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AMERICAN CITIZEN

Tchedre, Kissaou Tchapou

Career goals

Obtain a position in industry or academia, where I can maximize my research skills, management skills, quality assurance, program development, and training experience.

Education

2008-2010: **Harvard Medical School Schepens Eye Research Institute, Boston, MA**
Postdoctoral Training: NEI T32 Molecular Bases of Eye Diseases Fellowship Conducted research on the eye: neuroscience optic nerve regeneration & epigenetics. Trained and supervised undergraduate and graduate students in laboratory.

2004-2008: University of North Texas Health Science Center Fort Worth, TX
Ph.D. in Biomedical Sciences (Molecular Biology & Pharmacology).

2002-2004: University of North Texas Health Science Center Fort Worth, TX
M.S., Biochemistry & Molecular Biology

1999-2002: University of North Texas Denton, TX
B.S., Biochemistry & Molecular Biology

1991-1997: University of Lome Lome, Togo
B.S., Animal Physiology & Anatomy

Professional Education

2008-2010: University of Phoenix Phoenix, AZ
M.B.A in Project Management (online)

2007-2008: Kriger Research Group International
Clinical Research Assistant. Certificate Clinical Trials Research & Development (CFR, ICH and GCP guidelines & SOPs.

6/2013: GENETIC ANALYZER 3500 TRAINING CERTIFICATE

09/2014: Training for Agilent 5977A MSD & 7890B GC and Masshunter software training

Online Courses:

World Intellectual Property Organization (WIPO) online courses:

- DL-001 Primer on Intellectual Property

DL-101 General Course on Intellectual Property

DL101PCT Distance Learning Course: Introduction to the Patent Cooperation Treaty

Professional experience

01/2019-Present: Senior Scientist at Nanoscope Technologies, Bedford, Texas.

- Gene Therapy research in ocular diseases
- Electrophysiology (ERG) IOP Measurement
- Grant Writing: Principal investigator
- Project Management: Manager of all research projects.
- Logistics and procurement for scientific equipment and consumables.
- Funding and budgeting projects according to company need.

05/2018 – Present: Adjunct Associate Professor at Austin Community college

- Teaching BIOL 1415: Biotechnology II and BITC 1491: Biomanufacturing
- Biotechnology Instrumentation BITC 2411
- Teaching of Biotechnology laboratory techniques: (cGMP, Molecular biology techniques, Protein expression, purification (ion exchange chromatography), FPLC, Cell culture, Western Blot, Endotoxin quantification (LAL assay), bacteria count,

08/2019 – Present: Consultant at Seeding Labs, an NGO based in Boston, MA

**04/2017 – 4/30/2018: Manager of Long-term Strategic Business Development Menicon Co. Ltd.
Geneva**

- Short-term and long-term corporate strategic planning
- Business intelligence
- OTC and Prescription drugs business development planning
- Business partnership development

8/2015 – 4/2018: Senior Scientist & Principal Investigator Menicon R&D Ltd., Geneva

- **All work described below were performed in a GLP laboratory**
- Lead of Diagnostics Projects
- Diagnosis research (Genomic and sequencing). Ocular disease genetics research using molecular biology, qPCR,
- Case and control SNP genotyping studies on glaucoma in human
- SNP Genotyping of Leber hereditary optic neuropathy in Africa patients
- Products quality and effect evaluation research using human cell line such as Retinal epithelial primary and transformed cells
- Research Collaboration
- Diagnosis Medical device design

6/2012 – 8/2015: Senior Scientist & Principal Investigator Menicon R&D Ltd. Le Mans, France

- **All work described below were performed in a GLP laboratory**
- Case and control SNP genotyping studies on glaucoma in human
- Built the lab from the beginning to the end, ordered all the equipment, and currently running the laboratory.
- Genomic Diagnosis Kit development using SNPs Genotyping and sequencing.
- Students and Internship students training.
- Establishment of collaboration between Menicon and Universities in Europe & Africa.
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2/2010 - 6/2012: Senior Scientist Menicon, Co., Ltd. Nagoya, Japan

- **All work described below were performed in a GLP laboratory**

- Research on effect of multipurpose lens care solution on Membrane-associated Mucin expression at the ocular surface.
- Developed a diagnosis Kit for Glaucoma in Japanese Chiba Dog using SNP genotyping, PCR, qPCR and Sequencing
- Case and control SNP genotyping studies on glaucoma in human
- **Worked in BSL-2 laboratory to culture and evaluate bacteria from contaminated contact lenses from patients.**

2008-2010: Postdoctoral Fellow Harvard Medical School Schepen's Eye Research Institute

Boston, MA

- Molecular Bases of Eye Diseases research with Molecular Biology, Neuroregeneration, Epigenetics.
- Optic nerve regeneration & epigenetics.
- Trained and supervised undergraduate and graduate students in laboratory.

2002-2008: Research Assistant University of North Texas Health Science Center Fort Worth, TX

- Neuroprotection studies in glaucoma.
- Used rats for primary retinal ganglion cells culture, retinal flat mount and cell culture, Stable cell transfection...

- Cancer Research: Injected drugs in mice tails and preformed: organ harvesting,
- Lecithin Cholesterol Acyl Transferase characterization using Beta Gene cell lines, Sepharose chromatography, flu assay and Thin Layer Chromatography.

Laboratory Techniques:

More than 15 years' experience in Molecular biology techniques (DNA extraction, RNA extraction, Proteins analysis PCR, qPCR, Sequencing, Genotyping, Enzyme Assays, Chromatography), ERG, IOP measurement with Tonovet, biodistribution studies.

2005-2007 Ft. Worth School District Fort Worth, TX

Biology Teacher Score N.S.F. GK-12 Fellowship

- Taught biology and laboratory techniques to high school students.

2001-2002 Morison Milling Co. Denton, TX

- Quality Control Technician: Performed Quality Control (wet chemistry) on various company products.

***Publications
(All the publications
are on PUBMED)***

Guo C*, Cho KS*, Li Y*, Tchedre Kissaou*, Antolik C, Ma J, Chew J, Utheim TP, Huang XA, Yu H, Malik MTA, Anzak N, Chen DF. ***IGFBPL1 Regulates Axon Growth through IGF-1-mediated Signaling Cascades.*** Sci Rep. 2018 Feb 1;8(1):2054. (*) Contributed equally to the manuscript.

Ayena KD, Tchapo Tchedre K, Vonor K, Santos KMA, Nagbe YE, Mouad L, Balo K. A case of Leber hereditary optic neuropathy in a black African patient. J Fr Ophtalmol. 2017 Oct;40(8):e287-e290. doi: 10.1016/j.jfo.2016.10.021. Epub 2017 Sep 6.[Article in French].

Kanemaki N, Tchedre KT, Imayasu M, Kawarai S, Sakaguchi M, Yoshino A, Itoh N, Meguro A, Mizuki N. **Dogs and Humans Share a Common Susceptibility Gene SRBD1 for Glaucoma Risk.** PLoS One. 2013 Sep 11; 8(9): e74372.

Imayasu M, Tchedre KT, Cavanagh HD. **Effects of multipurpose solutions on the viability and encystment of acanthamoeba determined by flow cytometry.** Eye Contact Lens. 2013 May;39(3):228-33.

Fang Y, Cho KS, Tchedre K, Woo Lee S, Guo C, Kinouchi H, Fried S, Sun X, Chen DF. **Ephrin-A3 Suppresses Wnt Signaling to Control Retinal Stem Cell Potency.** Stem Cells. 2012 Nov 16. doi: 10.1002/stem.1283. [Epub ahead of print]

Hriday K. Das, Kissaou Tchedre, Brett Muller. **Repression of transcription of presenilin-1 inhibits γ -secretase independent ER Ca²⁺ leak that is impaired by FAD mutations.** *J Neurochem*. 2012 Aug;122(3):487-500.

Tchedre, Kissaou T; Imayasu, Masaki; Hori, Yuichi; Cavanagh, H Dwight. **Assessment of Effects of Multipurpose Contact Lens Care Solutions on Human Corneal Epithelial Cells.** Eye & Contact Lens: Science & Clinical Practice. Sept. 2011; 37(5):328-330..

Kissaou T. Tchedre, Rajesh C. Rao, Natasha Coleman, Victor E. Marquez, and Dong Feng Chen. **Dynamic Patterns of Histone Lysine Methylation in the Developing and Adult Retina.** Invest Ophthalmol Vis Sci. 2010.

Santosh Narayan, Ganesh Prasana, Kissaou Tchedre, Raghu Krishnamoorthy and Thomas Yorio. **Thrombin Induced Endothelin-1 Synthesis and Secretion in Retinal Pigment Epithelial Cells is Rho Kinase (ROCK) Dependent.** J Ocul Pharmacol Ther. 2010 Oct;26(5):389-97

Kissaou T. Tchedre and Thomas Yorio. **sigma-1 receptors protect RGC-5 cells from apoptosis by regulating intracellular calcium, Bax levels, and caspase-3 activation.** Invest Ophthalmol Vis Sci. 2008 Jun; 49(6):2577-88.

Kissaou T. Tchedre, Renqi Huang, Adnan Dibas, Raghu R. Krishnamoorthy, Glenn H. Dillon, and Thomas Yorio. **Sigma-1 receptor regulation of voltage-gated calcium channels involves a direct interaction.** Invest Ophthalmol Vis Sci. 2008 Nov; 49(11):4993-5002.

Steven B. Lane, Kissaou T. Tchedre, Maya P. Nair, Anice E. Thigpen, and Andras G. Lacko. **Characterization of Lecithin: Cholesterol Acyltransferase Expressed in a Human Lung Cell Line.** Protein expression and purification (2004); 36: 157-334.

Yana Reshetnyak, Kissaou T. Tchedre, Maya Nair, Min Li, P. Haydn Pritchard, and Andras G. Lacko. **Structural differences between wild-type and fish eye disease mutant of lecithin: cholesterol acyltransferase.** The Journal of Biomolecular Structure and Dynamics. (2006) 24: 75-82.

Published in: International Biopharmaceutical Association news letter, November 2008. **Challenges of Conducting Clinical Trials In Africa.**

Manuscript in Preparation:

Kissaou T. Tchedre, & Didier Ayena. SNPs Genotyping Using Direct Sequencing in African Population for Glaucoma Diagnosis.

Abstract:

ARVO 2012 MIT Outstanding Poster Award winning Abstract:

Chenyang Guo¹, Kin-Sang Chol, Kissaou Tchedre¹, Jie Ma¹, Huihui Chen¹, Taimur Malik¹, Dong Feng Chen^{1,2}.

¹Harvard Medical School, Schepens Eye Research Institute, Boston, MA; ²Center for Innovative Visual Rehabilitation, VA Boston Healthcare System, Boston, MA.

IGF-1 Binding Protein Like Protein 1 (IGFBPL-1) Promotes Axon Outgrowth In Retinal Ganglion Cells Through The Regulation Of IGF-1 Signaling Pathway

Publication Science Policy

Kissaou Tchedre. **EBOLA VIRUS OUTBREAK: AFRICA AT THE CROSSROADS, URGENT NEED FOR A PAN-AFRICAN BIOMEDICAL RESEARCH INSTITUTE.** Science Policy Africa., Newsletter of the African Academy of Sciences, Volume 18, number 3, September 2014, ISSN 1015-4957.

Software & Machinery & Languages

Windows 95, 97, 98, Me, XP, Vista, Word perfect, Microsoft Office 2000, 2003, 2007, Web page development: HTML, PaintShop Pro, Adobe PhotoShop, Dreamweaver, and Printmaster, Image J, Genetyx, Applied Biosystem sequencing software, sigma plot 11, sigma Stat, Endnote, copiers, faxes, scanners. HAPMAP, HAPLOVIEW, SNPANALYZER2, GC/MS, GENETIC ANALYZER

Fluent in **French** and **English**.

May/2012: ARVO 2012 MIT Outstanding Poster Award winning

Awards

27/2011: **American Academy of Optometry Professional Press Conference on October 13th, 2011:** Poster selected by the Academy Communications Committee as one of the eight most newsworthy at the Annual Meeting.

2014	Menicon Employees Paper Publication Award
2009	American for Research in Vision and Ophthalmology Travel Grant
2008 –2009	National Institute of Health (NIH) Ruth L. Kirschstein National Research Service Award Individual Fellowship
2008	Sigma Xi, the Scientific Research Society nomination accepted
2006-2007	School Cooperative Opportunities for Resources and Education (SCORE)/NSF GK-12 project fellowship
2006	University of North Texas Health Sciences center Biomedical sciences Department Outstanding Graduate Student Award
2006	First Place graduate student's poster presentation: University of North Texas Health Sciences Center's Research Appreciation day (RAD).
2006	Nominee to the American Association for the Advancement of Science (AAAS)/Science Program for Excellence in Science
2005- 2006	School Cooperative Opportunities for Resources and Education (SCORE)/NSF GK-12 project fellowship
2005	First Place: University of North Texas Health Sciences Center's Research Appreciation day (RAD) TECHFORTWORTH Innovation Award for poster Presentation.
2006	National Dean List award
2006:	Accepted as member of the NATIONAL SCHOLAR HONOR SOCIETY
2006	Special invitation from the NATIONAL SCHOLAR HONOR SOCIETY (application code: 4890).
1999:	University of North Texas Intensive English Language Institute International Week Essay Contest.

Patents

Patent 1: Application Number: JP2012/067173, **Publication Date:** January 17, 2013.
Title: METHOD AND KIT FOR DIAGNOSING GLAUCOMA IN DOGS.
Document Type and Number: WIPO Patent Application WO/2013/008709.

Patent 2: Reagents, Method and Kit for Across and Within Dog Breed Glaucoma Diagnosis. **Application number:** EP15179348.6. 31 July 2015, 15:20 (CEST). Published February 1st, 2017

Conferences & Workshops

2016: Biomarker European Summit, in Berlin, Germany

2016: European Society of Veterinary Ophthalmology: *Development of a new tool for diagnosing glaucoma genetic predisposition in dogs.*

2016: The Association for Research in Vision and Ophthalmology, Inc. (ARVO) annual meeting in Seattle: **Identification of two Single Nucleotide Polymorphisms in SRBD1 Gene Associated to Glaucoma in several Dog Breeds.**

2012: Poster Presentation at the Association for Research in Vision and Ophthalmology, Inc. (ARVO) annual meeting (Fort Lauderdale, USA)

2013: Poster Presentation at the Association for Research in Vision and Ophthalmology, Inc. (ARVO) annual meeting (Seattle, USA)

2013: Poster Presentation at the American Academy of Optometry (AAO) annual meeting (Seattle, USA)

01/21/2011: MIT Industrial Liaison Program Symposium, Tokyo, Japan.

01/12/2011: Attended US FDA Seminar: **Contemporary Challenges of Clinical Trial Methodologies** (Presenters: Dr. H. M. James Huang & Dr. Sue-Jane Wang), Osaka University Symposium, Osaka, Japan.

09/16/2008 - 09/18/2008: Third Biennial Military Vision Research Symposium: Traumatic Eye and Brain Injury. Sponsored by Schepens Eye Research Institute, Harvard Medical School and United States Army Medical Research & materiel Command's Telemedicine and Advanced Technology Research Center., Boston, MA

06/20//2008 – 06/21/2008: Harvard Medical School Department of Ophthalmology 2008 Update on Ophthalmology conference

2008: The Association for Research in Vision and Ophthalmology, Inc. (ARVO) annual meeting (Fort Lauderdale, Florida) poster presentation:

“Sigma-1 Receptor Regulation of Voltage-Gated Calcium Channels Involves a Direct Interaction Between Sigma-1 Receptor and Voltage-Gated L-Type Calcium Channel.”

2008: Poster presentation: University of North Texas Health Sciences Center's Research Appreciation Day. **“Sigma-1 receptor neuroprotective mechanism: Turning down, but not off.”**

2007: The Association for Research in Vision and Ophthalmology, Inc. (ARVO) annual meeting (Fort Lauderdale, Florida) poster presentation: **“Regulation of Calcium influx in Retinal Ganglion Cells by Sigma-1 Receptor Ligands and Neuroprotection Relevance.”**

2007: Poster presentation: University of North Texas Health Sciences Center's Research Appreciation Day. **Regulation of Calcium influx in Retinal Ganglion Cells by Sigma-1 Receptor Ligands and Neuroprotection Relevance.**

2006. The Association for Research in Vision and Ophthalmology, Inc. (ARVO) annual meeting (Fort Lauderdale, Florida) poster presentation: **“Neuroprotective Sigma Ligands and their Effects on Glutamate and KCL induced Calcium Changes in Retinal Ganglion (RGC-5) Cells”**

2006: National Science Foundation 2006 GK-12 annual conference, Washington, DC

2005: Poster presentation: University of North Texas Health Sciences Center's Research Appreciation Day: **“Neuroprotective Sigma Ligands Protect RGC-5 Cells from Glutamate-induced neurotoxicity”**

2005: Southwest Regional National Science Foundation GK-12 Conference poster presentation. College Station Oct. 21-22

Peer-Reviewed Journals:

Mentoring/Supervision Experience

Other Scientific Activities: Reviewer for Peer-Reviewed Journals:

Molecular Vision Journal, Journal of ocular pharmacology and therapeutics, Investigative Ophthalmology & Visual Science (IOVS)

Training of Internship students, Mentoring of Master students, training of new scientists.

Hobbies

Voice, classical music, piano, organ, African drums, tae kwondo.

Social Organizations

Scientist Without Borders, American Association for the Advancement of Science, Association for Research in Vision Ophthalmology, Inc., sigma Xi

Professional References

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North Texas Eye Research Institute UNT Health

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Texas 76107

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