The Future of Genetics in Medicine and beyond

Organized by
Department of Medical Sciences
Transplants Genetics
University of Turin

TURIN (Italy)
June 22nd - 23rd, 2017
Palazzo Carignano, Piazza Carlo Alberto

President of the Meeting
Antonio Amoroso
Department of Medical Sciences
Transplants Genetics
University of Turin

Scientific Board Coordinator
Fulvia Pedani
UNDER THE AUSPISES OF:
University of Turin

ORGANIZED BY:
Department of Medical Sciences
Transplants Genetics
University of Turin

PRESIDENT OF THE MEETING
Antonio Amoroso
Department of Medical Sciences
Transplants Genetics
University of Turin

SCIENTIFIC PROGRAMME COMMITTEE
Alfredo Brusco
Sandra D’Alfonso
Maurizio Genuardi
Giuseppe Matullo
Mauro Giulio Papotti
Barbara Pasini
Fulvia Pedani

PROMOTED BY:
Fondazione Internazionale Menarini
Centro Direzionale Milanofiori
20089 Rozzano (Milan, Italy)
Edificio L - Strada 6
Phone: +39 02 55308110 - Fax +39 02 55305739
E-mail: milan@fondazione-menarini.it
website: www.fondazione-menarini.it

ORGANIZING SECRETARIAT:
Contatto S.r.l.
ECM ID 126
Via Vincenzo Lancia, 27 - I-10141 Turin (Italy)
Phone: +39 011 715210 / 712393 - Fax: +39 011 726115
E-mail: info@contatto.tv
Web site: www.contatto.tv
Genetics is often associated with the term “revolution”, indicating the extraordinary transformation had by this discipline in recent years. The most radical changes were marked by the technological revolution that made it possible to raise progressively the resolution of genetic investigations, reducing costs and time of the analysis and therefore the knowledge to larger and larger segments of the population. Genomics, the study of the genome, can be considered the most advanced field of genetics, for the ability to identify individual differences that can explain a significant part of the state of health and disease. For these reasons, knowledge mediated by recent developments in this discipline must be governed, made accessible and integrated in health plans.

The Human Genome Project has opened new horizons setting the stage for the “genomic medicine” and has led to fundamental advances in understanding the molecular and cellular mechanisms of diseases, which have given way to new diagnostic and therapeutic approaches for early prediction, diagnosis and prevention of many Mendelian and common diseases.

The genomic approach is an entirely new way of practicing medicine both at the bedside and in the organization of public health. It is playing an increasingly important role in clinical practice, partly thanks to rapid technological progress that allows a technique more and more refined in the face of a rapid reduction of time and costs. A growing number of guidelines suggests including molecular genetic tests for the diagnosis and treatment of monogenic and complex diseases in greater social impact such as tumors, neurodegenerative, metabolic and cardiovascular diseases. Public health is dealing with guidelines that properly directs towards a personalized therapy and which also corresponds to the drug economy criteria.

The new methodologies - capable of distinguishing the contribution of the many factors that contribute to genome-environment interaction which determine the phenotype of an individual - can really change our future? Does the genomic approach - able to distinguish the contribution of genetics, socio-cultural conditions, lifestyles and more generally of the environmental factors contributing to diseases, especially chronic ones and infectious - will modify medicine?

This meeting is intended to make the state on the latest conceptual and technological achievements in this field of biomedical research and consider their application in clinical practice, as well as the psychological, ethical and legal implications that the prediction and understanding of mechanisms of health and disease can create by defining an individual's risk of contracting certain diseases.

The major international experts will delve into the current knowledge about:
- Epigenetics and epigenomics
- Personalized or Precision Medicine
- Genomics and prevention of greater social impact diseases
- How genomics will change the diagnosis and treatment of cancers, cardio vascular and neurological diseases
- Pharmacogenomics
- New molecules and target therapy
- Genome editing and gene therapy

Antonio Amoroso
President of the Meeting
12.00 p.m.  Registration and Welcome cocktail

02.00 p.m.  Meeting presentation
  *Antonio Amoroso* (Turin, IT)

02.30 p.m.  Opening Lecture:
  The future of genetic medicine: medical and ethical considerations
  *Bruno Dallapiccola* (Rome, IT)

**Session I: The Genomic Era**

Chairman:  *Maurizio Genuardi* (Rome, IT)
  *Sandra D’Alfonso* (Novara, IT)

03.30 p.m.  Genomic Medicine
  *Evan Eugene Eichler* (Seattle, WA, USA)

04.00 p.m.  Personalised Medicine
  *Harry C. Dietz* (Baltimora, USA)

04.30 p.m.  Epigenetics and Epigenomics
  *Salvatore Oliviero* (Turin, IT)

05.00 p.m.  The new world of RNAs
  *Stefano Gustincich* (Genoa, IT)

05.30 p.m.  Coffee Break
Session 2: Genomic approaches to the diagnosis of diseases
Chairman: Alfredo Brusco (Turin, IT)  Giovanni Battista Ferrero (Turin, IT)
06.00 p.m. New frontiers for the diagnosis of genetic diseases Marco Tartaglia (Rome, IT)
06.20 p.m. How genomic approaches will change the diagnosis of tumours Giorgio Scaglotti (Turin, IT)
06.40 p.m. Genomic analyses for susceptibility to complex diseases Francesco Cucca (Sassari, IT)
07.00 p.m. Will we have all the information of our genome on our health card? Edoardo Boncinelli (Milan, IT)
07.20 p.m. Concluding remarks

Session 3: How genomics will change the prevention of diseases
Chairman: Barbara Pasini (Turin, IT)  Antonio Amoroso (Turin, IT)
08.30 a.m. NIPT: Non invasive prenatal testing on fetal DNA circulating in maternal blood Joris Vermeesch (Leuven, BE)
09.00 a.m. NGPD: Next Generation Prenatal Diagnosis Arthur L. Beaudet (Houston, USA)
09.30 a.m. Genomics screening for genetic diseases Andrea Ballabio (Naples, IT)
10.00 a.m. Genomic and epigenomic variability in complex diseases Giuseppe Matullo (Turin, IT)
10.30 a.m. Coffee Break
Session 4: New scenarios of genomic medicine

Chairman: Fiorenzo Gaita (Turin, IT)
          Roberto Ravazzolo (Genoa, IT)

11.00 a.m. Personalised cancer therapy
          Vincenzo Corbo (Verona, IT)

11.30 a.m. How the genomics era will change the diagnosis and treatment of the neurological diseases

........... (................................)

12.00 a.m. How the genomics era will change the diagnosis and treatment of heart diseases
          Joseph Loscalzo (Boston, USA)

12.30 a.m. How the genomics era will change the diagnosis and treatment of kidney diseases
          Ali Gharavi (New York, USA)

01.00 p.m. Lunch

Session 5: Genomics in Therapy

Chairman: Fulvia Pedani (Turin, IT)
          Mauro Giulio Papotti (Turin, IT)

02.00 p.m. Introduction to Pharmacogenomics
          Giuseppe Novelli (Rome, IT)

02.30 p.m. The search for new molecules for the treatment of genetic diseases
          Luis Galietta (Naples, IT)

03.00 p.m. The Field of Oligonucleotide Therapeutics
          Annemieke Aartsma-Rus (Leiden, NL)

03.30 p.m. Coffee Break
Session 6: Genome editing and gene therapy

Chairman: Mauro Giacca (Trieste, IT)
Guido Forni (Turin, IT)

04.00 p.m.  Genome Editing for human diseases
Angelo Lombardo (Milan, IT)

04.30 p.m.  Medical application of gene therapy: the example of the diseases of the eye
Alberto Auricchio (Naples, IT)

05.00 p.m.  What will synthetic biology and genome editing really mean for generations to come?
Mario Capecchi (Salt Lake City, USA)

05.30 p.m.  Ethical and philosophical issues on genome modification in humans
Giovanni Boniolo (Ferrara, IT)

06.00 p.m.  Concluding remarks
Meeting venue
The venue for the Meeting will be “Palazzo Carignano”, Piazza Carlo Alberto - Torino. Tel. 011.562.3719

Secretariat during the Meeting
The Secretariat will be open at the following times:
Thursday, June 22nd from 12.00 p.m. to 07.00 p.m.
Friday, June 23rd from 07.30 a.m. to 06.30 p.m.

Official language
The official language of the Meeting will be English.

Registrations
Registration is free of charge.
Please confirm your participation to the Organizing Secretariat:
Contatto S.r.l.
Phone: +39 011 715210 / 712393 - Fax: +39 011 726115
E-mail: info@contatto.tv within June 21st, 2017.

Italian CME Accreditation
The Meeting has obtained TBD CME Credits for Italian Physicians. The CME credits will be recognized only after full attendance of all sessions and a minimum score of 75% of correct answers in the learning questionnaires. Completion of the Registration Form, the Learning & Assessment questionnaires are compulsory.

European CME Accreditation
The event has been accredited by the EACCME for TBD European CME Credits.

Technical facilities
A Slide Centre with PCs (Windows and Macintosh operating systems) will be available for Speakers to preview and finalize their presentations. Speakers are kindly requested to submit their presentations on USB flash drive, CD or DVD to the Slide Centre technicians at least one hour before their talks.

Slide Centre opening hours
Thursday, June 22nd from 12.00 p.m. to 07.00 p.m.
Friday, June 23rd from 07.30 a.m. to 06.30 p.m.

Lunches and coffee breaks
Lunches and coffee breaks will be provided within the conference premises.

Attendance certificate
The attendance certificate will be issued at the accreditation/registration desk following full attendance at the Conference.