

Institut de la Vision  
Université Paris Sorbonne  
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# Adrien Chopin

Ph.D in Psychology  
French Nationality

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<https://adrienchopin.com>  
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- 10 years of research experience after Ph.D
- Strong background in quantitative life science, stats and programming
- 16 scientific publications in peer-reviewed journals
- 10 active collaborations

## Research

### Current scientific interests

Perception, learning, binocular and 3D vision, child cognition and aging, amblyopia, stereoblindness, prediction of falls, fMRI, media, game and meditation effects on cognition, ambiguous perception

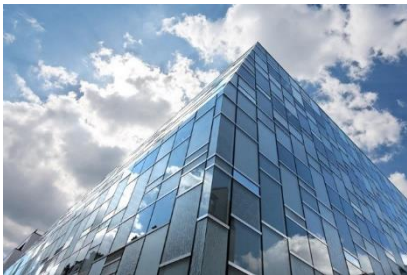
### Scientific approaches

Psychophysics, fMRI, pathology, development, remediation (gaming, perceptual learning), virtual reality, meta-analyses, best-evidence synthesis, computational models, robots

## Academic positions

### Université Paris Sorbonne (France)

Sep 2019 - now



Postdoctoral scholar under a 4-year ANR-Essilor-SNCF grant in Angelo Arleo's team, at Institut de la Vision

- *Demonstrated the efficiency of combined approaches to estimate non-monotonic psychometric functions*
- *Tested three new stereoacuity and stereoblindness tests for validity and test-retest*
- *Found that stereoacuity and fixation precision were uncorrelated*
- *Analyzed experimental data showing that newborns differentiate direct and faraway gazes*

### Université de Genève (Switzerland)

Oct 2017 – Aug 2019



Research and Teaching Fellow (Maitre-Assistant) under Daphne Bavelier's chair

- *Demonstrated that action video games increase learning speed in a large-scale pre-registered intervention*
- *Meta-analysis showing that 20h of gaming are causing perceptual gains*
- *Reviewed the literature on clinical stereotests and estimated a 7%-stereoblindness prevalence. Showed that prevalence does not depend on stimulus duration.*
- *Failed to show the importance of stereovision for driving a real bike in a VR environment*

University of California, Berkeley (USA)  
Jun 2016 – Sep 2017



Postdoctoral scholar under a NEI grant

- Demonstrated a new treatment for global stereoblindness in amblyopia using transfer from local stereo-training
- Investigated the phenomenon of amblyopic rivalry with mixed results

École Normale Supérieure, Paris (France)

CNRS, Paris (France)  
Mar 2015 – Feb 2016



Postdoctoral scholar under an EU Marie Curie IOF grant with Pascal Mamassian

- Investigated pRF retinotopy in amblyopia and failed to show (fMRI) cortical plasticity during stereo-recovery
- Demonstrated speech audio-visual integration in newborns

University of California, Berkeley (USA)  
CNRS & Paris Descartes, Paris (France)  
Mar 2014 – Feb 2015



Postdoctoral scholar under an EU Marie Curie IOF grant, with Dennis Levi and Michael Silver

- Demonstrated binocular non-stereoscopic cues in clinical stereotests
- Developed a complete and modular pRF pipeline for processing fMRI retinotopy

Université de Genève (Switzerland)  
Dec 2012 - Aug 2013  
Dec 2013 - Jan 2014



UNIVERSITÉ DE GENÈVE

Postdoctoral scholar with Daphne Bavelier in collaboration with Dennis Levi and David Knill

- Showed that the stereoscopic system computes relative disparities from absolute disparities
- Discovered dressmakers' high stereo-abilities

University of Oxford, Oxford (UK)  
Sep – Nov 2012



Visiting scholar in Christopher Summerfield's lab

- Failed to replicate predictive adaptation in face rivalry and to apply the paradigm in the fMRI

CNRS & Paris Descartes, Paris (France)  
Feb – June 2012



Postdoctoral scholar with Pascal Mamassian

- Tested predictions of predictive adaptation framework with mixed results

Vanderbilt University, Nashville (USA)  
Dec 2011 – Jan 2012  
Sep - Dec 2010



Visiting Research Fellow with Randolph Blake

- Failed to show transfers of adaptation from a bistable stimulus to another, suggesting no common step
- Showed that stereopsis and rivalry rely on illusory rather than real orientations in tilt illusions
- Investigated a new neural model of binocular rivalry

University of St. Andrews, Scotland (UK)  
Aug 2007



Internship with Julie Harris

- Showed an absence of role for cyclovergence and horopter tilt in mysterious depth biases

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## Education

**Université Paris Descartes, Paris**  
(France)

**CNRS, Paris (France)**

2008-2012

Credited: Mar 28, 2012

Highest academic distinction:

*Très honorable avec les félicitations du Jury à l'unanimité.*

Ph.D in Psychology with Pascal Mamassian

- Created the predictive adaptation framework
- Demonstrated implicit and probabilistic computations in human visual ambiguous perception (effect of usefulness)
- Showed that individual bistable preferences could be created by these probabilistic computations

**École Normale Supérieure,**  
**Université Paris Descartes,**  
**EHESS, Paris (France)**

2006-2008

Master (equivalent to M.S.) in **Cognitive Sciences**, called Cogmaster

*Investigated dynamics of human binocular rivalry*

Ranked #1, summa cum laude

**Université Paris Descartes, Paris**  
(France)

2003-2006 Graduated magna cum laude

Licence (equivalent to B.S.) in **Psychology**

*The French degree involves a detailed knowledge of clinical psychopathologies.*

**Université Paris Diderot, Paris (France)**  
2002-2003

Non-degree medical studies in Medicine school

**Université Pierre et Marie Curie, Paris**  
(France) 2001-2002

Non-degree preparation school to medical studies

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## Publications in international peer-reviewed journals

[5y-IF is the Impact Factor at 5 years]

\* equal contribution

Guellaï, B., Esseily, R., Somogyi, E., & **Chopin**, A. (submitted in *Frontiers in Psychology*) Effects of screen exposure on young children's cognitive development: A review.

1. Zhang, R.-Y.\*, **Chopin**, A.\*, Shibata, K., Lu, Z.-L., Jaeggi, S. M., Buschkuhl, M., ... Bavelier, D. (2021). Action video game play facilitates "learning to learn." *Communications Biology*, 4(1), 1154. <https://doi.org/10.1038/s42003-021-02652-7> [5y-IF 2020: 6.3]
2. **Chopin**, A., Silver, M.A., Sheynin, Y., Ding, J. & Levi, D.M. (2021) Transfer of perceptual learning from local stereopsis to global stereopsis in adults with amblyopia: a preliminary study. *Frontiers in Neuroscience* 15:1244. Doi: 10.3389/fnins.2021.719120 [IF 2020: 4.7]
3. Guellaï, B., Hausberger, M., **Chopin**, A., & Streri, A. (2020). Premises of social cognition: Newborns are sensitive to a direct versus a faraway gaze. *Scientific Reports*, 10(1), 9796. [IF 2020 : 4.3]
4. **Chopin**, A., Bediou, B. & Bavelier, D. (2019). Altering perception: the case of action video gaming. *Curr. Opin. Psychol.* **29**, 168–173. [IF 2020: 5.7]
5. **Chopin**, A., Chan, S.W., Guellaï, B., Bavelier, D., & Levi, D.M. (2019). Binocular non-stereoscopic cues can deceive clinical tests of stereopsis. *Scientific Reports*. **9**, 5789. [IF 2020: 4.3]
6. **Chopin**, A., Bavelier, D., & Levi, D.M. (2019). The prevalence and diagnosis of 'stereoblindness' in adults less than 60 years of age: a best evidence synthesis. *Ophthalmic and Physiological Optics*, 39(2), 66–85. <https://doi.org/10.1111/opo.12607> [IF 2020: 3.1 – OPO's top read 2018-2019]

7. **Chopin, A., Levi, D.M., Knill, D., & Bavelier, D. (2017)** Dressmakers show enhanced stereoscopic vision. *Scientific Reports*. 7:3435. Doi: 10.1038/s41598-017-03425-1 [IF 2015 6.75 – Altmetrics 2020: 512 – 779<sup>th</sup>/270,660 of all articles of same age]
8. **Chopin, A., Levi, D.M., Knill, D., & Bavelier, D. (2016).** The absolute disparity anomaly and the mechanism of relative disparities. *Journal of Vision*, 16(8), 2. [5y-IF 2015: 2.5]
9. Guellaï, B., Streri, A., **Chopin, A., Rider, D., & Kitamura, C. (2016).** Newborns' Sensitivity to the Visual Aspects of Infant-Directed Speech: Evidence From Point-Line Displays of Talking Faces. *Journal of Experimental Psychology: Human Perception and Performance*. DOI: 10.1037/xhp0000208 [5y-IF 2015: 2.8]
10. **Chopin, A., Mamassian, P. (2013)** Response: Genuine long-term positive aftereffects. *Current Biology*, 23(10): R439. [5y-IF 2014: 10.1]
11. **Chopin, A., Mamassian, P., & Blake, R. (2012).** Stereopsis and rivalry are based on perceived rather than physical orientations. *Vision Research*, 63: 63-68. [5y-IF 2014: 2.5]
12. Harris, J.M., **Chopin, A., Zeiner, K.M., & Hibbard, P.B. (2012).** Perception of relative depth interval: systematic biases in perceived depth. *The Quarterly Journal of Experimental Psychology*, 65(1), 73-91. doi:10.1080/17470218.2011.589520. [IF 2014: 2.2]
13. **Chopin, A., & Mamassian, P. (2012).** Predictive properties of adaptation. *Current Biology*, 22(7): 622-626. doi:10.1016/j.cub.2012.02.021. [5y-IF 2014: 10.1]
14. **Chopin, A., & Mamassian, P. (2011).** Usefulness Influences Visual Appearance in Motion Transparency Depth Rivalry. *Journal of Vision*, 11(7). doi:10.1167/11.7.18. [5y-IF 2015: 2.5]
15. **Chopin, A., & Mamassian, P. (2010).** Task usefulness affects perception of rivalrous images. *Psychological Science*, 21(12): 1886-93. [5y-IF 2014: 6.2]

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## Publications in national peer-reviewed journals

1. Esseily, R., Guellaï, B., **Chopin, A., Somogyi, E. (2017)** L'écran est-il bon ou mauvais pour le jeune enfant? *Spirale*, 3(83): 28-40. doi: 10.3917/spi.083.0028

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## Proceedings and conferences (posters)

1. Shibata, K., **Chopin, A., Zhang, R.Y., Lu, Z., Jaeggi, S., Buschkuehl, M., Green, C.S., & Bavelier, D.** Facilitating cognitive and perceptual learning through action video game play [*FENS 2020*]
2. Zhang, R.Y., **Chopin, A., Shibata, K., Lu, Z.L., Jaeggi, S. M., Buschkuehl, M., ... & Bavelier, D. (2020).** "Learning to learn" as a new path for learning generalization in working memory: the case of action video game play. *Journal of Vision*, 20(11), 1697-1697. [*Vision Sciences Society 2020*]
3. **Chopin, A., Bavelier, D., & Levi, D. M. (2019).** The prevalence and diagnosis of "stereoblindness": A best evidence synthesis. *Journal of Vision*, 19(10), 262b-262b. [*Vision Sciences Society 2019*]
4. Denkinger, S., Levi, D.M., Backus, B., **Chopin, A., & Bavelier, D. (2019).** New Measures of Stereoscopic Vision; [*Neuroscience Master Day; Geneva; December 2019*].
5. Chopin, A., & Arleo, A. (2019) Stereo-deficiencies in older adults: measures, impact and remediation. [*10 years of fighting blindness, Jussieu, Paris*].
6. Shibata K., **Chopin A., Zhang R., Todeschini J., Martins M., Poma P., Denkinger S., Lu Z.L., Jaeggi S., Buschkuehl M., Green C.S. & Bavelier D. (2018)** Method to study learning generalisation through training [*UNIGE Neuroscience Masters' Day; Campus Biotech, Geneva Switzerland*].

7. McDermott, K.C., **Chopin, A.**, Ptukha, A., & Mamassian, P. (2015). History effects in perception after manipulating the statistics of the environment. *Journal of Vision*, 1;15(12):392. doi: 10.1167/15.12.392. [VSS 2015]
8. **Chopin, A.**, Knill, D.C., Levi, D.M., & Bavelier, D. (2014). Stereoscopic depth from absolute and relative disparities. *Journal of Vision*, 14 (10 ), 969. doi:10.1167/14.10.969 [VSS 2014]
9. Mamassian, P., & **Chopin, A.** (2012) Long-term recalibration of orientation perception. *Perception*, 41, supplement: 42. [Talk at conference ECVF 2012]
10. **Chopin, A.**, Mamassian, P., & Blake, R., (2011). Transition between stereopsis and binocular rivalry is based on perceived, rather than physical, orientation. *Journal of Vision*,11(11):301. [VSS 2011]
11. **Chopin, A.**, Capps, M., & Mamassian, P. (2010). Expectation from temporal sequences influences binocular rivalry [Abstract]. *Journal of Vision*,10(7):347. [VSS 2010]
12. **Chopin, A.**, & Mamassian, P. (2009). Task demands can affect binocular rivalry dynamics [Abstract]. *Journal of Vision*, 9(8):299, 299a. [VSS 2009]
13. Harris, J., **Chopin, A.**, & Zeiner, K. (2008). Individual differences in depth perception: are biases correlated with eye position? *Journal of Vision*, 8(6):93, 93a. [VSS 2008]

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### Invited academic talks and talks at conferences without proceedings

- 2020 – Talk invited by Michel Paques - Centre d'investigation clinique - Hôpital des 15-20 (Paris). *How to measure stereoscopic vision and why?*
- 2019 – Geneva Amblyopia Meeting (Geneva). *How to measure stereoblindness and stereovision accurately in rehabilitation protocols?*
- 2018 - Shibata, K., **Chopin, A.**, Zhang, R. & Bavelier, D. Learning to Learn: A generalised route to learning; Talk presented at UNIGE Neuroscience Masters' Day; Campus Biotech, Geneva Switzerland.
- 2017 - Talk invited by Angelo Arleo – Institut de la Vision (Paris). *Bringing completely stereoblind amblyopic patients to stereo-recovery.*
- 2017 - Talk invited by Austin Roorda – Oxyopia Seminar, School of Optometry, UC Berkeley (CA). *Bringing completely stereoblind amblyopes to stereo-recovery.*
- 2017 - Talk invited by Zoe Kourtzy & John Mollon – Rank Prize Funds Symposium on Learning to See: From Retinal to Brain Computation – Grasmere (UK). *Recovery of stereopsis in completely stereoblind amblyopes.*
- 2016 - Talk invited by Mark Wexler – LPP, Paris (France). *The mechanism of relative disparity.*
- 2016 - Talk invited by Carole Peyrin – LPNC, Grenoble (France). *The mechanism of relative disparity.*
- 2015 – Talk invited by Guillaume Masson / Frederic Chavanne – INT, Marseille (France). *The absolute disparity anomaly and the mechanism of relative disparities.*
- 2015 – Talk invited by Simon Thorpe / Yves Trotter – Cerco, Toulouse (France). *The absolute disparity anomaly and the mechanism of relative disparities.*
- 2015 – Talk invited by Martin Banks, University of California, Berkeley (USA). *Absolute and relative disparities.*
- 2010 – Talk at the Annual meeting of the doctoral school 261, Paris (France). *L'utilité d'un percept influence la bistabilité dans la transparence de mouvement.*
- 2009 – Talk at the Annual national meeting of the French research in vision (GDR Vision), Toulouse (France). *Percept usefulness influences bistability in motion transparency.*

2008 – Talk invited by Daniel Pressnitzer, National workshop on perceptual bistability, Paris, Ecole Normale Supérieure (France). *Expected utility in binocular rivalry*.

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## Grants, awards and competitions

2019-2023: co-leader of a work-package in the industrial grant Silversight II (Angelo Arleo, France)

2019: international workshop co-organizer through a grant from the FNS (\$12800, with Daphné Bavelier, Switzerland).

2016: Qualification to the functions of the academic position of “*Maître de Conférence*”; national competition, 2016-2020, 69<sup>th</sup> section: Neurosciences.

2013-2015: EU Marie-Curie grant (IOF – Career development) for two-year funding at the University of California, Berkeley (USA) and Ecole Normale Supérieure (Paris, France), \$250,000.

2012: Qualification to the functions of the academic position of “*Maître de Conférence*”; national competition, 2012-2016, 16<sup>th</sup> section: Psychology.

2012: *Prix de thèse*, awarded once a year for the best Ph.D thesis in the Cognitive Science, Psychology, Neurosciences and Computer Science fields of the Université Paris Descartes.

2008-2011: Ph.D grant from the French Research Ministry (3-year funding – 85,000\$)

2008-2011: Teaching grant from the Université Paris Descartes (for 3-year – 15,000\$)

2010: Doctoral travel grant from the Université Paris Descartes. Travelled to Randolph Blake Lab, Vanderbilt University, Nashville, USA for three months of research on binocular rivalry.

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## Collaborations

### Active academic collaboration groups (Ph.D students and researchers)

1. Evolution of stereopsis in older adults  
Angelo Arleo, INSERM, Paris (France)
2. Effects of stereovision in kinematics of everyday life tasks  
Catherine Agathos, Smith-Kettlewell Institute, San Francisco (USA)  
Angelo Arleo, INSERM, Paris (France)  
Vito Monaco, Sant'Anna School of Advanced Studies, Pisa (Italy)  
Valérie Parmentier, Essilor, Paris (France)
3. Efficiency of robot teacher in birds, neurotypical and autistic children  
Alice Araguas, Université Paris Ouest Nanterre La Défense, Nanterre (France)  
Bahia Guellai, Université Paris Ouest Nanterre La Défense, Nanterre (France)  
Sébastien Derégnaucourt, Université Paris Nord - Paris 13 (France)
4. Attentional changes in virtual-reality immersion  
Anna-Flavia Di Natale, Università degli studi di Milano-Bicocca, Milano (Italy)  
Emmanuela Bricolo, Università degli studi di Milano-Bicocca, Milano (Italy)  
Daphne Bavelier, University of Geneva (Switzerland)
5. Amblyopic rivalry  
Claudia Lunghi, Ecole Normale Supérieure, Paris (France)  
Concetta Morrone, Pisa University, Pisa (Italy)  
Dennis Levi, University of California, Berkeley (USA)
6. Gaming for decreasing anxiety and increasing attention  
Swann Pichon, Geneva School of Health Sciences (Switzerland)  
Daphné Bavelier, Université de Genève (Switzerland)
7. Determining the predictors of falls in older adults

- Denis Sheynikhovich, Sorbonne Université, Paris (France)  
Angelo Arleo, INSERM, Paris (France)
8. Effect of meditation on learning speed  
Lia Antico, Université de Genève (Switzerland)  
Daphné Bavelier, Université de Genève (Switzerland)
  9. Hyperacuity to diagnose early DMLA  
Josselin Gautier, INSERM, Paris (France)  
Angelo Arleo, INSERM, Paris (France)
  10. Effects of screens on children's cognition  
Rana Esseily, Université Paris Ouest Nanterre La Défense, Nanterre (France)  
Bahia Guellai, Université Paris Ouest Nanterre La Défense, Nanterre (France)  
Eszter Somogyi, University of Portsmouth, Portsmouth (UK)

Former collaborations:

Michael Silver, University of California, Berkeley (USA)  
Jian Ding, University of California, Berkeley (USA)  
Eunice Yang, University of California, Berkeley (USA)  
Justin Theiss, University of California, Berkeley (USA)  
Ben Backus, SUNY, Vivid Vision, NY/CA (USA)  
Vivid Vision (company, USA)  
Ru-Yuan Zhang, Shanghai Jiao Tong University, Shanghai (Chine)  
Kengo Shibata, Oxford University (UK)  
Zhong-Lin Lu, NYU Shanghai (China)  
Susanne Jaeggi, University of California, Irvine, CA (USA)  
Martin Buschkuhl, MIND Research Institute, CA (USA)  
Shawn Green, University of Wisconsin-Madison, WI (USA)  
Jacob Sheynin, McGill University, Montreal (Canada)  
Kyle McDermott, University of California, Davis (USA)  
Pascal Mamassian, Université Paris Descartes & CNRS (France)  
Arlette Streri, Université Paris Descartes, Paris (France)  
David Knill, University of Rochester (USA)  
Randolph Blake, Vanderbilt University (TN, USA)  
Jan Brascamp, Utrecht University (the Netherlands)  
Christopher Summerfield, University of Oxford (UK)  
Raymond van Ee, Utrecht University (the Netherlands)  
Julie Harris, University of St. Andrews (UK)  
Paul Hibbard, University of St. Andrews (UK)  
Katharina Zeiner, Stuttgart Media University (Germany)

## Teaching

| Year | UE                      | Location | Type | Hours | Audience                    |
|------|-------------------------|----------|------|-------|-----------------------------|
| 2021 | Physiological Optics    | 4        | CM   | 7h    | Master students & Opticians |
|      | Cognitive Sciences      | 3        | TD   | 12h   | B.S. students               |
| 2020 | Physiological Optics    | 4        | CM   | 3.5h  | Master students & Opticians |
|      | Neuro-ergonomics        | 3        | TD   | 9h    | Master 1 Ergonomics         |
| 2019 | Cognitive Sciences      | 3        | TD   | 12h   | B.S. students               |
|      | Neurosciences           | 3        | TD   | 6h    | Master 1 Ergonomics         |
| 2011 | Continuing education    | 2        | TD   | 6h    | Teachers                    |
|      | Differential Psychology | 1        | TD   | 26h   |                             |
| 2010 | Experimental Psychology | 1        | TD   | 52h   |                             |
|      | Experimental Psychology | 1        | TD   | 52h   | B.S. students               |
| 2009 | Experimental Psychology | 1        | TD   | 52h   |                             |
|      | Differential Psychology | 1        | TD   | 26h   |                             |

### Locations

**Total Eq. TD: 269h**

1 - Université Paris Descartes, Institut de Psychologie, Boulogne

2 - Département de l'Instruction Publique, Service Ecran-Media, Switzerland

3 - Université Paris Descartes, Faculté des Sciences Fondamentales et Biomédicales

4 - Université Paris Saclay, Orsay

**Types** CM = Lecture (in amphitheatre) – TD = Seminar

### Full list

2020 and 2021 – 3x3.5h – initial optometry formation and optician continuous education - Master Ingénierie de la Santé, parcours Sciences de la Vision, UE Optique physiologique, *Cognition visuelle*, Location 4

2020 and 2021 – 2x12h – Licence 2 Biomédicale et Bi-Licence 2, *Sciences Cognitives 1*, SA04M070, Location 3

2020 – 9h - Master STS, Mention Ergonomie, *Introduction à la neuroergonomie*, and *Introduction to Neurosciences*, EROBM080, Location 3

2019 – 6h – Master STS, Mention Ergonomie, *Introduction to Neurosciences*, "Perception-Attention" and "Memory-Langage", Location 3

2019 – 6h – continuing education for teachers, *The effect of screens on intellectual development*, Location 2

2008-2011 – 208h - Licence 1 de Sciences de la Santé, mention Psychologie, teaching assistant ("Monitorat" at CIES Paris Sorbonne), Location 1

**Mentoring and interns:** mentored 1 Ph.D. student (co-tutoring), 14 graduate students (direct supervision, including a successful honor thesis) and 11 undergraduate students.

**Qualification** for the French position *Maître de Conférence*: 16<sup>th</sup> section (2012-2016: Psychology) and 69<sup>th</sup> section (2016-2020: Neurosciences)

## Service

2019-06: co-organized the 2019 Geneva Amblyopia Meeting, an international 2-days workshop gathering the leaders of visual interventions in amblyopia, with a grant from the Swiss FNS.

2018-2019: co-organized the 2019 Festival of Education of Switzerland, in Geneva (<https://printemps-education.ch/festival-education/>)



2015-2017: created an fMRI-analysis pipeline (Pipeline\_JAS) - a set of matlab automated modules for pre-processing, segmentation of fMRI data in mrVista/Freesurfer/FSL, pRF retinotopy and visualization. Shared on Github ([https://github.com/Stereo-Boy/Pipeline\\_AS](https://github.com/Stereo-Boy/Pipeline_AS)) and wrote an extensive wiki documentation for it.

2014-2016: Organized the lab system for enrolling and screening amblyopic patients with the eye clinic.

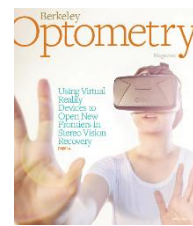
2010 – 2011: elected member at the Doctoral Council of Paris Descartes University.

2010: Organized of the LPP's Perception Journal Club.

2007-2008: Founded a student seminar in the Cogmaster.

**Reviewing:** peer-reviewing for the following scientific journals: Optometry and Vision Science, Plos Computational Biology, Plos One, Current Biology, iPerception, Journal of International medical research, Scientific Reports, Journal of Vision, Vision Research, Annals of translational medicine, Frontiers in Human Neuroscience, Perception, The International Journal for the Psychology of Religion

## Media presence & General public dissemination



Oct 2021: cover of our work on action video games on the Swiss radio (RTS, la 1ere, CQFD)  
<https://tinyurl.com/videogameslearning>

Oct 2021: Invited talk at a projection of the documentary “Le Cerveau des Enfants” about how we can use neuroscience to help children learn (non-profit *Ensemble Grandir Avec Nos Enfants*)

May 2021: webinar for Adios-Corona:  
<https://www.youtube.com/watch?v=EuTkDVoFIEE&feature=youtu.be>

Nov 2020: intervention on Belgian TV channel RTL-TVI (weekly news “c’est pas tous les jours Dimanche”) about the reuse of surgical masks during the COVID-19 pandemic (for Adios Corona)  
<https://tinyurl.com/chirmaskreuse>

Oct 2020: Press conference and interviews with [l’Express](#), *le Monde*, *le Canard Enchaîné*, [Que Choisir](#), and [France Inter](#) about the reuse of surgical masks during the COVID-19 pandemic (for Adios Corona).

Dec 2018: Interviewed for “Ca m’intéresse” (French monthly magazine 200.000 readers/month).

Sept 2018: Interviewed for Libraradio, broadcasted on Frequence Banane (local Swiss-French radio).

June 2018: [Blog article at Ecole & Bien-être](#) about an earlier preview showings talk

May 29 2018 and June 6: Invited talk at preview showings of the documentary “Le Cerveau des Enfants” about how we can use neuroscience discoveries to help children learn and grow cognitive skills (*Cinelux, Geneva*) – broad audience.

June 2017: Our study about dressmaker’s enhanced stereovision received world coverage. Interviewed for BBC (World Service *Healthcheck* – 260 millions listeners/month), CBS News Radio (*Science Today* - 260 millions listeners/month), KBCS news radio, NPR (*Health Shots* – 84 millions listeners/month), BYU radio (*Top of the Mind with Julie Rose*), the AOP (*Optometry Today*), and *Inside Science*. From Altmetrics, >58 news outlets reported our study.

Jan 2017: Interviewed for PC Gamer (22.000 readers a month) about visual perception in video games. *How many frames per second can the human eye really see? Alex Wiltshire*

October 2016: Interviewed for the *Berkeley Optometry Magazine* about the efficiency of stereopsis recovery and one of my recovered patient. *Discovering the World’s Depth Later in Life. Gordy Slack*

May 2016: published two articles about open-access for the biology website BiteSize Bio (200.000 readers a month). *How to Access All Science for Free? / Five Truths About Science Publishing or Why All Science Should be Free. Adrien Chopin*

Apr 2016: published an article on the cognitive impact of TV and screens on very young children, including the mechanism, for Coginnov (non-profit), illustrated by Fiamma Luzzati. *Les écrans en quelques maux. Adrien Chopin, Bahia Guellai and Nawal Abboub.*

Mar 2016: Interviewed for the French magazine “La Recherche” (65.000 readers a month), on stereoscopic vision in insects and the reason why it tells us something interesting. *La mante religieuse, nouveau modèle d’étude de la vision 3D? Laurence Dennis.*

2016: I created or expanded the following entries on Wikipedia (under the name Adrien16): Fusion binoculaire (FR – 100%); Rivalité binoculaire (FR – 98%); Amblyopie (FR - 25% - 64.000 readers/year); Binocular rivalry (EN - 10% -14.000 readers/year); Amblyopia (EN - 6.2% - 280.000 readers/year);

Sep 2013: Interviewed for the Swiss radio (RTS, la 1ere, CQFD) on treating amblyopia and stereoblindness with dichoptic action video games. *Les bienfaits des jeux vidéo pour la santé.*  
<https://tinyurl.com/amblyopiagames>

Mar-May 2011: Consulting for a diffusion project about Cognitive Sciences targeted to elementary school with the organization “la Main à la Pâte” (coordination: Elena Pasquinelli) about the impact of screens on children cognition

Mar 2009-2010-2011: Co-organized a scientific exhibition (surface 50m<sup>2</sup>), on 3 consecutive years, hosted at the French Forum of Cognitive Sciences, Paris, about face perception, self-perception, neuro-imagery, change blindness, split-brain and language development. The framework was a DCST project that we wrote (financed by the CIES Sorbonne, Jussieu, Nanterre and Créteil), named “Les Sciences Cognitives Expliquées”.

Feb 2010: Series of speeches and demonstrations for the non-profit organization “Science Académie” about Brain, Philosophy and Damages, to a public of high-school students in Paris. “Poverty of vision revealed by change blindness and inattentive blindness”.

Nov 2008: Co-organized a full-day exhibition at the Paris Science Festival for the RISC and Cognivence (about bistability).

Apr 2008: Co-organized the 7th French Forum of Cognitive Sciences in Paris.

Nov 2007: Series of speeches and demonstrations on a full day for the 16th national Science Festival in Paris, to a broad audience public. “What does perceptual bistability teach us?”

May 2007 and 2006: Series of demonstrations on a full day for the 5th and the 6th French Forum of Cognitive Sciences in Paris to a broad audience public. “What do illusions tell us?”

2007-2010: Elected member of the administration council of the student organization Cognivence (Association of the Students in Cognitive Sciences from Ile de France).

## Professional skills

**Methods:** Psychophysics, computational models, imagery, RCT, test validation, cognitive development

**Statistical Analysis:** inferential statistics (frequentist and Bayesian), linear and non-linear models, parametric and non-parametric tests, fMRI permutation tests / cross-validation, classification, bootstrap, GLM, mixed-effect models, hierarchical models, test validation (validity, reliability, sensitivity...). Statistica/matlab/SPM.

**Experience with clinical patients:** amblyopia treatment; basic optometry procedures; clinical recruitment; ethics

**Languages:** French (native), English (fluent), German (some understanding)

**Programming:** Matlab & PsychToolBox (advanced), Python (beginner)

**Web design:** HTML/CSS/Javascript (Front-End), PHP/SQL (Back-End server and database), CMS.

**Lab managing:** project managing of medium-size teams, lab wiki, journal clubs, collaborative tools

**Technical apparatus:** experience in MRI scanning (operator for 3T Siemens Trio scanner), stereo-optical devices, eye tracking systems (Eyelink II, Arrington VisualSystem, Viewpoint), full-body motion tracking (Optitrack), photometers, autorefractors, immersive environments (virtual reality sets with hands and bike controller), clinical stereotests, acuity tests, visual field perimeters

### Certified trainings and Ethics

MRI: Safety training course and standard operating procedures (2014-2017) and user training course (2015-2017) - Li Ka Shing Brain Imaging Center (UCB, USA).

Ethics: Sexual Violence and Sexual Harassment Prevention Training for Staff – score 100% (UCB e-course 2015, 2017), Ethical Values and Conduct (UCB e-course 2015), Conflict of Interest for Researchers Briefing (COIR UCB e-course 2017), Cyber Security Awareness (UCB e-course 2015, 2017), Group 1 Biomedical research investigators and key personnel – score 92% (CITI program 2014)

**MRI data analysis:** MVPA (TdT), pRF and retinotopy (mrVista, FSL, Freesurfer), statistical analysis (SPM).

## Personal commitment & Activism

I am strongly committed and active in the following causes:

- ❖ Universal access to science, as provider of a webpage referencing servers allowing universal access to science: <https://tinyurl.com/scihubserver> (total 422,000 visits)
- ❖ Knowledge spread and fact-checking, through the creation of the Coronavirus Fact-Checking Taskforce (a collaborative scientific database about COVID-19: <https://zici.fr/49> and its discussion group: <https://www.facebook.com/groups/2729014567322527/>), and as one of the main content editor at [adioscorona.org](http://adioscorona.org). **Adios Corona** is a website providing scientific recommendations related to COVID-19, translated in 10 languages (total ~1M visits), whose information is also spread through Santé.fr (official French information channel for COVID).
- ❖ Best-impact investing, with the Best-impact stock investing list 2021: <https://tinyurl.com/stocklist21>
- ❖ Ecology and effective altruism, as founder of Verts-Luisants - <http://vertsluisants.fr> – a website promoting effective altruistic donations, ecology and zero waste
- ❖ Zero-waste, as creator of the FB Zero-Waste challenge (2018-2020) - <https://tinyurl.com/y5urg8o3>
- ❖ Efficient education, as former website manager for Le Printemps de l'Éducation – Suisse - <https://printemps-education.ch/> - (2018-2019) - a Swiss non-profit for promoting innovative, alternative or efficient education, and co-organizer of the 2019 Festival de l'Éducation.

## Cognitive skills

|                                       |           |                              |                |
|---------------------------------------|-----------|------------------------------|----------------|
| Visuo-spatial working memory          | ● ● ● ● ● | 100 <sup>th</sup> percentile | Corsi cubes    |
| Updating of working memory            | ● ● ● ● ● | 100 <sup>th</sup> percentile | Dual n-back    |
| Mental flexibility                    | ● ● ● ● ● | 100 <sup>th</sup> percentile | TMT            |
| Attentional control                   | ● ● ● ● ● | 99 <sup>th</sup> percentile  | MOT test       |
| Updating of visuo-spatial memory      | ● ● ● ● ● | 99 <sup>th</sup> percentile  | N-back         |
| Learning (visual content)             | ● ● ● ● ● | 98 <sup>th</sup> percentile  | FGT            |
| Mental inhibition                     | ● ● ● ● ● | 97 <sup>th</sup> percentile  | VTS INHIB test |
| Visuo-spatial short-term memory       | ● ● ● ● ● | 88 <sup>th</sup> percentile  | Corsi cubes    |
| Mental rotations / 3D transformations | ● ● ● ● ● | 86 <sup>th</sup> percentile  | VTS 3D test    |
| Mental processing speed               | ● ● ● ● ● | 85 <sup>th</sup> percentile  | TMT            |
| Visual acuity                         | ● ● ● ● ○ | 68 <sup>th</sup> percentile  | ETDRS test     |
| Auditive acuity                       | ● ● ● ○ ○ | 51 <sup>th</sup> percentile  | Audiogram      |
| Reaction time (reflex)                | ● ● ○ ○ ○ | 29 <sup>th</sup> percentile  | VTS INHIB test |