

Subodh Rajesh Selukar

rselukar.biostats@gmail.com (919) 800-1384 [Personal Webpage](#)

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EDUCATION

University of Washington

Doctor of Philosophy - *Biostatistics*

Advisors: Susanne May & Megan Othus

Seattle, WA

Expected: September 2021

University of North Carolina

Bachelor of Science in Public Health - *Biostatistics*

Bachelor of Science - *Biology, Quantitative Track*

Graduated with Highest Distinction & Highest Honors

Honors Thesis Title: *Assessing the Relationship Between Measures of Pain Sensitivity and Chronic Pain Conditions Comorbid with TMD: The OPPERA Case-Control Study*

Chapel Hill, NC

May 2016

North Carolina State University

Non-Degree Studies - Courses in Mathematics

Raleigh, NC

August 2010-August 2011

RESEARCH INTERESTS

My methodological interests lie in the design, conduct and analysis of randomized controlled trials, and my substantive interests involve broad applications of statistics to the treatment and prevention of cancer. Currently, I aim to improve statistical methodology for the study of long-term survivors in trials with time-to-event endpoints and for the design and analysis of N-of-1 trials. I also enjoy studying topics that touch on these areas such as missing and longitudinal data.

RESEARCH EXPERIENCE

University of Washington, Data Coordinating Center

Research Assistant

Seattle, WA

September 2016-Present

- Assist in the American Trial Using Tranexamic Acid in Thrombocytopenia (A-TREAT) supervised by Principal Investigators Scott Emerson and Susanne May
- Drafted the Statistical Analysis Plan (SAP) and developed R code to execute it
- Provided support for the Steering Committee by producing reports on subject health and site monitoring
- Produce figures for data visualization using R for the Steering Committee and study manuscripts

Amgen, Center for Design & Analysis

Graduate Intern

Thousand Oaks, CA

June 2020-September 2020

- Survey the literature of oncology trials assessing combination therapies
- Study adaptive design for factorial trials via simulation in R, especially evaluating the impact of unblinded modification to the sampling plan on key trial operating characteristics
- Propose recommendations for efficient trial design of oncology trials studying combination therapies in an intramural presentation

Extramural Consulting

The Mountain-Whisper-Light Statistics

Seattle, WA

January 2020-Present

- Support the design of a clinical study assessing the safety and efficacy of autologous T cells for B cell lymphoma in dogs
- Performed power calculations for Mechanistic Studies of Nicotinamide Riboside in Human Heart Failure
- Assessed the utility of field sobriety tests on subjects with low breath alcohol levels based on multiple law cases

- Revised a manuscript on the efficacy of Modified Burow's solution over Surolan for Canine otitis externa
- Critiqued the statistical aspects of the defense in a civil suit concerning a medical device

Jason Johnson Dental Research

October 2019-March 2020

- Supported Jason Johnson's Orthodontics thesis on the effect of temporary anchorage devices on anterior overbite
- Developed and executed an SAP and also produced figures for data visualization in R
- Provided support for manuscript writing

Nanodropper, LLC

July 2019-December 2019

- Designed a clinical trial to assess the efficacy of Nanodropper, an eye medication dropper, against standard of care and drafted the statistical analysis plan to analyze it
- Collaborated on a grant proposal to fund the clinical trial
- Performed power calculations in R to estimate the size of the crossover, non-inferiority trial

University of Washington, Department of Biostatistics

Seattle, WA

Research Assistant

June 2018-March 2019

- Analyzed results from the Synrinse pilot study, working with Dr. Susanne May and Dr. Greg E. Davis
- Produced figures and conducted regression analysis to evaluate relationships between outcomes of interest and treatment variables
- Designed future studies with sample size and power calculations using R

University of North Carolina, Bair Research Group

Chapel Hill, NC

Student Researcher

January 2015-June 2016

- Conducted statistical analysis of data from the Orofacial Pain: Prospective Evaluation and Risk Assessment (OPPERA) study, especially examining the relationship between pain sensitivity and the presence of conditions comorbid to temporomandibular disorders in patients
- Utilized techniques such as multiple linear regression and inverse probability weighted (IPW) regression with R
- Participated in weekly collaborative meetings regarding analysis of OPERA data

REU: Program in High-Performance Computing

Baltimore, MD

Participant

June 2015-August 2015

- Earned certification in High Performance Computing through work in UNIX, C and R
- Collaborated with other students, faculty and graduate students to analyze microarray data from a statistical genomics study on Alzheimer's Disease patients with R using a novel methodology combining dimension reduction and clustering techniques
- Tested the efficacy of the novel methodology against current, prevalent techniques and also determined the biological implications of the above results

University of North Carolina, Ahmed Lab

Chapel Hill, NC

Research Technician

April 2013-December 2014

- Performed genetic analysis on *C. elegans*, focusing on telomere biology
- Designed genetic crosses in order to characterize proteins putatively associated with telomerase and also expanded on these crosses with other approaches such as PCR analysis and fluorescence microscopy
- Applied quantitative techniques such as BLAST and Galaxy tools to assess RNA-Seq data
- Collaborated with graduate students in the lab and trained other undergraduate students

HONORS & AWARDS

Developing Data-Driven Cancer Researchers

September 2018-September 2019

- Trainee on a National Institutes of Health training grant for cancer data-focused research

NIH Cancer Epidemiology and Biostatistics Training Grant

September 2016-June 2018

- Trainee on a National Institutes of Health training grant for conducting cancer research

Honorable Mention: NSF Graduate Research Fellowship Program

April 2016

- Awarded for personal potential for broader impacts in science and for intellectual merit

Phi Beta Kappa

April 2014

- Inducted to UNC's chapter of this national academic honor society

Colonel Robinson Scholar

April 2012

- Winner of a 4-year full-tuition merit scholarship for UNC students

PRESENTATIONS

Extramural

WNAR Annual Meeting

June 2019

Western North America Region of the International Biometric Society

Portland, OR

Subodh Selukar. Platform Trials in Oncology: An Algorithm for Dynamic Balancing with Differing Treatment Eligibility. Oral

Joint Mathematics Meetings

January 2016

Mathematical Association of America

Seattle, WA

Rebecca Rachan, **Subodh Selukar**, Trevor Adriaanse and Meshach Hopkins. Statistical Analysis of a Case-Control Alzheimer's Disease: a Retrospective Approach with Sufficient Dimension Reduction. Poster

Intramural

Biostatistics Student Seminar Series

October 2019

University of Washington, Department of Biostatistics

Seattle, WA

Subodh Selukar, Ernesto Ulloa. Student Experiences as Junior Statisticians. Oral

Biostatistics Student Seminar Series

March 2019

University of Washington, Department of Biostatistics

Seattle, WA

Subodh Selukar. The Biology and Epidemiology of Pancreatic Cancer. Oral

Biostatistics Student Seminar Series

May 2018

University of Washington, Department of Biostatistics

Seattle, WA

Subodh Selukar. An Evaluation of Inferential Procedures for Adaptive Clinical Trial Designs with Pre-specified Rules for Modifying the Sample Size. Oral

Summer Research Poster Event

November 2017

University of Washington, Department of Biostatistics

Seattle, WA

Subodh Selukar. Valid Inference after Exploratory Analyses. Poster

Summer Undergraduate Research Festival

August 2015

University of Maryland, Baltimore County

Baltimore, MD

Trevor Adriaanse, Meshach Hopkins, Rebecca Rachan and **Subodh Selukar**. Statistical Analysis of a Case-Control Alzheimer's Disease: a Retrospective Approach with Sufficient Dimension Reduction. Poster

TEACHING

BIOST 524: Design of Medical Studies

Teaching Assistant

Seattle, WA
March 2020-June 2020

- Provide guest lectures on clinical trial design
- Evaluate final projects and written assignment

BIOST 537: Survival Data Analysis in Epidemiology

Teaching Assistant

Seattle, WA
January 2020-March 2020

- Teach and prepare course materials for lab sections
- Grade homework and exams

BIOST 514: Biostatistics I

Teaching Assistant

Seattle, WA
September 2019-December 2019

- Instruct and create course materials for discussion sections
- Develop solutions and grade homework

BIOST 515: Biostatistics II

Teaching Assistant

Seattle, WA
January 2019-March 2019

- Instructed students during discussion sections regarding regression topics: transformations, clustered data, prediction, under supervision by Dr. Katie Kerr
- Created course materials for discussion sections and supplemental materials

Academic Enrichment Program

Tutor, BIOS 600

Chapel Hill, NC
August 2015-May 2016

- Provided assistance to students in BIOS 600, an introductory biostatistics course for non-biostatisticians
- Led group tutoring sessions for topics ranging from probability to regression to computing

Chemistry Education Practicum

Mentor

Chapel Hill, NC
August 2013-December 2014

- Educated undergraduate students in introductory and organic chemistry courses, involved in both small group and larger recitation-style settings
- Focused on facilitating discussion to support learning in the flipped-classroom model of teaching

Biology Tutoring Program

Tutor, Genetics & Molecular Biology

Chapel Hill, NC
January 2014-May 2014

- Tutored students in an undergraduate course in genetics and molecular biology, providing instruction on such matters as gene expression, epigenetics, etc.
- Co-taught individual and group sessions with another undergraduate tutor

INTRAMURAL SERVICE

Educational Policy and Teaching Evaluation Committee (EPTEC)

Member

Seattle, WA
August 2017-Present

- Advise faculty on course allocation, applications for new courses, and new and existing course content
- Coordinate collegial departmental review of teaching effectiveness and policy issues regarding program requirements

Peer Mentoring Program

Mentor

Seattle, WA
June 2017-Present

- Acted as co-lead liaison with the graduate program
- Develop programs to promote inclusion and foster academic development of students in the Department of Biostatistics

- Facilitate information sessions in exam preparation and progression into graduate school and real-world employment

Biostatistics Student Seminar Series

Seattle, WA

Co-Organizer

September 2018-June 2020

- Coordinated the University of Washington's Department of Biostatistics Student Seminar Series with two co-organizers
- Recruited speakers, facilitated weekly discussions and managed the website

SHORT COURSES

Summer Institute in Statistics for Clinical Research 2017

Seattle, WA

- Completed *Missing Data in Clinical Trials: Prevention and Estimands*, *Introduction to the Design and Evaluation of Group Sequential Clinical Trials* and *Special Topics in the Design, Conduct, and Analysis of Clinical Trials*

Summer Institute in Statistical Genetics 2016

Seattle, WA

- Completed *Genetic Epidemiology and Association Mapping: GWAS and Sequencing Data*
- Awarded a travel and fee scholarship for attendance

SKILLS

Statistical Packages: R (proficient), SAS (familiar)

Programming Languages: MATLAB (familiar), *Mathematica* (familiar)

Productivity: L^AT_EX (proficient), Microsoft Office Suite: Word, Excel, Powerpoint (proficient), Git (beginner)

Operating Systems: Microsoft (proficient), MacOS (proficient)

Spoken Languages: English (native), Marathi (conversational)

REFERENCES

References available upon request