Dr Aurélie TCHOGHANDJAN-AUPHAN
Research Fellow CRCN CNRS at Institute of Neurophysiopathology
aurelie.tchoghandjian@univ-amu.fr
3/01/1984, Married, 3 children
ORCID: 0000-0002-6573-6516

Education

2020 HDR (French Habilitation for PhD supervision), Aix-Marseille University
2009 PhD in Neurosciences, Aix-Marseille University
2006 Master degree in Neurosciences, Aix-Marseille University

Professional career

July 2022 **Co-group leader** of the "Gliomagenesis and Microenvironment" Team, CNRS UMR7051 Institute of Neurophysiopathology, INP, Aix-Marseille University

2018 **Permanent scientific CRCN CNRS**, "Gliomagenesis and Microenvironment" Team, CNRS UMR7051 Institute of Neurophysiopathology, INP, Aix-Marseille University.

2013-2018 **Post-Doctorat Fellow**, "Angiogenesis, invasivness and microenvironment" Team, INSERM UMR911-CRO2Aix-Marseille University.

2010-2012 **Post-doctoral Fellow.** Institute of Experimental Cancerology in Pediatric, Frankfurt, Germany.

2009-2010 **Post-doctorat Fellow,** Developmental Biology Institute of Marseille, Aix-Marseille University.

2006-2009 **PhD thesis** in brain tumor biology, "Angiogenesis, invasiveness and microenvironment" INSERM UMR 911-CRO2, Aix-Marseille University.

Most significant grants, fellowship (total >1.8 k€)

2024. Departement 13 & A*midex. PI. Program of precision Radiotherapy to improve the treatment of patients with cancer. 452 000 euros

2023. ITMO – PCSI. Co-PI. Copper complexes for redox-mediated Glioma therapy: deciphering their mechanism of action in cancer cells to develop efficient therapeutic agents. 157 000 euros

2023. Chaire Santé CMA CGM A*midex. Co-PI. Program of precision Radiotherapy to improve the treatment of patients with cancer. 100 000 euros

2022. A*midex generic. Co-PI. Bioinspired cytotoxic copper complexes: deciphering their mechanism of action in cancer cells to develop efficient therapeutic agents. 20 000 euros

2022. Structuring Action Cancéropôle PACA. PI. PETRA Network : « Preclinical and Translational research network in neuro-oncology". 600 000 euros

2021. Emergence Cancéropôle PACA. PI. Creation of a A2B5 mouse glioblastoma cell line for syngeneic investigations. 30 000 euros

2021. Agence Nationale de la Recherche (ANR) Young Researcher Project. PI. SMAC mimetics as immunomodulatory treatment in glioblastomas. 280 000 euros

2020. ARTC Sud fellowship for the PhD thesis of Emmanuel Snacel-Fazy "Characterization and functionality of the immune response associated with glioblastoma after treatment with Smac mimetics". 50 000 euros

2018. Project ARC Foundation. PI. Effects of Smac mimetics treatment on glioblastoma immune response. 50 000 euros

2018. Emergence Cancéropôle PACA. PI. Dynamic analysis of pleiotropic effect of Smac mimetic GDC-0152 on immune response vascularization in glioblastomas. 30 000 euros

2015. ARTC Sud fellowship for the PhD thesis of Aurélie Soubéran "Inhibitor of apoptosis proteins, new therapeutic targets in glioblastomas". 50 000 euros

2014. AAP Inca PLBio (N°2014-165). Partner. "Combining in vivo spectral biphoton imaging and multiparametric cytometry to characterize inflammation dynamics in a pre-clinical glioblastoma model and patients validation".

Awards

2019. Prize from ARC Foundation – Marseille, France.
https://www.fondation-arc.org/actualites/2019/la-fondation-arc-pour-la-recherche-sur-le-cancer-remet-une-subvention-de-50-000-euros-aurelie

2018. Cancéropôle PACA Congress scholarship – France.

2014. ANOCEF price of the best poster – Lausanne, Switzerland

2012. UCT Scholarship for travel expenses – Frankfurt, Germany

2006-2009. PhD fellowship from the Ministère de la Recherche Française

Learned societies

2024 – present. **COST action Net4Brain**
2023 – present. Principal coordinator of the **PETRA network** https://petranetwork.fr/
2022 – present. Member of the research steering committee of the **Institute of Immuno-Cancerology (ICI)**, Amidex Institute, AMU
2022 – present. Member of the scientific committee of the patient association **ARTC Sud**

Member of the **SUNRISE**, solid tumor cancer stem cell network.
Member of the preclinical group **ANOCEF GoPA**.
Member of the **GDR Organoids**
Cancers / IJMS board member and topical adv.
Reviewer for Inserm AAP plan cancer / The Indo-French Centre for the Promotion of Advanced Research-01 / Cancéropôles / National Science Centre of Poland / Italian NHS National Biomedical Research Call and PNRR Cal / UK Research and Innovation/Republic of Armenia.

Most significant Publications

N=31 ; H index: 20; Citations: 1430. i10 : 28.

Soubéran S, Jiguet-Jiglaire C, Toutain S, Morando P, Baeza-Kallee N, Appay R, Boucard C, Graillon T, Meyer M, Farah K, Figarella-Branger D, Tabouret E and **Tchoghandjian A**. Brain tumoroids: treatment prediction and drug development for brain tumors with fast, reproducible and easy-to-use personalized models. *Submitted*.

Bastiancich C, Snacel-Fazy E, Fernandez S, Robert S, Stacchini R, Plantureux L, Boissonneau S, Testud B, Guillet B, Debarbieux F, Luche H, Figarella-Branger D, Estève M, Tabouret E, **Tchoghandjian A.** Systemic and local immune responses to glioblastoma surgery help tailoring combinatory regimens. Pre-print https://doi.org/10.21203/rs.3.rs-3909300/v1. *Submitted*.

Snacel-Fazy E, Soubéran A, Grange M, Joseph K, Colin C, Morando P, Luche H, Brustlein S, Debarbieux F, Siret C, van de Pavert S, Rougon G, Figarella-Branger D, Ravi MV, Tabouret E, **Tchoghandjian A**. Melanoma-inhibitor of apoptosis protein: a key driver of microglia phenotype and glioblastoma immune microenvironment. Pre-print https://doi.org/10.21203/rs.3.rs-3791903/v1. *Under review*.

2024. Hein V, Baeza-Kallee N, Bertucci A, Colin C, Tchoghandjian A, Figarella-Branger D, Tabouret E. GD3 ganglioside is a promising therapeutic target for glioma patients. Neurooncol Adv. Review. PMID: 38590763

2023 Baeza-Kallee N, Bergès R, Hein V, Cabaret S, Garcia J, Gros A, Tabouret E, **Tchoghandjian A**, Colin C, Figarella-Branger D, Deciphering the action of neuraminidase in glioblastoma models. Int J Mol Sci. PMID : 37511403

2023 Bikfalvi A, da Costa CA, Avril T, Barnier JV, Bauchet L, Brisson L, Cartron PF, Castel H, Chevet E, Chneiweiss H, Clavreul A, Constantin B, Coronas V, Daubon T, Dontenwill M, Ducray F, Enz-Werle N, Figarella-Branger D, Fournier I, Frenel JS, Gabut M, Galli T, Gavard J, Huberfeld G, Hugnot JP, Idbaih A, Junier MP, Mathivet T, Menei P, Meyronet D, Mirjolet C, Morin F, Mosser J, Moyal EC, Rousseau V, Salzet M, Sanson M, Seano G, Tabouret E, **Tchoghandjian A**, Turchi L, Vallette FM, Vats S, Verreault M, Virolle T. Challenges in glioblastoma research: focus on the tumor microenvironment. Trends Cancer. PMID: 36400694

2022 Siret C, van Lessen M, Bavais J, Jeong HW, Reddy Samawar SK, Kapupara K, Wang S, Simic M, de Fabritus L, **Tchoghandjian A**, Fallet M, Huang H, Sarrazin S, Sieweke MH, Stumm R, Sorokin L, Adams RH, Schulte-Merker S, Kiefer F, van de Pavert SA. Deciphering the heterogeneity of the Lyve1^{+} perivascular macrophages in the mouse brain. Nat Commun. PMID : 36450771

2022 Figarella-Branger D, Colin C, Baeza-Kallee N, **Tchoghandjian A**. A2B5 Expression in Central Nervous System and Gliomas. Int J Mol Sci. PMID: 35563061

2021 Pagano A, Breuzard G, Parat F, **Tchoghandjian A**, Figarella-Branger D, De Bessa TC, Garrouste F, Douence A, Barbier P, Kovacic H. Tau Regulates Glioblastoma Progression, 3D Cell Organization, Growth and Migration via the PI3K-AKT Axis. Cancers (Basel). PMID: 34830972

2020 Soubéran A and **Tchoghandjian A**. Practical review on preclinical human 3D glioblastoma models: advances and challenges for clinical translation. Cancers *(basel)* PMID: 32825103

2020 Bergès R, **Tchoghandjian A**, Sergé A, Honoré S, Figarella-Branger D, Bachmann F, Lane HA, Braguer D. EB1-dependent long survival of glioblastoma-grafted mice with the oral tubulin-binder BAL101553 is associated with inhibition of tumor angiogenesis. Oncotarget. PMID: 32165998

2019 Baeza-Kallee N, Denicolaï E, Souberan A, Appay R, Colin C, El Battari A, **Tchoghandjian A*** and Figarella-Branger D*: Glycolipids recognized by A2B5 antibody promote proliferation, migration and clonogenicity in glioblastoma cells. Cancers (*basel*). PMID: 31466399

2019 Soubéran A, Cappaï J, Chocry M, Nuccio C, Raujol J, Colin C, Lafitte D, Kovacic H, Baeza-Kallee N, Rougon G, Figarella-Branger D and **Tchoghandjian A**: Inhibitor of apoptosis proteins determine human glioblastoma stem-like cells fate in an oxygen-dependent manner. Stem Cells. PMID: 30920104

2019 Soubéran A, Brustlein S, Gouarné C, Chasson L, **Tchoghandjian A**, Malissen M, Rougon G. Effects of VEGF blockade on the dynamics of the inflammatory landscape in glioblastoma-bearing mice. J Neuroinflammation. PMID: 31660979

2018 Berges R, Denicolai E, **Tchoghandjian A**, Baeza-Kallee N, Honore S, Figarella-Branger D, Braguer D. Proscillaridin A exerts anti-tumor effects through GSK3β activation and alteration of microtubule dynamics in glioblastoma. Cell Death Dis. PMID: 30250248

2016 Berges R, **Tchoghandjian A**, Honoré S, Estève MA, Figarella-Branger D, Bachmann F, Lane H and Braguer D: The novel tubulin-binding, checkpoint activator BAL101553 inhibits EB1-dependent migration and invasion and promotes differentiation of glioblastoma stem-like cells. Mol Cancer Ther. PMID: 27540016

2016 Ricard C, **Tchoghandjian A**, Grenot P, Luche H, Figarella-Branger D, Rougon G , Malissen B, Malissen M and Debarbieux F: Dynamic phenotype of microglial and monocyte-derived cells in glioblastomas bearing mice. Sci Rep. PMID: 27193333

2016 **Tchoghandjian A***, Soubéran A*, Tabouret E, Colin C, Denicolaï Emilie, Mathieu Sylvie, El-Battari Assou, Baeza Nathalie and Figarella-Branger Dominique: Inhibitor of apoptosis protein expression in glioblastomas and their in vitro and in vivo targeting by SMAC mimetic GDC-0152. Cell Death Dis. PMID: 27490930

2016 Molecular heterogeneity of glioblastomas: does location matter? Denicolaï E, Tabouret E, Colin C, Metellus P, Nanni I, Boucard C, **Tchoghandjian A**, Meyronet D, Baeza-Kallee N, Chinot O, Figarella-Branger D. Oncotarget. 2016 PMID: 26637806

2015 Taïeb D, Barlier A, Yang C, Pertuit M, **Tchoghandjian A**, Rochette C, Zattara-Canoni H, Figarella-Branger D, Zhuang Z, Pacak K, Metellus P. Somatic gain-of-function HIF2A mutations in sporadic central nervous system hemangioblastomas. J Neurooncol. PMID: 26514359

2015 Tabouret E, **Tchoghandjian A**, Denicolai E, Delfino C, Metellus P, Graillon T, Boucard C, Nanni I, Padovani L, Ouafik L'H, Figarella-Branger D and Chinot O: Recurrence of glioblastoma after radio-chemotherapy is associated with an angiogenic switch to the CXCL12-CXCR4 pathway. Oncotarget. PMID: 25860928

2015 Cristofanon S, Abhari BA, Krueger M, **Tchoghandjian A**, Momma S, Calaminus C, Vucic D, Pichler BJ, Fulda S. Identification of RIP1 as a critical mediator of Smac mimetic-mediated sensitization of glioblastoma cells for Drozitumab-induced apoptosis. Cell Death Dis. PMID: 25880091

2014 Denicolaï E, Baeza-Kallee N, **Tchoghandjian A**, Carré M, Colin C, Jiglaire CJ, Mercurio S, Beclin C, Figarella-Branger D Proscillaridin A is cytotoxic for glioblastoma cell lines and controls tumor xenograft growth in vivo. Oncotarget. PMID: 25400117

2014 **Tchoghandjian A**, Jennewein C, Eckhardt I, Momma S, Figarella-Branger D and Fulda S: Smac mimetic promotes glioblastoma cancer stem-like cell differentiation by activating NF-κB. Cell Death Differ. PMID: 24488095

2013 Mercurio S, Padovani L, Colin C, Carré M, **Tchoghandjian A**, Scavarda D, Lambert S, Baeza-Kallee N, Fernandez C, Chappé C, André N, Figarella-Branger D. Evidence for new targets and synergistic effect of metronomic celecoxib/fluvastatin combination in pilocytic astrocytoma. Acta Neuropathol Commun. 2013 PMID: 24252689

2013 **Tchoghandjian A**, Jennewein C, Eckhardt I, Rajalingam K and Fulda S: Identification of non-canonical NF-κB signaling as a critical mediator of Smac mimetic-stimulated migration and invasion of glioblastoma cells. Cell Death Dis. PMID: 31660979

2013 Seitz C, Hugle M, Cristofanon S, **Tchoghandjian A** and Fuda S: The dual PI3K/mTOR inhibitor NVP-BEZ235 and chloroquine synergize to trigger apoptosis via mitochondrial-lysosomal cross-talk. Int J Cancer. PMID: 23151917

2012 Gonzalez P, Mader I, **Tchoghandjian A**, Enzenmüller S, Cristofanon S, Basit F, Debatin KM and Fulda S: Impairment of lysosomal integrity by B10, a glycosylated derivative of betulinic acid, leads to lysosomal cell death and converts autophagy into a detrimental process. Cell Death Differ. PMID: 22343715

2011 **Tchoghandjian A**, Baeza-Kallee N, Beclin C, Metellus P, Colin C, Ducray F, Adélaïde J, Rougon G and Figarella-Branger: Cortical and Subventricular Zone Glioblastoma-Derived Stem-Like Cells Display Different Molecular Profiles and Differential In Vitro and In Vivo Properties. Ann Surg Oncol. PMID: 21989663

2010 Kraus JL, Conti F, Madonna S, **Tchoghandjian A**, Beclin C. Alternative responses of primary tumor cells and glioblastoma cell lines to N,N-bis-(8-hydroxyquinoline-5-yl methyl)-benzyl substituted amines: cell death versus P53-independent senescence. Int J Oncol. PMID: 21042714

2010 **Tchoghandjian A***, Baeza N*, Colin C, Cayre M, Metellus P, Beclin C, Ouafik L and Figarella-Branger D: A2B5 cells from human glioblastoma have cancer stem cell properties. Brain Pathol. PMID: 19243384

2010 Figarella-Branger D, Colin C, **Tchoghandjian A**, Baeza N, Bouvier C.[Glioblastomas: gliomagenesis, genetics, angiogenesis, and microenvironment]. Neurochirurgie. PMID: 20817192

2009 **Tchoghandjian A***, Fernandez C*, Colin C, El Ayachi I, Voutsinos-Porche B, Fina F, Scavarda D, Piercecchi-Marti MD, Intagliata D, Ouafik L, Fraslon-Vanhulle C and Figarella-Branger D: Pilocytic astrocytoma of the optic pathway: a tumour deriving from radial glia cells with a specific gene signature. Brain. PMID: 19336457

2007 Colin C, Virard I, Baeza N, **Tchoghandjian A**, Fernandez C, Bouvier C, Calisti A, Tong S, Durbec P, Figarella-Branger D. Relevance of combinatorial profiles of intermediate filaments and transcription factors for glioma histogenesis. Neuropathol Appl Neurobiol. PMID: 17442061

6- Oral communications

2022 **Sunrise Annual Meeting.** Paris, France. Smac mimetic as pan-cellular therapy in glioblastoma.
2018 **Cancer Stem Cells Conference**. Dublin, Irlande. Inhibitor of apoptosis proteins determine glioblastomas stem-like cells fate in an oxygen-dependent manner
2017 **Cell Science and Stem cell conference.** Rome, Italie. Differencial effect of Smac mimetic GDC-0152 on glioblastoma stem cells
2015 **Sunrise Annual Meeting.** Marseille, France. A2B5^{+} cells as cancer-stem like cells in glioblastomas

As invited:

2024. COST Action Net4Brain CA22103. Workshop/conference. Brain tumor pre-clinical models.
2024. Nantes. Angers Cancer Immunology research Center. Seminar.
2024. Biennale de Cancérologie. Monaco. PETRA Network and preclinical model to fill the gap between the lab and the clinic.
2024. Immunology International Masterclass. Santé Arménie. Erevan, Arménie. Challenges of Immunotherapy to improve the treatment of brain tumors & presentation of PETRA network.
2023. Understanding the Role of Immune Cells in the Tumor Microenvironment. Miltenyi Biotec. Webinar.

2023. General meeting of the patient association ARTC-Sud. Presentation of the PETRA network.
2023. Workshop for young researchers in cancer. Cancéropôle PACA. Porquerolles Island, France. Presentation of the PETRA's platforms.
2023. Imaging and spatial Biology days. Miltenyi Biotec. Bergish, Germany. 3D and spatial imaging to study glioblastoma microenvironment
2023. Institute of Immuno-Cancerology summer school on Organoïds in Immuno-Oncology, Marseille, France. Organoid models of brain tumors.
2023. Institute of Immuno-Cancerology annual meeting, Marseille, France. Presentation of the PETRA network.
2022. Insb Health sciences: inaugural symposium of CNRS and Lithuanian scientists. International online symposium. Tumor-associated macrophages and glioblastomas.
2022. CEPHOS formation: Tumoral organoids to study the efficacy of new treatments in neuro-oncology, Marseille, France
2022. GDR Organoïdes. Platform days. Paris, France. Presentation of PETRA'TECH'.
2022. CIVIS Summer school in Immuno-oncology: Basics and translational approaches in immunotherapy of cancer. Tübingen, Germany.
2021. Organoids, Tumoroids and Spheroids Matching day. Marseille, France.

7- Supervision, teaching

Thesis: 3
Master students: 8
Teaching: Master 2 Biologie et Santé at Aix-Marseille University

8-Presse

Cancéropole PACA 2018 :
https://mailchi.mp/b1a8bf691ac8/cancerople-paca-newsletter-avril-2018?e=774cc427f8

Projet Fondation ARC 2019 :
https://www.fondation-arc.org/actualites/2019/tumeurs-cerebrales-les-immunotherapies-entrent-en-jeu

20 minutes :
https://www.20minutes.fr/sante/2652379-20191116-marseille-chercheuse-recompensee-recherches-pointe-cancer-cerveau

Provence AZUR novembre 2019 :
https://www.provenceazur-tv.fr/marseille-une-nouvelle-piste-contre-les-glioblastomes/

France3 novembre 2019 :
https://france3-regions.francetvinfo.fr/provence-alpes-cote-d-azur/emissions/jt-1920-provence-alpes

9- Organization of scientific events

2024. PETRA & GoPA first annual meeting
2023. PETRA kick off meeting
2023. First PETRA webinar
2023. Institute of Immuno-Cancerology summer school on "Organoïds in Immuno-Oncology", Marseille, France.
2023. Institute of Immuno-Cancerology seminar series.