

CELESTINO VELÁSQUEZ, PH.D.

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EDUCATION

Ph.D. in Integrative Molecular Biology

June 2017

Advisor: Patrick S. Moore, MD, MPH, Member of the U.S. National Academy of Sciences

Dissertation Title: Viral Regulation of Cap-Dependent mRNA Translation Inhibitor 4E-BP1 During Mitosis

Department of Microbiology and Molecular Genetics

University of Pittsburgh, Pittsburgh, PA

Relevant Coursework: Foundations of Biomedical Science (Biochemistry, Molecular Biology, Pharmacology, and Cell Biology), Molecular Virology, Experimental Virology, Tumor Virology, Biostatistics, Scientific Ethics, and Scientific Writing

B.S. in Biomedical Chemistry

May 2013

Minors in Biology and General Business, *Summa Cum Laude*

Oral Roberts University, Tulsa, OK

Relevant Coursework: Biochemistry, Recombinant DNA Technology, Methods in Biotechnology, Genetics, Ecology, Organic Chemistry, Synthesis/Medicinal Chemistry, Chemical Instrumentation, Quantitative Analysis, Physical Chemistry, Calculus II, and Physics

Associate of Arts

May 2010

Highest Honors

Tarrant County College, Fort Worth, TX

Relevant Coursework: Introductory Biology, General Chemistry, Calculus I

TEACHING & ADVISING EXPERIENCE

Assistant Professor of Biology

August 2017 - Present

Oral Roberts University, Department of Biology and Chemistry

- Teach lecture and laboratory courses in Developmental Biology, Medical Genetics, Introductory Biology for Science Majors, and Principles of Biology for Non-Science Majors
- Teach laboratory courses in Methods in Biotechnology and Microbiology for Biology and Nursing Majors
- Supervise senior paper research and advise biology majors on degree course planning

Graduate Program Representative

August 2013 - June 2017

University of Pittsburgh, Program in Integrative Molecular Biology and Systems Biology

- Assisted graduate program directors/coordinators with graduate student recruitment and event planning

Teaching Assistant

August 2011 - May 2013

Oral Roberts University, Department of Biology & Chemistry

- Assisted professors in General Chemistry I & II and Organic Chemistry I & II laboratories
- Collected IR and NMR spectra for compound identification in the organic chemistry laboratory
- Taught a weekly two-hour review session on topics covered during organic chemistry I & II lectures

Chemistry Tutor

August 2012 - May 2013

American Chemical Society - Oral Roberts University Local Chapter

- Tutored students on a walk-in basis in the American Chemical Society office every week

Academic Peer Advisor

August 2012 - May 2013

Oral Roberts University, Academic Peer Advisor Program

- Provided leadership over academics on dormitory floors

Math and Science Supervisor

February 2008 - July 2008

Ruach International Christian School, Comayagua, Honduras

- Supervised honors Algebra 1 & 2 and Precalculus high school students
- Tutored students in high school biology, chemistry, and physics and revised their academic work

RESEARCH EXPERIENCE**Graduate Student Researcher****December 2013 - June 2017***University of Pittsburgh Cancer Institute, Department of Microbiology and Molecular Genetics*

- Investigated the regulation of mRNA translation/protein synthesis during mitosis in cancer cells
- Contributed to two peer-reviewed publications (first and second author) in the high-profile PNAS journal
- Presented research findings at departmental, local, and international scientific meetings and conferences
- Communicated research findings on a regular basis to lab members, committee members, and classmates
- Maintained laboratory centrifuge equipment and prepared reagents for common laboratory use
- Areas of expertise: molecular biology, cell biology, tumor/cancer virology, biochemistry

Undergraduate Researcher**August 2011 - May 2013***Oral Roberts University, Department of Biology & Chemistry*

- Single-handedly tested a new microwave reactor to synthesize organic compounds for a green laboratory
- Calculated the predicted vibrational frequencies and IR and Raman spectra of various organic molecules
- Determined the liquid components within glowsticks using IR, NMR, and UV-Vis spectrometry and HPLC
- Identified phenol, *m*-xylene, and pyridine peaks within cigarette smoke samples using gas chromatography

EXTRACURRICULAR EXPERIENCE**Consultant****October 2015 - June 2017***Fourth River Solutions, Pittsburgh, PA*

- Provided non-profit consulting engagements to local start-up technology companies
- Performed market analyses, composed reports, and presented deliverables with consultant team members

Head Team Leader**August 2011 - May 2013***Oral Roberts University, Missions & Outreach*

- Led a team of Spanish-speaking students that served weekly at the Good Samaritan Mobile Medical Clinic
- Translated for medical doctors attending to non-English-speaking Hispanic patients
- Took vital signs, measured weight, performed glucose tests, and collected patient intake information

Representative, Multi-Ethnic and Cultural Relations Committee Chair**August 2010 - May 2011***Oral Roberts University, Student Association General Assembly*

- Co-authored proposals to increase international student representation and involvement
- Reviewed *Who's Who Among Students* and graduation speech applications with faculty members

Office Assistant**August 2010 - May 2011***Oral Roberts University, Hispanic Center and Student Development*

- Researched and compiled an extensive list of academic scholarships for Hispanic Americans
- Translated English documents to Spanish and delivered interdepartmental mail

PROFESSIONAL PRESENTATIONS

- Oral Presentation at the International DNA Tumour Virus Meeting in Montreal, Canada, 2016
- Oral Presentation at the Molecular Genetics & Developmental Biology, Cell Biology & Molecular Physiology, and Integrative Systems Biology Programs Retreat, University of Pittsburgh, 2017
- Oral Presentations at the Bridgeside Research Forum, Department of Microbiology and Molecular Genetics, University of Pittsburgh, 2015 - 2017
- Oral Presentation at the Integrative Systems Biology Symposium, University of Pittsburgh, 2015
- Poster Presentation at the Integrative Systems Biology Symposium, University of Pittsburgh, 2017
- Poster Presentations at the University of Pittsburgh Cancer Institute Scientific Retreat and University of Pittsburgh Science Conference, 2014 - 2016
- Poster Presentations at the Pentasectional Meeting of the American Chemical Society, Tulsa, OK, 2013

PEER-REVIEWED PUBLICATIONS

- Velásquez C**, Amako Y, Harold A, Toptan T, Chang Y, Shuda M. *Characterization of a Merkel Cell Polyomavirus-Positive Merkel Cell Carcinoma Cell Line CVG-1*. Front Microbiol. 2018 Apr 11
- Velásquez C**, Cheng E, Shuda M, Lee-Oesterreich PJ, Pogge von Strandmann L, Gritsenko MA, Jacobs JM, Moore PS, Chang Y. *Mitotic protein kinase CDK1 phosphorylation of mRNA translation regulator 4E-BP1 Ser83 may contribute to cell transformation*. Proc Natl Acad Sci U S A. 2016 Jul 26
- Shuda M, **Velásquez C**, Cheng E, Cordek DG, Kwun HJ, Chang Y, Moore PS. *CDK1 substitutes for mTOR kinase to activate mitotic cap-dependent protein translation*. Proc Natl Acad Sci U S A. 2015 May 12

MEMBERSHIPS

- Faculty Advisor, Tri Beta National Biological Honor Society, Mu Kappa Chapter, 2017-present
- Vice-president, American Chemical Society, Oral Roberts University Local Chapter, 2012 - 2013
- Local member (2010 - 2013) and national member (2011 - 2013) of the American Chemical Society
- National member of the American Scientific Affiliation, 2011 - 2013

TECHNICAL SKILLS

- **Education:** Completed Lynda.com technology training coursework in instructional design
- **Computer:** Proficient in MS Office Word, Excel, PowerPoint, and EndNote; Mac & PC operating systems
- **Cell Biology:** Mammalian cell and tissue culture, cell isolation from tumor biopsies, transient transfection, lentivirus production and transduction, drug treatment, cell cycle synchronization, cell proliferation, cell transformation, fluorescence microscopy, flow cytometry, CRISPR/Cas9 genome editing
- **Protein:** 1D/2D SDS-PAGE, Coomassie blue staining, Western blotting, immunoprecipitation, pull-down assays, phosphorylation and dephosphorylation assays, protein overexpression/purification from bacteria
- **DNA:** Molecular cloning, plasmid and genomic DNA purification/isolation, PCR, site-directed mutagenesis

HONORS & AWARDS

- Student Spotlight Award, University of Pittsburgh Biomedical Graduate Student Association, Fall 2016
- Outstanding Chemistry Student, Oral Roberts University, Class of 2013
- President's Honor List, Oral Roberts University, 2010 - 2012
- 94th percentile on the ACS Standardized Exam in Organic Chemistry, Spring 2011
- Whole Person Full-Tuition Scholarship, Oral Roberts University, 2010 - 2013
- Highest Honors, Tarrant County College, Class of 2010
- Dean's List, Tarrant County College, 2008 - 2010
- Who's Who Among Students in American Universities and Colleges, Spring 2010
- Datatel Scholars Foundation Scholarship, 2009 - 2010

REFERENCES

Patrick S. Moore, MD, MPH

Distinguished Professor
Department of Microbiology & Molecular Genetics
University of Pittsburgh Cancer Institute
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Joel Gaikwad, PhD

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Hal Reed, PhD

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