

CURRICULUM VITAE
Désirée Lussier-Lévesque

(publishing as Désirée Lussier)

University of Montreal

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EDUCATION

- 2019 Ph.D. Developmental Psychology, Behavioral and Cognitive Neuroscience (*dual specialization*), University of Florida
- 2018 M.S. Psychology, University of Florida

PROFESSIONAL APPOINTMENTS

- 2021 - *Postdoctoral Researcher*, Department of Psychology, Université de Montréal, Montréal, QC, Canada
- 2019 - *Postdoctoral Researcher*, Centre de recherche de l'Institut universitaire de gériatrie de Montréal, Université de Montréal, Montréal, QC, Canada
- 2015 - 2019 *Graduate Student Research Assistant*, University of Florida, Department of Psychology, Gainesville, FL, USA
- 2013 - 2015 *Clinical Research Associate*, Seattle Children's Research Institute, Child Health, Behavior and Development, Seattle, WA, USA
- 2012 – 2015 *Research Assistant*, University of Washington Medical Center, Radiology Department, Integrated Brain Imaging Center, Seattle, WA, USA

PUBLICATIONS

(Last name changed from Gulliford to Lussier in 2017)

(*authors share first or last authorship)

Peer reviewed (published: 4; in preparation: 3 – not listed)

Borghesani, V., Naggy, Z., **Lussier, D.**, Narayanan, S., Xu, T., Chauvin, R., Dagher, A., Brovkin, A., Kochunov, P., Badhwar, A. (2021). A stage for neuroscience and art: the OHBM BrainArt SIG. *Aperture*. doi: [10.31234/osf.io/uywc5](https://doi.org/10.31234/osf.io/uywc5)

Badhwar A., Collin-Verreault, Y., **Lussier, D.**, Sharmarke, H., Orban, P., Urchs, S., Chouinard, I., Vogel, J., Potvin, O., Duchesne, S., Bellec, P. (2020). A dataset of long-term consistency values of resting-state fMRI connectivity maps in a single individual derived at multiple sites and vendors using the Canadian Dementia Imaging Protocol. *Data in Brief*. 31:105699. doi: [10.1016/j.dib.2020.105699](https://doi.org/10.1016/j.dib.2020.105699)

Lussier, D., *Cruz-Almeida, Y., *Ebner, N.C. (2019) Musculoskeletal pain and brain morphology: oxytocin's potential as a treatment for chronic pain in aging. *Frontiers in Aging Neuroscience*. 11:338. doi: [10.3389/fnagi.2019.00338](https://doi.org/10.3389/fnagi.2019.00338)

Richards T., Grabowksi T., Askren, K., Boord, P., Yagle, K., Mestre, Z, Robinson, P., Welker, O., **Gulliford, D.**, Nagy, W., Berninger, V. (2015). Contrasting brain patterns of writing-related DTI parameters, fMRI connectivity, and DTI-fMRI connectivity correlations in children with and without dysgraphia or dyslexia. *Neuroimage: Clinical*, 8, 408-421. doi: [10.1016/j.nicl.2015.03.018](https://doi.org/10.1016/j.nicl.2015.03.018)

Encyclopedia entries (1)

Ebner, N.C., **Gulliford, D.**, Yumusak, S. (2016). Saccadic Eye Movement. *Encyclopedia of Clinical Neuropsychology*. doi: [10.1007/978-3-319-56782-2_1400-2](https://doi.org/10.1007/978-3-319-56782-2_1400-2)

Thesis/dissertation (2)

Lussier, D. (2019). Pain and Aging: Brain Structure and the Effects of Oxytocin (Doctoral dissertation). *University of Florida*.

Lussier, D. (2018). Age differential effects of oxytocin on resting state functional connectivity in women (Master's thesis). *University of Florida*.

Consortia (peer reviewed: 10)

Lawrence, K.E., Hernandez, L.M., Fuster, E., Padgaonkar, N.T., Patterson, G., Jung, J., ... & Dapretto, M., GENDAAR Consortium. (2021) Impact of autism genetic risk on brain connectivity: a mechanism for the female protective effect. *Brain*. doi: [10.1093/brain/awab204](https://doi.org/10.1093/brain/awab204) (Member of GENDAAR Consortium)

Gau, R., Noble, S., Heuer, K., Bottenhorn, K. L., Bilgin, I. P., Yang, Y.-F., ... & Brainhack Community. (2021). Brainhack: developing a culture of open, inclusive, community-driven neuroscience. *Neuron*. doi: [10.17605/OSF.IO/4SZCT](https://doi.org/10.17605/OSF.IO/4SZCT) (Member of Brainhack Community)

Jack, A., Sullivan, C., Aylward, E., Bookheimer, S., Dapretto, M., Gaab, N., ... & Gupta, A.R., the GENDAAR Consortium, A neurogenetic analysis of female autism,

Brain, Volume 144, Issue 6, June 2021, Pages 1911–1926. doi:
[10.1093/brain/awab064](https://doi.org/10.1093/brain/awab064) (Member of GENDAAR Consortium)

Neuhaus, E., Kang, V.Y., Kresse, A., Corrigan, S., Aylward, E., Bernier, R., ... & Webb, S.J., ACE GENDAAR Consortium. (2021). Language and Aggressive Behaviors in Male and Female Youth with Autism Spectrum Disorder. *J Autism Dev Disord* (2021). doi: [10.1007/s10803-020-04773-0](https://doi.org/10.1007/s10803-020-04773-0) (Member of ACE GENDAAR Consortium)

Harrop, C., Libsack, E., Bernier, R., Dapretto, M., Jack, A., McPartland, J. C., ... & GENDAAR Consortium. (2021). Do Biological Sex and Early Developmental Milestones Predict the Age of First Concerns and Eventual Diagnosis in Autism Spectrum Disorder? *Autism Research*, 14(1), 156-168. doi: [10.1002/aur.2446](https://doi.org/10.1002/aur.2446) (Member of GENDAAR Consortium)

Hernandez, L. M., Lawrence, K. E., Padgaonkar, N. T., Inada, M., Hoekstra, J. N., Lowe, J. K., ... & Dapretto, M. on behalf of GENDAAR Consortium. (2020). Imaging-genetics of sex differences in ASD: distinct effects of OXTR variants on brain connectivity. *Translational psychiatry*, 10(1), 1-12. doi: [10.1038/s41398-020-0750-9](https://doi.org/10.1038/s41398-020-0750-9) (Member of GENDAAR Consortium)

Lawrence, K. E., Hernandez, L. M., Eilbott, J., Jack, A., Aylward, E., Gaab, N., ... & Dapretto, M. on behalf of GENDAAR Consortium. (2020). Neural responsivity to social rewards in autistic female youth. *Translational psychiatry*, 10(1), 1-12. doi: [10.1038/s41398-020-0824-8](https://doi.org/10.1038/s41398-020-0824-8) (Member of GENDAAR Consortium)

Clawson, A., Strang, J. F., Wallace, G. L., Gomez-Lobo, V., Jack, A., Webb, S. J., ... & GENDAAR Research Consortium. (2020). Parent-child concordance on the Pubertal Development Scale in typically developing and autistic youth. *Research in Autism Spectrum Disorders*, 77, 101610. doi: [10.1016/j.rasd.2020.101610](https://doi.org/10.1016/j.rasd.2020.101610) (Member of GENDAAR Consortium)

Lawrence, K. E., Hernandez, L. M., Bowman, H. C., Padgaonkar, N. T., Fuster, E., Jack, A., ... & GENDAAR Consortium. (2020). Sex differences in functional connectivity of the salience, default mode, and central executive networks in youth with ASD. *Cerebral Cortex*, 30(9), 5107-5120. doi: [10.1093/cercor/bhaa105](https://doi.org/10.1093/cercor/bhaa105) (Member of GENDAAR Consortium)

Hull, J. V., Dokovna, L. B., Jacokes, Z. J., Torgerson, C. M., Irimia, A., Van Horn, J. D., & GENDAAR Research Consortium. (2018). Corrigendum: Resting-State

Functional Connectivity in Autism Spectrum Disorders: A Review. *Frontiers in psychiatry*, 9, 268. doi: [10.3389/fpsy.2016.00205](https://doi.org/10.3389/fpsy.2016.00205) (Member of GENDAAR Consortium)

FELLOWSHIPS, FUNDING AND AWARDS

(Totals - Postdoctoral scholarships: 20,000 CAD; Travel scholarships: 1,850 USD; PhD scholarships: 20,000 USD)

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|-------------|---|
| 2021 | <i>Neuro-AI Excellence Scholarship Winter 2021</i> , Union Neuroscience et Intelligence Artificielle - Québec (UNIQUE), \$20,000 |
| 2018 | <i>McKnight Brain Institute Training Enhancement Opportunity Travel Award</i> , University of Florida, \$1,850 |
| 2015 - 2019 | <i>Graduate Fellowship Top-Off Award</i> , University of Florida, College of Liberal Arts and Sciences and Department of Psychology, \$5,000 per year for 4 years |
| 2015 - 2019 | <i>Graduate School Fellowship Program Award</i> , University of Florida, College of Liberal Arts and Sciences and Department of Psychology |
| 2013 | <i>Magna Cum Laude</i> , Ashford University, Department of Psychology |

INVITED TALKS

(Last name changed from Gulliford to Lussier in 2017)

(*indicates undergraduate/trainee presenter)

(Total: 7; first author presenter: 6, student/mentee presenter: 1)

Lussier, D., Badhwar, A., Clarke, N., Bellec, P. (2021) *Qualité d'embedding des données d'IRM multisite à l'état de repos dans les cohortes cliniques à l'aide de la parcellisation cérébrale*. Journée scientifique du Le Consortium pour l'identification précoce de la maladie d'Alzheimer - Québec (CIMA-Q), Québec, Canada (virtual)

Lussier, D., Badhwar, A., Clarke, N., Bellec, P. (2021) *Embedding quality of multisite resting state fMRI data in clinical cohorts using brain parcellation*. CIMA-Q Science Day, Québec, Canada (virtual)

Lussier, D. (2020) *Resting-state functional MRI as an emergent biomarker in Alzheimer's Disease*. Trainee panel on biomarkers, Canadian Consortium on Neurodegeneration in Aging (CCNA), Canada (virtual)

*Myers, E., **Lussier, D.**, & Ebner, N. C. (March, 2019). *Increase in empathy and insula volume after 4-week intranasal oxytocin administration in older male adults.* Invited Presentation at the 2019 Robert Levitt Awards, Gainesville, FL, USA.

Lussier, D. (2018) *Brain structure and oxytocin in pain and aging.* Centre de recherche de l'Institut universitaire de gériatrie de Montréal, Université de Montréal, Montreal, QC, CA

Lussier, D. (2018) *Brain structure in pain and aging.* University of Florida, Language and Brain group, Gainesville, FL, USA

Gulliford, D. (2013) *Posttraumatic stress disorder in combat veterans: A review of treatment methods and experiment proposal.* University of Washington Medical Center, IBIC Lab Meeting, Seattle, WA, US

CONFERENCE PRESENTATIONS

(Last name changed from Gulliford to Lussier in 2017)

(*indicates undergraduate/trainee presenter)

(Total: 20; first author presenter: 6, student/mentee presenter: 4)

Clarke, N., **Lussier, D.**, Detcheverry, F., Smith, E., Narayanan, S., Badhwar, A. (September 2021). *Relationship between cerebrovascular pathology and resting-state functional connectivity: A systematic review.* Talk presented at the VasCog Conference, virtual.

Lussier, D., Badhwar, A., Boukhdhir, A., Paugam, F., Shamarke, H., Duchesne, S., Bellec, P. (June 2021). *Comparison of functional parcellation embedding quality on resting-state fMRI in heterogeneous data.* Poster presented at the Annual Meeting of the Organization for Human Brain Mapping, virtual.

Lussier, D., Badhwar, A., Shamarke, H., Boré, A., Dixon, R., Bellec, P. (October 2020). *Evaluating the embedding quality of whole-brain dynamic parcellation (Dypac) resting-state fMRI on the CCNA and SIMON datasets.* Recorded video poster presentation for the Canadian Consortium on Neurodegeneration in Aging, virtual, Canada

*Myers, E., **Lussier, D.**, Horta, M., Frazier, I., Polk, R., Feifel, D., Ebner, N. C. (June 2019). *Four-week intranasal oxytocin increases insula volume and associated empathy scores in aging.* Poster presented at the Annual Meeting of the Organization for Human Brain Mapping, Rome, Italy.

Lussier, D., Fillingim, R.B., Riley, J.L., Cohen, R., Woods, A., Porges, E., Ebner, N.C., Cruz-Almeida, Y. (April 2019) *Associations between pain interference and brain volume in community-dwelling older adults*. Poster presented the American Pain Society Scientific Meeting, Milwaukee, WI, USA.

*Myers, E., **Lussier, D.**, Horta, M., Frazier, I., Polk, R., Feifel, D., Ebner, N. C. (January 2019). *Increase in empathy and insula volume after 4-week intranasal oxytocin administration in older adults*. Poster presented at 9th Annual North Central Florida Chapter of the Society for Neuroscience Conference, Gainesville, Florida.

Ebner, N. C., Månsson, K. N. T., Lin, T., **Lussier, D.**, Horta, M., Frazier, I., Weir, D., Feifel, D., Fischer, H. (January 2019). *Neuroplasticity and cognitive benefits associated with chronic intranasal oxytocin administration in aging*. Talk at the Alpine Brain Imaging Meeting, Champéry, Switzerland.

Lussier, D., Horta, M., Porges, E., Woods, A., Cohen, R., Ebner, N.C., Cruz-Almeida, Y. (November 2018). *Pain modulation is associated with cingulate morphology in older adults with musculoskeletal pain*. Poster presentation at the Society for Neuroscience Conference, San Francisco, CA, USA.

Lussier, D., *Hayes, R., Horta, M., Lin, T., Frazier, I., Weir, D., Perez, E., Feifel, D., Månsson, K.N.T., Fischer, H., Ebner, N.C. (June 2018). *Four-week intranasal oxytocin vs placebo administration modulation of amygdala and accumbens volume*. Poster presentation at the Annual Meeting of the Organization for Human Brain Mapping, Singapore.

*Sannegowda, R., **Lussier, D.**, Ebner, N.C., Cruz-Almeida, Y. (June 2018). *Cerebellar white matter volume is associated with clinical and experimental pain in older individuals with musculoskeletal pain*. Poster presentation at the Annual Meeting of the Organization for Human Brain Mapping, Singapore.

Månsson, K. N. T., **Lussier, D.**, Cortes, D. S., Lin, T., Horta, M., Frazier, I., Feifel, D., Fischer, H., Ebner, N. C. (June 2018). *Neuroplasticity after acute and repeated exposure to oxytocin: a multi-site MRI analysis*. Poster presentation at the Annual Meeting of the Organization for Human Brain Mapping, Singapore.

Gulliford, D., Chen, H., Porges, E., Lin, T., Fischer, H., Feifel, D., Cohen, R. A., Ebner, N. C. (June 2017). *Gender-differential effects of intranasal oxytocin on resting-state anterior cingulate activity*. Poster presented at the Annual Meeting of the Organization for Human Brain Mapping, Vancouver, Canada.

Horta, M., Lin, T., **Gulliford, D.**, Cohen, R. A., Ebner, N. C. (April 2016). *Dynamic emotion identification: Effects of age and oxytocin*. Poster presented at the Meeting of the Social and Affective Neuroscience Society, New York City, NY, USA.

Conner, L., Dalton, I., Horta, M., **Gulliford, D.**, Frazier, I., Ebner, N. C., Lighthall, N. (March 2017). *Information integration in economic value judgments: Shift from affective to deliberative decision network regions*. Poster presented at the Annual Meeting of the Society for Social and Affective Neuroscience, Los Angeles, CA, USA.

Horta, M., Lin, T., **Gulliford, D.**, Ebner, N. C. (November 2015). *Dynamic emotion identification: Effects of age and oxytocin*. Poster presented at the Gerontological Society of America's 68th Annual Scientific Meeting, Orlando, FL, USA.

*Welker, O. **Gulliford, D.**, Aylward, E., Webb, S. (June 2015). *Amygdalar function in emotion processing in adolescent boys and girls*. Poster presented at the Undergraduate Research Symposium, University of Washington, Seattle, WA, USA.

Jack, A., Keifer, C., **Gulliford, D.**, Torgerson, C., Aylward, E., Bookheimer, S., Dapretto, M., Gaab, N., Van Horn, J., Pelphrey, K., GENDAAR Working Group (May 2015). *Sex differences in biological motion perception among youth with ASD: an fMRI investigation*. Poster presented at the International Meeting for Autism Research, Salt Lake City, UT, USA.

Richards, T., Grabowski, T., Askren, K., Collins, E., Yagle, K., **Gulliford, D.**, Welker, O., Beringer, V. (March 2014) *Children with dyslexia/dysgraphia and DTI parameter correlations with reading/language scores*. Poster presented at the New Horizons in Human Brain Imaging conference, Oahu, HI, USA.

Richards, T., Grabowski, T., Askren, K., Peter Boord, P., Yagle, K., Mestre, Z., Reitz, F., Welker, O., **Gulliford, D.**, Liza Young, L., Collins, E., Berninger, V. (November 2013) *Functional and structural connectivity across levels of language in children with dysgraphia*. Poster presented at Society for the Neurobiology of Language conference, San Diego, CA, USA.

Richards, T., Grabowski, T., Askren, K., Collins, E., Yagle, K., **Gulliford, D.**, Welker, O., Beringer, V. (June 2013) *Children with dyslexia/dysgraphia and DTI parameter*

correlations with reading/language scores. Poster presented at the Organization for Human Brain Mapping conference, Seattle, WA, USA.

COURSES AND LECTURES

Instructor of Record (1)

PSY2012: General Psychology, University of Florida, Gainesville, FL, USA, (Fall 2018)

Teaching Assistantships (Total: 9; online: 6)

PSY6983: Projet en sciences des données neuronales, Université de Montréal, Montréal, QC, Canada, taught by Pierre Bellec (Summer 2021)

PSY6983: Projet en sciences des données neuronales, (online) Université de Montréal, Montréal, QC, Canada, taught by Pierre Bellec (Summer 2020)

PSY3053: Developmental Psychology, University of Florida, (online) University of Florida, Gainesville, FL, USA, taught by Marina Klimenko (Spring 2016, 2017, 2019; Fall 2017)

PSY2012: General Psychology, University of Florida, (online) taught by Nicole Dorey (Spring 2018)

PSY3053: Developmental Psychology, University of Florida, Gainesville, FL, USA, taught by Natalie C. Ebner (Fall 2016, 2017)

Lectures (5)

Socioemotional development in infancy. University of Florida, Developmental Psychology taught by Natalie C. Ebner, Gainesville, FL, USA (Fall 2016, 2017)

Scripting with Unix Shell. University of Florida, Developmental Colloquium taught by Natalie C. Ebner, Gainesville, FL, USA (2018)

Updates in Autism: New research and the DSM. Pierce College Fort Steilacoom, Abnormal Psychology taught by Jo Anne Geron, Lakewood, WA, USA (2014)

An introduction to neuroimaging. Pierce College Fort Steilacoom, Introduction to Psychology taught by Jo Anne Geron, Lakewood, WA, USA (2013)

Neuroimaging and developmental disorders. Pierce College Fort Steilacoom, Abnormal Psychology taught by Jo Anne Geron, Lakewood, WA, USA (2013)

WORKSHOPS, SCHOOLS, AND EXHIBITS

Co-organizer

- 2021 Brain Art Exhibition Manager Elect, *BrainArt Exhibition*, BrainArt SIG, OHBM 2021 Annual Meeting (virtual)
- 2021 Member of organizing committee, *Brainhack Global 2020ish MTL*, Montréal, QC, Canada (virtual)
- 2020 Member of Week 2 organizing committee, *Brainhack School*, Summer 2020, multiple universities, Montréal, QC, Canada (virtual)

Instructor

- 2020 & 2021 *PSY6983: Project in Neural Datascience (Brainhack School)*, Université de Montréal, Montréal, QC, Canada (Pierre Bellec)
- 2019 *Introduction to machine learning for neuroimaging*. Traintrack workshop for Brainhack Global 2019, Concordia University Conference Centre, Montréal, QC, Canada
- 2019 *Principal component analysis and pipelines with Sklearn*. Part of the Machine learning educational workshop for Montreal Artificial Intelligence and Neuroscience conference, Montreal Institute for Learning Algorithms (MILA) - Quebec AI Institute, Montréal, QC, Canada (Gaël Varoquaux, Alexa Pichet, Alexandre Hutton, Pierre Bellec)

Participant

- 2021 *6th IVADO/MILA Deep Learning School*, Institut de valorisation des données (IVADO) & MILA - Québec AI Institute, Université de Montréal, Montréal, QC, Canada (virtual)
- 2018 *Deep Learning in Neuroimaging and Beyond*, Centre de recherche de l'Institut universitaire de gériatrie de Montréal, Université de Montréal, Montréal, QC, Canada (Andrew Doyle, Joseph Paul Cohen, Thomas Funck)
- 2018 *The Virtual Brain: Node #7*, Montréal Neurological Institute, McGill University, Montréal, QC, Canada
- 2017 *Montreal Artificial Intelligence and Neuroscience: Machine Learning with NiLearn and Scikit*, Centre de Recherches Mathématiques, Université de Montréal, Montréal, QC, Canada (Gaël Varoquaux)

- 2017 *Montreal Artificial Intelligence and Neuroscience: Tensorflow for Deep Learning in Neuroimaging*, Centre de Recherches Mathématiques, Université de Montréal, Montréal, QC, Canada (Robb Brown)
- 2017 *Reproducible Neuroimaging (Repronim) training*, ReproNim: Center for Reproducible Neuroimaging Computation, Washington, DC, USA

SERVICE

Committee Memberships

- 2021- Secretary, Brain Art Special Interest Group, Organization for Human Brain Mapping
- 2020- Brain Art Special Interest Group liaison, Technology Taskforce, Organization for Human Brain Mapping
- 2020-2021 Work Group Chair, Sponsor/Exhibitor/Brain Art Work Group, Technology Taskforce, Organization for Human Brain Mapping
- 2020-2021 Art Exhibit Manager Elect, Brain Art Special Interest Group, Organization for Human Brain Mapping

Editorial

- 2021- Review Editor, Population Neuroimaging, Frontiers in Neuroimaging

Ad-hoc Reviewer

- 2021 Scientific Reports
- 2021 NeuroImage
- 2020 Neural Regeneration Research
- 2019 Organization for Human Brain Mapping annual meeting 2020
- 2019 Frontiers in Neuroinformatics

MENTORSHIP

Myers, Elisha, University of Florida, Psychology Undergraduate Thesis: *Effects of Four-Week Intranasal Oxytocin Administration on Insula Volume and Levels of*

Empathy in Aging, Spring 2020. PI: Natalie C. Ebner. (Accepted to Florida Atlantic University College of Medicine, USA)

Rachna Sannegowda, University of Florida, Biomedical Engineering Undergraduate Thesis: *Cerebellar White Matter Volume and Clinical Pain in Older Individuals*, Spring 2018. PI: Yenisel Cruz-Almeida. (Accepted to University of Central Florida College of Medicine, USA)

Rita Hayes, University of Florida, Biology Undergraduate Thesis: *The effects of Long-Term Oxytocin Administration on the Cingulate Cortex of Older Adults*, Spring 2018. PI: Natalie C. Ebner. (Accepted to Technion Medical School, Israel)

PROFESSIONAL AFFILIATIONS

- 2021- Consortium pour l'identification précoce de la maladie d'Alzheimer - Québec (CIMA-Q), student/trainee member
- 2018- Society for Neuroscience (SfN), student member
- 2013- Organization for Human Brain Mapping (OHBM), junior/student member
- 2018-2019 American Pain Society (APS), student/trainee member

METHODS AND TECHNOLOGY

Neuroimaging Methods

DTI, fMRI, sMRI

Programming Languages

Python, R, Unix shell (bash), JavaScript

Neuroimaging libraries/tools

Dypac, Nilearn, fMRIPrep, FSL, CONN, NIAK, Tracula

Machine learning and deep learning libraries

Scikit-Learn, PyTorch, Tensorflow, Keras

Other scientific libraries/tools

Scipy, Numpy

Operating Systems

Linux (Debian, Ubuntu), Windows

Spoken/written languages

English (native), French (limited working), German (limited working)