

**Reichman Sacha (01/07/1978)**

**Research associate, PhD.**

**Tenure IGR at the Pierre and Marie Curie University (UPMC).**

**2015-Current:** High throughput drug screening project manager. In charge of drug discovery using human induced pluripotent stem (iPS)-derived cells. Olivier Goureau's team S2: Retinal development and repair: use of pluripotent stem cells. Institut de la vision, UPMC-Paris 6, INSERM UMR S968, CNRS UMR\_7210, Paris, France (Pr. J-A Sahel).

**2012-2015:** Research associate / Research engineer (IR), Team S2. In charge of inherited retinal degeneration disease modeling and drug discovery project using induced pluripotent stem cells. UPMC / Institut de la vision, Paris, France.

**2011-2012:** Post-doctoral position at the Institut de la vision, Team S2. Project: Inherited retinal degeneration disease modeling and drug discovery using induced pluripotent stem cells. UPMC / Institut de la vision, Paris, France.

**2010-2011:** Post-doctoral position at the Institute of stem cells for monogenic disease studies (I-Stem), in Christelle Monville's team. Project: Generation of retinal cells from Human Induced Pluripotent Stem Cells. INSERM / I-Stem, Evry (Dr. Marc Peschanski).

**2005-2009:** Ph.D in cellular and molecular biology at Pierre and Marie Curie University (UPMC, Paris 6). Graduat Student in Léveillard's team at the « Laboratoire de physiopathologie cellulaire et moléculaire de la rétine » INSERM UMR S592, Hôpital St Antoine, Paris, France (Pr. J-A Sahel).

**Personal Statement**

Working on retina since 2005, Sacha Reichman installed human induced pluripotent stem (iPS) cells generation and culture at the vision institute in 2011. He developed an innovative retinal differentiation method using human iPS cells (Patent WO 2014174492 A1) (4,8). In his emerging group focused on drug discovery, he develops high throughput screening (HTS) strategies (phenotypic and target-based screening tests) using human iPS-derived retinal cells to identify small molecules in order to prevent and treat degenerative retinal disease as retinitis pigmentosa or aged-related macular degeneration. In this context, he is in charge of the HTS axis of the CelliPSight project (UPMC / SATT-lutech) and is implicated in cell therapy approaches needing the generation of photoreceptor progenitors in clinical grade conditions for future human retinal transplantation (4).

**Related publications over the last 5 years:**

1. Terray A, Slembrouck A, Nanteau C, Chondroyer C, Zeitz C, Sahel JA, Audo I, **Reichman S**, Goureau O. Generation of an induced pluripotent stem cell (iPSC) line from a patient with autosomal dominant retinitis pigmentosa due to a mutation in the NR2E3 gene. *Stem Cell Res.* **2017** Oct;24:1-4.
2. Terray A, Fort V, Slembrouck A, Nanteau C, Sahel JA, **Reichman S**, Audo I, Goureau O. Establishment of an induced pluripotent stem (iPS) cell line from dermal fibroblasts of an asymptomatic patient with dominant PRPF31 mutation. *Stem Cell Res.* **2017** Oct 7;25:26-29.
3. Kole C, Klipfel L, Yang Y, Ferracane V, Blond F, **Reichman S**, Millet-Puel G, Clérin E, Aït-Ali N, Pagan D, Camara H, Delyfer MN, Nandrot EF, Sahel JA, Goureau O, Léveillard T. Otx2-Genetically Modified Retinal Pigment Epithelial Cells Rescue Photoreceptors after Transplantation. *Mol Ther.* **2017** Sep 8 (17) 30419-7.

4. **Reichman S**, Slembrouck A, Gagliardi G, Chaffiol A, Terray A, Nanteau C, Potey A, Belle M, Rabesandratana O, Duebel J, Orieux G, Nandrot E, Sahel JA and Goureau O. Generation of storable retinal organoids and retinal pigmented epithelium from adherent human iPS cells in xeno-free and feeder-free conditions. *Stem cells* **2017** May;35(5):1176-1188.
5. Mathis T, Housset M, Eandi C, Beguier F, Touhami S, **Reichman S**, Augustin S, Gondouin P, Sahel JA, Kodjikian L, Goureau O, Guillonneau X, Sennlaub F. Activated monocytes resist elimination by retinal pigment epithelium and downregulate their OTX2 expression via TNF-α. *Aging Cell*. **2017** Feb;16(1):173-182
6. **Reichman S**, Goureau O. Production of Retinal Cells from Confluent Human iPS Cells. *Methods Mol Biol* **2016** 1357:339-51.
7. Aït-Ali N, Fridlich R, Millet-Puel G, Clérin E, Delalande F, Jaillard C, Blond F, Perrocheau L, **Reichman S**, Byrne LC, Olivier-Bandini A, Bellalou J, Moyse E, Bouillaud F, Nicol X, Dalkara D, van Dorsselaer A, Sahel JA, Léveillard T. Rod-derived cone viability factor promotes cone survival by stimulating aerobic glycolysis. *Cell*. **2015** May 7;161(4):817-32.
8. **Reichman S**, Terray A, Slembrouck A, Nanteau C, Orieux G, Habeler W, Nandrot EF, Sahel JA, Monville C, Goureau O. From confluent human iPS cells to self-forming neural retina and retinal pigmented epithelium. *Proc Natl Acad Sci U S A*. **2014** Jun 10;111(23):8518-23.

### **Patent:**

Methods for obtaining retinal progenitors, retinal pigmented epithelial cells and neural retinal cells. WO 2014174492 A1 (26/04/2013). Principal inventor.

### **Funding / Grant**

2014-2017 CelliPSight Maturation project (UPMC / Satt-Lutech)

### **Publications and communications invitations**

- <https://www.ncbi.nlm.nih.gov/pubmed/?term=sacha+reichman>
- 2 book chapters
- 1 presentation as a selected speaker to international stem cell congress
- 2 conferences for the general public

### **Other Experiences:**

- Teacher at the Ecole Supérieur de Physique et de Chimie Industrielles de la ville de Paris (ESPCI Paris Tech), Neuroscience Department
- Student supervisor: 2 Master I students (2016 and 2017) and 1 Master II student (2018)
- Referee for grant applications