

## Aurélie LEDREUX, MS, PhD

### Work address:

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### ***Professional Experience***

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- Oct. 2021-present **Assistant Professor**, Department of Neurosurgery, University of Colorado Anschutz Medical Campus, Aurora, CO.  
Research interests: Biomarkers, neurodegeneration, extracellular vesicles, neuroinflammation, concussion.
- 2017-2021 **Research Assistant Professor**, Knoebel Institute for Healthy Aging, University of Denver, Denver, CO.  
Research interests: Fluid biomarkers for Down syndrome and Alzheimer's disease, exosomes, healthy aging, neurodegeneration, concussion.
- 2017-2021 **Vivarium Director**, University of Denver, Denver, CO.
- 2016-2017 **Postdoctoral Associate**, Granholm Laboratory, Knoebel Institute for Healthy Aging, University of Denver, Denver, CO.  
Mentor: Ann-Charlotte Granholm, Ph.D.  
Research interests: Neuron-derived exosomes as biomarkers for Alzheimer's disease. Neuroinflammation in a rat model for aging.
- 2014-2016 **Postdoctoral Associate**, Granholm Laboratory, Department of Neurosciences, Medical University of South Carolina, Charleston, SC.  
Mentor: Ann-Charlotte Granholm, Ph.D.  
Research interests: Effect of a high fat diet on cognitive impairment in a rat model. Effect of exercise on cognitive function in elderly subjects.
- 2011-2013 **NRC Postdoctoral Associate**, Marine Biotoxins Program, National Oceanic and Atmospheric Administration, Charleston, SC.  
Mentor: John S. Ramsdell, Ph.D.  
Research interests: Toxicokinetics in rodent models, detection of algal neurotoxins in complex biological samples.
- 2010-2011 **Postdoctoral Researcher**, National Museum of Natural History (MNHN) - Unit 7245 National Center for Scientific Research (CNRS), Paris, France.  
Mentor: Cécile Bernard, Ph.D.  
Research interests: Implementation of cell-based assays for the identification of marine natural toxins responsible for atypical or emerging toxicity affecting human health.
- 2007-2010 **Graduate Student**, Laboratory of Food Safety, French Agency for Food, Environmental and Occupational Health and Safety (ANSES) / National Museum of Natural History (MNHN) - Unit 7245 National Center for Scientific Research (CNRS), Paris, France.  
Mentors: Sophie Krysz, Ph.D. (ANSES), Cécile Bernard, Ph.D. (MNHN).

Thesis: “Contribution to the human risk assessment linked to the onset of emerging phytoplanktonic toxins: analysis of cellular responses and selection of experimental models for screening”.

2004-2006 **Undergraduate Engineering Student**, Unit 7245 CNRS-MNHN, Paris, France.  
Thesis: “Optimization of a neuroblastoma assay for the detection of phytoplanktonic neurotoxins: saxitoxins and brevetoxins”.

2003 **Research Technician**, National Museum of Natural History, Paris, France.  
Research interests: Biology and taxonomy of microfungi.

## **Funding**

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### Active :

**R01 AG070153** Ledreux (PI) 09/2020-06/2025

*NIH/NIA*

Noradrenergic dysfunction in Down Syndrome

**R01 AG071228** Granholm (Contact PI), Ledreux (MPI), Linseman (MPI) 08/2021-04/2026

*NIH/NIA*

Exosome biology in Alzheimer's disease and concussion

**R01 AG0061566** Granholm (PI), Mufson and Margittai (MPI) 08/2021-04/2026

*NIH/NIA*

Tau pathology in Down syndrome and Alzheimer's disease

Role : Staff scientist

**Professional Research Opportunities for Faculty (PROF) grant** Ledreux/Morris (co-PIs) 07/2021-07/2023

*University of Denver*

Effect of pet dogs on physiological markers of acute stress in healthy adults

**Pilot grant** Ledreux (PI) 06/2020-03/2022

*University of Denver/KIHA*

Using exosomes for a better understanding of the impact of lifestyle interventions on the aging brain

**AARG-18-565696** Ledreux (PI) 03/2018-02/2022

*Alzheimer's Association Research Grant*

Brain-derived exosomes as biomarkers for Alzheimer's disease

### Completed :

**Professional Research Opportunities for Faculty (PROF) grant** Ledreux (co-PI) 07/2019-06/2021

*University of Denver*

Biomarker analysis of pathogenic SOD1 and TDP-43 in neuron-derived exosomes from blood of ALS mice

**Pilot grant** Ledreux (PI) 04/2018-03/2021

*University of Denver/KIHA*

Brain exosomes as novel biomarkers for Alzheimer's disease: a validation study

## **Education**

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Sept. 2017 **Exosomes training Workshop**  
System Biosciences – Palo Alto, CA

October 2016 **Basics of extracellular vesicles**  
MOOC Coursera online taught by Dr. Cecilia Lässer (University of California Irvine)

April 2014 **Medical Neuroscience**  
MOOC Coursera online course taught by Dr. Leonard White (Duke University)

2007 – 2010 **Ph.D. in Environmental Toxicology**

	AgroParisTech - Paris, France
2000 – 2006	<b>Graduate Engineering in Food Science</b> Conservatoire National des Arts et Métiers - Paris, France
2004 – 2005	<b>M.Sc. in Ecotoxicology</b> Muséum National d’Histoire Naturelle - Paris, France
1999 – 2000	<b>B.Sc. in Biology</b> Université Pierre et Marie Curie - Paris, France

### ***Mentoring and supervising***

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2021 - present	Supervising and mentoring <i>Dr. Hannah Saternos</i> - Postdoctoral fellow
2021 - present	Supervising <i>Stephanie Melgar-Donis</i> - Research Coordinator
2021 - present	Supervising and co-mentoring <i>Zaac Colvett</i> - Undergraduate student
2020 - 2021	Supervising and co-mentoring <i>Andres Sola</i> - Graduate student
2019 - 2021	Supervising <i>Camille Trautman</i> - Research Technician
2017 - present	Supervising <i>Anah Gilmore</i> - Lab manager
2017 - 2021	Supervising <i>Jody Davidson</i> - Animal care Technician
2017 - 2019	Supervising and co-mentoring <i>Allison Grossberg</i> - Undergraduate student
2017 - 2019	Mentoring and supervising <i>Sarah Thomas</i> - Undergraduate student
2016 - 2018	Supervising and co-mentoring <i>Krishna Bharani</i> - M.D./Ph.D student
2016 - 2017	Supervising <i>Hammam Belgasem</i> - Research technician
2015 - 2016	Supervising <i>Becca Derex</i> - Research technician
2014 - 2015	Supervising <i>Laura Columbo</i> - Research technician
2010 - 2011	Co-mentoring <i>Magalie Mahkovec</i> - M.Sc. student
2009 - 2010	Co-mentoring <i>Sihem Aboulkacem</i> - M.Sc. student
2008 - 2009	Co-mentoring and supervising <i>Damien Réveillon</i> - Engineering student
2006 - 2008	Supervising <i>Sahima Hamlaoui</i> - Research technician
2006 - 2007	Supervising <i>Giulia Goëller</i> - Undergraduate student

### ***Reviewing***

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2018-present	Grant reviewer for the Alzheimer’s Association
2017-2020	Grant reviewer, INSERM (French National Institute of Health and Medical Research) Young Group Leader program
2017; 2019	Grant reviewer, Knobel Institute for Healthy Aging (Univ. Denver) pilot grants
2020	Grant reviewer for the European Science Foundation
2020	Guest Associate Editor, <i>Frontiers in Aging Neuroscience</i> Topic: “Down syndrome, neurodegeneration and dementia”
2021	Review Editor, <i>Frontiers in Aging</i> Topic: “Molecular Mechanisms of Aging”

*Ad hoc* reviewer for (in the last five years):

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| * Journal of Alzheimer’s Disease                                     | * Journal of Evidence-Based Integrative Medicine |
| * Brain Behavior and Immunity  | * Frontiers in Neurology                         |
| * Molecular Nutrition and Food Research                              | * Frontiers in Psychiatry                        |
| * the FASEB Journal  | * Pharmaceuticals                                |
| * Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring | * Journal of Translational Medicine              |
| * Clinical Contemporary Trials                                       | * Journal of Neuroimmunology                     |
| * Biomedicine & Pharmacotherapy                                      | * Biomedicines                                   |
|  | * International Journal of Nanomedicine          |

\* CNS and Neurological Disorders - Drug Targets  
\* Neurology  
\* International Journal of Molecular Sciences  
\* Aging and Mental Health

\* Molecular Biology Reports  
\* Infectious Diseases and Therapies  
\* Translational Medicine  
\* Extracellular Vesicles and Circulating Nucleic Acids

## Fellowships and Awards

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2017	Travel fellowship award from T21 Research Society
2011-2013	Postdoctoral Research Award from US National Research Council (The National Academies of Sciences, Engineering, and Medicine)
2010-2011	Postdoctoral fellowship from the French Ministry of Agriculture/French Ministry of Labor, Employment and Health Postdoctoral Fellowship
2007-2010	Graduate traineeship from the French Agency for Food, Environmental and Occupational Health and Safety Graduate

## Publications

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§ denotes book chapter, \* denotes equal contributors, ^ denotes article recently submitted

- 41<sup>^</sup>. Ahmed J, Fitch TC, Donnelly CM, Joseph JA, Bassil MA, Son A, Zhang C, **Ledreux A**, Horowitz S, Qin Y, Paredes DA, Kumar S. Foldamers reveal and validate novel therapeutic targets associated with toxic  $\alpha$ -synuclein self-assembly. Submitted to *Nature Communications*, Nov 2021.
- 40<sup>^</sup>. Nicastrì CM, McFeeley B, Simon SS, **Ledreux A**, Håkansson K, Granholm A-C, Mohammed A, Daffner K. BDNF mediates improvement in cognitive performance after computerized cognitive training in healthy older adults. Submitted to *Alzheimer's and Dementia*, Nov. 2021
39. Granholm A-C, **Ledreux A** (2021). Biomarkers show value of studying dementia in Down syndrome. *Nature Reviews Neurology* <https://doi.org/10.1038/s41582-021-00558-w>
- 38<sup>§</sup>. Iulita MF, Granholm AC, Carmona-Iragui M, Hamlett ED, Fortea J, **Ledreux A**. Fluid biomarkers for Alzheimer's disease in Down syndrome: current status and novel trends. *In: The neurobiology of aging and Alzheimer disease in Down syndrome*. Head E, Lott I (Eds), Elsevier, pp. 97-128.
37. **Ledreux A**, Thomas S, Hamlett ED, Gilmore A, Trautman CW, Margittai M, Fortea J, Granholm A-C (2021). Small neuron-derived extracellular vesicles from individuals with Down syndrome propagate Tau pathology in the wildtype mouse brain. *Journal of Clinical Medicine* 10 (17), 3931
36. Grossberg AN, Bettcher B, Gorgens K, **Ledreux A** (2021). A 6-week learning intervention increases serum BDNF levels in healthy older adults. *Frontiers in Aging* 35.
35. Grossberg AN, Koza LA, **Ledreux A**, Prusmack C, Krishnamurthy HK, Jayaraman V, Granholm A-C, Linseman DA (2021). A multiplex chemiluminescent immunoassay for serological profiling of COVID-19-positive symptomatic and asymptomatic patients. *Nature Communications* 12, 740 <https://doi.org/10.1038/s41467-021-21040-7>
34. Lemoine L, **Ledreux A**, Mufson EJ, Perez SE, Simic G, Doran E, Lott I, Carroll S, Bharani K, Thomas S, Gilmore A, Hamlett E, Nordberg A, Granholm A-C (2020). Regional binding of tau and amyloid PET in Down syndrome autopsy brain tissues. *Molecular Neurodegeneration*, 15(1), 1-10.
33. Mason SJ, Davidson B, Lehto M, **Ledreux A**, Granholm A-C, Gorgens K (2020). A cohort study of the temporal stability of ImpACT scores among NCAA Division I collegiate athletes: Clinical implications of test-retest reliability for enhancing student athlete safety. *Archives of Clinical Neuropsychology*, DOI: 10.1093/arclin/aaa047
32. Pryhoda MK, Shelburne KB, Gorgens K, **Ledreux A**, Granholm A-C, Davidson BS (2020). Center of pressure velocity shows impairments in NCAA Division I athletes six months post-concussion during standing balance. *Journal of Sport Sciences*, 38 (23), 2677-2687.

31. **Ledreux A**, Pryhoda M, Gorgens K, Shelburne KB, Gilmore A, Linseman DA, Fleming H, Koza LA, Campbell J, Wolff A, Kelly JP, Margittai M, Davidson BS, Granholm A-C (2020). Assessment of long-term effects of sports-related concussions: Biological mechanisms and exosomal biomarkers. *Frontiers in Neuroscience*. 14, 761.
30. Goetzl EJ, Yaffe K, Peltz C, **Ledreux A**, Gorgens K, Davidson BS, Granholm A-C, Mustapic M, Kapogiannis D, Tweedie, D, Greig NH (2020). Traumatic brain injury increases plasma astrocyte-derived exosome levels of neurotoxic complement proteins. *FASEB Journal*, 34(2):3359-3366.
29. Wang Z, Maucher Fuquay J, **Ledreux A**, Barbieri M, Ramsdell JS (2020). Sample preparation and liquid chromatography-tandem mass spectrometry for the analysis of selected Pacific ciguatoxins in blood samples. *Journal of Chromatography A*, 1621: 461050.
28. Hamlett ED, Hjorth E, **Ledreux A**, Gilmore A, Granholm A-C, Schultzberg M (2020). RvE1 treatment prevents memory loss and neuroinflammation in the Ts65Dn mouse model of Down syndrome. *Glia*. doi.org/10.1002/glia.23779
27. Hamlett ED, **Ledreux A**, Gilmore A, Vazey EM, Aston-Jones G, Boger HA, Paredes D, Granholm AC (2020). Inhibitory designer receptors aggravate memory loss in a mouse model of Down syndrome. *Neurobiology of Disease*. 134:104616. doi: 10.1016/j.nbd.2019.104616.
26. Bharani KL, **Ledreux A**, Gilmore A, Carroll SL, Granholm A-C (2020). Serum pro-BDNF levels correlate with phospho-tau staining in Alzheimer's disease. *Neurobiology of Aging*, 87:49-59. doi.org/10.1016/j.neurobiolaging.2019.11.010.
25. Hamlett ED, LaRosa A, Mufson EJ, Fortea J, **Ledreux A**, Granholm A-C (2019). Exosome release and cargo in Down syndrome. *Developmental Neurobiology*. doi: 10.1002/dneu.22712.
24. **Ledreux A**, Håkansson K, Carlsson R, Kidane M, Columbo L, Terjestam Y, Ryan E, Tusch E, Winblad B, Daffner K, Granholm A-C, Mohammed AK (2019). Differential effects of physical exercise, cognitive training and mindfulness practice on serum BDNF levels in healthy older adults: a randomized controlled unsupervised intervention study. *Journal of Alzheimer's Disease*, 71(4):1245-1261. doi: 10.3233/JAD-190756.
23. Goetzl EJ, **Ledreux A**, Granholm A-C, Elahi FM, Goetzl L, Hiramoto JS, Kapogiannis D (2019). Neuron-derived exosome proteins elucidate mechanisms of progression from repetitive mild traumatic brain injuries to chronic traumatic encephalopathy. *Frontiers in Neuroscience*, 13, 452.
22. Goetzl EJ, Elahi FM, Mustapic M, Kapogiannis D, Pryhoda M, Gilmore A, Gorgens KA, Davidson B, Granholm A-C, **Ledreux A** (2019). Altered levels of plasma neuron-derived exosomes and their cargo proteins characterize acute and chronic mild traumatic brain injury. *The FASEB Journal*. fj. 201802319R
21. Hamlett ED, **Ledreux A**, Potter H, Chial HJ, Patterson D, Espinosa JM, Bettcher BM, Granholm AC (2018). Exosomal biomarkers in Down syndrome and Alzheimer's disease. *Free Radic Biol Med*. 114, 110-121.
20. Bharani KL, Derex R, Granholm A-C, **Ledreux A** (2017). A noradrenergic lesion aggravates inflammation effects on the hippocampus in aged rats. *Plos One*. 12(12), e0189821.
- 19<sup>§</sup>. Gugger M, **Ledreux A** (2017). Toxines produites par les microalgues et cyanobactéries. *In: Risques microbiologiques alimentaires*. Lavoisier Tec & Doc. (France), pp. 767-786.
18. Håkansson K, **Ledreux A**, Daffner K, Terjestam Y, Bergman P, Carlsson R, Kivipelto M, Bengt W, Granholm A-C, Mohammed AKH (2017). BDNF responses in healthy older persons to 35 minutes of physical exercise, cognitive training and mindfulness: associations with working memory function. *Journal of Alzheimer's Disease*, 55(2), 645-657.
17. Hamlett ED, Goetzl EJ, **Ledreux A**, Vasilevkok V, Boger HA, LaRosa A, Clark D, Carroll SL, Carmona-Iragui M, Fortea J, Mufson EJ, Sabbagh M, Mohammed AH, Hartley D, Doran E, Lott IT, Granholm A-C (2016). Neuronal exosome biomarkers reveal Alzheimer's disease biomarkers in Down syndrome. *Alzheimer's and Dementia* doi: 10.1016/j.jalz.2016.08.012.

- 16<sup>5</sup>. **Ledreux A**, Hamlett ED, Lockrow J, Bharani KL, Granholm A (2016). Neurodegeneration and memory loss in Down syndrome: perspectives on potential therapeutics. *In: Research Progress in Alzheimer's Disease and Dementia*. Nova Science Publishers (USA), pp.169-194.
15. **Ledreux A**, Wang X, Schultzberg M, Granholm A-C, Freeman LR (2016). Detrimental effects of a high fat/high cholesterol diet on memory and hippocampal markers in aged rats. *Behavioral Brain Research*, 312, 294-304.
14. Rosenberger D\*, Falangola MF\*, **Ledreux A**, Nie X, Suhre WM, Boger HA, Granholm A-C (2016). Memory and hippocampal architecture following short-term midazolam in western diet-treated rats. *Neuroscience Letters*, 621, 68-74.
13. **Ledreux A**, Boger HA, Hinson V, Cantwell K, Granholm A-C (2016). BDNF levels are increased by aminoindan and rasagiline in a double model of Parkinson's disease. *Brain Research*, 1631, 34-45.
12. Hamlett ED, Boger HA, **Ledreux A**, Kelley CM, Mufson EJ, Falangola MF, Guilfoyle DN, Nixon RA, Patterson D, Duval N, Granholm A-C (2016). Cognitive impairment, neuroimaging, and Alzheimer neuropathology in mouse models of Down syndrome. *Current Alzheimer's Research*, 13(1), 35-52.
11. **Ledreux A**, Brand H, Chinain M, Bottein Dechraoui M-Y, Ramsdell, JS (2014). Dynamics of ciguatoxins from *Gambierdiscus polynesiensis* in the benthic herbivore *Mugil cephalus*: trophic transfer implications. *Harmful Algae*, 39, 165-174.
10. Alvarenga LA, Muzard J, **Ledreux A**, Bernard C, Billiald P (2014). Colorimetric engineered immunoprobe for the detection and quantification of microcystins. *Journal of Immunological Methods*, 406, 124-130.
9. **Ledreux A** & Ramsdell JS (2013). Bioavailability and intravenous toxicokinetic parameters for Pacific ciguatoxin P-CTX-1 in rats. *Toxicon*, 64, 81-86.
8. **Ledreux A**, Fessard V, Krys S, Troussellier M, Bernard C (2012). Response to Letter to the Editor regarding "Collaborative study for the detection of toxic compounds in shellfish extracts using cell-based assays. Part I: screening strategy and pre-validation study with lipophilic marine toxins and Part II: application to shellfish extracts spiked with lipophilic marine toxins". *Analytical Bioanalytical Chemistry*, 404, 1613-1614.
7. Sérandour A-L\*, **Ledreux A\***, Morin B, Derick S, Augier E, Lancelleur R, Hamlaoui S, Moukha S, Furger C, Biré R, Fessard V, Troussellier M, Bernard C (2012). Collaborative study for the detection of toxic compounds in shellfish extracts using cell-based assays. Part I: screening strategy and pre-validation study with lipophilic marine toxins. *Analytical Bioanalytical Chemistry*, 403(7), 1983-1993. (\* denotes co-first authorship)
6. **Ledreux A\***, Sérandour A-L\*, Morin B, Derick S, Augier E, Lancelleur R, Krys S, Moukha S, Furger C, Biré R, Fessard V, Troussellier M, Bernard C (2012). Collaborative study for the detection of toxic compounds in shellfish extracts using cell-based assays. Part II: application to shellfish extracts spiked with lipophilic marine toxins. *Analytical Bioanalytical Chemistry*, 403(7), 1995-2007. (\*denotes co-first authorship)
5. **Ledreux A**, Thomazeau S, Catherine A, Duval C, Yéprémian C, Marie A, Bernard C (2010). Evidence for saxitoxins production by the cyanobacterium *Aphanizomenon gracile* in a French recreational water body. *Harmful Algae*, 10, 88-97.
4. **Ledreux A**, Krys S, Bernard C (2009). Suitability of the Neuro-2a cell line for the detection of palytoxin and analogues (neurotoxic phycotoxins). *Toxicon*, 53, 300-308.
3. Aráoz R, Herdman M, Rippka R, **Ledreux A**, Molgó J, Changeux J-P, Tandeau de Marsac N, Nghiễm H-O (2008). *Torpedo* membranes for anatoxin-a and homoanatoxin-a detection from cyanobacteria. Non-radioactive ligand-binding assays. *Toxicon*, 52, 163-174.
2. Humpage AR, **Ledreux A**, Fanok S, Bernard C, Briand J-F, Eaglesham G, Papageorgiou J, Nicholson B, Steffensen D (2007). Application of the neuroblastoma assay for paralytic shellfish poisons to neurotoxic freshwater cyanobacteria: interlaboratory calibration and comparison with other methods of analysis. *Environmental Toxicology and Chemistry*, 26, 1512-1519.

1. Gugger M, Lenoir S, Berger C, **Ledreux A**, Druart J-C, Humbert J-F, Guette C, Bernard C (2005). First report in a river in France of the benthic cyanobacterium *Phormidium favosum* producing anatoxin-a associated with dog neurotoxicosis. *Toxicon*, 45, 919-928.

## **Communications**

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### *Teaching and outreach*

- Ledreux A**. The aging brain. *Enrichment Program*, University of Denver, Denver, CO, November 2021.
- Ledreux A**. Exercise, healthy aging and the brain. KIHA Academy, University of Denver, CO, April 2021.
- Ledreux A**, Paredes D. The gut-brain connection. *Osher Lifelong Learning Institute (OLLI)*, University of Denver, CO, January 2021.
- Ledreux A**, Paredes D. Healthy aging and the brain. *Osher Lifelong Learning Institute (OLLI)*, University of Denver, CO, September 2020.
- Ledreux A**. Life styles factors and the aging brain. The Carillon at Belleview Station Senior living facility, Denver, CO, July 2019.
- Ledreux A**, Paredes D. Healthy aging and the brain. *Osher Lifelong Learning Institute (OLLI)*, University of Denver, CO, May 2019.
- Ledreux A**. Brain update: Revealing new research from infancy to advanced age. *Enrichment Program*, University of Denver, Denver, CO, March 2019.
- Ledreux A**, Paredes D. Recent discoveries about healthy aging and the brain. *Osher Lifelong Learning Institute (OLLI)*, University of Denver, CO, April 2018.
- Ledreux A**. Our aging brains: Advances in neurodegenerative disease diagnosis. *Enrichment Program*, University of Denver, Denver, CO, March 2018.
- Ledreux A**. Aging and brain injury. *Colorado Department of Human Services*, Denver, CO, March 2018.
- Ledreux A**. Exercise and the brain. *Boulder's Newcomers group*, Boulder, CO, July 2017.
- Ledreux A**, Granholm A-C. Blood biomarkers for concussion. *Yale Family Endowed Lectureship*, University of Denver, CO, May 2017.
- Ledreux A**. Aging and memory. *Osher Lifelong Learning Institute (OLLI)*, University of Denver, CO, April 2017.
- Ledreux A**. Exosomes in aging-related disorders. *Brain Rounds*, Center for Professional Development, University of Denver, Denver, CO, March 2017.

### *Oral communications at conferences*

- Ledreux A**. Exosomes as new diagnostic tools in sport-related concussion. *Research Lightning rounds*, National Jewish Health and University of Denver, April 2021.
- Ledreux A**, Hamlett E, Gilmore A, Head E, Mufson E, Carmona-Iragui M, Fortea J, Granholm A-C. Alzheimer's disease biomarkers in neuron-derived extracellular vesicles and cognitive decline in Down syndrome. *3<sup>rd</sup> International Conference of the T21RS*, Barcelona, Spain, June 2019.
- Ramsdell JS, Tiedeken J, Bottein M-Y, Wang Z, **Ledreux A**, Fuquay J, Kashinsky L, Kaufman A, Barbieri M, Littan C. Ciguatoxin and Hawaiian monk seals: monitoring blood toxin levels in Northwestern Hawaiian islands seals and evaluation of foraging under stress using a mouse model. *7<sup>th</sup> Symposium on Harmful Algae in the US*, Sarasota, Florida, October 2013.
- Bernard C, **Ledreux A**, Kryz S. Cell-based assays for neurotoxins. *Atlantox-Symposium on Emerging Marine Toxins*, Nantes (France), May 2010.
- Ledreux A**, Kryz S, Bernard C. Les lignées cellulaires : un outil pour la détection de neurotoxines marines et l'appréciation du risque pour l'homme. *Journée thématique "Expérimentation animale en recherche et évaluation" de l'AFSSA*, Maisons-Alfort (France), October 2009.

**Ledreux A**, Kryš S, Bernard C. Functional cell-based assays as a tool for risk assessment associated with phyco- and cyanotoxins. *14<sup>th</sup> International Symposium on Toxicity Assessment*, Metz (France), September 2009.

**Ledreux A**, Kryš S, Bernard C. Suitability of the Neuro-2a cell line for the detection of an additional family of neurotoxic phycotoxins: palytoxin and analogs. *13<sup>th</sup> International Conference on Harmful Algae Blooms*, Hong Kong (China), November 2008.

**Ledreux A**. Les lignées cellulaires : un outil pour la détection de neurotoxines marines et l'appréciation du risque pour l'homme. *Colloque de l'ARET*, Paris (France), June 2008.

**Ledreux A**. Méthodes de détection des cyanotoxines. 4<sup>èmes</sup> journées scientifiques du GIS Cyanobactéries. Institut Pasteur, Paris (France), January 2007.

### Posters

**Ledreux A**, Hakansson K, Carlsson R, Columbo L, Kidane M, Feng N, Tusch E, Terjestram Y, Ryan E, Mohammed AK, Granholm A-C, Daffner K. Effects of a 5-week life-style intervention on serum BDNF levels in healthy older adults. *Alzheimer's Association International Conference*, Los Angeles, CA, July 2019.

Hamlett ED, Wang X, **Ledreux A**, Hjorth E, Granholm A-C, Schultzberg M. Resolvin E1 reduces inflammation and enhances memory in the Ts65Dn mouse model of Down syndrome. *15<sup>th</sup> International Symposium on Neural Transplantation and Restoration*, Clearwater Beach, FL, April 2018.

Oduleye N, Mason S, Mackenzie M, Nordeman G, Yunker C, Gorgens K, Davidson B, Granholm A-C, **Ledreux A**, Gilmore A, Pryhoda M. Baseline ImPACT data from a concussion biomarker project at the University of Denver. *15<sup>th</sup> Annual Meeting, Front Range Neuroscience*, Fort Collins, CO, December 2017.

Melgar S, **Ledreux A**, Hicks C, Harvey S, Hamlett ED, Gilmore A, Granholm A-C, Paredes D. Brain content of polyamines in relation to AD pathology in Down Syndrome. *15<sup>th</sup> Annual Meeting, Front Range Neuroscience*, Fort Collins, CO, December 2017.

Gilmore A, Kirchhoff-Rowald A, Granholm A-C, Gorgens K, Davidson B, Pryhoda M, Oduleye N, Mason S, Mitchel H, Campbell J, Badillo C, **Ledreux A**. Preliminary biomarker and demographic findings pre- and post-concussion in a cohort of division 1 athletes in high impact sports. *15<sup>th</sup> Annual Meeting, Front Range Neuroscience*, Fort Collins, CO, December 2017.

Pryhoda MK, Badillo C, Mitchel H, Kirchhoff-Rowald A, **Ledreux A**, Gilmore A, Gorgens K, Granholm A-C, Davidson BS. Clinical and biomechanical balance measurement sensitivity to acute concussion: A pilot prospective study. *15<sup>th</sup> Annual Meeting, Front Range Neuroscience*, Fort Collins, CO, December 2017.

**Ledreux A**, Hakansson K, Carlsson R, Daffner K, Feng N, Mohammed AK, Granholm-Bentley A-C. Effects of a 5-week life-style intervention on serum BDNF levels in healthy older adults. *National Institute on Aging (NIA) Directors Regional Meeting*, Denver, CO, November 2017.

**Ledreux A**, Hamlett ED, Vasileko V, La Rosa A, Carmona-Iragui M, Fortea J, Mufson EJ, Sabbagh M, Doran E, Lott IT, Goetzl E, Granholm-Bentley A-C. Neuronal exosomes reveal Alzheimer's disease biomarkers in Down syndrome. *2<sup>nd</sup> International Conference of the T21RS*, Chicago, IL, June 2017.

**Ledreux A**, Derex B, Bharani KL, Belgasem H, Granholm A-C. Systemic inflammation in a rat model of neurodegeneration. *17<sup>th</sup> MUSC Frontiers in Neuroscience*, Charleston, SC, May 2016.

Bharani KL, Columbo L, **Ledreux A**, Granholm A-C. BDNF as a biomarker for Alzheimer's disease. *12<sup>th</sup> Annual Aging Research Day*, Charleston, SC, March 2016.

**Ledreux A**, Derex B, Bharani KL, Belgasem H, Granholm A-C. Effect of systemic inflammation in a rat model of neurodegeneration. *12<sup>th</sup> Annual Aging Research Day*, Charleston, SC, March 2016.

Hamlett ED, Wang X, **Ledreux A**, Columbo L, Schultzberg M, Granholm A-C. A specialized pro-resolution mediator (SPM) approach to cognitive performance in the Ts65Dn mouse model of Down syndrome. *1st International Conference of the T21RS*, Paris, France, June 2016.



**Ledreux A**, Hakansson K, Columbo L, Mohammed AB, Granholm A-C. Elevated BDNF serum levels after exercise in healthy elderly subjects. *11<sup>th</sup> Annual Aging Research Day*, Clemson, SC, March 2015.

**Ledreux A**, Wang X, Schultzberg M, Rosenberger D, Falangola MF, Granholm A-C. Western diet effects on the rat brain: evidence for cognitive impairment linked with changes in brain structure and elevated AT-8 expression. *44<sup>th</sup> Conference of the Society for Neuroscience*, Washington, D.C., November 2014.

**Ledreux A**, Granholm A-C, Falangola MF, Rosenberger D. Midazolam and high-fat diet effects in middle-aged rats. *10<sup>th</sup> Annual Aging Research Day*, Columbia, SC, January 2014.

**Ledreux A**, Turquet, J, Golubic S, Gugger M. Toxicological investigations of a *Lyngbya majuscula* bloom in a touristic place of the tropical island Mayotte (Southwestern Indian Ocean). *20<sup>th</sup> Meeting of the French Society of Toxinology*, Paris (France), December 2012.

**Ledreux A**, Aboukacem S, Billiald P. Recombinant immunoconjugates for the detection of hepatotoxic cyanotoxins. *11<sup>th</sup> Congress of the Brazilian Society on Toxinology*, Araxa (Brazil), November 2010.

Aboukacem S, **Ledreux A**, Billiald P. Recombinant immunoconjugates for the detection of microcystins. *14<sup>th</sup> International Conference on Harmful Algae Blooms*, Hersonissos (Crete-Greece), November 2010.

**Ledreux A**, Thomazeau S, Catherine A, Duval C, Yéprémian C, Marie A, Bernard C. First report of saxitoxins production by the cyanobacterium *Aphanizomenon gracile* in a French recreational water body. *14<sup>th</sup> International Conference on Harmful Algae Blooms*, Hersonissos (Crete-Greece), November 2010.

**Ledreux A**, Krys S, Bernard C. Cell-based bioassays as a tool for seafood risk assessment. *7<sup>th</sup> International Congress on Molluscan Shellfish Safety*, Nantes (France), June 2009.

**Ledreux A**, Krys S, Bernard C. *In vitro* methods for the detection of algal neurotoxins. *20<sup>th</sup> International Congress of Zoology*, Paris (France), August 2008.

**Ledreux A**, Humpage AR, Fanok S, Bernard C. Application of the neuroblastoma assay for paralytic shellfish poisons to neurotoxic freshwater cyanobacteria: interlaboratory calibration and comparison with other methods of analysis. *International Symposium on Algal Toxins*, Trieste (Italy), May 2007.