Target Audience: The Eye Genetics Course is a 3-day long postgraduate level course aimed at both clinicians and researchers seeking an up-to-date introduction to, as well as an overview of ophthalmic genetics today. The course will cater for an audience including ophthalmologists, clinical and molecular geneticists, and genetic counselors. Topics covered include genetics of inherited retinal diseases, age-related macular degeneration, myopia, glaucoma, corneal disease, optic neuropathies, ocular developmental disease, and gene therapy. The faculty combines experts from all fields of ophthalmic genetics known for their didactic skills. Participants are encouraged to present a clinical or genetic case of eye disease and will be coached before presenting. Prizes will be awarded for three best presentations.

Fees: The Registration fee for the course (€ 610.00) includes tuition, course material, meals, coffee breaks, social dinner, and transportation from Bologna airport to the course venue on Sept. 23rd and back on September 27th.

Accommodation: You’ll be lodged at the Course Venue (or hotels nearby the course venue if necessary).
The rate for a double room occupancy (to be shared with another participant) is €35.00/night and includes bed and breakfast.

A limited number of fellowships covering both registration fees and accommodation will be sponsored by the European Society of Human Genetics (ESHG). Following the guidelines established by ESHG, students from economically less favoured countries are strongly encouraged to apply for ESHG fellowships: https://www.eshg.org/fileadmin/eshg/countries/Collective_Members_Country_List_from_01_01_2017.pdf
However fellowships are not limited to these countries.

Applicants for fellowships should submit their request together with CV and a reference letter to rpartisani@ceub.it. Closing date for fellowship applications: July 12th, 2017. A communication of acceptance (or non acceptance) will be sent by mail within July 21st

Applicants without fellowships can register at the following link: www.ceub.it
Closing date for registration will be when all places are taken.
Directors:

Rando Allikmets (Columbia University, New York, USA) Antonio Ciardella (U.O. Oftalmologia, Policlinico Sant’Orsola, Bologna, Italy) Bart P. Leroy (Ghent University, Ghent, Belgium) Marco Seri (U.O Genetica Medica, Bologna, Italy).

Faculty:

Alberto Auricchio (Telethon Institute of Genetics and Medicine, Naples, Italy), Sandro Banfi (Telethon Institute of Genetics and Medicine, Naples, Italy), Piero Barboni (Studio D’Azeglio, Bologna, Italy), Wolfgang Berger (Institute of Medical Genetics, Univ. of Zurich, Zurich, Switzerland), Graeme Black (Manchester Academic Health Science Centre, Manchester, UK), Valerio Carelli (Lab. Of Neurogenetics, Univ. of Bologna, Bologna, Italy), Frans P.M. Cremers (Radboud Univ. Medical Centre, Nijmegen, The Netherlands), Claudio Graziano (Dept. of Medical Genetics, Sant’Orsola Malpighi Hospital, Bologna, Italy), Susanne Roosing (Dept. of Human Genetics, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands), Georgina Hall (Manchester Children’s Foundation Trust, Manchester, UK), Nicholas Katsanis (Dept. of Cell Biology & Centre of Human Disease Modeling, Duke Univ. School of Medicine, Durham, USA), Andrea Sodi (Dept. of Ophthalmology,Univ. of Florence, Italy), Jane C Sowden. (UCL Inst. of Child Health, Univ. College London, UK)
COURSE PROGRAM

Arrival day: Saturday, September 23rd

September 24

8:30 - 8:45   Welcome
              Giovanni Romeo and Rando Allikmets

8:45 - 9:30   2 parallel talks: (40 min + 5 min discussion)

Garrison Room
1. Overview of clinical ophthalmology for basic scientists
   Antonio Ciardella

Jacopo da Bertinoro Room
2. Overview of basic medical genetics for ophthalmologists
   Bart Leroy

9:35 - 11:05  2 talks (40 min + 5 min discussion)

3. Stargardt disease, the complex simple retinal disorder
   Rando Allikmets

4. Genetics of corneal diseases
   Graeme Black

11:05 - 11:30 Break

11:30 - 13:00 2 talks (40 min + 5 min discussion)

1. Molecular basis of non-syndromic and syndromic retinal and vitreoretinal diseases
   Wolfgang Berger

2. Introduction to next-generation sequencing for eye diseases
   Susanne Roosing

13:00 - 14:00 Lunch

14:00 - 16:00 3 parallel workshops

Garrison room
WS1 Preparation: Student discussion group on interesting cases (clinical, molecular, families, etc.)
they have encountered (Graeme Black & Bart Leroy)

Jacopo da Bertinoro room
WS4 Genetic counseling (Georgina Hall & Marco Seri)

Computer room
WS5 Genomics: technological developments and interpretation of results; the impact of next
generation sequencing on retinal disease gene identification (Frans Cremers & Susanne Roosing)
16:00 - 16:30  Break

16:30 - 18:30  3 parallel workshops

**Garrison Room**
WS1  Preparation: Student discussion group on interesting cases (clinical, molecular, families, etc.) they have encountered (Graeme Black & Bart Leroy)

**Jacopo da Bertinoro room**
WS2  Clinical approach to hereditary retinal diseases (Antonio Ciardella, Claudio Graziano, Andrea Sodi)

**Computer room**
WS3  Disease-causing mutations: finding and interpretation (Wolfgang Berger & Rando Allikmets)

September 25

9:00 - 11:15  3 talks (40 min + 5 min discussion)

1.  Genetics of RP/LCA/CSNB  
   Bart Leroy

2.  Stem cells in eye diseases  
   Jane Sowden

3.  Genetics of age-related macular degeneration  
   Rando Allikmets

11:15 - 11:45  Break

11:45 - 13:15  2 talks (40 min + 5 min discussion)

4.  Overview of developmental eye anomalies  
   Graeme Black

5.  Retinal ciliopathies: diverse phenotypes with overlapping genetic structure  
   Nicholas Katsanis

13:15 - 14:15  Lunch

14:15 - 16:15  3 parallel workshops

**Jacopo da Bertinoro Room**
WS2  Clinical approach to hereditary retinal diseases (Antonio Ciardella, Claudio Graziano, Andrea Sodi)

**Garrison Room**
WS4  Genetic counseling (Georgina Hall & Marco Seri)

**Computer room**
WS3  Disease-causing mutations: finding and interpretation (Wolfgang Berger & Rando Allikmets)

16:15 - 16:45  Break
16:45 - 18:45  2 parallel workshops

**Jacopo da Bertinoro Room**
WS1 Final preparation for student presentations and selection of 10-12 cases for presentation (Graeme Black & Bart Leroy)

**Computer room**
WS5 Genomics: technological developments and interpretation of results; the impact of next generation sequencing on retinal disease gene identification (Frans Cremers & Susanne Roosing)

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**September 26**

9:00 - 11:15  3 talks (40 min + 5 min discussion)

1. Architecture of genetic disease: causes, modifiers and the concept of genetic load
   Nicholas Katsanis

2. Genetics of glaucoma
   Jane Sowden

3. Gene therapy for recessive and dominant eye disorders
   Alberto Auricchio

11:15 - 11:45  Break

11:45 - 13:15  2 talks (40 min + 5 min discussion)

4. The role for non-coding RNAs in eye development, function and diseases
   Sandro Banfi

5. Modifier genes in retinal diseases
   Frans Cremers

13:15 - 14:15  Lunch

14:15 - 15:45  Student presentations

15:45 - 16:15  Break

16:15 - 17:45  3 shorter talks (25 min +5 min discussion)

6. Genetics of mitochondrial diseases and retinopathies
   Bart Leroy

7. Mitochondrial optic neuropathies
   Piero Barboni

8. The paradigm of mitochondrial optic neuropathies: naturally occurring compensatory strategies and treatment options
   Valerio Carelli

18:00 - 19:00  Feedback on student presentations, awards presentation, summary of the course