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Curriculum Vitae

EDUCATION

2013:	PhD in Human Genetics with honors, Pierre and Marie Curie University (France)
2009:	Master Degree of Science (Genetics) obtained with honors at Paris Diderot University (France)
2007:	Bachelor's Degrees in Biology obtained with honors at Paris Descartes University (France)
2004:	High School graduate in Science (Baccalauréat Scientifique) with honors (France)

RESEARCH EXPERIENCE

Postdoctoral Research

Hearing Institute / Pasteur Institute - Paris, France - Progressive Sensory Disorders, PathoPhysiology and Therapy (Aziz El-Amraoui, PhD)
Postdoctoral fellow, March 2020 - Present
Project: Elucidation of the molecular mechanisms and identification of therapeutic targets to delay, prevent and/or cure Usher Syndrome disorder.

National Eye Institute - National Institutes of Health, USA - Neurobiology Neurodegeneration & Repair Laboratory (Dr. Anand SWAROOP)
Research fellow, January 2017 – present
Visiting fellow, June 2014 - January 2017
Project: Identification of genes implicated in cone photoreceptors maintenance and survival

- Search for candidate genes implicated in cone cell function and communication
- Investigate Epha10 function in retina
- Supervising and mentoring three postbacs and a summer student

Institut de la Vision, Paris, France - Retinal physiopathology of joint audition and vision losses: Usher's syndrome and other syndromes – (Pr. Christine PETIT)
Postdoctoral fellow, August 2013 - April 2014:

- Investigated the function of Clarin 1 (CLRN1) in cochlea by identifying its partners and testing antibodies to localize the protein in cochlea
- Worked in collaboration with another group for mice physiological analysis

Doctoral Research

Pasteur Institute, Paris, France - UMRS 1120 - Genetics and Physiology of Hearing (Pr. Christine PETIT)
PhD candidate, October 2009 - July 2013
Project: Spectrin βV, a giant spectrin in visual and auditory sensory cells, functions and evolution

- Discovered the role of Spectrin *βV* in protein transport from inner to outer segment of photoreceptors. Investigated the relationship between evolution, the localization and the function of the protein
- Participated in different projects ongoing inside and outside the lab
- Mentored and trained two undergraduates and one graduate student

Internships

Institut de Biologie Physico-chimique, Paris, France - Membrane dynamics and neurological diseases Laboratory - Intracellular Transporters Group (Dr. Bruno GASNIER)
Trainee, January 2009 - July 2009
Project: Functional characterization of the cobalamin lysosomal transporter

- Investigated the function of the cobalamin lysosomal (LMBD1) transporter using Xenopus oocytes injected with mRNA

Saint Jude Children's Research Hospital, Memphis, USA - Department of Developmental Neurobiology (Dr. Jian ZUO)
Short-term scholar, April 2008 - August 2008
Project: Effects of genetically induced cochlear hair cell loss in p16INK4a knockout mice

LABORATORY SKILLS

Molecular biology:	PCR, RT-PCR, Cloning
Cell Culture:	Maintenance of cell lines, Transfection, Immunostaining, Protein extraction
Biochemistry:	SDS-Page, Western blot, Production and purification of recombinant proteins from bacteria and mammalian cell lines, Co-immunoprecipitation, Pull-Down
Bioinformatics:	Next generation sequencing primary analysis using command line (FAES course: BIOF 521- Spring 2019) R Studio and visualization with R (FAES course: BIOF 339 – FALL 2018; BIOF 439 – Spring 2019)
Others:	Confocal microscopy, Cryosections, Vibratome and immunohistochemistry Mouse handling and genotyping, Dissections (eye and cochlea), ERG, OCT, subretinal injections (shRNA, AAV) in pups and adult mice, intravitreal injections

FELLOWSHIPS

2020:	The Fondation de France - Allocations jeunes chercheurs en ophtalmologie et neuroophtalmologie (Postdoctoral fellowship)
2012-2013:	Retina France doctoral fellowships
2009-2012:	French Ministry of National Education Research and Technology (MENRT) doctoral fellowship

BIBLIOGRAPHY

Papal, S., Monti, C.E., Tennison, M.E., and Swaroop, A. (2018). Molecular dissection of cone photoreceptor-enriched genes encoding transmembrane and secretory proteins. Journal of neuroscience research.

Dulon, D., **S. Papal**, P. Patni, M. Cortese, P. F. Vincent, M. Tertrais, A. Emptoz, A. Tlili, Y. Bouleau, V. Michel, S. Delmaghani, A. Aghaie, E. Pepermans, O. Allegria-Prevot, O. Akil, L. Lustig, P. Avan, S. Safieddine, C. Petit, and A. El-Amraoui. 2018. 'Clarin-1 gene transfer rescues auditory synaptopathy in model of Usher syndrome', J Clin Invest.

Cortese, M.*, **S. Papal***, F. Pisciottano*, A. B. Elgoyhen, J. P. Hardelin, C. Petit, L. F. Franchini, and A. El-Amraoui. 2017. 'Spectrin betaV adaptive mutations and changes in subcellular location correlate with emergence of hair cell electromotility in mammalians', *Proc Natl Acad Sci U S A*, 114: 2054-59.
* equal contribution

Kamiya, K., V. Michel, F. Giraudet, B. Riederer, I. Foucher, **S. Papal**, I. Perfettini, S. Le Gal, E. Verpy, W. Xia, U. Seidler, M. M. Georgescu, P. Avan, A. El-Amraoui, and C. Petit. 2014. 'An unusually powerful mode of low-frequency sound interference due to defective hair bundles of the auditory outer hair cells', Proc Natl Acad Sci U S A, 111: 9307-12.

Lheriteau, E., L. Petit, M. Weber, G. Le Meur, J. Y. Deschamps, L. Libeau, A. Mendes-Madeira, C. Guihal, A. Francois, R. Guyon, N. Provost, F. Lemoine, **S. Papal**, A. El-Amraoui, M. A. Colle, P. Moullier, and F. Rolling. 2014. 'Successful gene therapy in the RPGRIP1-deficient dog: a large model of cone-rod dystrophy', Mol Ther, 22: 265-77.

Papal, S., M. Cortese, K. Legendre, N. Sorusch, J. Dragavon, I. Sahly, S. Shorte, U. Wolfrum, C. Petit, and A. El-Amraoui. 2013. 'The giant spectrin betaV couples the molecular motors to phototransduction and Usher syndrome type I proteins along their trafficking route', Hum Mol Genet, 22: 3773-88.

CONFERENCES ATTENDED

American Society for Cell Biology (ASCB/EMBO) meeting, Washington DC, USA – **December 2019**

- The chemokine-like protein Fam19a3 is expressed by cone photoreceptors and OFF-cone bipolar cells in mouse retina

Gordon Research Conference: Neural Development, Newport, USA – **July 2018**

- Poster: Identification of cone photoreceptor-enriched genes encoding transmembrane and secretory proteins

The Association for Research in Vision and Ophtalmology, Baltimore, USA – **May 2017**

- Poster: Selection of candidate genes implicated in cone survival by photoreceptor transcriptome analysis

Gordon Research Conference Visual System Development, Mont Snow, USA – **July 2016**

- Poster: Candidate genes for cone morphogenesis and survival by photoreceptor transcriptome analysis

The Association for Research in Otolaryngology Midwinter meeting, Baltimore, USA – **February 2013**

- Poster: Differential Distribution Pattern of the Non-Classical Spectrin βV in the Inner Ear Sensory Hair Cells During Evolution

European Science Foundation Research Conference in Biomedicine - Rare Diseases: Hearing and Sight Loss, Sant Feliu de Guixols, SPAIN – **May 2009**

- Poster: Spectrin βV complex in the inner ear hair cells and photoreceptor cells

LANGUAGES

French: Native speaker
English: Fluent
Spanish: Basic speaking and reading knowledge