# Subodh Rajesh Selukar

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## EDUCATION

**University of Washington** Seattle, WA
Doctor of Philosophy - *Biostatistics* Expected: September 2021
Advisors: Susanne May & Megan Othus

**University of North Carolina** Chapel Hill, NC
Bachelor of Science in Public Health - *Biostatistics* May 2016
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*

**North Carolina State University** Raleigh, NC
Non-Degree Studies - Courses in Mathematics 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. My current projects include the study of long-term survivors in trials with time-to-event endpoints, sequential monitoring of N-of-1 trials and stratified randomization and efficiency of platform 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** Seattle, WA
*Research Assistant* 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** Thousand Oaks, CA
*Graduate Intern* 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** Seattle, WA
*The Mountain-Whisper-Light Statistics* 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
- Study the prevalence of COVID-19 and its effect on business closure for a civil suit
- 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 temperomandibular 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 OPPERA 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

## PUBLICATIONS

J. Sanchez, V. Shankaran, J. Unger, M. Madeleine, **S. Selukar**, B. Thompson, 2020. Inequitable access to surveillance colonoscopy among Medicare beneficiaries with surgically resected colorectal cancer. *Cancer*, accepted.

## 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** Seattle, WA
*Teaching Assistant* March 2020-June 2020
- Provide guest lectures on clinical trial design
- Evaluate final projects and written assignment

**BIOST 537: Survival Data Analysis in Epidemiology** Seattle, WA
*Teaching Assistant* January 2020-March 2020
- Teach and prepare course materials for lab sections
- Grade homework and exams

**BIOST 514: Biostatistics I** Seattle, WA
*Teaching Assistant* September 2019-December 2019
- Instruct and create course materials for discussion sections
- Develop solutions and grade homework

**BIOST 515: Biostatistics II** Seattle, WA
*Teaching Assistant* 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** Chapel Hill, NC
*Tutor*, BIOS 600 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** Chapel Hill, NC
*Mentor* 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** Chapel Hill, NC
*Tutor*, Genetics & Molecular Biology 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)** Seattle, WA
*Member* 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** Seattle, WA
*Mentor* June 2017-Present

- 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
- Acted as co-lead liaison with the graduate program

**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:** LaTeX (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