BIOGRAPHICAL SKETCH

Provide the following information for all key personnel.
Follow the sample format for each person found in **Biosketch Sample**.

NAME	**POSITION TITLE**
Gros-Louis, François	Associate professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	**DEGREE** *(if applicable)*	**YEAR(s)**	**FIELD OF STUDY**
Université du Quebec à Trois-Rivières, Trois-Rivières, Quebec, Canada	B.Sc.	1998	Medical biology
Université Laval	M.Sc.	2000	Experimental medicine
University of British Columbia, Vancouver, BC, Canada	Certificate	2004	Bioinformatics
McGill University, Montreal, Quebec, Canada	Ph.D.	2006	Human genetics

A. Positions and Honors.

Positions and Employments

1995-1998 Bachelor of Science
Program of Medical Biology, Department of Biology and Biochemistry, Université du Québec à Trois-Rivières, Trois-Rivières, Québec, Canada

1998-2000 Master of Science
Thesis subject: Prenatal diagnostic using fetal cells present in maternal blood
Thesis supervisor: Dr. Jean-Claude Forest MD, PhD
Department of Experimental Medicine, Faculty of Medicine, Laval University, Québec, Québec, Canada

2004 Certificate in Bioinformatics Workshop
Department of continuing study, University of British Columbia, Vancouver, British Columbia, Canada

2000-2006 Doctor of Philosophy
Thesis subject: Genetics of Amyotrophic Lateral Sclerosis and other neurodegenerative diseases
Thesis supervisor: Professor Guy A. Rouleau MD, PhD
Department of Human Genetics, Faculty of Graduate Studies, McGill University, Montreal, Québec, Canada

2006-2010 Post-doctoral fellow
Research subject: Immunutherapeutic approach in Amyotrophic Lateral Sclerosis
Department of Neuroscience, Faculty of Medicine, Laval University, Québec, Canada

2010-2011 Visiting scientist
Research subject: ER stress and SOD1 misfolding in Amyotrophic Lateral Sclerosis
FMI - Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland
Collaborator: Pico Caroni Ph.D.

2011 to 2016 Assistant Professor
Laval University, Québec, Canada, Faculty of Medicine, Department of Surgery

2016 - present Associate Professor
Laval University, Québec, Canada, Faculty of Medicine, Department of Surgery

2016 - present Co-director of the IPSC Quebec core facility

Scholarships, Special Honors and Awards

2012-2022 Tier 2 Canada research Chair recipient (1,000,000$)
2012 Queen Elizabeth II Diamond Jubilee Medal
2011 FRQS career award Research Scholars–Junior 1
2009 Brain Star award
2006 Canadian Institutes of Health Research & Tim Noel Post-Doctoral Fellowship
2006 The Milton Safenowtiz Post-Doctoral Fellowship for ALS research
2006 Fonds de la Recherche en Santé du Québec bourse postdoctoral
2004 Canadian Institutes of Health Research, Short term exchange research grant
2001 Canadian Institutes of Health Research Scholarship
1996-2006 Health Canada, First Nations and Inuit Branch special recognition award
1999 National Aboriginal Achievement Foundation award

B. Research focus and expertise

I am specialized in basic neurobiological research using cellular, 3D tissue-engineered and animal models to study human diseases. I am also specialized in the genetics of neurodegenerative diseases (NDDs), including Amyotrophic Lateral Sclerosis, and other neurological conditions such as neurofibromatosis and brain aneurysms. I am the recipient of a prestigious Tier 2 Canada research Chair in biomodelization of brain diseases hihly relevant for this grant application. I am also the co-director of the IPSC production platform, located at the CHU de Quebec – Université Laval (Enfant-Jesus hospital). This core facility is accessible on demand and provide derivation services for: 1) fibroblasts isolation from skin biopsies; 2) reprogramming fibroblasts and blood cells using the Sendai virus method; 3) full stem cell characterization service; 4) annual training workshops for students and 5) The core facility will also serve as a biorepository for IPSCs.

C. Selected peer-reviewed publications (in chronological order).
Submitted manuscripts

Paré B, Touzel LD, Dupré N, Gould P and **Gros-Louis François**. Histopathological findings in an adult Down syndrome patient with sporadic ALS. Submitted to ***Acta Neuropathologica*** (Impact Factor : 10.762)

Paré B, Goulet CR, Dupré N, Khuong HT, Bolduc S and **Gros-Louis F**. Fibroblast-secreted exosomes by 3D tissue-engineered tissues: a novel source of biomarkers. Manuscript submitted to ***Scientific reports*** (Impact factor 4,847)

Galbraith T, Roy V, Bourget JM, Tsutsumi T, Gauvin R, Ismail AR, Auger FA and Gros-Louis. Cell seeding on UV-C-treated 3D polymeric templates allows for cost-effective production of small-caliber tissue-engineered blood vessels. Manuscript submitted to ***Biotehnology Journal*** (Impact factor 3,649)

Paré B, Lehmann M, Beaudin M, Nordström U, Saikali S, Julien JP, Gilthorpe JD, Marklund SL, Cashman NR, Andersen PM, Forsberg K, Dupré N, Gould P, Brännström T and **Gros-Louis F**. Misfolded SOD1 pathology in sporadic Amyotrophic Lateral Sclerosis. Manuscript submitted to ***Scientific reports*** (Impact factor 4,847)

Published or in press peer-reviewed scientific articles:

Paré B, Dupre N and **Gros-Louis F**. Potential Skin Involvement in ALS; Revisiting Charcot's observation - a quantitative review of collagen abnormalities in sporadic ALS. ***Rev Neurosci***. 2017 Mar 25. [Epub ahead of print] (Impact factor: 3,546)

Ohta Y, Soucy G, Phaneuf D, Audet JN, **Gros-Louis F**, Rouleau GA, Blasco H, Corcia P, Andersen PM, Nordin F, Yamashita T, Abe K, Julien JP. Sex-dependent effects of chromogranin B P413L allelic variant as disease modifier in amyotrophic lateral sclerosis. ***Hum Mol Genet***. 2016 Nov 1;25(21):4771-4786. (Impact factor: 6,353)

Paré B, Deschênes LT, Pouliot R, Dupré N, **Gros-Louis F**. An Optimized Approach to Recover Secreted Proteins from Fibroblast Conditioned-Media for Secretomic Analysis. ***Front Cell Neurosci***. 2016 Mar 31;10:107.

Beaudet M-J, Yang Q, Cadau S, Bellenfant S, **Gros-Louis F**, Berthod F. High yield extraction of pure mouse spinal motor neurons isolated from single embryo. Beaudet MJ, Yang Q, Cadau S, Blais M, Bellenfant S, **Gros-Louis F**, Berthod F. ***Scientific Report***. 2015 Nov 18;5:16763. Impact factor: 5.578

Paré B, Touzel-Deschênes L, Lamontagne R, Lamarre MS, Scott FD, Dion P, Bouchard JP, Gould P, Rouleau GA, Dupré N., Berthod F and **Gros-Louis F**. Cytoplasmic accumulation of TDP-43 detected in tissue-engineered reconstructed skin derived from ALS patients. ***Acta Neuropathologica Com***.n 2015 Jan 31;3:5. Impact factor: NA

Saxena S, Roselli F, Singh K, Leptien K, Julien JP, **Gros-Louis F** and Caroni P. Endogenous neuroprotection signaling through excitability and mtor required in motoneurons to ameliorate disease processes and extend survival in als mice. ***Neuron***. 2013 Oct 2;80(1):80-96. Impact factor: 15.710

Kabashi E, Oussini E, Bercier V, **Gros-Louis F**, Valdmanis PN, McDearmid J, Mejier IA, Dion PA, Dupre N, Hollinger D, Sinniger J, Dirrig-Grosch S, Camu W, Meininger V, Loeffler JP, René F, Drapeau P, Rouleau GA & Dupuis L. Investigating the contribution of VAPB/ALS8 loss of function in amyotrophic lateral sclerosis. Accepté pour publication dans la revue ***Human molecular genetics*** Impact factor: 7.636

Labarre A, Paré B, Deschenes LT and **Gros-Louis F**. Développement d'une immunothérapie pour le traitement de la Sclérose Latérale Amyotrophique. ***Médecine Sciences*** 2012. Impact factor : NA

Daoud H, Valdmanis PN, **Gros-Louis F**, Belzil V, Spiegelman D, Henrion E, Diallo O, Desjarlais A, Gauthier J, Camu W, Dion PA, Rouleau GA. Resequencing of 29 candidate genes in familial and sporadic ALS patients. ***Arch Neurol***. 2011 May;68(5):587-93. Impact factor: 6.310

Bosco D, Morfini G, Karabacak M, Song Y, **Gros-Louis F** Pasinelli P, Goolsby H, Fontaine BA, Lemay N, McKenna-Yasek D, Frosch MP, Agar JN, Julien JP, Brady ST, Brown RH Jr. Wild-type and mutant superoxide dismutase share conformational alterations and trigger a common pathogenic mechanism in amyotrophic lateral sclerosis. ***Nature Neurosciences*** 2010 Nov;13(11):1396-403. Impact factor: 14.345

Gros-Louis F, Larivière R, Soucy G & Julien JP. Intracerebroventricular infusion of monoclonal antibody or its derived Fab fragment against misfolded forms of SOD1 mutant delays mortality in a mouse model of ALS. ***J Neurochem***. 2010 Jun; 113(5):1188-99.. Impact factor : 4.553

Gros-Louis F, Andersen PM, Rouleau GA and Julien JP. Reply to van Vught et al.: P413L CHGB as risk factor for ALS. ***Proc Natl Acad Sci U. S. A***. 2010 May 11;107(19): E78-E78. Impact factor : 10.228

Gros-Louis F, Andersen PM, Dupré N, Urushitani M, Dion P, Souchon F, D'Amour M, Camu W, Meininger V, Bouchard JP, Rouleau GA & Julien JP. Chromogranin B P413L variant as risk factor and modifier of disease onset for amyotrophic lateral sclerosis. ***Proc Natl Acad Sci U S A***. 2009 Dec 22;106(51):21777-82. Impact factor: 10.228

Gros-Louis F., Gowing G. & Julien JP. Development of immunization approaches to amyotrophic lateral sclerosis. ***Future Neurology*** 2009, July; 4(4): 435-447. Impact factor : NA

Gros-Louis F, Kriz J, Kabashi E, McDearmid J, Millecamps S, Urushitani M, Lin L, Dion P, Zhu Q, Drapeau P, Rouleau GA & Julien JP. Als2 mRNA splicing variants detected in KO mice rescue severe motor dysfunction phenotype in Als2 knock-down zebrafish. ***Hum Mol Genet*** 2008 Sep 1;17(17):2691-702. Impact factor : 7.593

Dupré N, **Gros-Louis F**, Chrestian N, Verreault S, Brunet D, de Verteuil D, Brais B, Bouchard JP, Rouleau GA. Clinical and Genetic Study of Autosomal Recessive Cerebellar Ataxia Type 1. ***Annals of Neurology*** 2007 Jul;62(1):93-8. Impact factor : 9.935

Dupré N, Bouchard JP, **Gros-Louis F**, Rouleau GA. Une nouvelle forme d'ataxie récessive causée par des mutations du gène SYNE-1. ***Médecine Sciences*** 2007 Mar;23(3):261-2. Impact factor : NA

Gros-Louis F, Dupré N, Dion P, Fox MA, Laurent S, Verreault S, Sanes JR, Bouchard JP, Rouleau GA. Mutations in Syne1 lead to a novel form of autosomal recessive cerebellar ataxia. ***Nature Genetics*** 2007 Jan;39(1):80-5. Impact factor : 26.446

Gros-Louis F, Gaspar C, Rouleau GA. Genetic of Familial and Sporadic ALS. ***Biochim Biophys Acta-Mol Basis Dis***. 2006 Nov-Dec;1762(11-12):956-72. Impact factor : 4.579

Millecamps S, Gentil BJ, **Gros-Louis F**, Rouleau G, Julien JP. Alsin is partially associated with centrosome in human cells. ***Biochim Biophys Acta-Mol Basis of Dis***. 2005 Aug 15;1745(1):84-100 Impact factor : 4.579

Devon RS, Schwab C, Topp JD, Orban PC, Yang YZ, Pape TD, Helm JR, Davidson TL, Rogers DA, **Gros-Louis F**, Rouleau G, Horazdovsky BF, Leavitt BR, Hayden MR. Cross-species characterization of the als2 gene and analysis of its pattern of expression in development and adulthood. ***Neurobiol Dis***. 2005 Mar;18(2):243-57. Impact factor : 4.852

Gros-Louis F, Larivière R, Gowing G, Laurent S, Camu W, Bouchard JP, Meininger V, Rouleau GA, Julien JP. A frameshift deletion in peripherin gene associated with amyotrophic lateral sclerosis. ***J Biol Chem***. 2004 Oct 29;279(44):45951-6. Impact factor : 5.575

Valdmanis PN, Simões Lopes AA, **Gros-Louis F**, Stewart JD, Rouleau GA, Dupré N. A novel neurodegenerative disease characterised by posterior column ataxia and pyramidal tract involvement maps to chromosome 8p12-8q12.1. ***J Med Genet***. 2004 Aug;41(8):634-9. Impact factor : 5.713

Gros-Louis F, Laurent S, Lopes AA, Khoris J, Meininger V, Camu W, Rouleau GA. Absence of Mutation in the Hypoxia Responsive Element of VEGF promoter in ALS cases. ***Muscle Nerve***. 2003 Dec;28(6):774-5. Impact factor : 2.735

Hand CK, Devon RS, **Gros-Louis F**, Rochefort D, Khoris J, Meininger V, Bouchard JP, Camu W, Hayden MR, Rouleau GA. Mutation Screening of the ALS2 gene in Familial and Sporadic ALS cases. ***Archives of Neurology***. 2003 Dec;60(12):1768-71. Impact factor : 6.310

Gros-Louis F, Meijer IA, Hand CK, Dubé MP, MacGregor DL, Seni MH, Devon RS, Hayden MR, Andermann F, Andermann E, Rouleau GA. Identification of a Novel ALS2 Gene Mutation in a Large Pakistani Kindred. ***Annals of Neurology***. 2002 53:144-145. Impact factor : 9.935

Book Chapter:

Berthod, F & **Gros-Louis F**. In vitro and in vivo models to study Amyotrophic Lateral Sclerosis. (2012)
Book tile: Amyotrophic Lateral Sclerosis; ISBN 979-953-307-199-1
Editor: InTech - Open Access Publisher, Web: http://www.intechweb.org/

C. Research Support.

Funds currently held

- Canadian Institutes of Health Research (CIHR) – Project operating Grant (2017-2022) 950,000can$
Pathogenic Pathways and in-vitro modelization of Intracranial Aneurysms in populations of Inuit and French Canadian descent

- Weston Brain Foundation (Transformational Research Program) (2016-2019) 500,000can$
Tissue-engineered skin model of ALS to accelerate biomarkers and drug discoveries

-Brain Canda (2015-2018) (co-applicant) 300,000can$
Human inducible pluripotent stem cells (iPSC) platform

Completed research supports

-SickKids hospital foundation (2015-2016) 50,000can$
Development of tissue-engineered in vitro skin model, derived from patients, to study neurofibromatosis type 1

-Canadian fund of innovation (2014-2016) 325,000can$
Equipment grant

- CIHR - Transitional Operating Grant (2014-2015) 100,000can$
Tissue-engineered in-vitro skin model to facilitate the identification of disease biomarkers for Amyotrophic Lateral Sclerosis

-Fondation de l'hôpital de l'Enfant-Jésus et du St-Sacrement (2014-2015) 45,000can$
Tissue engineered skin model to study the genesis of cutaneous neurofibromas in neurofibromatosis

-ALS Society of Canada (2013-2014) 50,000can$
Development of tissue-engineered in vitro skin model, derived from patients, to study ALS

-Fond de recherché du Quebec en santé (2011-2014) 45,000can$
Immunotherapy in ALS