

PhD Program News

FALL 2017

FROM THE DIRECTOR

This fall the new students arrived only weeks before our new department chair, Dr. Kirsten Bibbins-Domingo, took leadership. We are excited about both arrivals, although Dr. Bibbins-Domingo has been part of the department for several years. The PhD students met with her to discuss her vision for the department moving forward.

Many people have asked me about our outgoing chair, Dr. Bob Hiatt. After 10 years as chair, Bob is moving back to a primary focus on research, in particular via the SF Can initiative (<http://www.sfcancer.org/>). He has promised to stay very involved and committed to the PhD program!

Several new faculty recently joined the department, bringing a new influx of expertise in cancer, health disparities, aging, infectious disease, and biostatistics (see a bit of description here:

<https://epibiostat.ucsf.edu/news/seven-new-faculty-join-department>)

Recently, in an effort to catch up to 2008, I've joined twitter and written a few blog posts on LinkedIn. Twitter is an unexpectedly great place for arguments and news about epi methods. The major downside of twitter is, of course, that it distracts time from writing research papers.

Cont'd on p 2



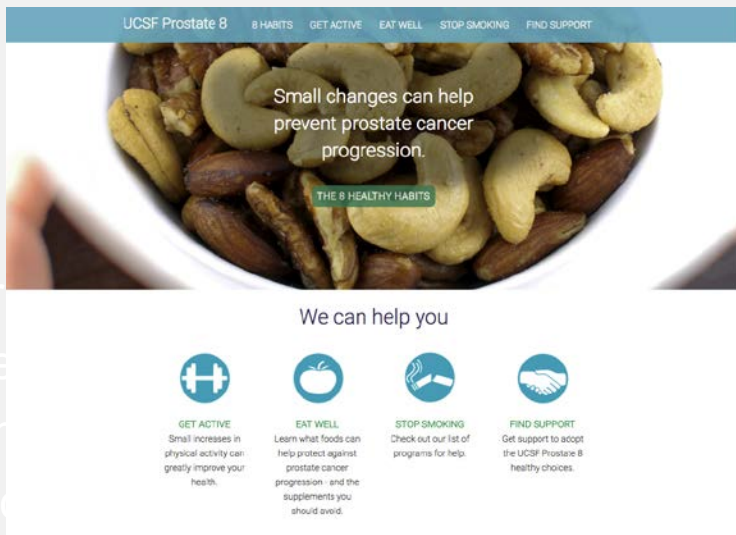
Kirsten Bibbins-Domingo with PhD students: Ekland Abdiwahab, Chloe Eng, Meghan Mehrotra, Kristen Aiemjoy, Luis Rodriguez, Stephen Asimwe, and Francois Rerolle.

PhD Students Meet New Department Chair, Dr. Kirsten Bibbins-Domingo

The PhD students were thrilled to meet our new chair, Dr. Kirsten Bibbins-Domingo, earlier this month. While her academic accomplishments are remarkable, what impressed us most was her willingness to listen, insightful observations of the strength of our program and her enthusiasm towards working together to collaborations within and outside UCSF. We discussed her educational background, interests in becoming chair and her commitment to training. Dr. Bibbins-Domingo sees epidemiology at the center of some of UCSF's hottest topics like big data, precision medicine - and she "would like epi to continue to play a larger and larger role". Just what we want to hear! We also discussed diversity in the PhD program and the department and what we can do to strengthen diversity in the program. Dr. Bibbins-Domingo recognized that improving diversity is a critical issue; She said "within a small program with leadership who is already committed to improving diversity, my challenge as chair is to figure out how to invest the resources to assure that our goals are actually realized." Dr. Bibbins-Domingo closed with her commitment towards supporting career development for the PhD students; in her words, PhD students "are essential to the future of the department, both to who we are on this campus and our reputation outside." Thank you Kirsten for the delightful meeting, we are looking forward to exciting times ahead in the Department of Epidemiology and Biostatistics.

Translational Research to Optimize Lifestyle Practices to Improve Cancer Survivorship

By June M. Chan ScD, Stacey A. Kenfield ScD, & Erin L. Van Blarigan ScD



Erin Van Blarigan, Assistant Professor, Epidemiology & Biostatistics and Urology; June Chan, Professor, Epidemiology & Biostatistics and Urology and Steven and Christine Burd

Safeway Distinguished Professor; and Stacey Kenfield, Associate Professor in Urology & Helen Diller Family Chair in Population Science. Although we thought Drs. Van Blarigan, Chan, and Kenfield were at a particularly glamorous lab meeting, it turns out they were attending the 100 year Centennial Celebration for the UCSF Dept. of Urology, a national leader in prostate cancer research.

Cancer is the second leading cause of death in the United States, with nearly 600,000 deaths occurring in 2016, and ~1.6 million new cases diagnosed. It is estimated that lifestyle practices may prevent ~1/3 of cancer cases or cancer deaths. However, the biologic mechanisms underlying these associations are incompletely understood, and translation of this knowledge to improve cancer management and optimize survivorship remains limited. For example, further work is needed to understand the effects of specific diet and exercise factors on cancer, to develop lifestyle recommendations tailored to tumor type,

treatment modality, or germline or tumor genetics. **Our team conducts translational lifestyle research in oncology with the goals of elucidating the biological influence of lifestyle factors on cancer progression, and ultimately to develop diet and exercise recommendations to improve quality of life and survival for individuals with cancer.** In short, our work is focused on addressing the question that the millions of people diagnosed with cancer every year ask themselves – *What can I eat or do to maximize my chances of survival with this disease?*

Continued page 5

From the Director, cont'd from p 1

Interdisciplinary training is an issue I addressed in one of the LinkedIn posts. This comes up not only for choosing a PhD program, but for designing our curriculum. I'm especially proud that our curriculum includes classes on demography and econometric tools (thanks to Dr. Nadia Diamond Smith and Dr. Justin White). These are extremely valuable tool sets for epidemiologists but are not always included in epi curricula. Another important area relates to computational tools and machine learning methods. These will be critical topics for the future of population health research. However, for epidemiologists, we must integrate causal thinking into our machine learning approaches. We recently had a great talk on "Causal Generative Neural Networks", by a group integrating causal discovery tools (methods which remain quite controversial in epidemiology) with machine learning algorithms. The talk and

accompanying discussion were both terrific. Related to this, look out for alumnus' Dr. Elizabeth Rose Mayeda's SER workshop on simulations for bias analyses.

Finally, this fall marks a few transitions. Dr. Elizabeth Rose Mayeda is leaving for her position as an Assistant Professor, in the UCLA Fielding School of Public Health Department of Epidemiology. We congratulated Dr. Maya Mascarenhas on her terrific dissertation. I am often amazed at what our students accomplish and this was one such case: Maya's work was ambitious, innovative, and important. Best of luck to both of our alumni and we hope they visit frequently.

Maria Gymour, S.D.

Professor and Director, Doctoral Program in Epidemiology and Translational Sciences

Welcome New PhD Students for 2017-18!



Adrienne Epstein, MS

Education: Macalester College (BA, Biology); Harvard University (MS Global Health and Population)

My broad research interests include the application of spatial methods to improve surveillance for vector-borne diseases. I became interested in malaria while serving as a Peace Corps Volunteer in Guinea. Although I worked as a teacher, health was a major issue in my community, and much of my work entailed malaria education. For my Master's thesis, I investigated barriers pregnant women face to receiving proper malaria treatment in Guinea. As a doctoral student, I hope to expand my skillset to achieve a greater impact in improving health outcomes in malaria-vulnerable populations.

Dan Kelly

Education: Princeton University (AB Chemistry); Albert Einstein College of Medicine (MD); UC Berkeley, (MPH)



After graduating from Princeton University, I went to Albert Einstein College of Medicine, where I pursued a Global Health Fellowship in Sierra Leone. There, together with a local doctor was inspired to start Wellbody Alliance, a non-profit organization that provided high-quality healthcare to the rural poor. After my internal medicine residency at Baylor College of Medicine, I continued on as faculty to conduct HIV research in Sierra Leone. While doing an infectious diseases fellowship at UCSF, a close doctor friend died of Ebola virus disease (EVD). August 2014, I took a leave of absence to establish a coalition of Ebola response work with Partners In Health, care for Ebola-infected patients, and co-lead Ebola virus diagnostic trials. After the Ebola outbreak, I merged Wellbody Alliance into Partners In Health, completed my MPH at University of California, Berkeley, and finished my clinical infectious diseases fellowship at UCSF.

My interest is in the study of the epidemiology and natural history of EVD survivorship and unreported infections in Sierra Leone, Liberia and Democratic Republic of the Congo. I am interested in research capacity building to support the development of individuals and degree-granting programs in countries where viral hemorrhagic diseases and health inequities are endemic.

Crystal Langlais

Education: Eastern Washington University (BS Biology); University of Arizona, (MPH)



My professional research experience is centered around pediatric acute illness and injury. In my doctoral training, I am shifting my focus to genetic and early life exposures associated with chronic disease onset, particularly in relation to cancers and cardiovascular disease. I am especially interested in how modifiable risk factors associated with chronic diseases interact with genetic factors to influence disease onset and how these relationships result in different disease trajectories across populations.

Ackley, Sarah

Ackley, SF, Hargrove JW. A dynamic model for estimating adult female mortality from ovarian dissection data for the tsetse fly *Glossina pallidipes* Austen sampled in Zimbabwe. *PLOS* August 2017.

Ali FS, Stein JD, Blachley TS, **Ackley S**, Stewart JM, Incidence of and Risk Factors for Developing Idiopathic Macular Hole Among a Diverse Group of Patients Throughout the United States. *JAMA Ophthalmology*. April 2017

Worden L, Schwartz IB, Bianca S, **Ackley SF**, Lietman TM, Porco TC. Hamiltonian Analysis of Subcritical Stochastic Epidemic Dynamics. *Comput Math Methods Med* 2017 August 28.

Asiimwe, Stephen

Asiimwe SB, Fatch R, Winter M, Lloyd-Travaglini C, Emenyonu N, Muyindike W, Kekibiina A, Blokhina E, Gnatienko N, Krupitsky E, Cheng DM, Samet JH, Hahn J. Alcohol Types and HIV Disease Progression Among HIV-Infected Drinkers Not Yet on Antiretroviral Therapy in Russia and Uganda. *Aids and Behavior*, August 2017.

Demb, Joshua

Demb, J, Chu P, Nelson, T, Hall D, Seiber A, Lamba R, Boone J, Krishnam M, Cagnon C, Bostani M, Gould R, Miglioretti D, Smith-Bindman R. Optimizing Radiation Doses for Computed Tomography Across Institutions. *JAMA Intern Med* June 2017

Mehrotra, Megha

Truong, HM. **Mehrotra, M**; Montoya O, Lama JR; Guanira, JV; Casapía, M; Veloso, V; Buchbinder, SP; Mayer, KH; Chariyalertsak, S; Schechter, M; Bekker, L.; Kallás, E; Grant, R. International Sexual Partnerships May Be Shaped by Sexual Histories and Socioeconomic Status. *Sexually Transmitted Diseases*: May 2017

Engmann, Natalie

Engmann NJ, Ergas IJ, Yao S, Kwan ML, Roh JM, Ambrosone CB, Kushi LH, Fejerman L. Genetic ancestry is not associated with breast cancer

recurrence or survival in U.S. Latina women enrolled in the Kaiser Permanente Pathways Study. *Cancer Epidemiol Biomarkers & Prev* 2017; 26(9):1466-1469. doi: 10.1158/1055-9965.EPI-17-0148.

Engmann, NJ, Scott, CG, Jensen, MR, Ma L, Brandt KR, Mahmoudzadeh AP, Malkov S, Whaley DH, Hruska CB, Wu FF, Winham SJ, Miglioretti, DL, Norman AD, Heine JJ, Shepherd J, Pankratz VS, Vachon CM, Kerliowke K. Longitudinal Changes in Volumetric Breast Density with Tamoxifen and Aromatase Inhibitors. *Cancer Epidemiology, Biomarkers & Prevention*. June 2017.

Kelly, Dan

Kelly JD, Reid MJ, Lahiff M, Tsai AC, Weiser SD. Community-Level HIV Stigma as a Driver for HIV Transmission Risk Behaviors and Sexually Transmitted Diseases in Sierra Leone: A Population-Based Study. *JAIDS*. 2017 Aug;75(4):399-407. PMID: 28406807.

Richardson ET, Barrie MB, Nutt CT, **Kelly JD**, Frankfurter R, Fallah MP, Farmer PE. The Ebola suspect's dilemma. *Lancet Glob Health*. 2017 Mar;5(3):e254-e256. doi: 10.1016/S2214-109X(17)30041-4. PMID: 28193386

Mooney, Alyssa

Mooney AC, Gottert A, Khoza N, Rebombo D, Hove J, Suarez AJ, Twine R, MacPhail C, Treves-Kagan S, Kahn K, Pettifor A, Lippman SA. Men's perceptions of treatment as prevention in South Africa: Implications for engagement in HIV care and treatment. *AIDS Education and Prevention*, June 2017

Rodriguez, Luis

Vreman, R.A., Goodell, A.J., **Rodriguez, L.A.**, Porco, T.C., Lustig, R.H. and Kahn, J.G., 2017. Health and economic benefits of reducing sugar intake in the USA, including effects via non-alcoholic fatty liver disease: a microsimulation model. *BMJ open*, 7(8), p.

Roh, Michelle

Roh ME, Shiboski S, Natureeba P et al (2017). Protective effect of indoor residual spraying of insecticide on preterm birth among pregnant women with HIV in Uganda: A secondary data

analysis. *J Infect Dis*. Accepted 9/27/2017.

Arasu, Vignesh

Lee, AY, Wisner, D, Aminololama-Shakeri, S, **Arasu, V**, Feig, S, Hargreaves J, Ojeda-Fournier H, Bassett L, Wells, CJ, De Guzman J, Flowers CL, Campbell, JE, Elson, SL, Retallack H, Joe, BN. Inter-reader Variability in the Use of BI-RADS Descriptors for Suspicious Findings on Diagnostic Mammography: A Multi-institution Study of 10 Academic Radiologists. *El Sevier, Academic Radiology*, January 2017.

Kalapatapu, Raj

Kalapatapu, R, Dannenbaum, TP, Harbison JD, Cohen BE. Does trauma exposure predict prescription drug problems beyond the contribution of post-traumatic stress disorder and depression? An analysis of the Mind Your Heart cohort study. *Journal of Addictive Diseases* April 2017.

Aiemjoy, Kristen

Aiemjoy K, Gabressilasie S, Stoller NE, Shiferaw A, Tadesse Z, Chanyalew M, Aragie S, Callahan K, Keenan JD. Epidemiology of Soil-Transmitted Helminth and Intestinal Protozoan Infections in Preschool-Aged Children in the Amhara Region of Ethiopia. *The American Journal of Tropical Medicine and Hygiene*. April 2017.

Ray, Kathryn

Ray KJ, Lalitha P, Prajna, NV, Rajaraman R, Krishnan T, Srinivasan M, Ryg P, McLeod S, Acharya N, Lietman T, Rose-Nussbaumer J; The Utility of Repeat Culture in Fungal Corneal Ulcer Management: A Secondary Analysis of the MUTT-I Randomized Clinical Trial. *American Journal of Ophthalmology* June 2017.

Tai, Caroline

Hoffman JD, Graff, RE, Emami NC, **Tai CG**, Passarelli, MN, Hu D, Huntsman S, Hadley D, Leong L, Majumdar A, Zaitlen N, Ziv E, Witte JS. Cis-eQTL-based trans-ethnic meta-analysis reveals novel genes associated with breast cancer risk. *PLOS Genetics* March 2017.

As cancer and nutritional epidemiologists, we collaborate broadly with surgeons, oncologists, radiologists, pathologists, nutrition and exercise specialists, biostatisticians, bioinformaticists, behavioral scientists, geneticists, and molecular biologists to approach this common question. Recently, our team estimated that ~47% of lethal prostate cancer might be prevented if healthy men followed six lifestyle habits prior to diagnosis. We also reported that vigorous physical activity, not smoking, and greater intakes of cruciferous vegetables, vegetable fat, fish, and cooked tomatoes after a diagnosis of prostate cancer may reduce the risk of prostate cancer progression or lethal disease. Similarly, our team also reported that individuals with colon cancer who did vs. did not follow the American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Survivors (i.e., maintaining a healthy body weight, exercising regularly, & eating a diet rich in whole grains, fruits and vegetables) had reduced risks of cancer recurrence and death.

We conduct cohort studies, randomized clinical trials, and translational/correlative science research to address the following thematic questions:

- What lifestyle factors after cancer diagnosis are associated with tumor aggressiveness, metastatic potential, or lethality?
- What is the effect of exercise on cancer biology and risk of progression?
- Do technology-based lifestyle interventions motivate behavior change in individuals with cancer?

Our team works closely with nutritionists at the Helen Diller Family Comprehensive Cancer Center, patient advocates, and exercise physiologists at the UCSF Human Performance Center and Oregon Health Sciences University to develop evidence-based patient education materials, focused on diet and exercise for individuals living with cancer.

For further details about our studies, please see here:

<https://urology.ucsf.edu/lifestyle-studies>

<http://cancer.ucsf.edu/gi/survivorship-research>

If you are interested to learn more about research or training opportunities, please contact: Victoria.Mansour@ucsf.edu

Conference Presentations

Asiimwe, Stephen and Rerolle, Francois

Does identifying high-risk individuals and giving them pre-exposure prophylaxis enhance the population-level benefits of “test and treat” for HIV-infection? **Asiimwe SB, Rerolle F**, Amir A, Roh M, Ackley S, Hahn J, Worden L, Martin J, Williams B, and Porco T. *Epidemics* 6, Barcelona, Spain November 2017.

Roh, Michelle

Phase 2, single-blind randomised controlled trial of the efficacy and safety of primaquine and methylene blue for preventing Plasmodium falciparum transmission in Mali. Dicko A*, Roh ME*, Diawara H et al (2010, November). American Society of Tropical Medicine and Hygiene 66th Annual Meeting. Baltimore, Maryland. November 6, 2017.

Aiemjoy, Kristen

Defining Diarrhea: Validating caregiver-reported stool consistency Meaningful Modeling of Epidemiological Data; 05/31/17; Muizenburg, South Africa: International Clinics on Infectious Disease Dynamics and Data Program; 2017

Modelling Mass Dog Vaccination Strategies to Eliminate Human Rabies in Kenya. One Health International Conference: Dec 2017. Bangkok, Thailand

Eng, Chloe

Neighborhood Quality, Acculturation, and Depressive Symptoms in Older Mexican-Americans: the Sacramento Area Latino Study of Aging (SALSA). UCSF 11th Annual Health Disparities Research Symposium. San Francisco, CA.

Mooney, Alyssa

Beyond social desirability bias: Investigating inconsistencies in self-reported HIV testing and treatment behaviors among HIV-positive adults in Northwest Province, South Africa Campbell CK, **Mooney AC**, Rathagana NJ, Grignon J, Agnew E, Gilmore H, Barnhart S, Puren A, Shade S, Lippman S. AIDS Impact Conference, Cape Town, 2017

How does reducing criminal penalties for drug possession in California affect racial disparities in drug arrests?

Mooney AC, Giannella G, Glymour MM, Neilands T, Morris MD, Tulskey J, Sudhinaraset, M. Population Health Science Research Workshop, Boston University, 2017.

S Rae Wannier

Modeling the impact of trachoma MDA on GU chlamydia. **Wannier SR**, Worden L, Lietman T, Porco TC. *Epidemics* 6, Barcelona, Spain November 2017.

Accomplishments: Awards

Kelly Dan

- 2017, Gorgas Course in Clinical Tropical Medicine, DTMH

Kalapatapu, Rajkumar

- Promoted to Assistant Professor, Step 3, UCSF, School of Medicine, Psychiatry

Mehrotra, Megha

- SER Best Student/Postdoc Poster
- 2nd Vittinghoff Innovation Award 2017

Rodriguez, Luis

- Eugene Cota-Robles Fellowship Award (2015-2017)

- NIH-NIDDK F31 Ruth L Kirschstein Predoctoral Individual National Research Service Award
- TIGR Teaching Assistant Excellence Award for Methods of Clinical Research

Aiemjoy, Kristen

- UCSF RAP Catalyst award – Spring 2017 \$20,000

STUDENT UPDATE



Maya Mascarenhas, PhD, presented her dissertation on “Does it take a village to get active? Physical activity and social support for mothers - trajectory, mixed methods, and intervention analyses.” Shown here with her committee members: Dr. June Chan and Dr. Rick Hecht.

Michelle Roh (ETS PhD student), Teresa Filshtein (ETS Post-doc), Ozan Sonmez, Maria Glymour (program director), Abdou Diallo and Andrea Pedroza-Tobias (GHS PhD student) hiking at Angel Island. Photo: Victoria Mansour

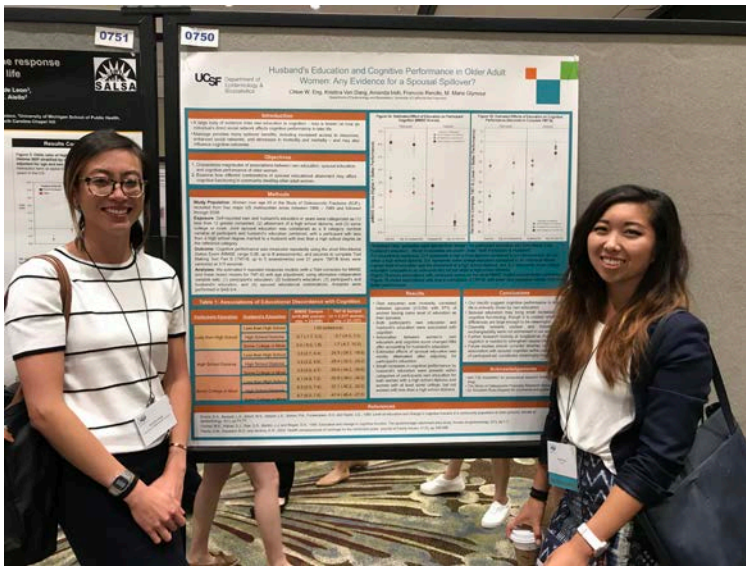


QMFCZ

Dr. Eric Vittinghoff presenting the 2nd Vittinghoff Innovation Award to PhD student, Megha Mehrotra, for her paper Precision Medicine and the Transportability of Subgroup Analyses of RCTs.



STUDENT UPDATE



Chloe Eng and Kristina Dang, 2nd year PhD students, presenting their poster on “Husband’s Education and Cognitive Performance in Older Adult Women: Any Evidence for a Spousal Spillover?” at the 2017 Society for Epidemiologic Research (SER) annual meeting in Seattle.

Dan Kelly, 1st year PhD student and team conducting an eye clinic at Democratic Republic of Congo.



Dan Kelly, 1st year PhD student working in the past several months at Democratic Republic of Congo trying to understand the post-infectious clinical sequelae among survivors of Ebola virus disease.

UPCOMING EVENTS

Wednesday, November 15, 2017

1:00 – 4:00pm, Mission Hall 1406

Mastering Metrics: The Path from Cause to Effect

Joshua Angrist, PhD

MIT Department of Economics

Friday, November 17, 2017

10:00 – 11:00 am, Mission Hall 2800

Core Epidemiology Methods Journal

Club: Continuous outcome

Ekland Abdiwahab, MPH

Friday, November 17, 2017

12:00-1:00pm, Mission Hall 1406

Randomized Controlled Trials to reduce cancer disparities among Underserved Asian Americans

Sunmin Lee, SD

University of Maryland

Monday, November 20, 2017

12:00 – 1:00 pm, Mission Hall 3700

Femoral Artery Atherosclerosis: A more sensitive marker of early leg pain and declines in physical function

Christina Wassel, PhD

University of Vermont

Friday, January 26, 2018

12:00 – 1:30 pm, Mission Hall 2500

Promoting diversity in recruitment processes

Dr. Sarah Schaeffer

Wednesday, January 31, 2018

3:30 – 4:30 pm, Mission Hall 1406

Annie Rimoin, PhD, MPH

Wednesday, February 7, 2018

1:00 – 4:00 pm, Mission Hall 1406

Quantitative Bias Analysis

Hailey Banack, PhD

Wednesday, March 14, 2018

1:00 – 4:00 pm, Rock Hall 102

Jarvis Chen, ScD

What
are these
PhD
students
up to?



From top to bottom

2nd year PhD Students, **Kristina Dang, Francois Rerolle & Chloe Eng** sailing in southern France, where they gathered to review case cohort designs.

Dr. Meghan Morris and Dr. Robert Hiatt hosting a cocktail hour with PhD students, faculty and colleagues at the 2017 Society for Epidemiologic Research conference in Seattle.

PhD students, **Natalie Engmann** and **Stephen Asimwe** with visiting PhD student from Netherlands, **Joost Groeniger**, at a Giants game, planning a study on the health effects of social capital.



Department of
Epidemiology &
Biostatistics