Program

Pre-Conference Tutorial

Wednesday, October 12th, 2011 from 2 to 5 pm

Room: Kennedy

Chair: Lisa M. LaVange, U.S. Food and Drug Administration

Absolute Risk Prediction (Abstract)
Mitchell H. Gail and Ruth Pfeiffer, National Cancer Institute

3:00 p.m. - 5:00 p.m. Coffee and Tea

Room: Adams next to Kennedy

Conference Program for Thursday, October 13th, 2011 (* Presenting Author)

7:30 a.m. - 8:00 a.m. Continental breakfast

Rooms: Lincoln pre-function room and Adams next to Kennedy

8:00 a.m. - 8:15 a.m.
Welcome:

Room: Kennedy

Ken Gertz, Associate Vice President for Research Development, University of Maryland, College Park

8:15 a.m. - 8:30 a.m.
Opening Remarks:

Room: Kennedy

Robert Gold, Dean, School of Public Health, University of Maryland, College Park

8:30 a.m. - 9:40 a.m.
Session 1: Opening Talk
**Room: Kennedy**

Chair: Andrew N. Freedman, Chief, Clinical and Translational Epidemiology Branch, Division of Cancer Control and Population Sciences, National Cancer Institute

Robert T. O'Neill*, U.S. Food and Drug Administration

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**8:30 a.m. - 9:40 a.m.**

**Session 2: The Stochastics of Diagnostic Tests and Reliability Methods**

**Room: Lincoln**

Chair: Jiuzhou Song, University of Maryland, College Park

The Stochastics of Diagnostic Tests (ABSTRACT)
Nozer D. Singpurwalla*, George Washington University

Residuals and Functional Form in Accelerated Life Regression Models (ABSTRACT)
Bo Lindqvist*, Stein Aaserud, Norwegian University of Science and Technology; Jan Terje Kvaloy, University of Stavanger, Norway

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**8:30 a.m. - 9:50 a.m.**

**Session 3: Selection of Target Population and Treatment**

**Room: Grant**

Chair: Henry Hsu, U.S. Food and Drug Administration

Biologic Risk Models for Predicting Recurrence for Patients with Resected Non-small Cell Lung Cancer (ABSTRACT)
Jack Lee*, Diane Liu, Heather Lin, University of Texas MD Anderson Cancer Center

Effectively Selecting A Target Population for A Future Comparative Study (ABSTRACT)
Lihui Zhao*, Harvard University; Lu Tian, Stanford University; Tianxi Cai, Brian Claggett, Lee-Jen Wei, Harvard University

Variable Selection for Optimal Treatment Decision (ABSTRACT)
Wenbin Lu*, Hao Zhang, North Carolina State University; Donglin Zeng, University of North Carolina, Chapel Hill

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**9:40 a.m. - 10:00 a.m. Coffee and Tea**

*Rooms: Lincoln pre-function room and Adams next to Kennedy*
10:00 a.m. - 12:00 p.m.

Session 4: Spatial-Temporal Risk Analysis

Room: Kennedy

Chair: Antonio Possolo, National Institute of Standards and Technology

Spatial-temporal Risk Analysis of Case-control Studies of Cancer (ABSTRACT)
David Wheeler*, National Cancer Institute

Spatial Spline Models for Estimation of Age-specific HIV Prevalence (ABSTRACT)
Matthew Austin, Victor DeGruttola*, Harvard University

Forecasting Mortality Rates via Density Ratio Modeling (ABSTRACT)
Benjamin Kedem*, University of Maryland, College Park

Modeling Spatial Temporal Epidemics using STBL Model (ABSTRACT)
Sung Duck Lee*, Chungbuk National University, South Korea; Lynne Billard, University of Georgia

10:00 a.m. - 12:10 p.m.

Session 5: Semi-Parametric Models

Room: Lincoln

Chair: Tzu-Cheg Kao, Uniformed Services University of the Health Sciences

A Measure of Explained Risk in the Proportional Hazards Model (ABSTRACT)
Glenn Heller*, Memorial Sloan-Kettering Cancer Center

Latency Analysis Under the Cox Model with Applications in Air Pollution Study (ABSTRACT)
Molin Wang*, Donna Spiegelman, Harvard University

Partly Conditional Estimation of the Effect of a Time-dependent Factor in the Presence of Dependent Censoring (ABSTRACT)
Douglas Schaubel*, Qi Gong, University of Michigan

Nonparametric Risk Assessment in Tumorgenicity Experiments (ABSTRACT)
Jianguo Sun*, University of Missouri

10:00 a.m. - 12:00 p.m.

Session 6: Risk Analysis in Food Safety and Air Pollution

Room: Grant

Chair: Lihan Huang, U.S. Department of Agriculture
Quantitative Risk Assessments to Evaluate Food Safety Issues for Listeria Monocytogenes in Ready-to-eat Deli Meats (Abstract)
   Abani Pradhan*, University of Maryland, College Park

Development and Validation of Exposure Biomarkers to Dietary Contaminants: Mycotoxins (Abstract)
   Paul C. Turner*, University of Maryland, College Park

Indoor Air Pollution From Solid Fuels and Lung Cancer Risks in Low Income Countries (Abstract)
   Amir Sapkota*, University of Maryland, College Park

An Adaptive Nonparametric Method in Bench-mark Analysis for Bioassay and Environmental Studies (Abstract)
   Lizhen Lin*, Rabi Bhattacharya, University of Arizona

12:00 p.m. - 1:20 p.m. Lunch

Room: Adams next to Kennedy

1:20 p.m. - 3:00 p.m.

Session 7: Pharmaceutical Products and Vaccines

Room: Kennedy

Chair: Mary Foulkes, George Washington University

Safety Assessment and Risk Management of Pharmaceutical Products (Abstract)
   Christy Chuang-Stein*, Pfizer Inc.

Statistical Evaluation of Immunological Markers in Vaccine Clinical Trials (Abstract)
   Ivan Chan*, Merck & Company, Inc.

Assessing Genomic Biomarker’s Clinical Utility for Drug Development versus for Clinical Management (Abstract)
   Sue-Jane Wang*, U.S. Food and Drug Administration

1:20 p.m. - 3:00 p.m.

Session 8: Special Session by the National Institute of Standards and Technology

Room: Lincoln

Chair: Jeffrey Herrmann, University of Maryland, College Park

Assessment in the NIST Speaker Recognition Evaluation (Abstract)
Hung-kung Liu*, Alvin Martin, Craig Greenberg, National Institute of Standards and Technology

Mapping Return Values of Extreme Wind Gusts (ABSTRACT)
Adam Pintar*, Antonio Possolo, National Institute of Standards and Technology

Decision Analysis Methods for Selecting Consumer Services with Attribute Value Uncertainty (ABSTRACT)
Dennis Leber*, National Institute of Standards and Technology; Jeffrey Herrmann, University of Maryland, College Park

1:20 p.m. - 3:00 p.m.
Session 9: Dose-Response Models and Control Charts

Room: Grant

Chair: Naitee Ting, Boehringer-Ingelheim Pharmaceuticals Inc.

A Framework for Modeling Biological Data (ABSTRACT)
Chao Chen*, Leonid Kopylev, U.S. Environmental Protection Agency

Relative Potency Functions for Dose-response Studies (ABSTRACT)
Gregg Dinse*, David Umbach, National Institute of Environmental Health Sciences

Guaranteed Conditional Performance of Control Charts via Bootstrap Methods (ABSTRACT)
Axel Gandy*, Imperial College London, United Kingdom; Jan Terje Kvaloy, University of Stavanger, Norway

3:00 p.m. - 3:20 p.m. Coffee and Tea

Rooms: Lincoln pre-function room and Adams next to Kennedy

3:20 p.m. - 5:30 p.m.
Session 10: Population Risk Models

Room: Kennedy

Chair: Karen Bandeen-Roche, Johns Hopkins University

Age-period-cohort Models in Cancer Surveillance Research: Ready for Prime Time? (ABSTRACT)
Philip Rosenberg*, William Anderson, National Cancer Institute

A New, Population Based Approach to Ultrasound Term Prediction Models (ABSTRACT)
Hakon Gjessing*, Norwegian Institute of Public Health, Norway; Per Grottum, University of Oslo, Norway; Sturla Eik-Nes, National Center for Fetal Medicine,
Norway
Non-proportionality of Sub-hazards in the Competing Events Framework
(ABSTRACT)
Alvaro Muñoz*, Alison G. Abraham, Matthew Matheson, Nikolas Wada, Johns Hopkins University
Risk Assessment Using Records of Physician Visits from Cancer Survivors
(ABSTRACT)
Joan Hu*, Simon Fraser University, Canada

3:20 p.m. - 5:30 p.m.
Session 11: Evaluating Prediction Models I
Room: Lincoln
Chair: Michael Larsen, George Washington University

Testing for Improvement in Prediction Model Performance (ABSTRACT)
Margaret Pepe*, University of Washington

Two Criteria for Evaluating Risk Prediction Models (ABSTRACT)
Ruth Pfeiffer*, Mitchell H. Gail, National Cancer Institute

Risk Prediction with Complex Studies (ABSTRACT)
Tianxi Cai*, Jennifer Sinnott, Harvard University; Yingye Zheng, Fred Hutchinson Cancer Research Center

Discrimination Measures for Survival Outcomes: Connection Between the AUC and the Predictiveness Curve (ABSTRACT)
Vivian Viallon*, University of Lyon 1, France; Aurelien Latouche, University of Versailles, France

3:20 p.m. - 5:30 p.m.
Session 12: Genetic and Molecular Markers
Room: Grant
Chair: Leonid Kopylev, U.S. Environmental Protection Agency

Assessing Risk in Families with Cancer (ABSTRACT)
Giovanni Parmigiani*, Dana-Farber Cancer Institute

Conjugate Sensitivity to Anti-mitotic Chemotherapy versus Targeted Therapy is Revealed and Predicted by Tumor-invasion Gene-expression Profiling (ABSTRACT)
Ker-Chau Li*, Yi-Chiung Hsu, Academia Sinica, Taiwan

Efficient Multi-marker Tests for Association in Case-control Studies (ABSTRACT)
Identification of Germline Mutations in Familial Syndromes Using Sequencing Data

Wenyi Wang*, Gang Peng, University of Texas MD Anderson Cancer Center

**Poster Presentation**

**Thursday, October 13th, 2011 from 9:30 am to 4:30 pm**

The Poster Presentation will take place in the Lincoln pre-function room.

The conference will provide standard 36"x 48" tri-fold boards and push pins to poster presenters. Posters will be on display from 9:30 a.m. to 4:30 p.m. on Thursday, October 13th, 2011. All posters must be removed by 5:00 p.m. (October 13th) without damaging the poster board.

The posters are listed in alphabetical order by the first author's last name.

**Poster 1:** Assessing Breast Cancer Risk Prediction Models: A Systematic Review of Model Development and Performance
Thunyarat Anothaisintawee*, Mahidol University, Thailand; Ammarin Thakkinstian, Mahidol University, Thailand; Yot Teerawattananon, Ministry of Health, Thailand

**Poster 2:** Assessing the Added Value of Breast Tumor Markers in Breast Cancer Genetic Risk Prediction Model BRCAPRO
Swati Biswas*, Neelam Tankhiwale, University of North Texas Health Science Center; Amanda Blackford, Johns Hopkins University; Angelica M. Gutierrez Barrera, Christopher I. Amos, University of Texas MD Anderson Cancer Center; Giovanni Parmigiani, Dana-Farber Cancer Institute; Banu Arun, University of Texas MD Anderson Cancer Center

**Poster 3:** A Comparison of Genetic Risk Score Models for Predictive Modeling of Disease Risk
Ronglin Che*, Alison Motsinger-Reif, North Carolina State University

**Poster 4:** Semiparametric Bayesian Joint Modeling of a Binary and Continuous Outcome
Beomseuk Hwang*, Michael Pennell, The Ohio State University

**Poster 5:** Estimating Relative Risk of Disease from Genetic and Environmental
Risk Factors (ABSTRACT)
Cathryn Lewis*, Daniel Crouch, Graham Goddard, King's College London, United Kingdom

Poster 6: Is the Current Cutoffs of Triglycerides and High Density Cholesterol a Useful Tool for the Definition of the Metabolic Syndrome in Non-hispanic Blacks? (ABSTRACT)
Jiuzhou Song*, Omy Rodriguez, Yali Hou, George Liu, University of Maryland, College Park

Poster 7: Constructing Normalcy and Discrepancy Indexes from Birth Weight and Gestational Age Using a Threshold Regression Mixture Model (ABSTRACT)
G.A. Whitmore, McGill University, Canada; Guangyu Zhang, National Center for Health Statistics; Mei-Ling Ting Lee*, University of Maryland, College Park

Poster 8: Development and Evaluation of Risk Prediction Models for Retinopathy of Prematurity Using Postnatal Weight Gain (ABSTRACT)
Guishuang Ying*, University of Pennsylvania; Gil Binenbaum, Graham Quinn, Haresh Kirpalani, Children’s Hospital of Philadelphia

Poster 9: Stratified and Clustered Competing Risks Regression, with Applications to Clinical Trials (ABSTRACT)
Bingqing Zhou*, Yale University

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**Conference Program for Friday, October 14th, 2011**
(* Presenting Author)

**7:30 a.m. - 8:00 a.m. Continental breakfast**
*Rooms: Lincoln pre-function room and Adams next to Kennedy*

**8:00 a.m. - 10:10 a.m.**
**Session 13: Comparative Benefit/Risk Assessment**
*Room: Kennedy*

Chair: David Oakes, University of Rochester

Post-randomization Factors, Direct Effects and Randomized Trials to Measure Risk Reductions (ABSTRACT)
Nicholas Jewell*, University of California, Berkeley

Development of a Benefit/Risk Assessment Tool for Breast Cancer Chemoprevention (ABSTRACT)
Andrew N. Freedman*, National Cancer Institute; Binbing Yu, National Institute on Aging; Mitchell H. Gail, National Cancer Institute; Joseph P. Costantino, University of
Comparative Benefits for Disease Prevention of Improved Interventions versus More Discriminating Models of Disease Risk (ABSTRACT)
Mitchell Gail*, National Cancer Institute

Using Cardiovascular Disease (CVD) Risk Functions in Public Health and Clinical Trials: The Framingham Experience and Beyond (ABSTRACT)
Ralph B. D'Agostino, Sr., Boston University; Joseph Massaro*, Boston University & Harvard Clinical Research Institute

8:00 a.m. - 10:10 a.m.
Session 14: Evaluating Risk Prediction Models II
Room: Lincoln
Chair: Yi Tsong, U.S. Food and Drug Administration

Evaluating the Predictive Value of Biomarkers with Failure Time Outcome (ABSTRACT)
Yingye Zheng*, Fred Hutchinson Cancer Research Center; Tianxi Cai, Harvard University

Designing Studies to Evaluate Biomarkers for Selecting Patient Treatment (ABSTRACT)
Holly Janes*, Margaret Pepe, Ying Huang, Fred Hutchinson Cancer Research Center

Assessing Discrimination of Risk Prediction Rules in a Clustered Data Setting (ABSTRACT)
Bernard Rosner*, Weiliang Qiu, Brigham and Women's Hospital and Harvard University; Mei-Ling T. Lee, University of Maryland, College Park

Bivariate Marker Measurements and ROC Analysis (ABSTRACT)
Mei-Cheng Wang*, Shanshan Li, Johns Hopkins University

8:00 a.m. - 10:10 a.m.
Session 15: Advanced Methods in Survival Analysis
Room: Grant
Chair: George Luta, Georgetown University

A New Class of Estimating Equation-based Variable Selectors for Marginal Regression Models (ABSTRACT)
Yi Li*, Dave Zhao, Harvard University

Neyman, Markov Processes and Survival analysis (ABSTRACT)
10:10 a.m. - 10:30 a.m. Coffee and Tea

Rooms: Lincoln pre-function room and Adams next to Kennedy

10:30 a.m. - 12:40 p.m.

Session 16: Genetic and Epigenetic Factors in Risk Analysis

Room: Kennedy

Chair: Chao Agnes Hsiung, National Health Research Institutes, Taiwan

Use of Resampling Methods for the Evaluation of High-dimensional Survival Risk Models (ABSTRACT)
Richard Simon*, Jyothi Subramanian, National Cancer Institute

Prediction with Scores of Tiny Effects: Lessons from Genome-wide Association Studies (ABSTRACT)
Nilanjan Chatterjee*, JuHyun Park, Mitchell H. Gail, National Cancer Institute

Incorporating Auxiliary Information for Improved Prediction in High Dimensional Datasets: An Ensemble of Shrinkage Approaches (ABSTRACT)
Philip Boonstra*, Jeremy Taylor, Bhramar Mukherjee, University of Michigan

Sequential Support Vector Regression Model with Embedded Entropy for Disease Prediction and SNP Selection (ABSTRACT)
Yulan Liang*, Arpad Kelemen, University of Maryland, Baltimore

10:30 a.m. - 12:50 p.m.

Session 17: Reclassification Statistics in Comparing Risk Models

Room: Lincoln
Chair: Mounir Mesbah, Université Pierre et Marie Curie Paris VI, France

Performance of Reclassification Statistics in Comparing Risk Prediction Models (ABSTRACT)
Nancy Cook*, Brigham and Women's Hospital

Interpreting Incremental Value Offered by New Predictors (ABSTRACT)
Michael J. Pencina*, Harvard Clinical Research Institute & Boston University

Comparing the Expected Misclassification Cost for Two Classifiers Based on Estimates From the Same Sample (ABSTRACT)
James Troendle*, National Heart, Lung, and Blood Institute; Kai Yu, Tsingua University, China; Peter Westfall, Texas Tech University; Gene Pennello, U.S. Food and Drug Administration; Enrique Schisterman, National Institute of Child Health and Human Development

Absolute Risk Prediction of Second Primary Thyroid Cancer for 5-year Childhood Cancer Survivors Based on Patient-reported Treatment History (ABSTRACT)
Stephanie Kovalchik*, Ruth Pfeiffer, National Cancer Institute; PIRATES Investigators

Comparing ROC Curves Derived from Nested Models (ABSTRACT)
Mithat Gonen*, Venkatraman Seshan, Colin Begg, Memorial Sloan-Kettering Cancer Center;

10:30 a.m. - 12:40 p.m.

Session 18: Non-Proportional Hazards Models
Room: Grant

Chair: Richard Valliant, University of Michigan

Concordance Estimation with Censored Regression Models (ABSTRACT)
Zhezhen Jin*, Xinhua Liu, Wei-Yann Tsai, Columbia University

Graphically Presenting the Treatment Effect via Semiparametric Analysis for Survival Data (ABSTRACT)
Song Yang*, National Heart, Lung, and Blood Institute

Modelling Health Processes for Population Risk Assessments: The Case of Chronic Obstructive Pulmonary Disease (ABSTRACT)
G. A. Whitmore*, McGill University, Canada

Regression Modeling of Time to Event Data using the Ornstein-Uhlenbeck Process (ABSTRACT)
Roger Erich, Michael Pennell*, The Ohio State University;

12:45 p.m. - 2:00 p.m. Lunch
Room: Adams next to Kennedy

2:00 p.m. - 4:20 p.m.

Session 19: High-dimensional Search for Risk Factors

Room: Lincoln

Chair: Robert Strawderman, Cornell University

Etiologic Heterogeneity of Cancers and the Improved Search for Risk Factors

(ABSTRACT)
Colin Begg*, Memorial Sloan-Kettering Cancer Center

Bayesian Ensemble Methods for Survival Prediction in Gene Expression Data

(ABSTRACT)
Kim-Anh Do*, University of Texas MD Anderson Cancer Center

Assessing the Effects of Two Epigenetic Factors on Complex Genetics Traits

(ABSTRACT)
Shili Lin*, The Ohio State University

High-dimensional Heteroscedastic Regression with an Application to eQTL Data Analysis

(ABSTRACT)
John Daye*, Jinbo Chen, Hongzhe Li, University of Pennsylvania

Penalized Likelihood Approach to Variable Selection Using Cox’s Regression in Nested Case–control Studies

(ABSTRACT)
I-Shou Chang*, National Health Research Institutes, Taiwan; Cheihui Wang, National Tsing-Hua University, Taiwan; Chao A. Hsiung, National Health Research Institutes, Taiwan; Howard Pan, National Central University, Taiwan

2:00 p.m. - 3:10 p.m.

Session 20: Current Status Data; Risk Management

Room: Grant

Chair: Grace Yang, University of Maryland, College Park

Slice Sampler for Current Status Data Under Linear Transformation Models

(ABSTRACT)
Lianming Wang*, Timothy Hanson, University of South Carolina

Placing Pre-event Pharmaceuticals for Anthrax: Using Models for Risk Management

(ABSTRACT)
Jeffrey Herrmann*, University of Maryland, College Park

3:30 p.m. - 5:00 p.m. Coffee and Tea
Rooms: Lincoln pre-function room and Adams next to Kennedy

Conference Tutorial

Friday, October 14th, 2011 from 2 to 5 pm

Room: Kennedy

Chair: Ruth Pfeiffer, National Cancer Institute

Current Methods for Evaluating Prediction Performance of Biomarkers and Tests (ABSTRACT)

Margaret S. Pepe, University of Washington