Simon Faghel-Soubeyrand

Curriculum Vitae

Education

2017–2022 **Ph.D cognitive-neuroscience**, *University of Montreal*
Grade point average: 4.25/4.3. Written on the Dean's honour list
**Thesis with grade "Exceptional", currently nomitated for best thesis award*

2015–2017 **M.Sc. experimental psychology**, *University of Montreal*
Grade point average: 4.3/4.3

2012–2015 **B.Sc. psychology**, *University of Montreal*
Grade point average: 4.04/4.3
**written on the Dean's Honour list*

Research positions

2024–present **Junior Research Fellow**, *Wolfson College Oxford*, United-Kingdom

2023–present **Royal Society – Newton International Fellow**, *University of Oxford*, United-Kingdom
Postdoctoral Fellow in the Staresina Lab [prof. Bernhard Staresina]

October 2019 **Visiting Postgraduate Researcher**, *University of Fribourg*, Switzerland
Applied Face Cognition Lab [prof. Meike Ramon]
Eye and Brain Mapping Laboratory [prof. Roberto Caldara]

August-December 2018, 2019 **Visiting Postgraduate Researcher**, *University of Birmingham*, United-Kingdom
Charest Lab [prof. Ian Charest]

Distinctions and Awards

[total funds awarded]

-2023-
Newton International Fellowship. The Royal Society. £139,121
Academic Excellence Certificate for Ph.D thesis. Canadian Psychological Association.

-2022-
Best oral presentation in Health and Artificial Intelligence. CHUM. 1000 $
J.A. DeSeve Excellence Scholarship. University of Montreal. 8000 $
Neuro-AI Excellence Scholarship. UNIQUE centre. 15 000 $

-2021-
UNIQUE-IVADO Best Graduate abstract Award, MAIN 2021. UNIQUE and IVADO. 400 $
Desjardins Foundation scholarship. Desjardins. 5000 $
IVADO PhD Excellence Scholarship. IVADO. 75 000 $
V-VSS 2021 Elsevier/Vision Research Travel Award. Vision Science Society.

-2020-
University of Montreal's Google doctoral scholarship. Google. 20 000 $
Bourse d'etudes dans le domaine de l'intelligence artificielle. University of Montreal. 10 000 $
Research training scholarship. Mitacs and etudes superieures et postdoctorales. 6000 $

-2019-
MEES Mobility scholarship. Ministere de l'Education et de l'Enseignement Superieur. 3000 $
FESP prize for best oral presentation. University of Montreal. 350 $

-2018-
Quebec Bio-Imaging Network scholarship. Quebec Bio-Imaging Network. 4000 $
Mitacs Globalink scholarship for internship abroad. Mitacs. 6000 $
Written on the Honorary Dean's list. University of Montreal.

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Academic Excellence Certificate for MSc. Canadian Psychological Association.

-2017-

Postgraduate Canada Scholarship. NSERC. 63 000 $
J.A. de Seve Doctorate's Excellence Scholarship. University of Montreal. 5000 $
Graduate student Excellence Award. Vision Health Research Network. 8000 $

-2016-

Edouard Mont-Petit–Manuvie Excellence Scholarship. University of Montreal. 5000 $
Best poster presentation award. Centre de Recherche en Neuropsychologie et Cognition. 250 $
Master's Research Scholarship. Fonds Quebecois de Recherche Nature et technologies. 15 000 $
Alexander Graham Bell Canada M.Sc. Graduate Scholarships. NSERC. 17 500 $
J.A. de Seve Master's Excellence Scholarship. University of Montreal. 5000 $

-2015-

UG Student Research Awards. NSERC. 5600 $
Vision Research Network Recruitment scholarship. Vision Health Research Network. 2000 $

-2014-

Vision Research Network Recruitment scholarship. Vision Health Research Network. 2000 $

Research Funding

-2018-

Impact Acceleration Account. British Economic and Social Research Council. £15 000

Preprints under review

1. **Simon Faghel-Soubeyrand**, Meike Ramon, Eva Bamps, Matteo Zoia, Jessica Woodhams, Anne-Raphaelle Richoz, Roberto Caldara, Frederic Gosselin, and Ian Charest (2022).The neural code behind face recognition abilities. bioRxiv. doi: https://doi.org/10.1101/2022.03.19.484245. Under review.
2. **Faghel-Soubeyrand, S.**, Richoz, A-R., Waeber, D., Woodhams, J., Gosselin, F., Caldara, R., and Charest, I. (2022). Neural computations in prosopagnosia. bioRxiv. doi:https://doi.org/10.1101/2022.12.13.51960 Under review.

Peer reviewed publications

3. Brotherwood*, P.,**Faghel-Soubeyrand, S.***, Van Den Bosch, J., and Charest, I. (2023). Characterising the spatiotemporal profiles of neural object representations using implicit and explicit similarity judgement tasks. Cognitive Computational Neuroscience.
4. Hadid, V., MacLean, M., Grand-Maître,C., Dandrimont, J., Higgins, M., **Faghel-Soubeyrand, S.***, Lepore, F. (2023). Early processing of unattended emotional faces increases the brain response to attended emotional expressions: an SSVEP study. 18th International Symposium on Medical Information Processing and Analysis.
5. **Faghel-Soubeyrand, S.**, Kloess, JA., Gosselin, F., Charest, I. and Woodhams, J. (2021). Diagnostic Features for Human Categorisation of Adult and Child Faces. Front. Psychol. 12:775338.
6. **Faghel-Soubeyrand, S.**, Lecomte, T., Bravo, M. A., Lepage, M., Potvin, S., Abdel-Baki, A., Villeneuve, M., and Gosselin, F. (2020). Abnormal visual representations associated with confusion of perceived facial expression in schizophrenia with social anxiety disorder. NPJ Schizophrenia, 6(1), 28.
7. **Faghel-Soubeyrand, S.**, Alink, A., Bamps, E., Gosselin, F. and Charest, I. (2019). Visual representations supporting category-specific information about visual objects in the brain. Cognitive Computational Neuroscience, Berlin. Conference paper.
8. **Faghel-Soubeyrand, S.**, Dupuis-Roy, N. and Gosselin, F. (2019).Inducing the use of right-eye enhances face-sex categorization performance. Journal of Experimental Psychology: General.
9. Dupuis-Roy, N., **Faghel-Soubeyrand, S.** and Gosselin, F. (2018). Time course of the use of chromatic and achromatic facial information for sex categorization. Vision Research.
10. Gosselin, F. and **Faghel-Soubeyrand, S**. (2017). Stationary objects flashed periodically appear to move during smooth pursuit eye movement. Perception, 46(7), 874-881.

Published abstracts, international conferences

Faghel-Soubeyrand, S., Perzich, P., Staresina, B. (accepted) Overnight memory transformation in the human brain – from perceptual detail to conceptual gist. Cognitive Neuroscience Society 2024.

Faghel-Soubeyrand, S., Richoz, A-R., Waeber, D., Woodhams, J., Gosselin, F., Caldara, R., and Charest, I. (2022). Computational brain dynamics in prosopagnosia. Vision Science Society 22nd meeting. Journal of Vision. doi:https://doi.org/10.1167/jov.22.14.3418

Faghel-Soubeyrand, S., Ramon, M. Bamps, E., Zoia, M., Woodhams, J., Alink, A., Gosselin, F. and Charest, I. (2021). Characterising the richer representations of face categories in the brain of super-recognizers. The 43rd European Conference on Visual Perception. Perception

Faghel-Soubeyrand, S., Ramon, M. Bamps, E., Zoia, M., Woodhams, J., Alink, A., Gosselin, F. and Charest, I. (2021). Decoding real-world visual recognition abilities in the human brain. Vision Science Society 21st meeting. Journal of Vision

Gervais, R., **Faghel-Soubeyrand, S.**, Tardif, J., and Gosselin, F. (2021). Using EEG frequency-tagging to measure visual representations of faces. Vision Science Society 21st meeting. Journal of Vision. doi:https://doi.org/10.1167/jov.21.9.2637

Faghel-Soubeyrand, S., Ramon, M. Bamps, E., Zoia, M., Woodhams, J., Alink, A., Gosselin, F. and Charest, I. (2020). Multivariate pattern analysis reveals domain-general enhancement of visual representations in individuals with "super-recognition" of faces. Vision Science Society 20th meeting. Journal of Vision

Faghel-Soubeyrand, S., Alink, A., Bamps, E., Gervais, R-M, Gosselin, F. and Charest, I. (2019). The two-faces of recognition ability: better face recognizers extract different physical content from left and right sides of face stimuli. Vision Science Society 19th meeting. JOV

Bamps, E., **Faghel-Soubeyrand, S.**, Gosselin, F. Charest, I. (2019). The influence of Face Recognition Expertise on Representational Similarity in the Brain. Annual meeting of the Belgian Association for Psychological Sciences, Liege.

Faghel-Soubeyrand, S., Lecompte T., Pennou, A., and Gosselin, F. (2018). Coarse information drives confusion of perceived emotion in schizophrenia. Vision Science Society 18th meeting. JOV

Faghel-Soubeyrand, S. and Gosselin, F (2017) Induction of facial feature usage in naive individuals reveals causal factors of face recognition ability. 40th European Conference on Visual Perception, Berlin. Perception

Faghel-Soubeyrand, S. and Gosselin, F (2017). Task-modulated integration of facial features in the brain. Vision Science Society 17th meeting. JOV

Faghel-Soubeyrand, S. and Gosselin, F (2016). Skilled face recognizers have higher contrast sensitivity in the right hemifield. 39th European Conference on Visual Perception, Barcelona. Perception.

Faghel-Soubeyrand, S., Dupuis-Roy, N. and Gosselin, F. (2016). Why do better face recognizers use the left eye more? Vision Science Society 16th meeting. JOV

Gosselin, F., Couet-Garand, A., **Faghel-Soubeyrand, S.** and Dupuis-Roy, N. (2014). Greater usage of the left eye causes better facial gender discrimination. Vision Science Society 14th annual meeting, JOV.

Communications in national conferences

Faghel-Soubeyrand, S.,Richoz, A-R., Waeber, D., Woodhams, J., Gosselin, F., Caldara, R., and Charest, I. (2022). Loss of face identification abilities affect visual and semantic brain computations. Talk at : IVADO Digital October. Montréal. Won the CHUM award for best oral presentation in Health and AI.

Faghel-Soubeyrand, S., Ramon, M. Bamps, E., Zoia, M., Woodhams, J., Alink, A., Gosselin, F. and Charest, I. (2021). Real-world face recognition ability covaries with semantic as well as visual brain computations. Montreal Artificial Intelligence and Neuroscience conference. Virtual.

Faghel-Soubeyrand, S., Ramon,M. Bamps, E., Zoia, M., Woodhams, J., Alink, A., Gosselin, F. and Charest, I. (2020). Les dynamiques cerebrales d'individus avec une habilete extraordinaire en reconnaissance faciale. 42th congres Societe Quebecoise pour la recherche en Psychologie (SQRP).

Faghel-Soubeyrand, S., Alink, A., Bamps, E., Gervais, R., Gosselin, F., Charest, I. (2019). L'implementation des representations visuelles idiosyncratiques au sein du cortex. University of Montreal, Canada.

Faghel-Soubeyrand, S., Dupuis-Roy, N., Gosselin,F. (2018). Right hemisphere superiority for facial recognition explains why we are biaised toward the use of the left eye when processing faces. 24thCERNEC conference, Saint-Sauveur, Canada.

Faghel-Soubeyrand, S. Dupuis-Roy N., Gosselin, F. (2017) Methods to qualitatively change face perception. University of Montreal, Canada.

Faghel-Soubeyrand, S. Dupuis-Roy N., Gosselin, F. (2015). Deux methodes pour modifier qualitativement la perception des visages. 37e Congres annuel de la SQRP, Gatineau, Canada.

Faghel-Soubeyrand, S. and Gosselin, F (2016). Skilled face recognizers have higher contrast sensitivity in the right hemifield. 39th European Conference on Visual Perception, Barcelona. Perception.

Faghel-Soubeyrand, S., Gosselin, F. (2015). Un biais de traitement specifique a l'hemisphere droit explique que l'utilisation de l'oeil gauche cause une meilleure reconnaissance du genre des visages. 21e congres RRSV, Quebec, Canada.

Faghel-Soubeyrand, S., Dupuis-Roy N., Gosselin, F. (2015). Discovering causal relations between the use of the visual information and diverse variables of interests using high-level perceptual learning. 22e 24e J.Sci.CERNEC, Saint- sauveur, Canada.

Faghel-Soubeyrand, S., Couet-Garand, A., Dupuis-Roy, N., Ferland, M. Therrien-Blanchet, J. Gosselin, F. (2014). Induction d'une strategie specifique pour la reconnaissance du genre des visages. Dept de Psychologie, Montreal, Canada.

Jutras, A., Coupal, C., Picard, M., Rey, G., **Faghel-Soubeyrand, S.**, Charest, I., Gosselin, F. (2019). Differentes strategies perceptuelles pour la reconnaissance d'emotions chez les individus neurotypiques avec traits autistiques. University of Montreal

Dalbec, P., Lambert-Charette, G., Poupart, N, **Faghel-Soubeyrand, S.**, Charest, I., Gosselin, F. (2019). L'influence des traits autistiques sur les strategies de reconnaissance visuelle d'objets animes et inanimes. University of Montreal

Breton, J., Couture-Boivin, D., Frenette, A., Saggadi, I., **Faghel-Soubeyrand, S.**, Charest, I., Gosselin, F. (2019). Variation de la strategie visuelle en fonction du quotient autistique dans la discrimination de scenes. University of Montreal

Grand-Maitre, C., Hadid, V., MacLean, M., Higgins, M., Lepore, F., **Faghel-Soubeyrand, S.**.(2018). Oscillatory activity specific to peripheral emotional treatment induced by a visual steady state. 23nd annual meeting of the Vision Health Research Network. Montreal, Qc.

Talks at international conferences

Faghel-Soubeyrand, S., Ramon, M. Bamps, E., Zoia, M., Woodhams, J., Alink, A., Gosselin, F. and Charest, I. (2021). Decoding real-world visual recognition abilities in the human brain. Vision Science Society 21st meeting.

Invited talks

Changes in neural computations from face-blindeness to super-recognition. Département de Psychiatrie, Université de Montréal, Canada, July 2022.

Characterising the brain representations supporting variations in real-world visual behaviour. University of Fribourg, Switzerland, August 2021.

Abnormal visual representations in schizophrenia. Universite du Quebec en Outaouais, Canada, October 2020.

Measuring idiosyncratic visual representations from brain and psychophysical data. University of Fribourg's Lunchtime Seminar, Switzerland, October 2019.

Mapping the features for age classification. Research Advisory Group of the Center for Applied Psychology, University of Birmingham, United Kingdom, November 2019.

Introduction to Social Neurosciences. University of Montreal, Canada, November 2018.

Science outreach article

Artificial intelligence to decode the brains of super-recognizers. Institute of Data Valorization (IVADO), Université de Montréal, Canada, June 2022. article link

Teaching positions

Demonstrator University of Oxford
Block practical: Decoding the mind (2023)
Lecturer University de Montreal
PSY2038/PSY6976: Programming in cognitive-neuroscience (2020,2021)
PSY2007: Visual Cognition laboratory (2019)
Teaching Assistant University de Montreal
PSY1048: Neuroanatomy and Neurophysiology of systems (2018, 2017, 2016)
PSY1049: Neurosciences of cognition and behavior (2017, 2018)
PSY2007: Visual Cognition laboratory (2015, 2016)

Skills and programming languages

Experimental and analytical skills : psychophysics, EEG, reverse-correlation, machine learning, representational similarity analysis, frequency-tagging, eye-tracking.
Programming languages : Matlab, Python. Basics in C++, LaTeX

See an example gitHub repo made during my PhD here : link DNNxBrain similarity

Reviewer

Journal of Neuroscience. Behavior Research Methods. Scientific Reports. Vision Research. Conciousness and Cognition.

Involvement and volunteering

Local organising committee, Conference on Cognitive Computational Neuroscience (2023)
Member of IVADO's Student Intersectoral Committee (2022-2023)
Student representative at IVADO's Scientific Committee (2022-2023)
President of Cerebrum's Student Affairs Committee (2021-2023)
Organisation volunteer, RRSV annual meeting (2016, 2017)
Scientific Judge, Journee Scientifique of the Dept. of Psychology U. Montreal (2017, 2018, 2021)
Columnist, l'Amnesique (2014, Universite de Montreal)
Student representative, Comite des Etudes, Dept. of Psychology (2015, Universite de Montreal)
Student deleguate, Departmental assembly, Dept.of Psychology (2015, Universite de Montreal)