**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.

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 and used this to develop software. My professional work experience at both OSU and Cambia Health involved working with and analyzing large data sets. In all of these positions I have utilized a range of statistical methods and recently completed both Stats 511 and Stats 512 at OSU. I know I would have a lot to learn over the course of my master’s but feel these skills could help me to be useful right away.

There is a lot of research I find fascinating in the College of Earth, Ocean, and Atmospheric Sciences and this is what drew me to pursue my graduate education here. I am particularly drawn to paleoclimate research, arctic based research and physical oceanography. My hope is that I can leverage my background and engage in research that has a computational and statistical focus. For instance, I am interested in developing modeling tools that might bring in aspects of artificial intelligence or machine learning.

One of the disciplines that really stands out to me is the Physical Oceanography discipline. I reached out and spoke with a number of faculty including Professor O'Neill and am really drawn to the field. I feel my background and future research goals align well with research conducted by the Ocean Mixing Group and also the Coastal Ocean Modeling and Data Assimilation Group. I also would love to be involved with some of the innovative research methods used like ROSS.

The other discipline that stands out to me is the Geology and Geophysics discipline. I am particularly interested in the paleoclimate research being conducted in the Ice Core and Quaternary Geochemistry Lab by Professors like Ed Brook. I am also interested in the work being conducted in the Keck Collaboratory for Plasma Spectrometry. In that lab 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.

I have a lot of goals that I hope to accomplish while seeking my master’s degree including clearly defining my research, working towards publishing and being involved in grant writing. I realize my background is rather unique but hope these skills could be useful as I gain a deeper understanding in the College. During my first master’s degree I went from limited knowledge to developing software, completing a thesis, working as a teaching assistant and Instructor and co-authoring a grant. I hope to be able to accomplish even more then this if selected as a student to start this Fall of 2019. I also hope to get involved in the College, make friends and enjoy my time as a graduate student.

**http://mixing.coas.oregonstate.edu/people/**

http://blogs.oregonstate.edu/paleo/themes/

**Physics of Oceans and Atmospheres**

Professor David Noone

Professor Roger Samelson

Professor James Moum

Professor Jonathan Nash

Associate Professor Kipp Shearman

Associate Professor Emily Shroyer

Assistant Professor Larry O'Neill

Assistant Professor Jennifer Hutchings

**Geology and Geophysics**

Professor Ed Brook

Professor Joseph Stoner

Professor Peter Clark

Assistant Professor Jessica Creveling

Assistant Professor Alyssa Shiel

**Ocean Ecology and Biogeochemistry**

Professor Lorenzo Ciannelli

Professor Philip Mote

Professor Alan C. Mix

Associate Professor Brian Haley

Assistant Professor Kim Bernard

Assistant Professor Jennifer McKay

Assistant Professor Jennifer Fehrenbacher

I spoke with Professor O'Neill and am really interested in the numerical modeling and instrumentation development utilized in their research. 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 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.