**SISG 2017**

[**Module 10: Genetic Epidemiology**](https://www.biostat.washington.edu/suminst/sisg2016/modules/SM1609)

**Instructors: Karen** [**Edwards**](https://www.biostat.washington.edu/node/2631) **and Carolyn Hutter**

**July 19th-21th**

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| **Day** | **Time** | **Lead** | **Topics** | **Details** |
| **Wednesday** | 1:30-2:00 | Carolyn | Class Intro | \*Intro to class/Review Agenda and topics\* Student introductions |
|  | 2:00-3:00 | **Carolyn** | Epi 101 | \* Intro to Epidemiology \* Measure\_of\_Association\_handout |
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|  | 3:30-5:00 | **Karen** | Overview of Genetic Epi  | \* Overview of Genetic Epi\* Intro to terms, types of variation, genetics 101 |
| **Thursday** | 8:30-10:00 | **Karen** | Family Studies  | \* Segregation \* Linkage Analysis |
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| 10:30-12:00 | **Carolyn** | Linkage Disequilibrium | \* Intro to LD\* Imputation |
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| 1:30-3:00 | **Karen** | Association Studies  | \* Population Stratification\* Odds Ratio Calculations \* Power Calculation Resources |
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| 3:30-4:30 | **Carolyn** | GWAS | \* GWAS overview \* “Post-GWAS” |
|  | 4:30-5:00 | **Karen** | Sequencing Studies I | \* Rare variant analysis  |
| **Friday** | 8:30-9:15 | **Karen** | Journal Club I | \* Rosenthal et al |
| 9:15-10:00 | **Karen** | Sequencing Studies II | \*Family Studies are new again |
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| 11:00-12:00 | **Carolyn** | GxE | \* Concepts and terms\* Methods for GxE\* In class exercise |
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| 1:30-2:15 | **Carolyn** | Journal Club II | \*Khera et al |
| 2:15-3:00 | **Karen** | Precision Medicine I | \* Overview of Precision Medicine\* Links to Genetic Epidemiology |
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| 3:30-4:15 | **Carolyn** | Precision Medicine II | \* Applications in Cancer and Oncology |
| 4:15-5:00 | **Carolyn & Karen** | Wrap-up | \* One slide per item |