

Genomics Workshop

Demography of Aging Centers Biomarker Network Meeting in Conjunction with the Annual Meeting of the PAA

April 14, 9:00 AM to 3:30 PM – Hyatt Regency, Dallas, Texas

Sponsored by USC/UCLA Center of Biodemography and Population Health

Organized by Teresa Seeman, Steven Cole, Eileen Crimmins

- 9:00-10:00 AM** ***Tactical aspects of study administration and sample capture/storage***
1. DNA
 2. RNA
- 10:15-10:45 AM** ***Biological overview of genetics & functional genomics***
1. Theoretical framework: Genes, Environments, transcription, and health
 2. System dynamics
- 11:00-12:00** ***Strategic aspects of study design and data analysis – Introduction***
1. Basic substantive objectives & study designs
- 12:00-1:00 PM** ***Lunch***
- 1:00-2:30 PM** ***Strategic aspects of study design and data analysis – Continued***
2. Study designs, assay technologies, and statistical methods
 - a. Gene discovery
 - i. Candidate gene studies
 - ii. Genome-wide association studies
 - iii. The bioinformatic middle road
 - b. Environmental regulation of health (via transcription)
 - i. Candidate transcript studies
 - ii. Genome-wide approaches
 - c. Gene-Environment interaction
 - i. Revisiting the “bioinformatic” middle road
- 2:45-3:15 PM** ***Perspectives on the State of the Field***
- How can we best promote the integration of genetic and demographic approaches? Discussants from current major studies.
- 3:15-4:00 PM** ***Application clinic***
- Open microphone Q & A

We are limited to 50 people. Persons who would like to attend please let us know **by March 1**.
Email to crimmin@usc.edu

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Suggested Background Reading:

Attia, J., Ioannidis, J. P. A., Thakkinstian, A., McEvoy, M., Scott, R. J., Minelli, C., Thompson, J., Infante-Rivard, C., & Guyatt, G. (2009). How to use an article about genetic association: A: Background concepts. *JAMA: The Journal of the American Medical Association*, 301(1), 74-81. PMID: 19126812

Attia, J., Ioannidis, J. P. A., Thakkinstian, A., McEvoy, M., Scott, R. J., Minelli, C., Thompson, J., Infante-Rivard, C., & Guyatt, G. (2009). How to use an article about genetic association: B: Are the results of the study valid? *JAMA: The Journal of the American Medical Association*, 301(2), 191-197. PMID: 19141767

Attia, J., Ioannidis, J. P. A., Thakkinstian, A., McEvoy, M., Scott, R. J., Minelli, C., Thompson, J., Infante-Rivard, C., & Guyatt, G. (2009). How to use an article about genetic association: C: What are the results and will they help me in caring for my patients? *JAMA: The Journal of the American Medical Association*, 301(3), 304-308. PMID: 19155457

Burton, P. R., Tobin, M. D., & Hopper, J. L. (2005). Key concepts in genetic epidemiology. *The Lancet*, 366(9489), 941-951. PMID: 16154023

Cordell, H. J., & Clayton, D. G. (2005). Genetic association studies. *The Lancet*, 366(9491), 1121-1131. PMID: 16182901

Hattersley, A. T., & McCarthy, M. I. (2005). What makes a good genetic association study? *The Lancet*, 366(9493), 1315-1323. PMID: 16214603

Smith, G. D., Ebrahim, S., Lewis, S., Hansell, A. L., Palmer, L. J., & Burton, P. R. (2005). Genetic epidemiology and public health: Hope, hype, and future prospects. *The Lancet*, 366(9495), 1484-1498. PMID: 16243094

Hirschhorn, J. N. & Daly, M. (2005). Genome-wide association studies for common diseases and complex traits. *Nature Reviews: Genetics*. 6(2), 95-108. PMID: 15716906

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