

Ismail KOUBIYR

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Summary

Hard worker, very ambitious and computer savvy post-doctoral fellow in Neuroscience. I have a strong interest in the pathophysiology and imaging of cognition in neurodegenerative diseases.

Skills and Abilities

- Proficient in Microsoft Office, excellent understanding and functioning of programming including Java, C++ and Python.
- Strong knowledge of neuroimaging data analysis using multiple well-known and current techniques as well as different tools (FreeSurfer, FSL, SPM, Matlab, UNIX).
- Self-starter and self-managed; work with minimum supervision.
- Ability to understand a task and use the resources effectively to execute it within the deadlines.
- Trilingual: French, English and Arabic. Intermediate level in Spanish and basic Korean.

Education

INSERM U1215, Neurocentre Magendie – Bordeaux, France October 2016 – September 2019
PhD in Neuroscience - Neuroimaging
The reorganization of human brain networks in the early stages of multiple sclerosis
Supervisor: Pr. Bruno Brochet

Institut National des Sciences Appliquées (INSA) & Université Claude Bernard Lyon I – Lyon, France *Graduation: September 2016*
Master of Research: Electronics, Power Electronics, Automatism and processes (EEAP)
- Specialized in Digital signal and image processing.

Institut National des Sciences Appliquées (INSA) - Lyon, France *Graduation: September 2016*
Electrical Engineer
- Specialized in Digital signal and image processing.
- Accomplished the preparatory cycle under the SCAN program (English learning).
- Completed team-management training.

Korean Advanced Institute of Science and Technology (KAIST) - Daejeon, South Korea *September 2014- June 2015*
- One-year exchange program.
- Specialized in Digital Image processing (Image processing, Image analysis).

Experience

INSERM U1215, Neurocentre Magendie - Bordeaux, France October 2019 - September 2021
Post-doctoral fellow
Grey matters! Toward a better understanding of grey matter alteration and cognitive deficit associated with multiple sclerosis

Université de Bordeaux - Bordeaux, France October 2017 - September 2020
Teaching assistant

Research Trainee at Center for Neurological Imaging, Brigham and Women's Hospital, Harvard Medical School – Boston, USA
- Transversal characterization of abnormally diffused white matter in multiple sclerosis. March 2016 - September 2016
- Development of new tools to analyze structural MRI (T1, T2, PD, Diffusion).

Teaching Experience

Teaching assistant at the Université de Bordeaux.

Academic year 2019/2020

- Introduction to medical imaging (L1) 6h

Academic year 2018/2019

- Image processing and analysis (L3) 14h
- Introduction to medical imaging (L1) 6h

Academic year 2017/2018

- Pathology and MRI: exploring cognitive dysfunction in multiple sclerosis (M2) 4h
- Image processing and analysis (L3) 12h
- Introduction to medical imaging (L1) 6h

Publications

1. Mournet S*, Okubo G*, **Koubiyr I**, Zhang B, Kusahara H, Prevost V.H, Ichinose N, Triaire B, Hiba B, Dousset V and Tourdias T (2020) Higher b-values improve the correlation between diffusion MRI and the cortical microarchitecture. **Neuroradiology**. 10.1007/s00234-020-02462-4. Advance online publication. <https://doi-org.proxy.insermbiblio.inist.fr/10.1007/s00234-020-02462-4>
2. Lamargue D, **Koubiyr I**, Deloire M, Saubusse A, Charre-Morin J, Moroso A, Coupé P, Brochet B and Ruet A (2020) Effect of cognitive rehabilitation on neuropsychological and semiecolological testing and on daily cognitive functioning in multiple sclerosis: The REACTIV randomized controlled study. **J Neurol Sci**. 2020 Aug 15;415:116929. doi: 10.1016/j.jns.2020.116929
3. Palotai M, Cavallari M, **Koubiyr I**, Morales Pinzon A, Nazeri A, Healy B.C, Glanz B, Weiner H.L, Chitnis T and Guttmann C.R.G (2019) Microstructural fronto-striatal and temporo-insular alterations are associated with fatigue in patients with multiple sclerosis independent of white matter lesion load and depression. **Mult Scler J**. 1-11. doi:10.1177/1352458519869185
4. **Koubiyr I**, Besson P, Deloire M, Charre-Morin J, Saubusse A, Tourdias T, Brochet B and Ruet A (2019) Dynamic modular-level alterations of structural-functional coupling in clinically isolated syndrome. **Brain**. doi:10.1093/brain/awz270
5. **Koubiyr I**, Deloire M, Besson P, Coupé P, Dulau C, Pelletier J, Tourdias T, Brochet B, Ranjeva JP and Ruet A (2018) *Longitudinal Study of Functional Brain Network Reorganization in Clinically Isolated Syndrome*. **Mult Scler J**. 1–13. doi: 10.1177/1352458518813108
6. **Koubiyr I**, Deloire M, Coupé P, Dulau C, Besson P, Moroso A, Planche V, Tourdias T, Brochet B and Ruet A (2018) *Differential Gray Matter Vulnerability in the 1 Year Following a Clinically Isolated Syndrome*. **Front. Neurol**. 9:824. doi: 10.3389/fneur.2018.00824
7. Planche V, **Koubiyr I**, Romero J.E, Manjon J.V, Coupé P, Deloire M, Dousset V, Brochet B, Ruet A and Tourdias T (2018) *Regional hippocampal vulnerability in early multiple sclerosis: dynamic pathological spreading from dentate gyrus to CA1*. **Human Brain Mapping**. doi: 10.1002/hbm.23970

*: These authors contributed equally to this work.

Talks and posters

1. **Koubiyr I**, Besson P, Deloire M, Charre-Morin J, Saubusse A, Tourdias T, Brochet B, Ruet A. Dynamic modular-level alterations of structural-functional coupling in clinically isolated syndrome. ARSEP MRI Workshop, Paris, France, February 7th 2020
2. **Koubiyr I**, Besson P, Deloire M, Charre-Morin J, Saubusse A, Tourdias T, Brochet B, Ruet A. Dynamic modular-level alterations of structural-functional coupling in clinically isolated syndrome. European Charcot Foundation (ECF), Baveno, Italy, November 21st-23rd 2019
3. **Koubiyr I**, Besson P, Deloire M, Charre-Morin J, Saubusse A, Tourdias T, Brochet B, Ruet A. Dynamic modular-level alterations of structural-functional coupling in clinically isolated syndrome. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Stockholm, Sweden, September 11th-13th 2019
4. Palotai M, Cavallari M, **Koubiyr I**, Morales Pinzon A, Healy B.C, Glanz B, Weiner H.L, Chitnis T, Guttmann C.R.G. Microstructural damage to the fronto-striatal circuitry may play a role in the development of resistance to fatigue-lowering medications in patients with multiple sclerosis. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Stockholm, Sweden, September 11th-13th 2019
5. Palotai M, Cavallari M, **Koubiyr I**, Morales Pinzon A, Makris N, Healy B.C, Glanz B, Weiner H.L, Chitnis T, Guttmann C.R.G. Sustained fatigue is associated with caudate, putamen and thalamus damage in patients with multiple sclerosis. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Stockholm, Sweden, September 11th-13th 2019
6. **Koubiyr I**, Besson P, Deloire M, Charre-Morin J, Saubusse A, Tourdias T, Brochet B, Ruet A. Dynamic modular-level alterations of structural-functional coupling in clinically isolated syndrome. International Multiple Sclerosis Cognition Society (IMSCOGS), Amsterdam, Netherlands, June 6th-7th 2019
7. **Koubiyr I**, Deloire M, Charre-Morin J, Saubusse A, Coupe P, Dulau C, Tourdias T, Besson P, Ranjeva JP, Pelletier J, Audoin B, Brochet B, Ruet A. Dynamics of grey matter alterations in the 1-year following a clinically isolated syndrome. International Multiple Sclerosis Cognition Society (IMSCOGS), Amsterdam, Netherlands, June 6th-7th 2019
8. **Koubiyr I**, Deloire M, Charre-Morin J, Saubusse A, Coupé P, Dulau C, Tourdias T, Besson P, Ranjeva JP, Pelletier J, Audoin B, Brochet B, Ruet A. *Longitudinal study of functional brain networks in clinically isolated syndrome*. European Charcot Foundation (ECF), Baveno, Italy, November 15th-17th 2018
9. **Koubiyr I**, Palotai M, Deloire M, Charre-Morin J, Saubusse A, Tourdias T, Guttmann CRG, Brochet B, Ruet A. *Microstructural damage in cortico-subcortical white matter tracts in patients with clinically isolated syndrome: prediction of cognitive functioning and follow-up of its change for 1 year*. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Berlin, Germany, October 10th-12th 2018

10. **Koubiyr I**, Deloire M, Ruet A, Charre-Morin J, Saubusse A, Brochet B, Dulau C. *Changes in select resting-state brain functional networks and preservation of social cognitive performances in multiple sclerosis*. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Berlin, Germany, October 10th-12th 2018
11. Palotai M, **Koubiyr I**, Morales Pinzon A, Makris N, Healy B.C, Glanz B, Weiner H.L, Chitnis T, Guttman CRG. *Microstructural damage to associative cortico-thalamic tracts play a role in the pathophysiology of fatigue in multiple sclerosis*. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Berlin, Germany, October 10th-12th 2018
12. **Koubiyr I**, Deloire M, Besson P, Coupé P, Dulau C, Tourdias T, Pelletier J, Audoin B, Brochet B, Ranjeva JP, Ruet A. *Reorganization of functional brain network topology in clinically isolated syndrome: A 1-year longitudinal study*. Organization for Human Brain Mapping (OHBM), Singapore, 17th-21st 2018
13. **Koubiyr I**, Deloire M, Besson P, Coupé P, Dulau C, Tourdias T, Pelletier J, Audoin B, Brochet B, Ranjeva JP, Ruet A. *Reorganization of functional brain network topology in clinically isolated syndrome: A 1-year longitudinal study*. ARSEP Multiple Sclerosis meeting, June 1st 2018
14. **Koubiyr I**, Deloire M, Charre-Morin J, Saubusse A, Coupé P, Dulau C, Tourdias T, Besson P, Ranjeva JP, Pelletier J, Audoin B, Brochet B, Ruet A. *Relationships between reorganization of functional brain network topology and cognition in Clinically Isolated Syndrome: A 1 year Resting state fMRI longitudinal study*. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), October 25th-28th 2017
15. **Koubiyr I**, Deloire M, Charre-Morin J, Saubusse A, Coupé P, Dulau C, Tourdias T, Besson P, Ranjeva JP, Pelletier J, Audoin B, Brochet B, Ruet A. *Microstructural alterations precede deep grey matter volume loss in patients with clinically isolated syndrome*. European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), October 25th-28th 2017

Grants and awards

- Best poster presentation award from the European Charcot Foundation (ECF), Baveno, Italy, 2019 (4000€)
- European Charcot Foundation (ECF), Travel grant, Baveno, Italy, 2019
- European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Travel grant, Stockholm, Sweden, 2019
- 2-year grant for a post-doctoral fellowship from LabEx TRAIL (Translational Research and Advanced Imaging Laboratory) (100 000€)
- Best poster presentation award from the European Charcot Foundation (ECF), Baveno, Italy, 2018 (4000€)
- European Charcot Foundation (ECF) Travel grant, Baveno, Italy, 2018
- European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) Travel grant, Berlin, Germany, 2018
- European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) Travel grant, Paris, France, 2017
- ARSEP (French association for research on multiple sclerosis) Travel grant for internship (5000€)