**Thursday 5th October**

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<th>Time</th>
<th>Session</th>
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<td>8h – 9h</td>
<td>Registration</td>
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<td>9h-9h05</td>
<td>Introduction by Serge Picaud</td>
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<td>9h05 – 9h25</td>
<td><strong>The Human and Primate Retina – Session</strong></td>
<td><strong>John Dowling</strong> (Molecular and Cellular Biology Harvard University, Cambridge, MA)</td>
<td>Reconstructing the Human Fovea</td>
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<td>9h25 – 9h45</td>
<td>Raunak Sinha (Physiology and Biophysics, University of Washington School of Medicine, USA)</td>
<td>Transformation of visual signals in the fovea</td>
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<td>9h45 – 10h05</td>
<td>Szabó Arnold (Semmelweis University, Department of Human Morphology and Developmental Biology, Budapest, Hungary)</td>
<td>Long-term organotypic culture model of the adult human retina</td>
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<td>10h05 – 10h15</td>
<td>Alexandra Tikidji-Hamburyan (Stanford University, CA, USA)</td>
<td>Sampling of cone inputs by major ganglion cell types in primate retina</td>
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<td>10h15 – 10h35</td>
<td><strong>Retinal Diseases and Therapies – Session I</strong></td>
<td><strong>Florian Sennlaub</strong> (Institut de la Vision, Paris, F)</td>
<td>Genetic AMD-risk factors promote pathogenic subretinal inflammation</td>
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<td>10h35 – 10h55</td>
<td>Przemyslaw Sapięha (University of Montreal, Montréal, Canada)</td>
<td>Cellular Senescence and Dormancy in Retinopathy</td>
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<td>10h55 – 11h25</td>
<td><strong>Coffee Break - Hanging of the Session I Posters</strong></td>
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<td>11h25 – 11h45</td>
<td>Marius Ader (Technische Universität, Center for Regenerative Therapies Dresden, Germany)</td>
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Photoreceptor transplantation: Marker-free identification of photoreceptors by mechanical phenotyping

11h45 – 12h05  **Homaira Nawabi** (Neuroscience Institute, Grenoble, France)
Axon Regeneration in the visual system

12h05 – 12h25  **Andrew Huberman** (Neurobiology & Ophthalmology, Stanford School of Medicine, Stanford, CA, USA)
Visual system regeneration. Breaking and re-creating brain circuits for seeing

12h25 – 12h45  Short Presentations of 7 of our sponsors* (about 3 minutes each)

12h45 – 14h30  **Lunch Break and Poster Session I : Retinal Diseases and Therapies**

Retinal Diseases and Therapies – Session II
**Chair: Nicolas Cuenca**

14h30 – 14h50  **Fabio Benfenati** (Centre for Synaptic Neuroscience and Technology, Istituto Italiano di Tecnologia, Genova, IT)
A fully organic retinal prosthesis restores vision in a rat model of degenerative blindness

14h50 – 15h10  **Deniz Dalkara** (Institut de la Vision, Paris, France)
Optogenetics for vision restoration- translation from mice to primates

15h00 – 15h10  **Alexander Kolesnikov** (Washington University School of Medicine in St. Louis, USA)
Rhodopsin expression increases the resistance of mammalian M-cones to retinoid deficiency in LCA model

15h10 – 15h20  **Paola Vagni** (LNE, École polytechnique fédérale de Lausanne, CH)
Preventing visual function loss in the rd10 mouse model of retinitis pigmentosa using gene editing

15h20 – 15h40  **Nicolás Cuenca** (Departamento de Fisiología, Genética y Microbiología Universidad de Alicante, SP)
Impairment of dopaminergic circuitries, ganglion cells loss and Lewy bodies containing p-alpha synuclein were found in human retinas in Parkinson`s disease

15h40 – 16h10  8 Quickfire presentations (3 min to introduce your own poster)

1) **Luba Astakhova**
Two convenient experimental models of photoreceptor degeneration for screening of molecular photoswitches

2) **Juliette Varin**
Development of a gene therapy approach for cCSNB when mutations in GRM6 and LRIT3 are involved

3) **Elisa Castaldi**
Visual BOLD response in late-blind subjects with Argus II retinal prosthesis

4) **Mirella Telles Salgueiro Baroni**
ON/OFF asymmetrical dysfunction of retinal mechanisms in Duchenne muscular dystrophy patients
5) Ulisse Bocchero  
Early steps of photoreceptor degeneration in a model of retinitis pigmentosa

6) Martina Biagioni  
Unexpected prevalence of inflammatory response in a mouse model of Retinitis Pigmentosa: looking toward therapeutic potential

7) Samuel Mills  
The contribution of microglia to early vascular dysfunction in diabetic retinopathy

8) Matt Rutar  
Dynamic interplay of innate and adaptive immunity during sterile retinal inflammation: Insights from the transcriptome

16h10 – 17h45  **Coffee Break and Poster Session II : Retinal Diseases and Therapies**

19:30  Gala cocktail buffet at the Hotel de Ville

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*7 of our sponsors*

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Friday 6th October

**Retinal Impact on Eye Development and Myopia - Session**
Chair: Machelle Pardue

9h–9h20  **David Copenhagen** (UCSF School of Medicine, Ophthalmology, San Francisco CA, USA)
Melanopsin-based photoreception in fetal and newborn mice: Actions on behavior and both vascular and neural development in the eye

9h20 – 9h40  **Frank Schaeffel** (Neurobiology of the Eye, University of Tübingen, Germany)
Retinal control of myopia - lenses, light and atropine

9h40 – 10h00  **Machelle Pardue** (Biomedical Engineering, Emory University, Atlanta, GA, USA)
Contributions of the three photoreceptor pathways to refractive eye growth and myopia in mice

10h00 – 10h30  **Coffee Break – Hanging of the Session III Posters**

**Retinal Circuits – Session I**
Chair: Katrin Franke

10h30 – 10h50  **Leon Lagnado** (School of Life Sciences, University of Sussex, Brighton, UK)
How do ribbon synapses encode visual information?

10h50 – 11h10  **Greg Schwartz** (Northwestern University Feinberg School of Medicine, Chicago, USA)
A self regulating gap junction network of amacrine cells releases nitric oxide in the retina.

11h10 – 11h30  **Daniel Kerschensteiner** (Neuroscience, and Biomedical Engineering, Washington University School of Medicine, USA)
Dissecting motion processing circuits in the retina

11h30 – 11h50  **Katrin Franke** (Ophthalmic Research, University of Tübingen, Germany)
Functional diversity in the mouse inner retina

11h50 – 12h00  **Jeffrey Diamond** (National Institute of Neurological Disorders and Stroke U.S. National Institutes of Health, USA)
Synaptic transfer between ON and OFF visual channels mediated by AII amacrine cells in the mouse retina

12h00 – 12h10  **Lena Nemitz** (University of Oldenburg, Germany)
Development of the photoreceptor ribbon synapse in the absence of horizontal cells

12h10 – 12h20  **Lea Ankri** (Weizmann Institute of Science, Rehovot, Israel)
Complexity and dynamics of inhibitory circuits shape the directional code of the retina
12h20 – 14h20  **Lunch Break and Poster Session III : Retinal Circuits**

**Retinal Circuits – Session II**
**Chair: Mrinalini Hoon**

14h20 – 15h00  **10 Quickfire presentations** (3 min to introduce your own poster)

1) **Morven A Cameron**  
Photoreceptor inputs for light-induced dopamine release in the mouse retina

2) **Maria M. Arietti**  
Circadian control of cone kinetics

3) **Gloria Colombo**  
Quantitative analysis of microglial morphology and cell type interaction during retinal postnatal development

4) **Benjamin Sivyer**  
Specific inhibitory pathways mediate saccadic suppression in direction-selective ganglion cells

5) **Mohammad Khani**  
Linear and nonlinear integration of chromatic stimuli in retinal circuitry

6) **Yanli Ran**  
Spatial Integration in Mouse Retinal Ganglion Cell Dendrites

7) **Rebekah Warwick**  
Response properties of retinal ganglion cells and their underlying circuits vary with retinal location

8) **Gerrit Hilgen**  
Functional characterisation of parvalbumin-expressing cells in the mouse retina

9) **Norma Kühn**  
Synergistic decoding of complex texture motion from populations of direction-selective ganglion cells

10) **Yang Yue**  
Encoding natural images by gap junctions in retinal rod photoreceptors through a large-scale network model

15h00 – 15h10  **Mrinalini Hoon** (Dept of Biological Structure University of Washington, USA)  
Role of the GABA\(_\alpha3\) receptor as a developmental organizer of retinal inhibitory synapses

15h10 – 15h20  **David Krizaj** (Moran Eye Institute, University of Utah School of Medicine, USA)  
Endocannabinoids modulate RGC physiology through parallel modulation of TRPV1 and cannabinoid receptors

15h20 – 15h30  **Tom Baden** (School of Life Sciences, University of Sussex, UK)  
Zebrafish colour vision: Anisotropic retinal circuits match asymmetric spectral content in natural light

15h30 – 15h40  **Nina Milosavljevic** (Medicine and Health The University of Manchester, UK)  
Probing the intraretinal influences of ipRGCs using chemogenetic manipulation

15h40 – 15h50  **Stephen C. Massey** (University of Texas at Houston, USA)  
Rod/Cone Coupling in the Mouse Retina
15h50 – 16h00  Giulia Spampinato (Institut de la Vision, Paris, F)
Probing the retinal circuit by combining two photon holographic stimulation and
multi electrode recordings

16h00 – 17h45  **Coffee Break and Poster Session IV: Retinal Circuits**

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**Saturday 7th October**

**Tools against retinal diseases – Session**
**Chair: Botond Roska**

9h – 9h20  Botond Roska (Friedrich Miescher Institute for Biomedical research, Basel, CH)
Tools for studying retinal circuits and disease

9h20 – 9h40  Joana Neves (The Buck Institute for Research on Aging, Novato, CA, USA)
MANF as an immune modulatory intervention to improve retinal regenerative
therapies in aging

**Light Adaptation - Session**
**Chair: Petri Ala-Laurila**

9h40 – 10h00  Thomas Münch (Werner Reichardt Centre for Integrative Neuroscience,
Tübingen, Germany)
Adaptation of retinal processing in a dynamically changing environment

10h00 – 10h20  Greg Field (Neurobiology, Duke University School of Medicine, USA)
Light Adaptation and Correlated Activity in the Rodent Retina.

10h20 – 10h40  Petri Ala-Laurila (Department of Biosciences, University of Helsinki, Finland)
Is mouse vision more sensitive during the night?

10h40 – 12h30  **Coffee Break + Poster Session V: Human Primate Retina + Myopia + Light
Adaption + others**

12h30 – 13h00  Conclusions and presentation of the next meetings (2019 – 2021), winners of the
young researchers awards, by Serge Picaud, Petri Ala-Laurili, Andrew Huberman

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Jeudi 5 Octobre – Symposium en français

Innovations et Solutions thérapeutiques

Robert Duvoisin (Oregon Health & Science University, Portland U.S.A.)

14h00 – 14h30  Les prothèses rétiniennes de nouvelle génération + discussion
Paul-Henri Prevot (Institut de la Vision, Paris) Yannick Lemer (Fondation Ophtalmologique A. de Rothschild, Paris)

14h30 – 15h00  Restauration visuelle par thérapie Optogénétique + discussion
Antoine Chaffiol (Institut de la Vision, Paris)

15h00 – 15h30  Production de rétines in vitro à partir de cellules pluripotentes humaines : Un nouvel outil thérapeutique + discussion
Sacha Reichman (Institut de la Vision, Paris)

15h30 – 16h00  Approches ciblant le remplacement de l’EPR et les essais cliniques en cours + discussion
Karim Ben M Barek (Institut de la Vision, Paris)

16h00 – 16h20  Pause-Café

16h20 – 16h50  Imagerie et nouveaux critères d’évaluations médicaux + discussion
Michel Paques / Kate Grieve (Institut de la Vision et CHNO des 15-20, Paris)

16h50 – 17h10  Dystrophie rétinienne : La survie des cônes et le RdCVF + discussion
Emmanuelle Clérian (Institut de la Vision, Paris)

17h10 – 17h30  Impact des troubles visuels sur la vie journalière des patients atteints de dystrophies rétiniennes + discussion
Saddek Mohand-Saïd (Institut de la Vision et CHNO des 15-20, Paris)