

NGOUPAYE TEMKOU Gwladys, Bsc, MSc, PhD
Physiology, Neuropharmacology, Drug Development
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PERSONAL INFORMATION

Surname: NGOUPAYE TEMKOU **Name:** GWLADYS

Date and place of birth: June 12, 1983 at Douala, Cameroon.

Citizenship: Cameroonian **Gender:** Female

EDUCATION AND PROFESSIONAL TRAINING

2015-2017: Postdoctoral fellowship at the University of Kwazulu Natal. Working on many projects (febrile seizure, Epilepsy, Depression, Posttraumatic stress disorders and movement disorders) while co-supervising Honours, Masters and Ph.D : **Supervisor, Pr Musa Mabandla, Durban, South Africa**

2014: Doctorate/PhD in Biology of Animal Organisms, speciality, Animal Physiology, University of Ngaoundere, Cameroon under the supervision of Pr. Ngo Bum Elisabeth. **Thesis title: “Antidepressant and anticonvulsant effect of the aqueous extract of *Gladiolus dalenii* in *Mus musculus* mice and Wistar rats”**

2007: Master in Animal Physiology at University of Yaounde I, Cameroon under the supervision of Pr. Ngo Bum Elisabeth and Pr Dimo Theophile. **Dissertation Title: “Anticonvulsant effect of the aqueous extract of *Cissus quadrangularis* in mice”**

2004: Bachelor degree in Animal Biology, University of Ngaoundéré, Cameroon

HONOURS AND AWARDS

2022: WWN grant to organize World Women in Neuroscience (WWN) symposium in Cameroon

2021: IBRO seed grant

2021: ISN CAEN 1B research supply for use in applicant’s home laboratory grant

2021: Celebration by IBRO on the women international day 2021 with other great women figures in Neuroscience

2019: Early career IBRO awards

2019: IBRO-DANA foundation Brain awareness week grants

2019: IBRO world congress travel grant

2015-2017: University of Kwazulu Natal postdoctorate fellow

2014: Epilepsy African league congress travel grant

2013: IBRO-SFN travel grant

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2011: International society for neurochemistry (ISN) CAEN grant

WORK EXPERIENCE IN ACADEMIA

Years	Position	Employer
January 2021- up to date	Associate professor	Department of Animal Biology, Faculty of Science, University of Dschang - Cameroon
January 2015 – December 2020	Senior Lecturer	Department of Animal Biology, Faculty of Science, University of Dschang - Cameroon
September 2015 – August 2017	Postdoctoral fellow	Department of Human Physiology, College of Health science, University of Kwazulu Natal, South Africa
December 2011- December 2014:	Assistant lecturer	Department of Animal Biology, Faculty of Science, University of Dschang - Cameroon

SUPERVISION OF STUDENTS

*Honours : 02 students (South Africa)

*Master : 10 students (Cameroon), 02 students (South Africa)

OTHER WORK EXPERIENCE

2021: Chairperson at the articles evaluation committee for Ph.D. defense Department of Animal Biology, Faculty of Science University of Dschang

Evaluation of articles based on Scimago, Thompson and Reuter and scopus

EXPERTISE

Animal Physiology

Neuropharmacology

Behavioural Neuroscience, and experimental animal handling

Molecular biology

RESEARCH EXPERIENCE

Dr Gwladys Temkou Ngoupaye's research interests include but not limited to molecular basis of depression and associated cognition deficits in animal models. In this objective she and her research team developed a new animal model of depression associated with cognitive deficits that can be used in drugs discovery. The model features the phenotype of human depression and was able to induce cognitive in a shorter period (14 [Type here] [Type here] [Type here])

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days) that what usually seen (21 to 28 days). She further displayed the molecular pathway altered in the model. Her current research seeks to understand the cognitive component of affective disorders and how it can be a prodromal stage to neurodegenerative disorders. She is also interested in investigating the role of novel alternative therapeutics like natural extracts and studying their function as either protective or therapeutic agents in affective disorders and epilepsy.

Main research interests

Development of biomarkers and therapeutics for central nervous system affections,

More specifically:

- Translational study from experimentally induced diseases to clinical manifestations
 - o Experimental models and functional approach
- Functional food research in relation with psychiatric and neurodegenerative diseases.
 - o Signalling pathways
 - o Medicinal plants' screening.

RESEARCH PROJECTS AND FUNDING

- World Women in Neuroscience (WWN) grants** to organize a WWN symposium in Cameroon
- **ISN CAEN 1B research supply for use in applicant's home laboratory grant.** "Evaluation of the antiepileptic and anxiolytic-like effects of *Alchemilla kiwuensis* Engl extracts (Rosaceae) on animal models of epilepsy associated anxiety"
- **Early career IBRO grant** Evaluation of the antiepileptic and anxiolytic-like effects of *Alchemilla kiwuensis* Engl extracts (Rosaceae) on animal models of epilepsy associated anxiety
- IBRO Seed grant event:** To seed the neuroscience in schools and communities in Cameroon under the theme "The impact of stress in mental disorders: case of headache"
- **Brain Awareness week IBRO/Dana foundation grant**
- **International society for neurochemistry (ISN) CAEN grant** (To complete my Ph.D research study at the University of Kwazulu Natal.

REVIEWER IN MANY SPECIALIZED JOURNALS

Ageing and disease, Plos One, Journal of Chemical Neuroanatomy, Advances in traditional medicine, Heliyon, BMC alternative medicine, Phytomedicine.

PRESENTATION AND INVITED SPEAKERS

2022: Mini-conference committee of the brain awareness day under the theme "the impact of the stress on our mental health" (April 13, University of Dschang, Dschang, Cameroon).

2022: panellist at the ALBA-WWN webinar under the theme "what it takes to be a successful neuroscientist in Africa" (February 2nd)

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2021: Society for Neuroscientist of Africa (SONA) 15th conference (27-30 November) Accra-Ghana “Neurological diseases in contemporary Africa”. (Oral presentation, and chairperson at a symposium)

2020: Second conference Cameroon association for neurosciences (CAMANE) (13-15 October 2020, IMPM, Yaoundé)

SCIENTIFIC SOCIETY MEMBERSHIP AND POSITION

2023: Member of the ALBA network

2022: Member of the Organisation for Women in Science for the Developing World

November 2021-December 2025: IBRO Early career committee (International Brain research organisation) representative of the Africa regional committee for IBRO (*position*)

October 2020: Member of the Scientific Advocacy Committee of the World Women in Neuroscience (*position*)

October 2021-December 2025: Society for Neuroscientist of Africa (SONA) Central Africa secretariat representative (*position*)

2020 (January-up to date): Member of the advance school ISN chairing committee (*position*)

2019(February to August): International Society for Neurochemistry (ISN) Youth local ambassador (*position*)

Since 2016: Director of Programs and Communications of the Cameroon Association for Neuroscience (CAMANE) (*position*)

Since 2011: Member of Society for Neuroscience

EVENTS ORGANIZED AND CO-ORGANIZED

2022: WWN symposium in Cameroon: “Women in Neuroscience, Challenges and Possibilities in central Africa: Case of Cameroon” (3rd October 2022; Organizer);

2022: 3rd Cameroon Association for Neuroscience (CAMANE) conference, October 3rd -6th 2022, Ngaoundéré, Cameroon, “Neurosciences research in Cameroon: Paving the way to innovative and promising health solutions” (3rd October 2022, Co-organizer).

2022: Preconference Workshop “Optimisation of behavioral neuroscience studies: Case of Any-maze software” (2nd October 2022, Organizer).

2022: Mini-conference committee of the brain awareness day under the theme “the impact of the stress on our metal health” (April 13, University of Dschang, Dschang, Cameroon). (Organizer)

2020: Second conference Cameroon association for neurosciences (CAMANE) (13-15 October 2020, IMPM, Yaoundé) (Organizer)

2018: First conference Cameroon association for neurosciences (CAMANE) (13-15 October 2020, IMPM, Yaoundé) (Member of the organizing committee)

PRESENTATION AND INVITED SPEAKERS

2022: Mini-conference committee of the brain awareness day under the theme “the impact of the stress on our mental health” (April 13, University of Dschang, Dschang, Cameroon).

2022: panellist at the ALBA-WWN webinar under the theme “what it takes to be a successful neuroscientist in Africa” (February 2nd).

2021: Society for Neuroscientist of Africa (SONA) 15th conference (27-30 November).

Accra-Ghana “Neurological diseases in contemporary Africa”. (oral presentation, and chairperson at a symposium).

2020: Second conference Cameroon association for neurosciences (CAMANE) (13-15 October 2020, IMPM, Yaoundé).

PUBLICATIONS/ REVIEWED PAPERS

H-index: 12

Scopus

Books

Ngo Bum, E., Antiepileptic Medicinal Plants used in Traditional In book: Clinical and genetic aspects of epilepsy, InTech:Zaid Afawi, 2011.

Journal Publications

- 1- Adassi, M.B., **Ngoupaye, G.T.**, Yassi, F.B., Foutsop, A.F., Kom, T.D. and Bum, E.N., (2023). Revealing the most effective anticonvulsant part of *Malvaviscus arboreus* Dill. Ex Cav. and its acute and sub-acute toxicity. *Journal of Ethnopharmacology*, 303, p.115995.
- 2- **Ngoupaye, G.T.**, Adassi, M.B., Foutsop, A.F., Yassi, F.B. and Bum, E.N., (2022). Pentylentetrazole kindling-induced epilepsy rat models: Insight on the severity state, a comparative study. *IBRO Neuroscience Reports*, 13, pp.164-176.
- 3- Wanyu, B.Y., Kouémou, N.E., Taiwe, G.S., **Ngoupaye, G.T.**, Ndzweg, L.T., Fotio, A.L., Dongmo, M.S.N. and Bum, E.N., 2022. *Dichrocephala integrifolia* Aqueous Extract Antagonises Chronic and Binges Ethanol Feeding-Induced Memory Dysfunctions: Insights into Antioxidant and Anti-Inflammatory Mechanisms. *Evidence-based Complementary and Alternative Medicine: eCAM*, 2022.
- 4- **Ngoupaye G. T.**, Mokgokong M., Madlala T., Mabandla M. V. 2022. Alteration of the $\alpha 5$ GABA receptor and 5HTT lead to cognitive deficits associated with major depressive-like behaviors in a 14-day combined stress rat model. *International Journal of Neuroscience*. DOI: 10.1080/00207454.2021.2019033

- 5- **Ngoupaye G.T.**, Adassi M.B., Foutsop F.A., Nougoua M.C., Yaya J., Kom D.T, Ngo BumE. 2021. Anticonvulsant effect and acute toxicity study of the aqueous lyophilized extract of four medicinal plants of Cameroon: *Malvaviscus arboreus*, *Alchemilla kiwuensis* and mixture of *Drymaria cordata* and *Markhamia lutea*. *Advances in traditional medicine*. DOI:10.1007/s13596-020-00525-8
- 6- **Ngoupaye, G.T.**, Yassi, F.B., Bahane, D.A.N., Pahaye, D.B. and Bum, E.N., 2020. Antidepressant and anti-amnesic effects of the aqueous lyophilisate of the leaves of *Leptadenia arborea* on an animal model of cognitive deficit associated depression. *Biomedicine & Pharmacotherapy*, 130, p.110603.
- 7- Alese, O.O., **Ngoupaye, G.T.**, Cleopatra, R., Mkhize, N.V., Zulu, S. and Mabandla, M.V., 2020. Glutamatergic pathway in depressive-like behavior associated with pentylenetetrazole rat model of epilepsy with history of prolonged febrile seizures. *Life Sciences*, p.117692.
- 8- Mohamed A., **Ngoupaye T. G.**, Mabandla V.M. (2019). Effect of a novel prolonged febrile seizure model on GABA associated ion channels. *Metabolic Brain Disease*. <https://doi.org/10.1007/s11011-019-00492-3>
- 9- Moto, F.C., Arsa'a, A., **Ngoupaye, G.T.**, Taiwe, G.S., Njapdounke, J.S., Kandeda, A.K., Nkantchoua, G.C., Omam, J.P.O., Pale, S., Kouemou, N.E. and Mbomo, E.R.A. (2018). Anxiolytic and Antiepileptic Properties of the Aqueous Extract of *Cissus quadrangularis* (Vitaceae) in Mice Pilocarpine Model of Epilepsy. *Frontiers in pharmacology*, 9.
- 10- **Ngoupaye, G.T.**, Yassi, F. B., Bahane, D. A. N., & Bum, E. N. (2018). Combined corticosterone treatment and chronic restraint stress lead to depression associated with early cognitive deficits in mice. *Metabolic brain disease*, 1-11.
- 11- Kouemou, N. E., Taiwe, G. S., Moto, F. C. O., Pale, S., **Ngoupaye G., T.**, Njapdounke, J. S. K., ... & Ngo Bum, E. (2017). Nootropic and Neuroprotective effects of *Dichrocephala integrifolia* on scopolamine mouse model of Alzheimer's disease. *Frontiers in pharmacology*, 8, 847.
- 12- Fotsing, D., **Ngoupaye, G. T.**, Ouafo, A. C., Njapdounke, S. K., Kenneth, Y. A., & Ngo Bum, E. (2017). Effects of *Gladiolus dalenii* on the Stress-Induced Behavioral, Neurochemical, and Reproductive Changes in Rats. *Frontiers in Pharmacology*, 8, 685. (IF:5.988).
- 13- Kandeda, A. K., Taiwe, G. S., Moto, F. C., **Ngoupaye, G.T.**, Nkantchoua, G. C., Njapdounke, J. S., ... & Ngo Bum, E. (2017). Antiepileptogenic and Neuroprotective Effects of *Pergularia daemia* on Pilocarpine Model of Epilepsy. *Frontiers in pharmacology*, 8, 440.
- 14- **Ngoupaye, G.T.**, Pahaye, D. B., Ngondi, J., Moto, F. C. O., & Bum, E. N. *Gladiolus dalenii* lyophilisate reverses scopolamine-induced amnesia and reduces oxidative stress in rat brain (2017). *Biomedicine & Pharmacotherapy*, 91, 350-357.
- 15- Pahaye, D.B., Bum, E.N., Taiwé, G.S., **Ngoupaye, G.T.**, Sidiki, N., Moto, F.C.O., Kouemou, N., Njapdounke, S.J.K., Nkantchoua, G., Kandeda, A. and Omam, J.P.O., 2017. Neuroprotective and Antiamnesic Effects of *Mitragyna inermis* Willd (Rubiaceae) on Scopolamine-Induced Memory Impairment in Mice. *Behavioural neurology*, 2017.

- 16- **Ngoupaye G.T.**, Ngo Bum E., Taiwe G.S., Moto F.C.O., Talla E. (2013). Antidepressant Properties of aqueous macerate from *Gladiolus dalenii* Corms. African Journal of Traditional, Complementary and Alternative Medicines. 11(1):53–61. DOI:<http://dx.doi.org/10.4314/ajtcam.v11i1.7>.
- 17- **Ngoupaye G. T**, Ngo Bum E., Daniels W. M.U. (2013). Antidepressant-like effects of the aqueous macerate of the bulb of *Gladiolus dalenii* Van Geel (Iridaceae) in a rat model of epilepsy-associated depression. BMC Complementary and Alternative Medicine 2013, 13:272.
- 18- **Ngoupaye G.T.**, Ngo Bum E., Ngah E., Talla E., Moto F.C.O., Taiwe G.S., Rakotonirina A., Rakotonirina S.V., (2013). The anticonvulsant and sedative effects of *Gladiolus dalenii* extracts in mice. Epilepsy Behav. 28: 450–456.
- 19- Moto F.C.O., Ngo Bum E., Talla E., Taiwe G.S., **Ngoupaye G.T.** (2013). Anxiolytic like effects of the decoction of *psorospermum febrifugum* in mice. Asian journal of Pharmaceutical and Health sciences. Vol 3, issue 1.
- 20- Ngo Bum E, Ngah E, Ngo Mune RM, Ze Minkoulou DM, Talla E, Moto FC, **Ngoupaye GT**, Taiwe GS, Rakotonirina A, Rakotonirina SV. Decoctions of *Bridelia micrantha* and *Croton macrostachyus* may have anticonvulsant and sedative effects (2012). Epilepsy Behav. 2012 Jul; 24(3):319-23. Epub 2012 May 12. (IF:3.337)
- 21- Sotoing Taiwe G, Ngo Bum E, Talla E, Dawe A, Okomolo Moto FC, **Temkou Ngoupaye G.**, Sidiki N, Dabole B, Djomeni Dzeufiet PD, Dimo T, De Waard M. Antipsychotic and sedative effects of the leaf extract of *Crassocephalum bauchiense* (Hutch.) Milne-Redh (Asteraceae) in rodents (2012). J Ethnopharmacol. 30; 143(1):213-220. Epub 2012 Jun 27.
- 22- Ngo Bum E, Taiwe GS, Moto FC, **Ngoupaye GT**, Nkantchoua GC, Pelanken MM, Rakotonirina SV, Rakotonirina A. Anticonvulsant, anxiolytic, and sedative properties of the roots of *Nauclea latifolia* Smith in mice (2009). Epilepsy Behav. Aug;15(4):434-40. Epub 2009 Jun 27.

Conference Papers

Ngoupaye T. G., Madlala T., Mabandla V.M. (2019) Hippocampal 5HT1A and 5HTT alterations lead to cognitive deficits associated with major depressive disorder in a 14-day combined stress rat model. IBRO Reports 6:S459-S460.

CONFERENCES AND PRESENTATIONS

2021: IBRO-ARC School: Genome Editing for neuroscience Research, from 01st to 06th November 2021 at the University of Ghana, Accra, Ghana

2021: Society for Neuroscientist of Africa (SONA) 15th conference (27-30 November) Accra-Ghana “Neurological diseases in contemporary Africa”. (oral presentation, and chairperson at a symposium)

2021: American society for neurochemistry virtual conference (June 27- July 1)

2021: Brain awareness week (17- 22 March) Dschang, Cameroun. Sensitizing the population on the impact of drug addiction in educative milieu.

2020: Second conference Cameroon association for neurosciences (CAMANE) (13-15 October 2020, IMPM, Yaoundé)

2020: Brain awareness week (16- 17 March) Dschang, Cameroun. Sensitizing the population on the impact of daily behaviour on brain function.

2019: 10th IBRO world Congress (21-25 September), Daegu, South Korea.

2019: Brain awareness week (19- 25 May) Dschang, Cameroon. Effect of addictive substances on brain in academic environment.

2018: Organizing committee of the Cameroon Association for Neuroscience (CAMANE) 1st conference and 2nd general assembly: *The challenges of neurosciences in Cameroon* (December 12th -14th 2018 at IMPM, Yaoundé).

2018: The Cameroon Association for Neuroscience (CAMANE) 1st conference and 2nd general assembly: *The challenges of neurosciences in Cameroon* (December 12th -14th 2018 at IMPM, Yaoundé).

2017: Society for Neuroscience November 11-15 Washington DC, United States of America. “Changes in the AKT/GSK3 pathway in the cerebellum increase susceptibility to movement disorders in a rat model of post-traumatic stress disorder”.

2017: SONA Conference Entebe, Uganda (June 11-14).

2016: Society for Neuroscience, 11-16 November, San Diego, United States of America.

2015: IBRO-African Centers for Advanced Training in Neuroscience at the University of Cape Town (December 2-16 2015).

COMMUNITY SERVICE

Since 2019 in Cameroon we organized my team and I in collaboration with the Cameroon Association for neuroscience (CAMANE), IBRO and Dana foundation the brain awareness week campaign where we go to the community through school and educative milieu to talk about the brain and how to take care of it through many activities, lectures, workshops, radio communication and social media.

April 2022 (IBRO seeding grant project): Team leader/looking for funding and prepare project and work frame for the brain awareness week campaign in Dschang and Bafoussam, Buea, Douala, Visiting primary schools, colleges, and health training schools for lectures, workshops, and quiz.

LANGUAGES:

Spoken and Writing: French (first language), English (second language).

REFERENCES

1-Professor Elisabeth Ngo Bum,

University of Maroua, PO Box 814 Maroua,

E-mail: eli_bum@yahoo.fr

2- Professor Desire Tshala-Katumbay

Oregon Health and Science University

Staff Scientist/CROET

Associate professor of Neurology

L606 3181 S.W Sam Jackson Park Rd. Portland, OR 97239-3098

tshalad@ohsu.edu

3- Professor Musa Mabandla

Professor

Dean and Head of School, School of Laboratory Medicine and Medical Sciences

College of Health Sciences University of KwaZulu-Natal

Email:mabandlam@ukzn.ac.za

4- Professor Amadi O. Ihunwo

Head, Morphological Anatomy Division, School of Anatomical Sciences,

Faculty of Health Sciences, University of Witwatersrand, Johannesburg, South Africa

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