

# ***The Future of Genetics in Medicine and beyond***

*Organized by*  
Department of Medical Sciences  
Transplants Genetics  
University of Turin

***TURIN*** (Italy)

***June 22<sup>nd</sup> - 23<sup>rd</sup>, 2017***

*Palazzo Carignano, Piazza Carlo Alberto*

UNDER THE  
AUSPICES OF:



PROMOTED BY



FONDAZIONE  
INTERNAZIONALE  
MENARINI

*President of the Meeting*

**Antonio Amoroso**

Department of Medical Sciences  
Transplants Genetics  
University of Turin

*Scientific Board Coordinator*

**Fulvia Pedani**



## UNDER THE AUSPICES OF:

University of Turin



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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**

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FONDAZIONE  
INTERNAZIONALE  
MENARINI

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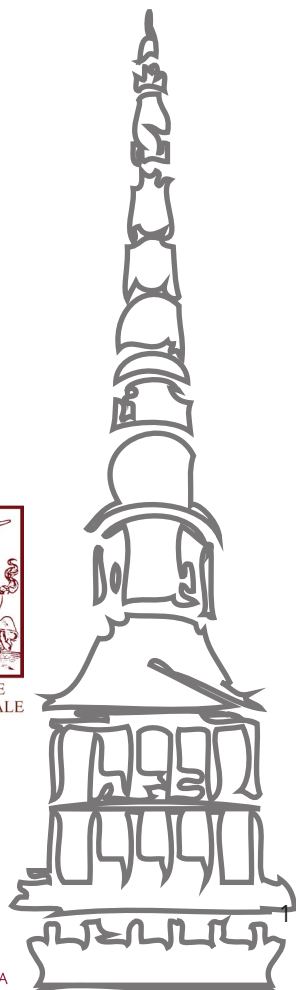
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CONTATTO & ARCHIMEDICA



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



**22**

june 2017

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***

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

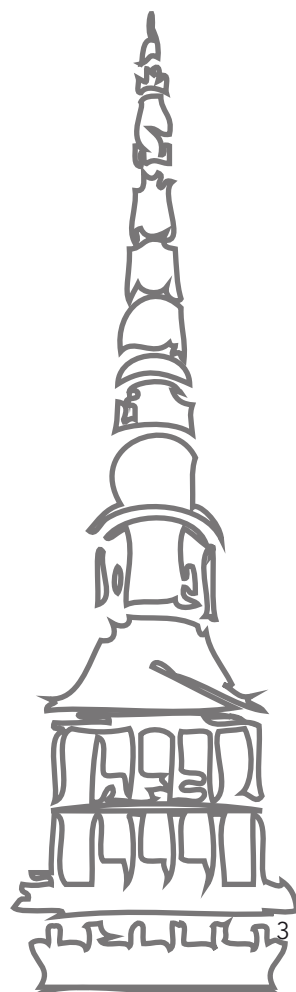
03.30 p.m. Genomic Medicine  
**Evan Eugene Eichler** (Seattle, WA, USA)

04.00 p.m. Personalised Medicine  
**Harry C. Dietz** (Baltimore, 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



**PROGRAMME**



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## 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 Scagliotti** (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

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june 2017

## 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

**PROGRAMME**

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**Session 4: *New scenarios of genomic medicine***

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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

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**Session 5: *Genomics in Therapy***

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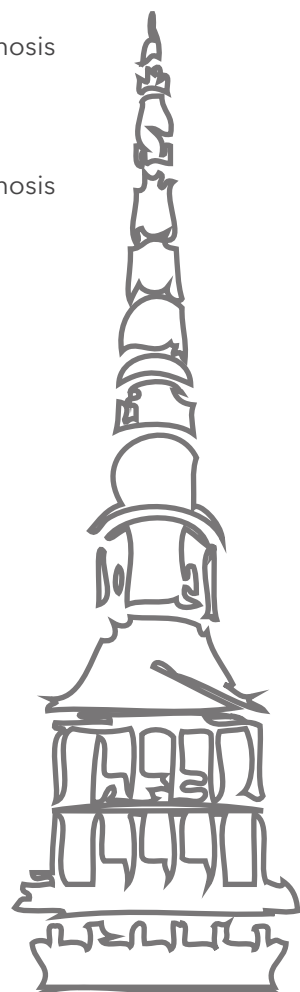
Chairman: **Fulvia Pedani** (Turin, IT)  
**Mauro Giulio Papotti** (Turin, IT)

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 Galletta** (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)

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June 2017

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)

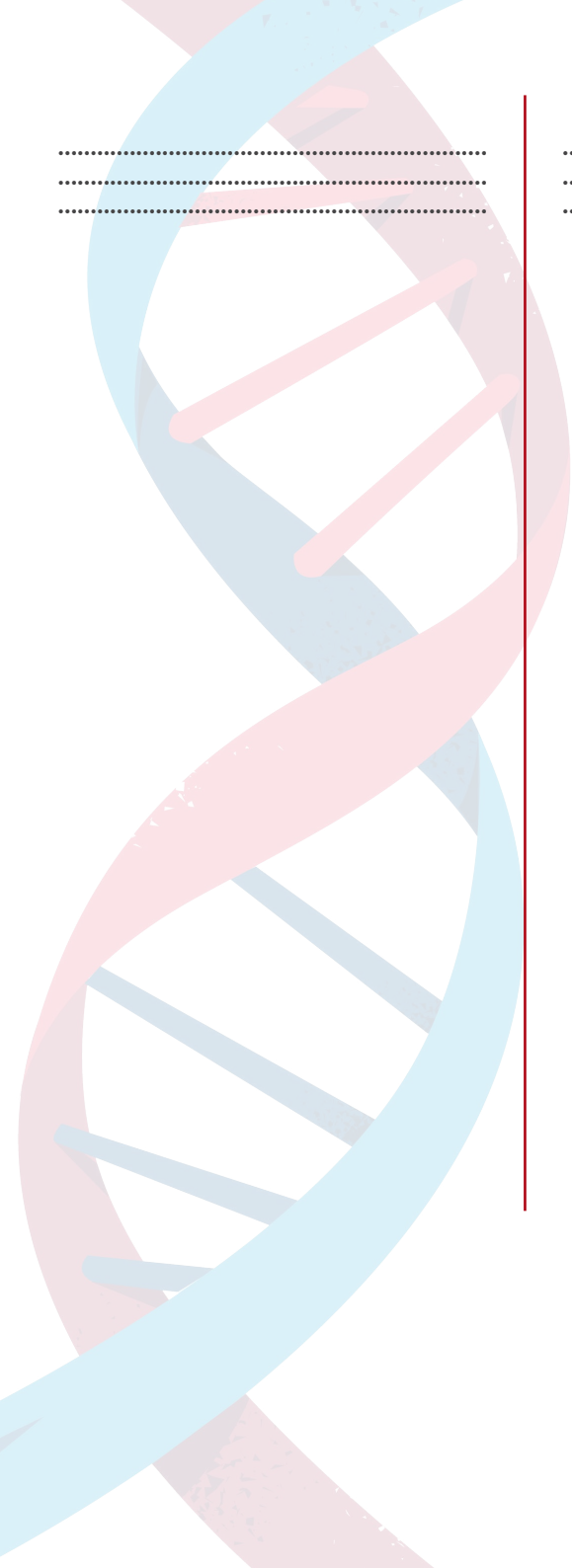
05.30 p.m. Ethical and philosophical issues  
on genome modification in humans  
**Giovanni Boniolo** (Ferrara, IT)

06.00 p.m. Concluding remarks



**PROGRAMME**





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## ***FACULTY LIST***

### **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 22<sup>nd</sup> from 12.00 p.m. to 07.00 p.m.  
Friday, June 23<sup>rd</sup> 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](mailto: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 22<sup>nd</sup> from 12.00 p.m. to 07.00 p.m.

Friday, June 23<sup>rd</sup> from 07.30 a.m. to 06.30 p.m.

### **Lunches and coffee breaks**

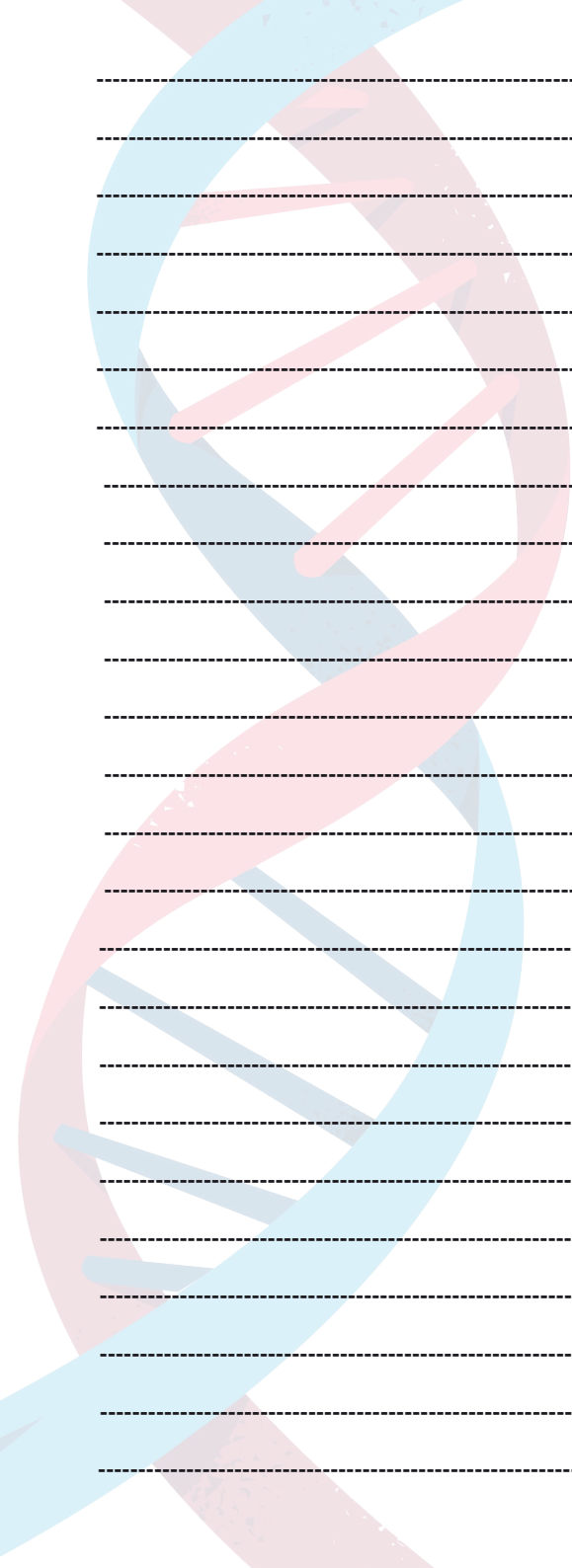
Lunches and coffee breaks will be provided within the conference premises.

### **Attendance certificate**

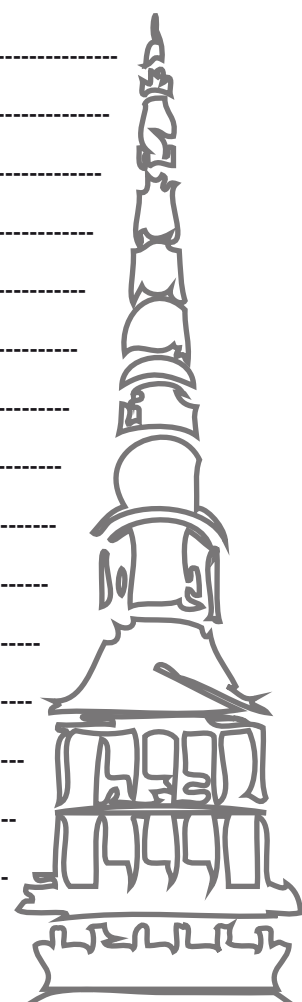
The attendance certificate will be issued  
at the accreditation/registration desk  
following full attendance at the Conference.



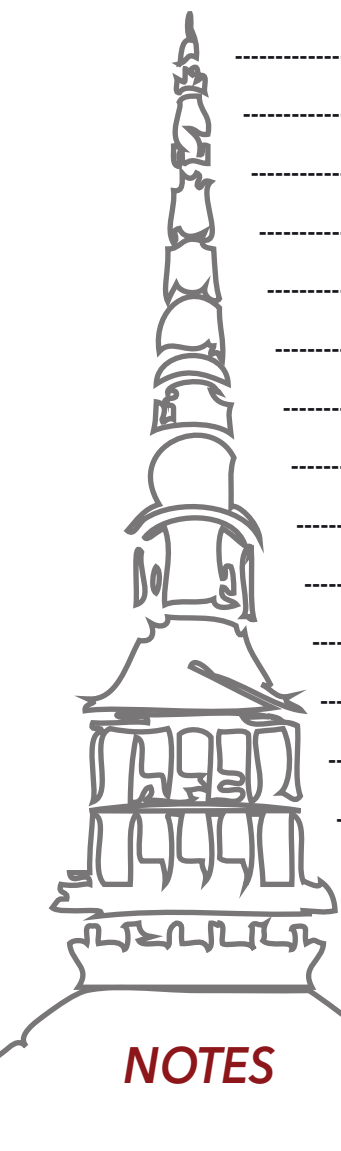
**GENERAL  
INFORMATION**



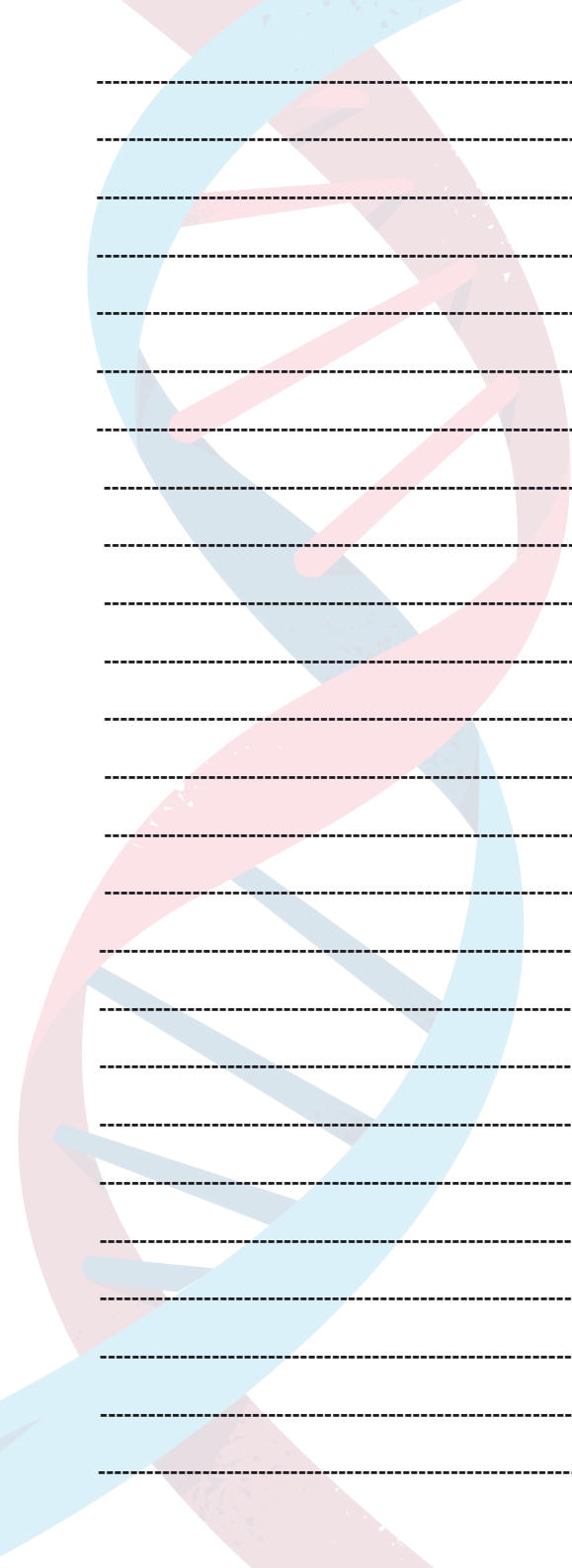
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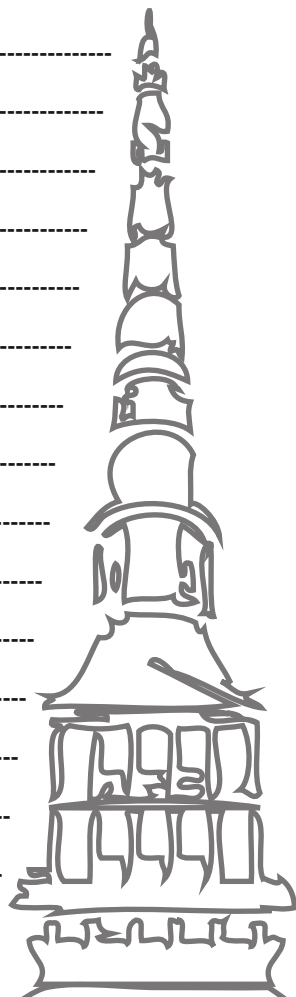
**NOTES**



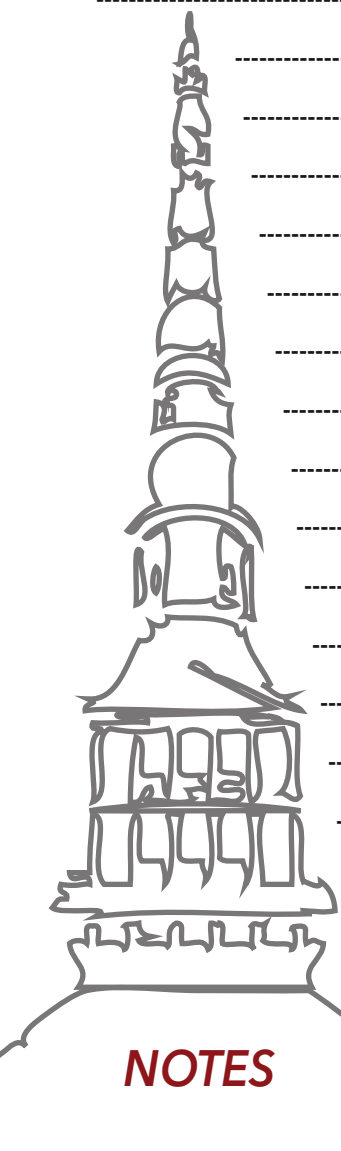
**NOTES**



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