**PIPELINES INTO BIOSTATISTICS**

2017 Summer Program  #HarvardSPB

Sunday, June 11 - Friday, July 21

**WEEK 1**

**Sunday, June 11**

7:00pm  **Welcome Dinner:** At the Harvard T.H. Chan School of Public Health
Meet Heather Mattie in the lobby of the MassArt Treehouse at 7pm, then walk to HSPH

**Monday, June 12**

9:00 - 11:45am  **Orientation** [light breakfast provided]: 2-426
- 9:00  Introductions, Code of Conduct Form, Stipends, Harvard IDs
- 10:30  Novell Log In, Connecting to the Internet, Downloading R
- 11:15  HSPH Mini Tour with Jaffer Zaidi

11:45 - 12:45pm  **Welcome Lunch** with Department Chair: 2-426
Xihong Lin, PhD
Henry Pickering Walcott Professor of Biostatistics
Chair, Department of Biostatistics

12:45 - 2:00pm  **Research Project Introductions:** 2-426
- PROJECT 1: Tracking air pollution from power plants
  Faculty: Cory Zigler
  Postdoc Mentor: Chanmin Kim
- PROJECT 2: Smartphone-base Digital Phenotyping
  Faculty: Jukka-Pekka Onnela
  Postdoc Mentor: Patrick Staples
- PROJECT 3: Machine Learning for Health Outcomes Prediction
  Faculty: Sherri Rose
  Graduate Student Mentor: Savannah Bergquist
- PROJECT 4: Estimating and Understanding Gene Regulatory Networks
  Faculty: John Quackenbush
  Postdoc Mentor: John Platig
- PROJECT 5: Controversy in Genomics
  Faculty: Rafael Irizarry
  Graduate Student Mentor: Sheila Gaynor

2:00 - 4:00pm  **Public Health Overview, Part One:** FXB - G11

4:00 - 5:00pm  **HSPH-wide Summer Program Scavenger Hunt:** FXB - G11

**Tuesday, June 13**

9:30 - 11:30am  **Introduction to Biostatistics:** 2-426
Instructor: Heather Mattie, PhD, Instructor in Department of Biostatistics
Introduction to Biostatistics acquaints the student with the basic concepts and methods of biostatistics, their applications, and their interpretation. The material covered includes data presentation, numerical summary measures, rates and standardization, and life tables. Probability is introduced to quantify uncertainty, especially as it pertains to diagnostic and screening methods. Also covered are sampling distributions so that students may be introduced to confidence intervals and hypothesis testing. Computers are used throughout the course, and the student will gain familiarity with the software package R.

12:30 - 1:00pm  **Research Project Assignments with Jai and Megan:** 2-426

2:00 - 4:00pm  **Public Health Overview, Part Two:** FXB - G11
**Wednesday, June 14**

9:30 - 11:30am  **Introduction to Biostatistics**: 2-426

12:00 - 1:30pm  Afternoon Seminar [lunch provided]: 2-426
Laura Forsberg White, PhD
Adjunct Associate Professor of Biostatistics, HSPH and Associate Professor of Biostatistics, BU

1:30 - 5:30pm  **Research Group Meetings**
Use this time to have your first meeting with your faculty research mentor and postdoc or graduate student research mentor to discuss your summer research project.

5:30 - 6:30pm  **Kaplan Orientation and Dinner**, Kresge G2

6:30 - 9:00pm  **Kaplan GRE Prep Course (#1)**: Kresge G1

**Thursday, June 15**

9:30 - 11:30am  **Introduction to Biostatistics**: 2-426

12:30 - 1:30pm  Department of Biostatistics, Admissions [lunch provided]: 2-426
Paige Williams, PhD
Director of Graduate Studies, Senior Lecturer on Biostatistics, Departments of Biostatistics & Epidemiology

2:00 - 5:00pm  **Introduction to R**: 2-426
Shirley Liao, PhD Student in Biostatistics Department

6:00 - 7:30pm  **Evening Conversation** [dinner provided]: FXB G12
Ichiro Kawachi, MB.ChB., PhD
John L. Loeb and Frances Lehman Loeb Professor of Social Epidemiology
Chair, Department of Social and Behavioral Sciences

**Friday, June 16**

10:15 - 12:15pm  **Professional Development Workshop Series**: 2-426
Monik Jimenez, Sc.D, Instructor in Medicine, HMS, BWH

1:00 - 3:00pm  **Introduction to Biostatistics**: 2-426

3:15 - 6:15pm  **Introduction to R Graphics**: 2-426

**Saturday, June 17**

10:00 - 12:30pm  **Kaplan GRE Prep Course (#2)**: Kresge 202A/202B

2:00 - 4:30pm  **Program Outing: Boston Duck Tour**
Location: Prudential Duck Stop, 53 Huntington Ave, Boston, MA 02116
Meet outside of Treehouse at 2pm - We must be at Prudential location at 2:30pm! Tour starts at 3pm.

**WEEK 2**

**Monday, June 19**

9:30 - 11:30am  **Introduction to Biostatistics**: 2-426

1:00 - 3:00pm  **Program Outing: Harvard Tour**
Meet Sarah Anoke, PhD, at 1pm in Harvard Square in front of Pressed Juice (1380 Mass Ave)

5:30 - 7:00pm  **Evening Conversation** [dinner provided]: FXB G12
Xihong Lin, PhD
Henry Pickering Walcott Professor of Biostatistics
Chair, Department of Biostatistics
Tuesday, June 20

9:30 - 11:30am  Introduction to Biostatistics: 2-426
12:00 - 1:30pm  Welcome Lunch with Director of Summer Program in Biostatistics & Computational Biology: 2-426
2:00 - 5:00pm  Programming Workshop: Sarah Anoke, PhD, 2-426
Postdoctoral Fellow, Department of Biostatistics
5:30 - 7:00pm  Evening Conversation [dinner provided]: FXB G12
Dyann Wirth, PhD
Richard Pearson Strong Professor of Infectious Diseases
Chair, Department of Immunology and Infectious Diseases

Wednesday, June 21

9:30 - 11:30am  Introduction to Biostatistics: 2-426
12:30 - 1:30pm  Lunch with Graduate Students: 2-426
1:30 - 2:30pm  Research Project
2:30 - 5:30pm  Regression Models in R: 2-426
6:30 - 9:00pm  Kaplan GRE Prep Course (#3): Kresge 202A/202B

Thursday, June 22

9:30 - 11:30am  Introduction to Biostatistics: 2-426
12:30 - 2:00pm  Afternoon Seminar [lunch provided]: 2-426
Eric Tchetgen Tchetgen, PhD
Professor of Biostatistics and Epidemiologic Methods, Summer Program Alum
2:15 - 3:15pm  Biostatistics Professional Development Writing Workshop: 2-426
Nicole Levesque & Amanda King, Program Coordinators, Department of Biostatistics
3:30 - 5:00pm  Research Project
5:00 - 7:30pm  Evening Conversation [dinner provided]: FXB G12
Nancy Kreiger, PhD
Professor of Social Epidemiology, Department of Social and Behavioral Sciences

Friday, June 23

10:15 - 12:15pm  Professional Development Workshop Series: 2-426
Career Development: Translational Research Setting
Carol Martin, MPA, Program Manager, Harvard Catalyst
1:00 - 3:00pm  Introduction to Biostatistics: 2-426
3:00 - 5:00pm  Research Project

Saturday, June 24

10:00 - 12:30pm  Kaplan GRE Prep Course (#4): Kresge 202A/202B
12:30 - 4:00pm  STEM Summer Research Environment Conference: Broad Institute
Boston-wide event for summer interns - Grad Panel, Career Fair, and BBQ
2:00 - 4:00pm  BBQ on HMS Quad, Hosted by Meredith Rosenthal, PhD
Senior Associate Dean for Academic Affairs, Office of the Dean
Professor of Health Economics and Policy, Department of Health Policy and Management
## WEEK 3

### Monday, June 26

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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>9:30 - 11:30am</td>
<td><strong>Introduction to Biostatistics</strong>: 2-426</td>
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<tr>
<td>12:30 - 2:00pm</td>
<td><strong>Faculty Lunch</strong>: 2-426</td>
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<td>2:30 - 5:30pm</td>
<td><strong>Research Project</strong></td>
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### Tuesday, June 27

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<tr>
<td>9:30 - 11:30am</td>
<td><strong>Introduction to Biostatistics</strong>: 2-426</td>
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<td>1:00 - 2:30pm</td>
<td><strong>Research Project</strong></td>
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<td>2:30 - 5:30pm</td>
<td><strong>Basic R Programming for Data Analysis</strong>: 2-426</td>
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<td>5:30 - 7:00pm</td>
<td><strong>Evening Conversation</strong> [dinner provided]: FXB G12</td>
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Fredrick John Stare Professor of Epidemiology and Nutrition, Departments of Nutrition & Epidemiology

### Wednesday, June 28

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<tr>
<td>9:30 - 11:30am</td>
<td><strong>Introduction to Biostatistics</strong>: 2-426</td>
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<tr>
<td>11:30 - 4:30pm</td>
<td><strong>Field Trip</strong> [lunch provided]: Meet in 2-426</td>
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<td><strong>Framingham Heart Study</strong></td>
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<td>6:30 - 9:00pm</td>
<td><strong>Kaplan GRE Prep Course (#5)</strong>: Kresge 202A/202B</td>
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### Thursday, June 29

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<tr>
<td>9:30 - 11:30am</td>
<td><strong>Introduction to Biostatistics</strong>: 2-426</td>
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<td>12:30 - 2:00pm</td>
<td><strong>Afternoon Seminar</strong> [lunch provided]: 2-426</td>
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<td>Jerald Schindler</td>
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<td>VP, Data Science and Statistics at Alnylam Pharmaceuticals and Adjunct Professor of Biostatistics, HSPH</td>
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<td>2:30 - 5:00pm</td>
<td><strong>Research Project</strong></td>
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<td>5:30 - 7:00pm</td>
<td><strong>Evening Conversation</strong> [dinner provided]: FXB G12</td>
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<td>Albert Hoffman, MD, PhD</td>
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<td>Chair of the Department of Epidemiology</td>
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<td>Stephen B. Kay Family Professor of Public Health and Clinical Epidemiology</td>
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### Friday, June 30

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<tr>
<td>10:15 - 12:15pm</td>
<td><strong>Professional Development Workshop Series</strong>: 2-426</td>
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<td>Admissions Overview: What Do We Look For In Prospective Students?</td>
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<td>Felisa Nobles, Director of Recruitment Programs &amp; Special Assistant to the Associate Dean of Diversity</td>
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<td>Kerri Noonan, Associate Director of Admissions</td>
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<td>1:00 - 3:00pm</td>
<td><strong>Introduction to Biostatistics</strong>: 2-426</td>
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<td>3:15 - 6:15pm</td>
<td><strong>Programming Workshop</strong>: Sarah Anoke, PhD, 2-426</td>
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### Saturday, July 1

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<td>10:00 - 12:30pm</td>
<td><strong>Kaplan GRE Prep Course (#6)</strong>: Kresge 202A/202B</td>
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WEEK 4

Monday, July 3

9:30 - 11:30am  Introduction to Biostatistics: 2-426
11:45 - 1:15pm  Afternoon Seminar [lunch provided]: 2-426
Julie Buring, ScD
Professor in the Department of Epidemiology, HSPH and BWH Division of Preventive Medicine

Tuesday, July 4

SCHOOL CLOSED FOR HOLIDAY

Wednesday, July 5

9:30 - 11:30am  Introduction to Biostatistics: 2-426
12:30 - 3:30pm  Programming Workshop with Sarah Anoke, PhD, 2-426
4:00 - 5:30pm  Research Project
6:30 - 9:00pm  Kaplan GRE Prep Course (#7): Kresge 202A/202B

Thursday, July 6

9:30 - 11:30am  Introduction to Epidemiology: 2-426
Instructor: Sarah Anoke, PhD
This course is an introduction to the principles and methods of epidemiologic research. The course will meet regularly for 2 hour lectures. Attendance to all lectures is mandatory and you are required to be on time. This course assumes no prior knowledge of epidemiology.

12:00 - 1:30pm  Afternoon Seminar [lunch provided]: 2-426
Martin Aryee, PhD
Assistant Professor in the Department of Biostatistics, HSPH and Department of Pathology at MGH & HMS

2:00 - 5:00pm  Research Project

5:30 - 7:00pm  Evening Conversation [dinner provided]: FXB G12
Marianne Wessling-Resnick, PhD
Professor of Nutritional Biochemistry, Departments of Nutrition, and Genetics & Complex Diseases

Friday, July 7

10:15 - 12:15pm  Professional Development Workshop Series: 2-426
Presentation is Everything: Resumés, Interviews, and How to Secure Your Next Opportunity
Kristina Gravellese, Recruiter, Human Resources Department

1:30 - 3:30pm  Introduction to Epidemiology: 2-426

4:00 - 5:00pm  Afternoon Conversation: 2-426
Betty Johnson, MEd
Assistant Dean for Faculty and Staff Diversity, Development and Leadership

Saturday, July 8

10:00 - 12:30pm  Kaplan GRE Prep Course (#8): Kresge 202A/202B

Sunday, July 9

10:00 - 12:00pm  Kaplan GRE “Real Test Practice” Exam: Kresge 202A/202B
WEEK 5

Monday, July 10

9:30 - 11:30am  Introduction to Epidemiology: 2-426
12:00 - 1:30pm  Afternoon Seminar [lunch provided]: 2-426
    Rebecca Betensky, PhD
    Professor of Biostatistics, HSPH and Director of Harvard Catalyst Biostatistics Program
2:00 - 5:00pm  Research Project
5:30 - 7:00pm  Evening Conversation [dinner provided]: FXB G12
    Meredith Rosenthal, PhD
    Senior Associate Dean for Academic Affairs, Office of the Dean
    Professor of Health Economics and Policy, Department of Health Policy and Management

Tuesday, July 11

9:30 - 11:30am  Introduction to Epidemiology: 2-426
12:00 - 1:30pm  Afternoon Seminar [lunch provided]: 2-426
    Curtis Huttenhower, PhD
    Associate Professor of Computational Biology and Bioinformatics
2:00 - 5:00pm  Research Project
5:30 - 7:00pm  Evening Conversation [dinner provided]: FXB G12
    Wafaie Fawzi, DrPH
    Richard Saltonstall Professor of Population Sciences
    Professor of Nutrition, Epidemiology, and Global Health
    Chair, Department of Global Health and Population

Wednesday, July 12

9:30 - 11:30am  Introduction to Epidemiology: 2-426
2:00 - 3:00pm  Biostatistics Professional Development Workshop: Writing Follow Up, 2-426
    Nicole Levesque & Amanda King, Program Coordinators, Department of Biostatistics
3:30 - 5:30pm  Research Project
5:30 - 8:00pm  Industry Night - Beyond Academia Event [dinner provided]
    Lavine Family Dining Pavilion, 3rd Floor, Yawkey Center for Cancer Care, Dana-Farber

Thursday, July 13

9:30 - 11:30am  Introduction to Epidemiology: 2-426
12:00 - 1:30pm  Afternoon Seminar [lunch provided]: 2-426
    Marcello Pagano, PhD
    Professor of Statistical Computing and Director of Summer Program in Biostatistics & Computational Biology
2:00 - 5:00pm  Research Project
5:30 - 7:00pm  Evening Conversation [dinner provided]: FXB G12
    Francine Laden, ScD
    Professor of Environmental Epidemiology, Departments of Environmental Health and Epidemiology
Friday, July 14
9:30 - 11:30am  Introduction to Epidemiology: 2-426
12:30 - 2:30pm  Biostatistics BBQ, HMS Quad
3:00 - 6:00pm  Research Project

Sunday, July 16
7:00pm  Program Outing: Boston Red Sox vs. New York Yankees
Meet outside of the Treehouse at 7pm - the game starts at 8:05pm

WEEK 6

Monday, July 17
9:30 - 11:30am  Introduction to Epidemiology: 2-426
12:00 - 1:30pm  Afternoon Seminar [lunch provided]: 2-426
Bethany Hedt-Gauthier, PhD
Assistant Professor of Global Health and Social Medicine, HMS
Assistant Professor in the Department of Biostatistics, HSPH
2:00 - 6:00 pm  Research Project

Tuesday, July 18
9:30 - 11:30am  Introduction to Epidemiology: 2-426
1:30 - 2:30pm  Biostatistics Professional Development Workshop: Public Speaking, 2-426
Nicole Levesque, Program Coordinator, Biostatistics Department
3:00 - 6:00 pm  Research Project

Wednesday, July 19
9:00 - 11:30am  Practice Sessions: 2-426
Get feedback on your presentation
12:30 - 5:00pm  Afternoon for preparing and practicing
5:30 - 7:00pm  Special Program Dinner: 2-426
Melody Goodman, PhD
Acting Chair, Associate Professor, Department of Biostatistics, College of Public Health at NYU
Summer Program Alumna

Thursday, July 20
8:30 - 4:00pm  Pipelines Into Biostatistics Annual Symposium: Yawkey 306/307
Wear your business attire!

Friday, July 21
11:00 - 12:00pm  Meetings with Program Evaluator Lynne Man, Group 1: Chair’s Conference Room, 2-401
12:00 - 1:00pm  Meetings with Program Evaluator Lynne Man, Group 2: Chair’s Conference Room, 2-401
1:00 - 3:00pm  Pipelines Into Biostatistics Certificate Ceremony [lunch provided]: 2-426