering as I am in materials science so that I can contribute to a research and manufacturing facility in the areas of communication and related fields. This desire comes with precedence: I can remember junior year attending one of my first major courses taught by my current mentor, where he suggested that a ceramist should also be versed in electrical engineering in order to be effective. The seeds planted then are now ready to bloom.

Short Personal Statement by a Student Applying to the Teach for America Program

Why do you seek to join Teach For America?

One of the principles of my religion, The Bahá'í Faith, is service. Therefore, after high school and before I started college, I traveled to Ecuador to do a year of service through the Bahá'í Faith. Through this experience, when I entered college I felt a few years older than the average freshman because I had gained a great deal of the knowledge, life experience, ability to deal with difficult situations, and the ability to live alone in another country. I owe much of my success in college to that year of my life.

Now that my undergraduate education is coming to a close, I explored the idea of going to another country again. Then I realized how much service was also needed in the United States. I realized that I could use my skills of a second language, Spanish, my teaching experience, my love for math and science, and my drive to serve and make a difference right here in my own country. Skills are only of benefit if you put them to use to help all of humanity. I would love to join Teach For America to put into practice my skills and help to motivate and inspire the same thirst for knowledge that was instilled in me through my parents from the time I was born.

What would make you an effective corps member?

I strongly believe that one of the most important elements for the academic success of any child comes directly from the involvement and enthusiasm of the parents. In San Joaquin, Ecuador, I taught Virtues Classes at a school of all boys from grades kindergarten through 7th grade for 9 months. During this time I not only had to learn a completely new language, but I also had to use it to teach coherently in a short period of time.

As part of my work, my teaching partner and I developed a program for the parents of the children in our classes. We invited all the parents to learn about the principles we were teaching their children such as honesty, generosity, justice, and kindness. I gained a great deal of experience dealing with uninvolved or upset parents. Based on these experiences, I believe I would be most useful in an area with a high Latino population because of my ability to communicate directly with the parents in either English or Spanish.

I am a very outgoing and self-motivated person and have no trouble stepping into difficult situations to help mediate them. I believe that we need to give children of every race, cultural, and socioeconomic background the opportunity to grow up with an education. I promote the need to value education and put energy into making it fun. I welcome the opportunity to facilitate a positive learning environment and communicate with students and parents in two languages. As I graduate college, the best way for me to put into practice the principles that I uphold is to serve as a teacher in the Teach for America program.

Short Personal Statement by a Neuroscience Student—2 pages

Personal Statement
Janet Lerner

I sat in Dr. Wiley's lab at the University of Pittsburgh, poring over files of records about HIV-infected human brains from which we had tissue samples. I had just learned how to read the autopsy reports, looking for key words and descriptive phrases the doctors had written that might disqualify the samples as potential candidates for our study. We were looking for HIV-positive human brain tissue samples that either had been diagnosed as having HIV encephalitis or not having encephalitis (to be used as a control). My objective was to find samples that had HIV encephalitis, but no other complicating disorders such as cytomegalovirus, bacterial infection, or meningitis. This was a more difficult task than one would perceive because the HIV infection often leads to the development of opportunistic infections that would not normally be of concern in patients without HIV.

As I sifted through one manila folder after another, entering data into an Excel spreadsheet, I became aware of the fact that many of the brains we had were from patients who were only a few years older than I. I was twenty years old at the time, and after having to repeatedly enter "19" or "23" into the Age column, I began to realize that AIDS had literally taken these peoples' lives. I could not even imagine what it would be like to be 17 years old knowing that I had a fatal disease. They would never be able to have the career of their dreams, go on a trip to Italy, or graduate from college. Life was taken from them before they fully experienced it.

The above summer internship inspired me to want to help people with fatal diseases such as AIDS. More specifically, I knew I wanted to conduct research on the molecular basis of disease. One of the projects I worked on during that summer was developing a diagnostic procedure for HIV encephalitis using PK11195, a ligand for the peripheral benzodiazepine receptor present on the mitochondria of macrophages. The fundamental design of the experiment and its applicability to human disease left me intrigued. From then on, I wanted to attend graduate school so I could have the opportunity to better peoples' lives through research as a biomedical scientist. After consideration, I realized that I am interested in taking more than one approach to answer scientific questions. Many fields of science interest me, including immunology, biochemistry, genetics, and pathology. I have always been extremely fascinated by the nervous system and its vital link to human disease. Having had three research experiences as an undergraduate, I feel prepared and excited to begin my path of research and study. Thus, I am applying to the Graduate Training Program in Neuroscience at the University of Pennsylvania because it is an interdisciplinary program that would allow me to serve people through biomedical research and help me achieve my goals.

Penn's graduate program in neuroscience is one of the most prestigious in the world. As the home to many of the greatest researchers in the field, Penn's educational opportunities would meet my greatest expectations. The research done by Dr. Robert Doms, who is currently investigating the cellular biology of membrane proteins involved in Alzheimer's disease pathogenesis, is of particular interest to me. My experiences using molecular biological techniques to study intracellular protein localization make his approach very appealing. I am specifically interested in studying the γ -secretase complex and its effects on the amyloid precursor protein (APP). Dr. Doms' research has the potential to help millions of people with Alzheimer's disease, and I would welcome the opportunity to work with him.

Beyond my desire to attend Penn for academic reasons, Penn also appeals to me on a personal level. After spending four years in the rural setting of Mythic College, I am ready to live in a new, urban setting. Living in Philadelphia would be perfect for me because it would allow me to experience life in a major city while still in reach of my family's home in Reading. I would be very excited to be surrounded by the academically and culturally rich environment at UPenn, and I hope to have the opportunity to do so.

Short Personal Statement by a Student in Medieval Literature—2 pages

Medieval literature is a passion that has enveloped me since I read Chrétien de Troyes' *Lancelot* during my freshman year. In this Arthurian romance, Chrétien represents Lancelot as conflicted—a chivalrous knight whom one expects to find only in myth, yet in violation of the code of honor, desirous of his lord's queen. I began thinking of the tales of the Arthurian knights as more than legendary—as potentially credible historical accounts. Soon, I wrote a paper on Gawain's rhetoric as a means to elicit specific responses in *Sir Gawain and the Green Knight*. Gawain's rhetorical strategies and their manipulations ultimately lead him to a deeper personal recognition and self-acceptance. This early exercise alerted me to the pleasures of working with languages of the Middle Ages.

My academic interest in Celtic Studies was piqued when I learned of Ogam stones in my Literature in the Natural World class. Ogam is not a spoken language, rather, a code of inscriptions that gave the Irish language an alphabet and supplied the Irish people with a means of writing on stone, wood, and other natural elements with relative ease. Ogam is also found in many manuscripts, where it is both written and read in a manner different from that employed when it is found on stones. As an aspiring academic in Medieval Literature, I recognize that knowledge of the literature of medieval cultures is vitally important. Irish literature, including Ogam inscriptions and manuscripts, is therefore essential to a medieval scholar. The Frenchman Gregory of Tours said of the humanities in medieval Europe, "Culture and education are dying out in every city in Gaul . . . People often complain 'Alas for our times, literacy is dying among us.'" While Gregory's testimony may have been true for much of Europe, where culture floundered in the midst of war, he neglected to speak of Ireland, the country where literature and language flourished during this era and later became known as the "Land of Saints and Scholars." Three of the most impressive medieval manuscripts were created in Ireland: *The Gospels of St. Willibrord*, which is on display in the Bibliothèque Nationale in Paris, *The Book of Kells*, and *The Book of Durrow*, both of which are displayed in Trinity University's Library.

Last May I had the pleasure of meeting with Professor Damian McManus, head of Trinity University's School of Irish, who presented me with a copy of his book *A Guide to Ogam*. I met with him to discuss the graduate opportunities available in Old and Middle Irish Language and Literature at Trinity University. Dr. McManus has many research initiatives, although these are open only to students who have previously worked with Early Irish studies. During our meeting, he suggested that I first conduct my studies with Dr. Kim McCone at the National University of Ireland at Maynooth, and then return to Trinity where I can further pursue a research degree under his guidance. After obtaining the necessary fundamentals of Old and Middle Irish language, I will be better equipped to study Ogam stones and to read the inscriptions, which would enable me to study another field of academia: epigraphy.

The National University of Ireland at Maynooth provides the opportunity to create one's own program. This would best prepare me for future graduate research in Ogam stones and would allow me to enhance my knowledge of medieval writings by including both Irish literature and the English, French, and Latin literature that compose much of the western medieval canon. Professor McCone, whom Dr. McManus regards as one of the "finest scholars in the field of Early Irish," is the head of NUI Maynooth's Department of Old and Middle Irish, and personally helps international students to construct a program to suit their needs during their study in Ireland.

In order to prepare myself for Ogam studies with Dr. McManus, I plan to complete a one-year program of study leading to an M.A. in Old and Middle Irish Studies, which would consist of the standard canon of Medieval Irish Literature, Old and Middle Irish language, and a class devoted to the women of Medieval Ireland. This class specifically catches my interest because a study of medieval women is integral to a full understanding of the Middle Ages, as many Irish scholars were monks, living in monastic settlements such as Clonmacnois and Glendalough, where women were forbidden. That NUI Maynooth offers a class devoted to medieval women—often prohibited from studying at these monastic centers of education—exhibits the department's intent in providing students with a balanced history of Ireland's Middle Ages. There is no doubt that Ireland's wealth of medieval literature boasts women writers comparable to Marie de France, whose "Lanval" was the first piece of medieval literature written by a woman that I studied.

While attending university in Maynooth and learning the early Irish language, I would also have the invaluable opportunity of learning from my distant cousin, who resides in Maynooth. She has taught modern Irish in schools for years and would tutor me in modern Irish language while I study Old and Middle Irish with Dr. McCone. This unique prospect would allow me to study the development of Irish from its beginnings to its modern form, a development which I am currently studying in an Honors English seminar on the history of the English language. Because I am now tracing the development of English, I will already have many of the skills necessary to study the evolution of the Irish language.

Clearly the journey of a young scholar is more complete with an understanding of other cultures, specifically those relevant to the student's chosen field of study. I look forward, therefore, to studying the ancient, medieval, and modern ideas and languages of Ireland in situ. *Is d'Éirinn mé.*

Short Personal Statement by a Student in Education Seeking a Scholarship—2 pages

Beinecke Scholarship Personal Essay
by Janet Lerner

Passion drips from the lips of the preacher at the pulpit. Passion shakes on the shoulders of the general during war. Passion clings to the moist brow of the attorney during a heated courtroom debate. The passions of others, like lawyer and activist Thurgood Marshall, have opened doors for me as an African-American woman. I am grateful for Marshall's work over 50 years after the Brown vs. Board of Education decision, which pushed racial integration in schools and defended the concept that "separate was inherently unequal." The devotion of others has inspired and humbled me, and it is with this same passion that I honor education and service to others today.

My passion for education is steeped in the notion that I believe it literally saved my life in the form of opportunities that took me out of an unsafe environment. Growing up on the south side of Chicago in one of the city's worst neighborhoods was difficult, and I understand now it could have been much worse. Gangs had a wealth of power, drugs permeated the streets, and young girls were cautioned to watch for "Stranger Danger." I could not play outside, so instead I read. I made friends with Alice in Wonderland, or Huck on the Mississippi, Pip in England, and John Steptoe's "Black Cinderella"—Nyasha in Zimbabwe. My mother, seeing the passion for knowledge in me as a young child, enrolled me in a magnet elementary school on the other side of Chicago, to which I would ride the bus for two hours a day. There I flourished and soon I was recruited to test for entrance into the Pre-International Baccalaureate Program, a curriculum that prepared gifted and talented students for the International Baccalaureate Program in high school. I had been given an opportunity to pursue a high quality education in a public school, a chance some African-Americans, in their devotion, had died for to guarantee.

The passion I have to serve others has its roots in my high school experience, during which I noticed some pivotal points of interest. At my high school, African-American students composed a small percentage of those placed in gifted education, with most students being labeled "regular education students," who were poor pupils from the area's housing projects. They had fewer resources and opportunities to pursue college preparatory work when compared to their white or wealthier counterparts, and it was no secret that the "regular" kids were at the bottom of the totem pole. It became clear to me as I listened to others berate them that they were not expected to go on to college. As an African-American student in a gifted program, I had access to a wealth of resources. I felt angered that my peers were excluded from the smorgasbord of knowledge, which many others were encouraged to partake in freely. It was the first time I was mature enough to see the inequities of education, my prized and valued yellow brick road. Passion to enact change welled in my stomach and stayed there.

As a beginning college student at rural Mythic University I continued to experience injustice. Professors seemed surprised at my academic abilities, students questioned my worth by muttering “affirmative action” under their breaths, and white people openly stared at my brown skin on the street. My passion for change had no choice but to evolve into action. I joined professional organizations like the College of Education Student Council to voice my concerns, and I formed a new organization, the Multicultural Education Student Association, when they were not addressed. Through this organization I was able to form support groups with other students and mentor first-year students of color in the college.

As my education progressed, I decided to fight injustice intellectually in the study of the politics, economics, and sociology of education, which revealed the reasons why and how disparities occurred in education and society. In my senior year, I will explore these disparities in my honors thesis research, which focuses on the ability of students of color and low socio-economic backgrounds to transition from community college to four-year institutions. Research-based evidence is a powerful tool to enact change, and I look forward to gathering this evidence during an upcoming summer internship, during which I will interview students of color about their experiences.

Currently I challenge myself socially by removing myself from comfort zones. An example of such is my study abroad experience to occur in the fall semester, 20xx. I have committed to completing my student teaching requirement at Bognor-Regis University, on the southern coast of England, amidst a culture of people I have never been exposed to, thousands of miles from home. Despite some admitted nervousness over the challenge of this experience, my passion for success drives me to overcome any obstacle and achieve success in every area I venture.

My graduate school experience will be used to seek out knowledge (for which my thirst can never be quenched) and for research. My research interests include studying factors that affect equal access to educational resources for students of color in grades K-12 and equality of student access to higher education. These interests will guide the creation of projects that will lead to real-life applications. I will also pursue a master’s degree, then a doctorate in Public Policy with a concentration in education and urban planning. My long-term goal of becoming a policy analyst for the government’s Department of Education would give me the opportunity to help develop effective public policy in these areas of interest.

W.E.B. Dubois said that a “talented tenth” of educated African-Americans could go forth to enact social change for the oppressed. I believe I am a living example of Dubois’ passion-filled dream. My passion has given me the power to propel that social change in an often unjust society. For all of those denied opportunity I want many more to receive it. If awarded the Beinecke Scholarship I would use this support to explore, research, and contribute treasures to the field, valuable not only for their intellectual depth, but also because of their social implications for a better society and America.

Short Personal Statement by a Student Applying for Online Education—2 pages

In my work as an Air Force pilot during the seven years since graduating college, I've continually found ways to show how the tools of a professional geographer can be used to help my organization do its job better. My experiences in combat since the fall of 20xx have only reinforced this assertion.

A revolution, driven by information, is underway in war fighting. The ability to collect and analyze information is as important to today's soldier as mass and maneuver was to Clausewitz. Battlespace situational awareness and the subsequent ability to shape the battlespace is an intrinsically geographic problem. During WW I, observers in hot air balloons and biplanes hand-sketched the location of enemy emplacements. That 'eye-in-the-sky' evolved into modern satellite imagery and signals intelligence. Historically, the wealth of collected data has been diminished by the time and expertise necessary to analyze it and the organizational stovepipes through which it was disseminated.

In contrast, Operation Enduring Freedom saw the first use of real-time sensor-to-shooter links over the mountains of Afghanistan. Unmanned USAF Predator aircraft, hosting a suite of multi-spectral sensors, were deployed to loiter over and survey areas of enemy activity. Decision-makers and front-line operators used those dynamic images to swiftly identify and attack the enemy. During Operation Iraqi Freedom, the National Geospatial-Intelligence Agency (NGA), for the first time, deployed personnel to front-line units. NGA teams' know-how and communication suites allowed combat commanders to reach back and exploit all of the agency's spatial data and technical expertise. Commenting on this theme in NGA's *Pathfinder* magazine, Major General Roger Over states, "That's exactly what I wanted, but I didn't know that until you showed me."

As a geographer, I understand that our community views problem-solving through a unique lens. GIS gives the professional geographer powerful tools to collect, analyze, and exploit spatial information. Unfortunately, many leaders and decision-makers are unaware of the speed and flexibility the geographer can bring to problem solving.

I've served as an Air Force pilot for the past six years and have logged several hundred combat hours during operations in Southwest Asia. I've experienced first-hand the power of well-applied spatial data in battle. During mission planning for a flight to a hostile dirt landing zone in southern Afghanistan, I used NIMA's computerized fly-by products to familiarize my crew with the area. Squadron tacticians merged our planned route and altitudes with images based on DTED and satellite data. These images gave me the invaluable experience of, virtually, having been there before. Later in the same mission, adverse weather blocked our planned route of flight. Using his onboard laptop, my navigator overlaid the day's air coordination plan depicting air refueling tracks and combat 'kill-boxes' with a tactical chart of the area. We safely avoided those danger zones and successfully completed the mission.

My expertise in flying, particularly airlift operations, puts me in a position to appreciate both the support our mission receives from geographers today and to envision the possibilities that exist through technical advances and more flexible organizational collaboration. I think that the most significant roadblocks to realizing these possibilities are fiscal constraints and ignorance within my own professional community about what the professional geographer brings to the fight. Personally, I can do little to affect Congressional funding. However, my military experience, wedded with a more advanced background in GIS, would help me to bridge the military and geo-spatial communities.

GIS and the geographers' approach to problem solving promises decision makers, at all levels, unprecedented situational awareness across any layer of the battlespace. I don't expect the military to begin training squadrons of GIS wizards. However, it's become increasingly important that a broader cross-section of people within our force understands how individual pieces of the puzzle can benefit from the geographer's tools.

That message can be delivered through cooperation among agencies like the Air Force's Air University, the Air Mobility Warfare Center, the NGA, and Mythic University's e-Education Institute. I imagine a 'geoinfo-awareness' course for officers attending Army Command and General Staff college or the Air Force Weapons Instructor school, proctored by a capabilities expert from NGA, and hosted on-line by our own geography department. The on-line format would allow an infinitely customizable curriculum outlaying the power of filtering information and solving problems within a spatial context. Moreover, the on-line forum, unconstrained by classroom space or time zones, would both enable and encourage professional collaboration across the military's often rigid organizational and functional lines. That kind of collaboration, linked with an awareness of capabilities, yields success when the ever-changing demands of conflict require innovative solutions.

I've articulated my professional motivation and logic for pursuing an on-line MGIS degree through Mythic University's innovative program. More personally, I'm excited to find this opportunity to become a more expert geographer while continuing my active duty military service. My experience as an Air Force pilot has been both enriching and adventurous, but I miss the intellectual challenges I faced as an undergrad. I see unlimited opportunities to put my professional experience and academic interest to good use, and the MGIS program promises a means to do so.

Short Personal Statement by an Engineer Applying to a Master's Program—2 pages

As General Manager, I am currently the head of safety and health for a multi-national industrial minerals mining company. A tour of a meat packaging plant as a teenager, and the many hazards that required control within that environment, solidified my decision to become a safety and health professional. During that tour, I witnessed workers using large knives while preparing the meat for packing, unguarded rotating machinery, the cattle being euthanized with loud bolt guns, and was shown pictures of worker injuries by the safety and health manager. Motivated by that early experience, I have remained strongly committed to this profession for years and I derive great satisfaction from facilitating improvement within the construction, industrial, and mining environments and protecting miners.

Seven years after graduating from the Safety Engineering Technology program at Mythic College, a member of Polytechnics Canada, I began the process of becoming a Certified Safety Professional. This endeavor involved a two-year concerted effort of balancing study and work. During late 20xx, I earned the Certified Safety Professional designation from the Board of Certified Safety Professionals. Since then, I have maintained my designation through earning sufficient continuance of certification points by attending and presenting at national professional conferences, such as those sponsored by the Society for Mining and Metallurgical Engineering and the American Industrial Hygiene Association.

Evidence of my ability to solve problems and think “outside the box” may be found in my initiation of formal research projects with engineers and scientists from the National Institute for Occupational Safety and Health (NIOSH). During 20xx, I initiated a seven-year research project with NIOSH which culminated in the development of a quick, safe, and effective technology that allows workers at mineral processing operations to clean their dust-soiled clothing periodically throughout the workday. A former Bureau of Mines report documented a 10-fold increase in worker dust exposure on a number of separate occasions from dusty work clothes.¹ This technology, referred to as the “clothes cleaning booth,” can significantly reduce worker exposure to dust and is gaining traction within the mining and industrial industries.

Since 20xx I have also initiated NIOSH studies involving ergonomic interventions and Age Awareness Training. The objective of the Age Awareness Training is to increase worker awareness regarding physical and mental changes associated with the aging process – the more aware workers are of these changes, the better equipped they are to avoid injury and illness. Most recently, I have initiated a project with NIOSH with the objective of merging real-time aerosol monitor data with web cam videos for the development of state of the art training materials. My intent is for the training materials to visually quantify how small changes in work practices can significantly impact personal exposure levels to dust. The objective of this research and development project is to lower worker exposures to respirable dust.

¹ Cecala, A.B. & E. D. Thimons. Impact of Background Sources on Dust Exposure of Bag Machine Operator. BuMines IC 9089, 1986, 10 pp.

During my career as a safety professional, I have gained extensive experience evaluating personal workplace exposures to potential toxic materials, to include development of control measures as needed. The potential toxins I have evaluated and controlled have included quartz, cristobalite, asbestos, diesel particulate matter, welding fumes, and radiation. Other physical hazards I have often evaluated and controlled include noise, heat, cold, and illumination. I have also managed an extensive occupational health program for approximately 3,000 miners as well as developed and managed a robust internet-based safety and health data management program which is used on a daily basis by our mining operations globally.

I am a strong believer in continuous improvement, both within the working environment and professionally. My professional development converts directly into improvement of the working environment which translates directly into safer and healthier miners. Attaining a Master of Science degree in Industrial Hygiene from Montana Tech is the next step in my professional development process. My two primary reasons for continuing to advance my professional development are (a) to prepare myself to become a Certified Industrial Hygienist, and (b) to improve my ability to quickly and effectively identify and control hazards.

Achieving an MS in Industrial Hygiene from Montana Tech would most certainly derive benefit for me and the workers I endeavor to protect. If admitted, as I have effectively demonstrated in attaining my Certified Safety Professional designation, I would successfully balance work and studies and eventually become a graduate Montana Tech would be proud to call one of its own.