

**Gwénaëlle CATHELIN, PhD**

Birth date: 13/08/1972

Institut de Neurosciences Cognitives et Intégratives d'Aquitaine (INCIA)

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Position

**Since 2010:** MC EPHE, UMR 5287, Bordeaux, Dr JR Cazalets, "Neuroimaging and cognitive aging"

**2005-2010:** MC EPHE, ERT 5543, Bordeaux, Dr C Moonen, "Neuroimaging and cognitive aging"

**2001-2005:** Senior lecturer at EPHE (Maître de Conférences) U 378 INSERM, Bordeaux, "Neuro-glial plasticity of oxytocinergic system"

**1999-2001:** Post-doc researcher. "Parturient rat as a nociceptive model" U 378 INSERM, Bordeaux, France.

**1995-1999:** Ph.D. student in Neurosciences. "Physiopharmacology of opioids in mononeuroapthic pain model" U 161 INSERM, Paris, France.

Education

- 2017 Qualification Pr Universités, section 69

- 2015 HDR

- 1999 Ph.D. in Neurosciences-Univ P6, Paris, France

- 1995 Master degree in Neurosciences-Univ P6, Paris, France

Awards and Funding

2000-2001 Fellowship program of the Fondation pour la Recherche Médicale

2017 PEDR

FUNDING AS PRINCIPAL INVESTIGATOR

-SoRyMA - Sleep, Rhythm and Risk of AD -follow-up of AMImage 3). Funding by the Association France Alzheimer, 2017, PI G Catheline, 80 Keuros

- Aging and emotional memory for words ; behavioural and neuroimaging study. Funding by PhD grant of the Idex Bordeaux in codirection with Stéphanie Mathey, 2017-2010.

- Brain Topology in presymptomatic phase of AD

Funding by the Ligue Européenne Contre la Maladie d'Alzheimer, PI G Catheline (LECMA-Vaincre Alzheimer), 100keuros, 2015-2018 and cofunding with the Labex TRAIL, PI G Catheline, 35keuros, 2015-2017

FUNDING AS WORK PACKAGE INVESTIGATOR

- OBETEEN - Neurocognitive impact of juvenile obesity: experimental and clinical approach, PI Guillaume Ferreira, ANR France Mexique, 2016 and cofunding with the labex BRAIN

- CERMOOD - AVC du cervelet et troubles de l'humeur, PI Mathilde Poli, AOI CHU de Bordeaux, 2016

- Dyschol - Rôle du système cholinergique striatal dans la physiopathologie des dystonies. Une étude translationnelle, PI Pierre Burbaud, ANR, 2015

#### FUNDING AS RESEARCH PARTNER

- ViAGeCo - Vieillesse pathologique et non-pathologique, Activité physique, Génotype et Cognition, ANR 2014, PI Michel Audiffren

- AMImage 2 - Etude de marqueurs d'imagerie de l'atteinte de la microstructure tissulaire dans la maladie d'Alzheimer chez des retraités agricoles vivant en milieu rural en Gironde et participant à la cohorte épidémiologique AMI, PHRC 2012-2014, PI Michèle Allard

- Multimad - Imagerie multimodale par résonance magnétique dans les stades précoces de la maladie d'Alzheimer, ANR 2010-2013, PI Michèle Allard

- AMImage 1 - Etude de marqueurs d'imagerie de l'atteinte de la microstructure tissulaire dans la maladie d'Alzheimer chez des retraités agricoles vivant en milieu rural en Gironde et participant à la cohorte épidémiologique AMI, PHRC 2008-2011, PI Michèle Allard

#### Publications List of the last 5 years

1. Coupé P, Manjón JV, Lanuza E, **Catheline G**. Lifespan Changes of the Human Brain In Alzheimer's Disease. *Sci Rep*. 2019 Mar 8;9(1):3998.
2. Méndez-Gómez JL, Pelletier A, Rougier MB, Korobelnik JF, Schweitzer C, Delyfer MN, **Catheline G**, Monfermé S, Dartigues JF, Delcourt C, Helmer C. Association of Retinal Nerve Fiber Layer Thickness With Brain Alterations in the Visual and Limbic Networks in Elderly Adults Without Dementia. *JAMA Netw Open*. 2018 Nov 2;1(7)
3. Rodriguez-Grande B, Obenaus A, Ichkova A, Aussudre J, Bessy T, Barse E, Hiba B, **Catheline G**, Barrière G, Badaut J. Gliovascular changes precede white matter damage and long-term disorders in juvenile mild closed head injury. *Glia*. 2018
4. Coupé P, **Catheline G**, Lanuza E, Manjón JV; Alzheimer's Disease Neuroimaging Initiative. Towards a unified analysis of brain maturation and aging across the entire lifespan: A MRI analysis. *Hum Brain Mapp*. 2017 Nov;38(11):5501-5518.
5. Avila-Funes JA, Pelletier A, Meillon C, **Catheline G**, Periot O, Trevin O-Frenk I, Gonzalez-Colaço M, Dartigues JF, Pérès K, Allard M, Dilharreguy B, Amieva H. Vascular Cerebral Damage in Frail Older Adults: The AMImage Study. *J Gerontol A Biol Sci Med Sci*. 2017 Jul 1;72(7):971-977.
6. Sagnier S, **Catheline G**, Dilharreguy B, Munsch F, Bigourdan A, Poli M, Debruxelles S, Olindo S, Renou P, Rouanet F, Dousset V, Tourdias T, Sibon I. Admission Brain Cortical Volume: An Independent Determinant of Poststroke Cognitive Vulnerability. *Stroke*. 2017 Aug;48(8):2113-2120.
7. Pelletier A, Bernard C, Dilharreguy B, Helmer C, Le Goff M, Chanraud S, Dartigues JF, Allard M, Amieva H, **Catheline G**. Patterns of brain atrophy associated with episodic memory and semantic fluency decline in aging. *Ageing* (Albany NY). 2017 Mar 9;9(3):741-752.
8. Baillet M., Dilharreguy B., Pérès K., Dartigues J.-F., Mayo W., **Catheline G**. Activity/rest cycle and disturbances of structural backbone of cerebral networks in aging. *Neuroimage*. 2016 Sep 21. pii: S1053-8119(16)30526-2. doi:10.1016
9. Baillet M., Cosin C., Schweitzer P., Pérès K., **Catheline G.**, Swendsen J., Mayo W. , Mood Influences the Concordance of Subjective and Objective Measures of Sleep Duration in Older Adults. *Frontiers in Aging Neuroscience*. 2016 Jul 26;8:181. doi: 10.3389/fnagi.2016.00181

10. Pelletier, A., Periot, O., Dilharreguy, B., Hiba, B., Bordessoules, M., Chanraud, S., Pérès, K., Amieva, H., Dartigues, J.-F., Allard, M., **Catheline, G.**, 2016. Age-Related Modifications of Diffusion Tensor Imaging Parameters and White Matter Hyperintensities as Inter-Dependent Processes. **Frontiers in Aging Neuroscience** 7. 2016 Jan 19;7:255. doi: 10.3389/fnagi.2015.00255.
11. Bernard, C., **Catheline, G.**, Dilharreguy, B., Couffinhal, T., Ledure, S., Lassalle-Lagadec, S., Callaert, D., Allard, M., Sibon, I., 2015a. Cerebral changes and cognitive impairment after an ischemic heart disease: a multimodal MRI study. **Brain Imaging Behavior**. 2016 Sep;10(3):893-900. doi: 10.1007/s11682-015-9483-4.
12. Coupé, P., Fonov, V.S., Bernard, C., Zandifar, A., Eskildsen, S.F., Helmer, C., Manjón, J.V., Amieva, H., Dartigues, J.-F., Allard, M., **Catheline, G.**, Collins, D.L., The Alzheimer's Disease Neuroimaging Initiative, 2015. Detection of Alzheimer's disease signature in MR images seven years before conversion to dementia: Toward an early individual prognosis: Preclinical AD Detection Using Hippocampal Grading. **Human Brain Mapping** 2015 Dec;36(12):4758-70. doi: 10.1002/hbm.22926.
13. Bernard, C., Dilharreguy, B., Helmer, C., Chanraud, S., Amieva, H., Dartigues, J.-F., Allard, M., **Catheline, G.**, 2015b. PCC characteristics at rest in 10-year memory decliners. **Neurobiology of Aging** 36, 2812–2820. doi:10.1016/j.neurobiolaging.2015.07.002
14. Pelletier, A., Barul, C., Féart, C., Helmer, C., Bernard, C., Periot, O., Dilharreguy, B., Dartigues, J.-F., Allard, M., Barberger-Gateau, P., **Catheline, G.**, Samieri, C., 2015. Mediterranean diet and preserved brain structural connectivity in older subjects. **Alzheimer's & Dementia** 11, 1023–1031. doi:10.1016/j.jalz.2015.06.1888
15. Ben Ahmed, O., Mizotin, M., Benois-Pineau, J., Allard, M., **Catheline, G.**, Ben Amar, C., 2015. Alzheimer's disease diagnosis on structural MR images using circular harmonic functions descriptors on hippocampus and posterior cingulate cortex. **Computerized Medical Imaging and Graphics** 44, 13–25. doi:10.1016/j.compmedimag.2015.04.007
16. Potvin, O., **Catheline, G.**, Bernard, C., Meillon, C., Bergua, V., Allard, M., Dartigues, J.-F., Chauveau, N., Celsis, P., Amieva, H., 2015. Gray matter characteristics associated with trait anxiety in older adults are moderated by depression. **International Psychogeriatrics** 27, 1813–1824. doi:10.1017/S1041610215000836
17. **Catheline, G.**, Amieva, H., Dilharreguy, B., Bernard, C., Duperron, M.-G., Helmer, C., Dartigues, J.-F., Allard, M., 2015. Semantic retrieval over time in the aging brain: Structural evidence of hippocampal contribution. **Hippocampus**. 2015 Sep;25(9):1008-16. doi: 10.1002/hipo.22423.
18. Ben Ahmed, O., Benois-Pineau, J., Ben Amar, C., Allard, M., **Catheline, G.**, 2013. Early Alzheimer Disease Detection With Bag-Of-Visual-Words And Hybrid Fusion On Structural MRI, in: Czuni, L and Schoffmann, K and Sziranyi, T (Ed.), 2013 11TH INTERNATIONAL WORKSHOP ON CONTENT-BASED MULTIMEDIA INDEXING (CBMI 2013), International Workshop on Content-Based Multimedia Indexing. IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA, pp. 79–83.
19. Allard, M., Husky, M., **Catheline, G.**, Pelletier, A., Dilharreguy, B., Amieva, H., ... Swendsen, J. (2014). Mobile Technologies in the Early Detection of Cognitive Decline. **PLoS ONE**, 9(12), e112197. doi:10.1371/journal.pone.0112197
20. Bernard C, Helmer C, Dilharreguy B, Amieva H, Auriacombe S, Dartigues JF, Allard M, **Catheline G.** Time course of brain volume changes in the preclinical

- phase of Alzheimer's disease. ***Alzheimer's & Dementia***. 2014 Mar;10(2):143-151.e1. doi: 10.1016/j.jalz.2013.08.279.
21. Pelletier A, Periot O, Dilharreguy B, Hiba B, Bordessoules M, Pérès K, Amieva H, Dartigues JF, Allard M, **Catheline G**. Structural hippocampal network alterations during healthy aging: a multi-modal MRI study. ***Frontiers in Aging Neuroscience***. 2013 Dec 5;5:84.)
  22. Bernard C, Dilharreguy B, Allard M, Amieva H, Bonnet F, Dauchy F, Greib C, Dehail P, **Catheline G** for the ANRS CO3 Aquitaine cohort study group coordinated by François Dabis. Muscular Weakness in Individuals with HIV Associated with a Disorganization of the Cortico-Spinal Tract: A Multi-Modal MRI Investigation. ***PLoS One*** 2013 Jul 11;8(7).
  23. Lassalle-Lagadec S, **Catheline G**, Mayo W, Dilharreguy B, Renou P, Fleury O, Allard M, Swendsen J, Sibon I. Cerebellum involvement in post-stroke mood: A combined ecological and MRI study. ***Psychiatry Research***. 2013 May 30;212(2):158-60.