

June 3, 2005
New Haven Lawn Club
New Haven, Connecticut

Name _____
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Please Check Which Events You Would Like to Attend:

Genomics and Public Health \$30.00

Luncheon \$20.00

Total: _____

Make check payable to:
Yale University - AYAPH

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Dawn Carroll
Yale University School of Public Health
Office of Community and Alumni Affairs
PO Box 208034
New Haven, CT 06520

Questions?

E-mail: Dawn.Carroll@yale.edu
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ship by the scientific community, international organizations, governments, and industry is required through promotion of innovative partnerships and cooperation strategies.”⁴

Whether the genomic revolution enhances human health or further magnifies health disparities, will be the result of how theory meets practice in both public health and clinical care. An informed debate about the issues can only occur if health professionals at all levels have enough useful information to adequately assess the potential benefits and risks of likely outcomes. This program on *Genomics and Public Health* is designed to give health professionals an overview of the promise and challenges which genomics presents in the application of theory to practice in the health field and in bioethics.

¹Omenn, G, *AJPH*, 996, Vol 85, 1703; ²Wright, A, van Heyningen, V, *Nature*, 2001, 414:705; ³Steinberg, K, Gwinn, M, Khoury, M, *JAMA*,

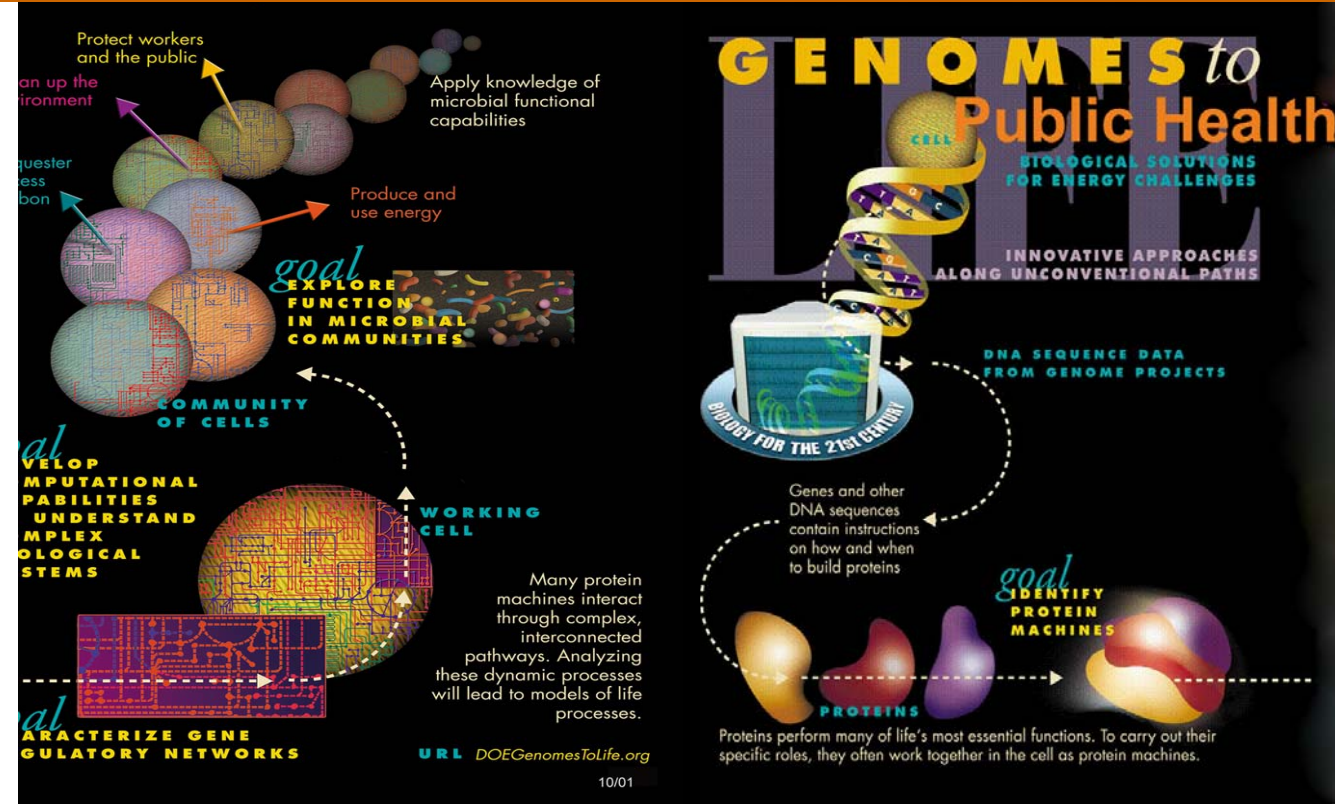
Learning Objectives – Genomics

- Increase overall knowledge of genomics and the applications of genomics to public health and the prevention of disease.
- Develop a greater understanding of the ethical, legal, economic, social and policy issues resulting from the genomics revolution
- Identify the bioethical challenges presented by genomics and the benefits and risks that must be monitored in the integration of research and practice
- Develop an understanding of strategies for equitable sharing of the benefits of the genomics revolution by rich and poor in all societies

Luncheon Address: Bioethics, Genomics, and Public Health



Featured Speaker: Peter A. Singer, MD, MPH
Professor of Medicine, Sun Life Chair in Bioethics and Director, University of Toronto Joint Centre for Bioethics, Director, PAHO/WHO Collaborating Centre for Bioethics



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**Public Health Challenges
of the 21st Century**

*A Multi-Year Series of Workshops
Addressing Seminal Issues in Public Health*

June 3, 2005
New Haven Lawn Club
New Haven, Connecticut

9am Registration
9:30am Welcome
Robert Steele, PhD, MPH, President, AYAPH
Elaine Anderson, MPH, Director, Alumni and Community Affairs

9:45am **Keynote Address**
Genomics and Race: Implications of Biogeography of Human Populations
Kenneth Kidd, PhD, Professor, Genetics, Psychiatry, and Biology, Yale University

11-1 pm **Faculty/Practitioner/Alumni Panel**
Genomic Priorities in Public Health
Moderator:
Paul Locke, JD, DrPH, MPH, Visiting Scholar, Johns Hopkins Bloomberg School of Public Health

Panelists:
Alan Goldberg, PhD, Director, Center for Alternatives to Animal Testing, Johns Hopkins University
Marta Gwinn, MD, Director for Science, CDC Office of Genomics & Disease Prevention, Coordinating Center for Health Promotion
Kathleen Merikangas, PhD, Chief, Section on Developmental Genetic Epidemiology, National Institutes of Health
Lloyd Mueller, PhD, Epidemiologist, Connecticut Department of Public Health
Herbert Yu, MD, PhD, Associate Professor, Division of Chronic Disease Epidemiology, Director of Molecular Epidemiology Shared Resource at the Yale Cancer Center

1-3:30pm **Luncheon**
Welcome
Brian P. Leaderer, PhD, Interim Dean of Public Health

Special Address
Peter A. Singer, MD, MPH
"Bioethics, Genomics, and Public Health"
Professor of Medicine, Sun Life Chair in Bioethics and Director, University of Toronto Joint Centre for Bioethics, Director, PAHO/WHO Collaborating Centre for Bioethics

Genomics and Public Health: Theory Meets Practice

We can be certain that genomics will grow further in importance in public health as the public becomes more knowledgeable and more demanding of genetic services, and as knowledge of our genes and their functions permits more effective strategies for treatment and especially for prevention, the special responsibility of public health¹

There is now general agreement that the ongoing genomics revolution, highlighted by the sequencing of the human genome, will result in changes in how diseases are prevented, diagnosed and treated. In recent years the genomes of nearly 50 microbial pathogens have been sequenced, and ongoing efforts to sequence genomes of mosquito vectors promise benefits in the near future for the control of many communicable diseases. In the longer term, it is now believed that information generated by genomics will play a major role in the prevention, diagnosis and management of chronic diseases including cardiovascular disease, cancer, diabetes, psychoses, dementia, and rheumatic disease.²

From a public health perspective, these opportunities cannot be realized until we know more about what combination of genetic and environmental factors predispose people to a particular disease. New areas of study, such as "genomic epidemiology" will need to chart the molecular, metabolic and disease profiles of populations in order to develop generic tools and protocols that ultimately can be applied to all genomic studies of disease and environmental interaction.³

Genomics brings with it complex ethical, legal, social and economic challenges. Misuse of genetic information, stigmatization, and the potential for creating a genetic underclass that may be denied insurance because of differential risk factors or genomic-based drugs because of poverty or access problems are a few of the ethical concerns that must be addressed. Genomics also brings the promise of providing scientific knowledge to reduce the health inequities between rich and poor, developed countries and developing countries. "A key issue in the post-genomics era will be who will pay to test, develop, and deliver important vaccines, drugs, and diagnostic procedures for diseases of the developing world and who will ensure equitable access to those who need it most. Strong international leader-

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Alan Goldberg, PhD is the Director, Center for Alternatives to Animal Testing at Johns Hopkins University. His research during the last 20 years has focused on the development of in vitro methodology in risk evaluation and safety assessment. He has worked with the Organization for Economic Cooperation and Development (OECD) as a consultant on animal welfare issues, where he participated in the writing of percutaneous absorption and humane endpoints guidelines. He is the first recipient of the Russell and Burch Award of the Humane Society of the United States, and was awarded the 1998 Society of Toxicology's Ambassador of Toxicology, and in 2001 received the Society of Toxicology's Enhancement of Animal Welfare Award.



Marta Gwinn, MD, MPH, is a medical epidemiologist and the Associate Director for Science, Office of Genomics and Disease Prevention, CDC. Dr. Gwinn graduated from the Vanderbilt University School of Medicine, the University of North Carolina School of Public Health, and CDC's Epidemic Intelligence Service. She worked in HIV research for 10 years before joining the Office of Genomics and Disease Prevention in 1999.



Kenneth Kidd, PhD, is a Professor of Genetics, Psychiatry, and Biology at Yale University. Dr. Kidd has pursued research in many areas of human genetics, including medical genetics, gene mapping, database design for modern genetic data, and a variety of molecular methodologies. More recently, his long-standing interest in human population genetics has been combined with his laboratory's expertise in molecular technology to examine human genome diversity at the DNA level. He is also responsible for ALFRED, the ALlele FREquency Database, a web accessible compilation of gene frequency data on anthropologically defined human populations. He is a certified Medical Geneticist by the American Board of Medical Genetics. Among his awards, he has been recognized by the U.S. Federal Bureau of Investigation and the National Institute of Justice for his contributions toward acceptance of DNA methodologies in the courts.



Paul Locke, JD, DrPH, MPH, is a faculty member at the Johns Hopkins University Bloomberg School of Public Health in the Department of Environmental Health Sciences. Dr. Locke has worked extensively on environmental health and policy issues, including genomics, radiation protection and radioactive waste disposal, indoor air quality, alternatives to animal testing, and risk assessment. Dr. Locke currently serves on EPA's Clean Air Act Advisory Committee.



Kathleen Merikangas, PhD is Senior Investigator and Chief, Section on Developmental Genetic Epidemiology in the Intramural Research Program at the National Institute of Mental Health. She is a chronic disease epidemiologist with training and experience in clinical psychiatry. At the NIMH, her laboratory applies the tools of epidemiology and genetics to study the familial patterns of expression of mood and anxiety disorders, and mechanisms for comorbidity of affective disorders and migraine. Dr. Merikangas is also involved in large-scale community studies of mental and physical disorders in adults and adolescents in the U.S. and in several other countries.



Lloyd Mueller, PhD is a senior epidemiologist at the Connecticut Department of Public Health (DPH). Dr. Mueller is a chronic disease epidemiologist in the Health Information Systems and Reporting Division (HISR) of DPH that provide general oversight for surveillance of birth, death and inpatient hospital discharge data systems, and has coordinated the development of new agency initiatives in health care quality. Currently he is working to develop an integrated child health information data warehouse (HIP-Kids), and to implement a web-based query system that will make community health statistics derived from the data warehouse information easily accessible to the public. Most recently HISR staff, in collaboration with other DPH staff, produced the Genomics Action Plan. This comprehensive report is intended to help provide a foundation for understanding the role of genomics in public health.



Herbert Yu, MD, PhD is an Associate Professor, Division of Chronic Disease Epidemiology and Director of Molecular Epidemiology Shared Resource at the Yale Cancer Center. His research focuses on genetic and epigenetic factors in cancer development and progression as well as on molecular mechanisms of gene-environment interaction in the development of breast, prostate, endometrial and ovarian cancers. Currently, Dr. Yu conducts studies on growth factors and sex hormone synergy in breast cancer, methylation and aging in prostate cancer, and suppression of tumor suppressor genes in ovarian cancer.