**Statement of Interest**

**David Vasquez**

I am writing about my interest in pursuing graduate study in the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University. My long term goal is to become a tenure track Professor engaged in research and instruction. Upon finishing my master’s degree my goal is to immediately move into a PhD program. Currently, I am working as a Software Engineer and gained my master’s degree in Radiation Health Physics where I was engaged in research as part of a Nuclear Regulatory Commission Grant. I have also worked as an Instructor at both Oregon State University and Linn Benton Community College.

**Skills Sets**

I am interested in bringing my experience in physics and computational research methodology to the College. My master’s thesis in the College of Engineering involved developing algorithms to model the behavior of radiogenic isotopes. I worked in a laboratory setting to gather the data needed for my research. My professional work experience at both OSU and Cambia Health involved working with and analyzing large data sets. This experience includes utilizing Python, Java, JavaScript, Git, MySQL and a number of other tools and languages.

**Research**

I have been interested in pursuing graduate study in the College of Earth, Ocean, and Atmospheric Sciences for a number of years and have spoken too many of the faculty about their research. From speaking with faculty and exploring my own interests I feel I would do the best in the Physical Oceanography or Geology and Geophysics disciplines. Not only am I fascinated by the research conducted I also find the research methodology to be interesting and closely aligned with my background and long term research goals.

I am particularly interested in the paleoclimate research being conducted in the Geology and Geophysics program. The work being done in the Ice Core and Quaternary Geochemistry Lab by Professors like Ed Brook seems both fascinating and challenging. I am also interested in the work being conducted in the Keck Collaboratory for Plasma Spectrometry. I was particularly interested in the research conducted by Julie Pett-Ridge and Alyssa Shiel. I found their research had a lot of similarities to what I was engaged in while working on my graduate degree.

The other area of research that I am fascinated by and feel my background would allow me to be useful in is Physical Oceanography. I saw a posting for a Computational Physical Oceanography Assistant Professor position in the College and this is the type of position I would hope to end up in. I reached out and met up with Professor

I am numerical modeling and instrumentation development.

I have also reached out and spoken to faculty in the Physical Oceanography discipline like Professor O'Neill. I am interested in research involving numerical modeling and also research that utilizes innovative methods like Professor Nash’s use of ROSS.

My goal is to utilize my statistical, computational and physics skills while working to develop my own research questions and bridge these with funding opportunities. I did this during the second year of my master’s degree when I co-authored an additional grant that was awarded on top of our Nuclear Regulatory funding.

I realize my background is rather unique but

but am confident that I will be most effective as a researcher in a field I am fascinated by. In closing, I would just like to reiterate how honored and excited I would be to join the College. I would plan to be an active and engaged member of the College getting to know the other faculty, staff and graduate students and hopefully laying the foundations for a career as a leading researcher.

**OLD**

A lot of the research and methodology in the Geology and Geophysics seemed very similar to my research.

I feel that one of my strengths and passions is utilizing computational methods to solve complex programs. My professional experience as a Software Engineer has also helped me to develop my abilities to work with complex systems and learn large code bases rapidly.

The two main sub disciplines I am interested in include Physical Oceanography and Geology and Geophysics.

feel that my background would translate well to my interest in the Physical Oceanography or Geophysics Disciplines.

What draws me particularly to Physical Oceanography is the mathematical and numerical approaches needed to develop models of the relationships across both time and spatial scales. I love working with large data sets, developing and utilizing algorithms to solve problems and simplifying the complex.

While I would be thrilled to work with any of the faculty there are a few whose research interests align well with my background and passions. I am particularly interested in developing innovative computational tools and data assimilative methods to a range of data types and temporal and spatial scales.

**Conclusion**

While my background is a bit unique I feel that my unique experiences will really help me as a researcher. However, gaining a PhD is about.

I know that I would be so excited to be able to start in the Fall of 2019. Even though graduate school is challenging I miss being a graduate student and around research.

I wanted to briefly address how my unique background led me to my interest in Oceanography.

**MATERIAL**

**Research**

During my master’s thesis in the College of Engineering I worked in a laboratory setting gathering extensive data from radiogenic isotopes. I then built upon this data and previous research to develop computational models of radioactive decay and its spectroscopic output. Most of the research conducted in the CEOAS utilizes stable isotopes but I feel my experience working with complex scientific equipment would translate over well.

**Computational**

I am particularly interested in utilizing physics-based computational methods to solve complex problems. I am particularly interested in.

**Research Lab Based**

**Research Interests**

I am particularly fascinated by research conducted in the artic regions. I have reached out and met with a number of faculty in the College and from speaking with them am most interested in pursuing a focus on the Physics of Oceans.

The other specialization that stands out to me is Geology and GeoPhysics.

OSU Ice Core and Quaternary Geochemistry Lab

**PAST**

Please upload a PDF of your Statement as it’s a lot easier to read than the webworm-feed on this end. You can do this in the ‘additional documents’ segment of the web app. Keep your **Statement of Interest** brief—one page is best. It should be approached as an exchange of benefits—what you bring to us, what you expect to have gained when you graduate.

a.      Think “skill sets”. Use direct examples of past research.

b.      Show familiarity with what research faculty are actually doing here at OSU/CEOAS.

c.       Name specific names or research areas you’d be interested in working with/within.

d.      Mention your larger goal in the context of graduate education, if you know that at this point.

e.      Shortcomings in scores or term-GPAs can and should be addressed/acknowledged in the Statement.

**What I bring them**

**What I hope to gain**

**Questions to Answer**

a. Think “skill sets”. Use direct examples of past research.

b. Show familiarity with what research faculty are actually doing here at OSU/CEOAS.

c. Name specific names or research areas you’d be interested in working with/within.

d. Mention your larger goal in the context of graduate education, if you know that at this point.

e. Shortcomings in scores or term-GPAs can and should be addressed/acknowledged in the Statement.

**Research**

My background is rather unique but in my future research I hope to build on some of the research, work and academic experience I have. From speaking with CEOAS faculty and from my own interests I am most interested in the subdisciplines Geology and Geophysics and Physical Oceanography. While my background is unique I feel that my background in physics and mathematics would allow me to excel the most in these. I also think that my previous research and work experience would allow me to be useful right away.

In the sub discipline of geology and geophysics I am incredible fascinated by the paleoclimate research being conducted.

Finally I am also attracted by certain research methodologies for instance.

* Computational
* Isotopic

Physical

* numerical modelling and techniques
* instrumentation development

I am attracted to a number

Fisheries Oceanography Information System

**My Interest in Oceanography Research**

I recently just finished reading the Golden Compass and fell in love with the fascinating and complex world of scientists and explorers. When I realized I wanted to pursue becoming a Professor the research in The College of Earth, Ocean, and Atmospheric Sciences immediately stood out to me. I began to meet with faculty including Kim Bernard, Tuba Ozkan-Haller and Larry O'Neill and was struck by their kindness and was fascinated by the research they were engaged in.

Through their guidance and my background I realized Physical Oceanography would be the strongest fit for my background.

When I realized that I wanted to pursue becoming a Professor I began to explore what research interested me. I knew I wanted to include computational methods and physics into my research. and I began meeting with faculty like. Through them and my own research I realized that this was an exciting field with a major impact.

In the College I am interested in

**Skill Sets**

I realize how important it would be for me to make the most of my time in the college and I hope to actively engage in research and fill in the areas of my background that are lacking. I will briefly discuss the skills I feel I could bring that would make me useful right away to my graduate adviser.

As far as quantitative skills I already have a research based master’s degree where I conducted research into and designed radiation detection software. I am currently working as a Software Engineer and have experience utilizing Python, C, Java, R, JavaScript, Git and a number of other languages and frameworks. My research involved statistical analysis in order to develop models of the spectroscopic output of radioactive decay of select isotopes. I also recently took Statistics 511 and 512 at OSU.

As far as

My goal is to leverage the areas of my background in research methodology, computational methods and statistics.

There are a number of skills I would be able to bring to the University.

* Soft Skills
  + Passion
  + Ability to work independently
  + Communication
    - Instructor
  + Project and Time Management
    - MBA
* Hard Skills
  + Data Analysis and Large Data sets
    - Novel ways to process and handle data
  + Statistical skills
    - RHP Thesis
* Simplifying large data sets
  + Cambia
  + Transportation Services
  + Student Life
* Background
  + MS
  + MBA
  + Software Engineer
  + TA and Instructor
* Personal
  + Get involved in College

Being an instructor has allowed me to think more deeply about subject matter and returning as a student I feel I will be able to do better.

My goals for attending include

**Goals**

* Goal Timeline
  + MS
    - Summer
    - Year 1
    - Year 2
  + PhD
  + Post Doc
  + Assistant Professor

Become an intergral member of the college (PhD, Post Doc or Professor)

Focus

My background reflects a first generation college student with little guidance.

**Long Term Goals**

My long term goal is to become a tenure track Professor. I realize that to pursue this goal I must be focused and productive from the very start of my master’s degree. My hope is that by the end of my degree I have engaged in research, have found research I can carry forward into a PhD and have worked as a co-author on a publication or multiple publications. I also hope to actively look at potential funding to apply to on my own as I have already co-authored and was awarded a research grant.

* Goals
  + Publication
  + Research
  + My Own Research Lab

My short term goal would be to gain my master’s degree and become an integral member of the college.

My career path would be to hopefully gain my master’s degree and move immediately into a PhD program. After this I would pursue a post-doc or a position as an entry level professor.

If selected my plan would be to spend the summer beginning research, literature review and prepping my background for the courses I would be taking the first year of my degree.

I realize my background is rather unique and if selected to start my master’s I would plan to stop my current job in June and spend full time in Corvallis beginning my research.

Some strengths I bring include recently completing Statistics 511 and Statistics 512.

I realize coming in that I will have some work to catch up. While I hope to avoid this I have done this before including my current role as a software engineer and teaching radiation biology.

**Skills**