

Translation Review Certificate

David Alexander Carroll II
Translator/Interpreter

Translated document: International Application Published under the Patent Cooperation Treaty (PCT); International Publication Number WO 03/100337 A2. World Intellectual Property Organization, International Bureau; International Publication Date 4 December 2003.

As a translator for Day Translations, Inc., I, David Alexander Carroll II, declare that I am a bilingual translator who is thoroughly familiar with the French and English languages. I have 12 years of experience translating between these language pairs. I am a native speaker of English, have studied French at a university level, and spent over five years working in French-speaking countries (Haiti, Burkina Faso, and Niger). I also passed the *Diplôme approfondi de langue française* (DALF) C1 level exam, corresponding to a professional level of fluency in the French language.

I have translated extensively between the French and English language pairs. My work has spanned a diverse array of topics, including the automotive industry. For example, I have worked on translating car user manuals as well as information sheets for car parts. I have also interacted with automobile mechanics while living in French speaking countries (Haiti and Burkina Faso), which required me to familiarize myself with automotive terminology in both French and English.

Attached as Exhibit A is a copy of my CV.

I have reviewed two separate English translations of the French language document listed above, with file names *Godefroy_WO2003100337_English_EN* and *1008 International Patent Application 3-100337 A2_EN*. After reviewing both documents, I declare that the *Godefroy_WO2003100337_English_EN* is the most accurate translation. In reaching this decision, I would like to highlight accurate translations of two French terms in particular that are provided below with references:



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French term: *Boîte collectrice*
Correct English translation: Collector Box
Reference:

- [PROZ KudoZ Term Help for Translators - boîte collectrice](#). This is a posting in a term help forum hosted by PROZ, a popular freelance translation network. The original poster asks about the correct translation for *boîte collectrice*, and the most popular response from other translators is "collector box".

French term: *Tubulures de raccordement*
Correct English translation: Connection tubing
Reference:

- [PROZ KudoZ Term Help for Translators - tubulure](#). On this PROZ KudoZ posting, the translator asks about the correct English translation for the French term *tubulure*. Other translators point out that normally, the wall of a tube is thinner than the wall of a pipe. In the case of a motor vehicle heat exchange system, based on the thickness of the connection pieces, the word "tube" or "tubing" would be preferable to "pipe" or "piping".

REFERENCES:

- PROZ. (2013). KudoZ forum post: Boîte collectrice. Available: <https://www.proz.com/kudoz/french-to-english/mechanics-mech-engineering/5178485-bo%C3%A0te-collectrice.html>
Accessed 25 July 2023.
- PROZ. (2005). KudoZ forum post: Tubulure. Available: <https://www.proz.com/kudoz/french-to-english/engineering-general/1047930-tubulure.html>
Accessed 25 July 2023.

I declare, under penalty of perjury, that the version of the document entitled Godefroy_WO2003100337_English_EN is an accurate and true translation of the original document presented. I further declare that these statements were made with the knowledge that willful false statements and the like are punishable by



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fine, imprisonment, or both, under 18 U.S.C. § 1001 and may jeopardize the validity or enforceability the patent subject to inter partes review.

Signed on Sept. 5th, 2023

David A. Carroll II

David Alexander Carroll II

Professional Translator for Day Translations, Inc.

STATE OF Massachusetts
COUNTY OF Suffolk

Subscribed and affirmed, or sworn to, before me on this 5th day of September, 2023, by David Alexander Carroll II.

[Signature]

(Signature of Notary Public)

Makendi Henry Alce
(Print Name)

My commission expires on: 09/15/2028.

Notary Seal:



MAKENDI HENRY ALCE
Notary Public
Commonwealth of Massachusetts
My Commission Expires
September 15, 2028



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DAVID ALEXANDER CARROLL II

Doctoral Student in Agriculture, Food, and Environment

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PhD candidate with research interests in climate-smart agriculture, rural development, econometric impact evaluation, post-project sustainability analysis for development initiatives, climate change adaptation and mitigation in smallholder agricultural systems, and sustainable natural resource management in developing country agroecosystems. BS and MS degrees in Environmental Science with three years of experience working in research, project implementation, and education in the agriculture, nutrition, and environment sectors in Haiti. Fluent in English, Haitian Creole, French, Antillean Creole, and Spanish.

EDUCATION

PhD Candidate – Agriculture, Food, and Environment - The Friedman School of Nutrition Science and Policy – Tufts University, Boston, MA

September 2018 – Present

Advisor: Dr. Beatrice Lorge Rogers

Research Focus: Adoption good agricultural practices and sustainable natural resource management practices in the context of development project sustainability and exit plans in Burkina Faso; econometric impact evaluation of cash and food aid interventions; project monitoring and evaluation; sustainability of nutritional and livelihood diversification programs; digitization of public services provisioning in sub-Saharan Africa; validation of web- and mobile-based dietary data collection tools

Master of Science – Environmental Science – Brigham Young University, Provo, UT

September 2013 – August 2015

GPA: 4.00

Thesis Title: Drought and Nitrogen Effects on Maize Canopy Temperature and Stress Indices. Advisor: Dr. Neil C. Hansen

Minor: Social Innovation

Bachelor of Science – Environmental Science – Brigham Young University, Provo, UT

September 2006 – August 2013

GPA: 3.93

Minor Degrees: International Development, French

Special Certificate: French Language, Mastery Level – ACTFL proficiency guidelines and supporting coursework

FREELANCE WORK

Independent Translator/Interpreter

2011 – Present

- Work with various translation services providers, including Day Translations, Inc. for English-French, French-English, English-Haitian Creole, and Haitian Creole-English language pairs
- Translation of technical, official, and personal documents in the areas of education, human resources, medicine, law, vital records, international development, automotive, manufacturing, business, and marketing
- Transcription of audio recordings in the above language pairs
- Subtitling in the above languages
- Localization projects using interactive software programs (ex. SmartCat)
- Formatting of brochures, forms, flyers, and other documents combining text with images and graphics
- Verification and proofreading of translated texts
- Live and consecutive interpreting in virtual, phone, and in-person contexts for legal procedures, conferences, etc.

PROFESSIONAL EXPERIENCE

Field Research Coordinator

Tufts University / ACDI/VOCA (ViMPlus Project) – Boston, MA and Ouagadougou/Kaya, Burkina Faso

June 2018 – Present

- ViMPlus Sustainability Study - Qualitative and quantitative sustainability analysis of the Victory Against Malnutrition (ViM) Project, a nutrition and livelihood diversification program implemented by ACDI/VOCA in Sanmatenga Province, Burkina Faso.
- Tasks include qualitative data cleaning, processing, and analysis using NVivo, quantitative data cleaning, processing, and analysis using R and Stata, writing technical guides and documents, coordinating with research team in Burkina Faso, coordinating with research and implementing partners
- Writing research reports and disseminating research results among stakeholders

Fulbright Research Fellow

US Fulbright Program – Ouagadougou, Burkina Faso

September 2021 – June 2022

- Agricultural research on valorization of neglected crops in rural Burkina Faso
- Qualitative research – focus group discussions and key informant interviews with female farmer groups and farmers practicing crops neglected by research and development organizations
- Quantitative research – designing and conducting farmer survey to evaluate watershed management in the Kou River Basin, Hauts Bassins region; assisting in agronomic field trials, statistical analysis, and drafting and editing scientific articles

- Research partner: *Institut national de l'environnement et de recherches agricoles* (INERA / National Institute of the Environment and Agricultural Research) of the *Centre national de la recherche scientifique et technologique* (CNRST / National Center for Scientific and Technological Research), Burkina Faso government

Doctoral Researcher and Teaching Assistant

The Friedman School of Nutrition Science and Policy at Tufts University – Boston, MA and Ouagadougou/Kaya, Burkina Faso

September 2018 – Present

- Econometric impact evaluation of nutritional and economic assistance program for at-risk households in the Zinder, Niger region in the context of Girma, a USAID-funded Resilience Food Security Activity (RFSA) (Implementing partner: Catholic Relief Services)
- Research on digitization of public services provision and small and medium enterprise (SME) job creation in sub-Saharan Africa (particularly UEMOA countries) with the Foundation for Studies and Research on International Development (FERDI) in Clermont-Ferrand, France
- Validation and cost-effectiveness studies of web-based dietary recall methods for the International Dietary Data Expansion (INDDEX) Project
- Econometric analysis of climate effects on household water sources in sub-Saharan Africa using USAID Demographic and Health Survey (DHS) and climatic data
- Assist professors in teaching various graduate courses, including agriculture science and policy, advanced data analysis, and program monitoring and evaluation

Institution Director

Centre d'Agriculture Saint Barnabas – Terrier-Rouge, Haiti

October 2017 – September 2018

- Obtained sub-award with USAID Haiti Reforestation Project entitled “Development of the Wood Energy and the Beekeeping Sectors in Terrier-Rouge”
- Ensuring successful academic operations through hiring, training, and communication with school administration and faculty
- Writing project proposals and seeking partnerships with international and Haitian government institutions to participate in agricultural development and natural resources management programs
- Monitoring of curriculum, teaching, field experiments, and testing
- Establishment of farm production and services program
- Counseling for students wishing to pursue higher level university education
- Preparation and submission of financial and activities reports

Agriculture Research and Extension Program Coordinator

Meds & Food for Kids – Quartier Morin, Haiti

November 2015 – September 2017

- Worked collaboratively with faculty from University of Florida, University of Georgia, and Cornell University on the USAID/Feed the Future Peanut & Mycotoxin Innovation Lab (PMIL) project

- Designed and implemented 30 peanut agricultural field studies in Quartier Morin and Mirebalais, Haiti
- Assisted with data collection and measurement, data entry, statistical analysis, and interpretation and presentation of results
- Presented results of peanut variety trial at 48th Annual Meeting of the American Peanut Research and Education Society in Clearwater, Florida – July 2016
- Supervised training of 28 Haitian undergraduate agronomy student interns completing end of studies theses on PMIL field trials
- Worked with PMIL staff on writing a Haiti PMIL technical research report
- Supervised and trained multiple cohorts of Haitian undergraduate agronomy students completing end of studies theses with MFK
- Mentored and trained two entry-level Haitian agronomists working at MFK as their first professional job experience, leading on development of agriculture extension, research, and local peanut procurement programs

Graduate Research and Teaching Assistant

Brigham Young University Plant and Wildlife Sciences Department – Provo, UT

September 2013 – August 2015

- Conducted field research and statistical analysis of water and nitrogen status in irrigated maize under arid and semi-arid conditions
- Managed field and greenhouse studies, including planting, plot maintenance, data collection, data entry and analysis, and harvesting
- Assisted with curriculum development, teaching classes, and grading assignments for Soil and Water Conservation course
- Developed geographic information systems (GIS) curriculum for in-course lab and trained students on basic tenets of ArcGIS

Adjunct Faculty – Haitian Creole Instructor

Brigham Young University Center for Language Studies – Provo, UT

September 2014 – December 2018

- Launched Haitian Creole second language study program at Brigham Young University in 2014
- Developed curriculum for first year and second year language courses (101, 102, 201, 202), Advanced Language through Cultural Studies (330), and Introduction to Haitian Creole Literature (340)
- Taught classes and corrected homework, compositions, exams, and other assignments

Laboratory Research Technician

Brigham Young University Environmental Analytical Lab – Provo, UT

October 2011 – May 2013

- Performed analysis of soil, plant, water, and other environmental samples for clients in academia, government and private research institutions, the agriculture industry, and construction
- Provided feedback and individual mentoring to students

Refugee Employment Counselor

International Rescue Committee – Salt Lake City, UT
January 2012 – April 2012

- Taught a weekly employment skills class for refugees from diverse locations in East Africa, South Asia, and the Middle East
- Served as a personal job counsellor for recently resettled refugees, assisting with applications, job solicitation, interviews, pre-hiring processes, and orientations

PUBLICATIONS

- Aker JC, Carroll II DA. 2022. The State of Digital Financial Services in Francophone West Africa. Report FERDI/ Chair Digital Trust, 36p. Available: <https://ferdi.fr/en/publications/e66fe3ff-8009-41f7-aa7c-0b9228dc2013>
- Rogers BL, Somé JW, Bakun P, Adams KP, Bell W, Carroll II DA, Wafa S, & Coates J. 2021. Validation of the INDDEx24 mobile app vs. a pen-and-paper 24-hour dietary recall using the weighed food record as a benchmark in Burkina Faso. *British Journal of Nutrition*, 1-15. doi:10.1017/S0007114521004700
- Carroll DA, Cariolle J. 2020. Advancing digital frontiers in African economies: lessons learned from firm-level innovations, FERDI Working paper P281, December 2020. Available: <https://ferdi.fr/en/publications/advancing-digital-frontiers-in-african-economies-lessons-learned-from-firm-level-innovations>
- Cariolle J, Carroll DA. 2020. Digital Technologies for Small and Medium Enterprises and job creation in Sub-Saharan Africa, FERDI Report, 106p. Available: <https://ferdi.fr/en/publications/digital-technologies-for-small-and-medium-enterprises-and-job-creation-in-sub-saharan-africa>
- Macdonald GE, Brenneman TB, Kemerait RC, Rhoads JA, Fulmer AM, Carroll DA, Macajoux RJ, Faroutine G, Sheard WA, Laforest D, Dorzin P. 2018. Haiti Peanut Research Report – Efforts to improve peanut production in Haiti by investigating management options for foliar diseases, low soil fertility, and other yield-limiting agronomic issues. University of Georgia Extension / Feed the Future Innovation Lab for Collaborative Research on Peanut Productivity and Mycotoxin Control (Peanut & Mycotoxin Innovation Lab). Available: https://secure.caes.uga.edu/extension/publications/files/pdf/B%201499_1.PDF
- Carroll DA, Hopkins BG, DeJonge K, Hansen, NC. 2017. Leaf temperature of maize and Crop Water Stress Index with controlled deficit irrigation and variable nitrogen supply. *Irrigation Science* 35(6):549-560. doi:10.1007/s00271-017-0558-4
- Wood M, Taylor S, Carroll A, Hansen NC. 2017. Surveying employment listings to inform curricula of environmental science degree programs. *Journal of Environmental Studies and Sciences* 7:346-354. doi:10.1007/s13412-016-0401-x
- Fulmer AM, Brenneman TB, Kemerait RC, Macajoux R, Carroll DA, Faroutine G, Sheard W, Dorzin P, Rhoads JA, MacDonal GE. (2020). Evaluation of Improved Valencia Peanut Varieties for Production in Haiti. *Peanut Science: January-June 2020, Vol. 47, No. 1*, pp. 1-8.

- Fulmer AM, Brenneman TB, Kemerait RC, Rhoads JA, Faroutine G, Carroll DA II, Sheard WA, MacDonald GE. 2016. Evaluation of improved Valencia cultivars with and without fungicide for peanut production in Haiti. American Peanut Research and Education Society. 48th Proceedings of the APRES Annual Meeting: 12-14 July 2016.
- Carroll, DA, Lindsey C, Baker J, Hopkins BG, Hansen NC. 2015. Drought and nitrogen stress effects on maize canopy temperature. Proceedings of the Western Nutrient Management Conference 11:84-89.
- Carroll DA, Hansen NC, Hopkins B, Terry RE. 2014. Nitrogen management and water productivity of limited irrigation corn. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America. 2-5 November, Long Beach, CA. AnMtgAbsts 311-8.

CONFERENCE PRESENTATIONS

Oral Presentations:

- Carroll DA II. 7 June 2021. Food safety in agricultural production systems. Ciencia e Inocuidad de Alimentos – la Inocuidad es Asunto de Todos [Food Science and Safety – Safety is Everyone’s Business]. Universidad ISA, Santiago de los Caballeros, Dominican Republic.
- Carroll DA II. 27-28 October 2020. Flooding impacts on mangrove ecosystems, marine fisheries, and coastal communities in Central Java, Indonesia. 6th International Conference on Tropical and Coastal Region Eco Development 2020, Universitas Diponegoro, Semarang, Indonesia.
- Carroll DA II, Fulmer AM, Kemerait RC, Brenneman TB, Rhoads JA, MacDonald GE. May 3rd, 2018. Peanut agronomic research internships for training undergraduate agronomy students in Haiti to facilitate the end of studies thesis. Innovation in Agricultural Education Conference – Feed the Future AREA Project (Appui à la recherche et au développement agricole). Port-au-Prince, Haiti.
- Carroll DA II. October 11th, 2016. Aflatoxin control: revamping smallholder groundnut production. AU-PACA and CTA Roundtable on Engaging the Private Sector for Aflatoxin Control in Africa. 2nd Partnership for Aflatoxin Control in Africa (PACA) Partnership Platform Meeting. Entebbe, Uganda.

Poster Presentations:

- Carroll DA II, Fulmer AM, Brenneman TB, Kemerait RC, Rhoads JA, Faroutine G, Sheard WA, MacDonald GE. July 14th, 2016. Evaluation of improved Valencia cultivars with and without fungicide for peanut production in Haiti. 48th Annual Meeting of the American Peanut Research and Education Society (APRES). Clearwater, FL, USA.
- Carroll DA, Hansen NC, Hopkins B, Terry RE. November 5th, 2014. Nitrogen management and water productivity of limited irrigation corn. American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA) 2014 Annual Meeting. Long Beach, CA, USA.

HONORS AND AWARDS

- Fulbright Research Fellowship (Burkina Faso), 2021-2022
- Tufts Friedman Fellowship, 2019-2021
- Tufts Institute of the Environment Fellowship, 2019-2020
- Provost Fellowship, Tufts University, 2018-2020
- International Plant Nutrition Scholar Award. 2015
- Clinton Global Initiative University Delegate. 2013, 2014, and 2015
- International Agriculture Scholarship, Brigham Young University. 2014
- Garry M. and Sharra L. Booth Graduate Assistantship. 2014
- Phi Kappa Phi Honor Society. 2013
- Robert N. Anderson Graduate Assistantship. 2013
- Magna Cum Laude, Brigham Young University. 2013
- BYU Office of Research and Creative Activities (ORCA) Grant Recipient. 2013 Grant Title: Using Agricultural Byproducts in the Effort to Restore Haiti's Forests Composted Sugarcane Bagasse as a Soil Amendment in Haitian Silviculture.
- National Merit Scholarship. 2006-2012
- Eagle Scout, Boy Scouts of America. 2004

LANGUAGES

Haitian Creole (C2)

- ACTFL Oral Proficiency Interview (OPI) – Superior (2014)

French (C1)

- Diplôme approfondie de la langue française (DALF) Level C1 – 76/100 (2018)
- ACTFL Oral Proficiency Interview (OPI) – Advanced High (2013)
- ACTFL Writing Proficiency Test (WPT) – Advanced High (2013)

Lesser Antillean Creole French (C1)

- French lexifier creole language spoken in Dominica, St. Lucia, Martinique, Guadeloupe, and to a lesser extent in Grenada and Trinidad & Tobago

Spanish (C1)

- Secondary school classes and independent study

English (C2)

- Native language

CONSULTING AND VOLUNTEER EXPERIENCE

Project Consultant

Immigrant Family Services Institute, Inc. – Boston, MA

2018 – present

- Plan and host community-building conferences and symposiums on support of immigrant communities
- Development of online immigrant navigation services provisioning platform
- Development of strategic partnerships with other immigrant services providers

- Support for academic and enrichment programs for youth from immigrant communities
- Organize and support immigrant advocacy and rights educational campaigns and awareness programs

Board of Directors President

CASB Support Group, Ltd. – Boston, MA, USA

2018 – present

- Coordinate fundraising and grant applications for agricultural technical college in Haiti (Centre d'Agriculture Saint Barnabas)
- Provide technical and academic support to CASB administration
- Work with USAID and Chemonics International on creation of a Rural Sustainable Development Center (*Centre rural de développement durable* – CRDD)

Board of Directors Member

Haiti Health Initiative – Orem, UT, USA and Léogâne, Haiti

2014 – 2017

- Coordinate development, implementation, and evaluation of agricultural projects
- Serve as team leader for mobile medical and dental clinics in Léogâne, Haiti

Agricultural Operations Coordinator

Sustain Haiti – Provo, UT, USA and Léogâne, Haiti

2011 – 2013

- Developed and implemented community garden and agroforestry projects
- Managed teams of local and international volunteers in agriculture project activities.
- Conducted analysis and evaluation of agricultural projects and submitted reports to US-based management team