Devon Grad

111 Sunny Lane, Davis, California 95616
(530) 123-4567 ▪ devongrad@ymail.com ▪ www.linkedin.com/in/devongrad

OBJECTIVE: Research Associate/Senior Research Associate Position

SUMMARY

More than 13 years of research experience including extensive experience in cellular immunology, oncology and microbiology. Experience with *in vivo* models, animal handling experimentation and dissection. Experience in biological and biochemical assay development, molecular biology and gene expression profiling. Skilled in monoclonal antibody generation against structural activity regions of protein targets. Key strengths in the design and construction of gene reporter and protein expression systems, as well as biochemical structure-function analyses.

EDUCATION

M.S. Microbiology, UC Davis, (March 20xx)
M.S. Environmental Engineering, UC Davis, March 20xx
B.S. Molecular Cellular Developmental Biology, UC Santa Cruz, June 19xx

RESEARCH/PROFESSIONAL EXPERIENCE

University of California, Davis 9/20xx-Present
Teaching Assistant (10/20xx-present)
Departments of Civil and Environmental Engineering and Microbiology (10/2010-Present)

- Lead course discussions and laboratory sections in Microbiology and Engineering.
- Assist students in writing engineering design reports and developing experimental design plans for laboratory projects.

Staff Research Associate 2 (9/20xx-11/20xx)
Department of Civil and Environmental Engineering, supervisor: Dr. Adam Smith

- Constructed a universal GFP reporter system for quantitatively monitoring bacterial horizontal gene transfer (HGT) *in situ* using Epi fluorescence, confocal microscopy and flow cytometry as specific readouts.
- Validated reporter system in multiple gram negative bacteria for quantifying rates of HGT under various environmental conditions.

Graduate Student Researcher: (9/20xx-9/20xx)
Microbiology Graduate Group, supervisor: Dr. Adam Smith

- Designed and constructed an experimental system using confocal microscopy for generating quantitative *in situ* real time data of bacterial horizontal gene transfer kinetics in simulated aquatic environments.
- Conducted numerical analyses of data sets for establishing governing equations of mathematical model focused on quantifying rates and distribution of bacterial HGT processes in aquatic systems.
- Ran simulations of mathematical model and provided support for modeling team.
- Profiled metabolic processes of mixed bacterial populations from wastewater during the production of natural-product biological plastics using degenerate primer designs for profiling gene regulation and using GC/MS for profiling changes in intracellular metabolic intermediates.

- Served as research advisor for undergraduate student research group competing in the US EPA people prosperity and planet (P3) design competition for sustainability. Title: *Production of natural plastics in wastewater treatment*. **Awarded first place grant in 20XX for phase one design.**

Dynavax Technologies, Berkeley, CA 8/20xx-9/20xx
Research Associate 3

- Developed functional bioassays using monocytes and monocyte-derived macrophages for characterizing a small-molecule modulator of toll-like receptor signaling (TLRs) in cell types from human, mouse and diseased tissues.
- Evaluated functional readouts of biological responses using flow cytometry, ELISA, and gene expression profiling, to evaluate changes in NFKß signaling under inflammatory responses.
- Developed primary lymphocyte bioassays for screening novel structured oligo-nucleotides as modulators of innate immune responses.

DNAX Research Institute, Palo Alto, CA 1/19xx-8/20xx
Research Associate 2 (9/20xx-8/20xx)

- Developed a biochemical assay for high throughput screening of small-molecule inhibitors against Chk-1 kinase as combination cancer therapeutics with DNA damaging agents.
- Identified lead candidate molecule through biochemical validation *in vitro*.
- Validated therapeutic efficacy of lead candidate molecule in developed bioassay systems and compared to gene knockouts with siRNA using Western blotting, gene expression profiling, and flow cytometry.
- Scaled-up protein expression of Chk-1 kinase production for large-scale high throughput screening.
- Worked with medicinal chemist in identifying novel structural activity regions (SARs) against Chk-1 target protein.
- Generated monoclonal antibodies against specific SARs of Chk-1.
- Characterized anti-Chk-1 antibodies *in vitro* and in biological assays.

Research Associate 1 (2/19xx-9/20xx)

- Developed osteoclast differentiation bioassay from primary lymphocytes for studying the role of RankL in osteoporosis.
- Characterized and screened anti-RankL monoclonal antibodies for antagonist behavior against RankL target.
- Validated binding efficacies of lead candidate anti-RankL antibodies with primary T cells and BAF/3: -human *fas* recombinant cell lines using flow cytometry and colorimetric readouts.
- Identified lead candidate anti-RankL monoclonal antibody for further development.
- Developed biological assays for studying the role of plasmacytoid dendritic cells in driving the differentiation of Th1 and Th2 cells in adaptive immune response.
- Conducted protein and gene expression profiling of biological markers, up and down-regulated during Th1 and Th2 differentiation during adaptive and innate immune responses.
- Assayed the effects of novel factors (e.g. IL-25, IL-23) on T cell development for further biological characterization by establishing primary lymphocyte bioassays.
- Participated in running *in vivo* animal models of various T-cell mediated immunological diseases.

University of California, Santa Cruz 6/19xx-11/19xx
Junior Specialist Researcher (6/19xx-11/19xx)
Molecular Biology Department supervisor: Dr. Edith Jones

- *In vitro* purification, quantification and biochemical analysis of H19 ribonucleic particle (RNP) complex.
- Purified protein complexes and identified novel protein species.
- Performed structural analysis of the protein/RNA complexes and protein sequences to identify associated structures of H19 RNP.

Senior Thesis Research (6/19xx-6/19xx)

- Conducted an independent research project using deletion restriction mapping analysis to determine the minimal functional domains of the H19 transcript.
- Developed functional assay for testing tumor suppressor activity of H19 RNA, evaluating the effects of various truncated and modified copies of H19 RNA in developed clonogenicity tumor assay as a specific readout.

CERTIFICATES

State of California, Engineer in training (EIT), issued: January 20xx, (no. EIT 000000)
American Association of Immunologist; (AAI) Advanced Course in Immunology, Stanford University, July 20xx

PRESENTATIONS

List relevant presentations

PUBLICATIONS

List relevant publications

MEMBERSHIPS

American Society for Microbiology (ASM)
International Water Association (IWA) Young Water Professionals