Integrative Molecular Cancer Epidemiology
An IARC-EACR-AACR-ECNIS Symposium
3-5 July 2008
http://www.iarc.fr/molepi2008

International Congress Center of Lyon
Lyon, France
Molecular epidemiology has developed during the last two decades as an independent discipline at the crossroad of epidemiology and molecular sciences. On the one hand, molecular epidemiology aims to overcome the limitations of traditional approaches in epidemiology, by measuring events relevant to exposure, disease development, and response to therapy, reducing exposure and outcome misclassification, and identifying determinants of individual susceptibility to disease and treatment response. On the other hand, it offers a framework for applying novel molecular techniques to population and clinical studies. Furthermore, the finalization of the HAPMAP project and the advent of new technologies for genotyping 100,000s of variants for limited cost have led to a new generation of studies aimed to identify cancer genes.

Recent technological advances and discoveries in genomic and molecular research, including in particular the use of microarrays and high-throughput analyses pose novel challenges to the design and analysis of molecular epidemiological studies, whose theoretical implications have yet to be fully explored. Molecular epidemiology, however, should not be seen as a mere application of novel molecular techniques to human studies, rather as a rapidly evolving field in which both epidemiologists, clinicians, molecular scientists – and even more so the new generation of ‘molecular epidemiologists’ with a multidisciplinary background – work together to address the most relevant aetiologic and clinical questions.

Cancer research has represented an area of particular importance for the theoretical development and the application of molecular epidemiology. The long duration of disease development, entailing the need to measure exposures back in the past, the heterogeneity of the relevant phenotypes, the complexity of carcinogenic pathways and the limited success in developing effective therapeutic strategies have traditionally represented major challenges to aetiological and clinical cancer research. The application of molecular techniques to epidemiological and clinical studies has therefore been seen as a potentially promising approach to overcome these limitations.

An international symposium on Integrative Molecular Cancer Epidemiology will be organized in Lyon, France, on 3rd-5th July 2008, immediately before the 20th meeting of EACR (EACR20), scheduled to take place in Lyon on 5th-8th July 2008 (http://www.ecco-org.eu/Conferences-and-Events/EACR-20/page.aspx/213).
The conference will be a joint initiative of IARC, AACR and EACR, in partnership with the EC-sponsored Network of Excellence on Cancer, Environment, Nutrition, and Individual Susceptibility (ECNIS, www.ecnis.org).

The conference aims to represent a forum for young and established investigators to present their work and to review the most promising areas of future development of the discipline.

The conference will focus on aetiological and mechanistic aspects of molecular and genetic cancer epidemiology research. Sessions on clinical applications of molecular epidemiology will be included in the main EACR meeting, to promote cross-participation between the two events.

Target participants include epidemiologists, geneticists, biochemical and molecular biologists, pharmacologists, pathologists and researchers who are interested in the field. Efforts will be made to attract also clinicians. It is expected that a sizeable number of participants will also attend the EACR meeting.

Organizing Committee

Paolo Boffetta
Pierre Hainaut
Paul Brennan
Sean Tavtigian
Christine Ambrosone
Regina Santella
Marco Pierotti
Edit Olah
Soterios Kyrtopoulos
Peter Farmer

Program Committee

Jim Cerhan
John Groopman
Rayjean Hung
Tim Rebbeck
Julie Ross
Peter Shields
Neli Ulrich
Roel Vermeulen
Paolo Vineis
Chris Wild
Date and venue

The conference will start on 3rd July 2008 at 10:00am and will end on 5th July 2008 at 12:00noon.

The conference will be organized in the International Congress Center of Lyon, where the main EACR meeting will take place.

Cité Centre de Congrès
Secil Sa - Cité Internationale
50, quai Charles de Gaulle
F-69463 Lyon Cedex
France

Registration, abstract submission

Registration to the conference is handled together with the registration of EACR20. Information, prices and forms are available the website of EACR20 (http://www.ecco-org.eu/Conferences-and-Events/EACR-20/page.aspx/213).

Participants are invited to submit abstracts for oral and poster presentations. Forms are available from the website of symposium (http://www.iarc.fr/molepi2008). Deadline for abstract submission is 20 April 2008. Authors will be notified by 30 April 2008.
Programme

3rd July

9:30am – 10:00am  Opening
Chair: P. Boffetta

10:00am – 11:00am  Keynote lecture
Successes and failures of molecular cancer epidemiology – F. Perera

11:00am – 11:30am  Coffee break

Session 1: Molecular epidemiology – Application of novel molecular markers to cancer epidemiology

11:30am – 12:10pm  Invited lecture
Novel viral markers – M. Pawlita

12:10pm – 12:50pm  Invited lecture
Application of epigenetics to cancer epidemiology – Z. Herceg

12:50pm – 1:00pm  Proffered paper
Serologic response to HPV and the risk of head and neck cancer – K. Ribeiro

1:00pm – 2:00pm  Lunch break
Chair: P. Farmer

2:00pm – 2:40pm  Invited lecture
Expression microarrays and cancer epidemiology, lessons from breast cancer – A.L. Børresen-Dale

2:40pm – 3:20pm  Invited lecture
Integrated gene expression analysis in PBL and in the derived lymphoblastoid cell lines to define individual radiotoxic risk profiles – M. Pierotti

3:20pm – 3:30pm  Proffered paper
In vitro benzo [a] pyren diol epoxide-induced damage to DNA and chromosomes are independent risk markers for squamous cell
carcinoma of the head and neck. – Q-Y. Wei

3:30pm – 4:30pm
Coffee break and poster session
Posters P1 – P33

4:30pm – 5:10pm
Invited lecture
Application of proteomics to cancer epidemiology – S. Hanash

5:10pm – 5:50pm
Invited lecture
Proteomics: an epidemiological view – R. Vermeulen

4th July
Session 2. Genomic epidemiology in the era of whole genome scan
Chair: D. Segerbäck

8:30am – 9:10am
Invited lecture
Case-control mutation screening – insights and lessons from breast cancer susceptibility – N. Rahman

9:10am – 9:50am
Invited lecture
Lessons from genome scans – the example of lung cancer – P. Brennan

9:50am – 10:30am
Invited lecture
Statistical approaches for genome-wide association studies – D. Balding

10:30am – 11:00am
Coffee break

11:00am – 11:40am
Invited lecture
Copy number variants: a common mechanism in complex diseases – X. Estivill

11:40am – 11:50am
Proffered paper
Searching for early breast cancer biomarkers by serum protein profiling in Prospect –EPIC. – A. van Winden

11:50am – 12:00pm
Proffered paper
Genetic variants in fibroblast growth factor receptor
2 (FGFR2) contribute to susceptibility of breast cancer in Chinese women. – H.B. Shen

12:00pm – 1:00pm  
**Keynote lecture** 
Molecular cancer epidemiology and public health – R. Saracci

1:00pm – 2:00pm  
**Lunch break**

Chair: M. Kirsch-Volders

2:00pm – 2:10pm  
**Proffered paper** 
Effects of IL-10 and IL-6 gene polymorphisms and atomic-bomb radiation exposure on gastric cancer risk. – T. Hayashi

2:10pm – 2:20pm  
**Proffered paper** 
A case-control study on the effect of p53 and p73 polymorphisms on gastric risk and progression in an Italian population. – E. De Feo

2:20pm – 2:30pm  
**Proffered paper** 
Circulating vitamin D concentration, vitamin D receptor polymorphisms and the risk of colorectal cancer: results from the European Prospective Investigation into Cancer and Nutrition (EPIC). – M. Jenab

2:30pm – 2:40pm  
**PhD student presentation** 
Polymorphisms in fatty acid metabolizing genes and colorectal cancer risk in the European Prospective Investigation into Cancer and Nutrition (EPIC) – B. Hoeft

2:40pm – 2:50pm  
**PhD student presentation** 
Genetic variants of folate metabolizing enzymes and epigenetic regulation genes and sporadic colorectal cancer risk – S. De Vogel

2:50pm – 3:00pm  
**PhD student presentation** 
Pre-pregnancy weight, rate of gestational weight gain and risk of infant leukemia – C. Blair

3:00pm – 3:10pm  
**PhD student presentation**
Genetic markers for the prediction of breast density and breast cancer risk – *M. Biong*

3:10pm – 3:20pm
*PhD student presentation*

Genetic polymorphisms of myeloperoxidase (MPO), epoxide hydrolase 1 (EPHX1) and NAD(P)H dehydrogenase 1 (NQO1) as risk factors of early onset lung cancer – *M. Timofeeva*

3:20pm – 3:40pm
*Special lecture*

Viral hepatitis and liver cancer – *L. Beretta*

3:40pm – 4:40pm
*Coffee break and poster session*

Posters P34 – P69

**Session 3. Integrative molecular epidemiology -Visions for the future**

4:40pm – 5:20pm
*Invited lecture*

Gene-environment interactions – *N. Rothman*

5:20pm – 6:00pm
*Invited lecture*

Epidemiology of childhood leukemia: a transdisciplinary approach – *J. Ross*

5th July

*Chair: K. Rydzynski*

9:00am – 9:40am
*Invited lecture*

Evaluating cumulative evidence in genomic epidemiology – *J. Ioannidis*

9:40am – 10:20am
*Invited lecture*

Transdisciplinary science approaches for molecular epidemiology – *R. Hiatt*

10:20pm – 10:40pm
*Invited lecture*

Impact of whole genome scans on cancer research – *G. Thomas*

10:40am – 11:10am
*Coffee break*

11:10am – 12:10pm
*Keynote lecture*

Future perspectives of molecular cancer epidemiology – *M. Smith*

12:10pm – 12:30pm
*Closing*