Natural Sciences and Engineering Research Council of Canada | Conseil de recherches en sciences naturelles et en génie du Canada

FORM 200
Application for an IPS, IRDF or VF
COVER PAGE

AID	
CTTEE	
Date	2016/06/14

Type of Award	Reference No.
VFG	386145724

Family name of applicant	Given name	Initial(s) of all given names	Personal identification no. (PIN)
Olatinwo	Mutairu Bolaji	MBO	

ADDRESSES. Changes to any of the information below must be sent to schol@nserc-crsng.gc.ca.

Current address	Permanent address (if different from current mailing address)
375 West Roosevelt St., Apartment 3226 Baton Rouge, LA UNITED STATES 70802	Sw9/800 B Apata Ganga, Ibadan, Oyo State Nigeria NIGERIA
If current address is temporary, indicate leaving date	Telephone number at permanent address: 234 (70) 30123416

Telephone number	Facsimile number	E-mail address (NSERC will use this information as the initial point of contact.)
(225) 2762385		molati1@lsu.edu

CITIZENSHIP

[ ] Canadian citizen [ ] Permanent resident of Canada [X] Other

Indicate date of landing as stated on official immigration document	Indicate country of citizenship
	Nigeria

LANGUAGE OF CORRESPONDENCE

I wish to receive my correspondence in:

[X] English [ ] French

SIGNATURE (Refer to the instructions under the heading "What does my signature on the application mean?")

I hereby agree that any award made to me as a result of this application will be subject to the general conditions governing scholarships and fellowships. These conditions are outlined in this Web site in the NSERC *Program Guide for Students and Fellows,* and *Visiting Fellowships in Canadian Government Laboratories* guide.

Applicant's signature

Personal information collected on this form and appendices will be stored in the Personal Information Bank for the appropriate program.

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ACADEMIC BACKGROUND (include only current and past degree programs)

Degree	Name of discipline	Department, institution and country	Month and year started	Month and year awarded/expected
Bachelor's	Industrial Chemistry, BSc	Chemistry University of Ibadan, NIGERIA	6 / 2003	4 / 2007
Master's	Organic Chemistry, MSc	Chemistry University of Ibadan, NIGERIA	8 / 2008	Transferred to Ph.D.
Doctorate	Inorganic Chemistry-Materials Science	Chemistry Louisiana State University, UNITED STATES	8 / 2011	8 / 2016

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ACADEMIC, RESEARCH AND OTHER RELEVANT WORK EXPERIENCE

Position held and nature of work (begin with current) Full Time - Part Time	Organization and department	Supervisor	Period (mm/yyyy-mm/yyyy)
Teaching Assistant - Full Time Teaching of general chemistry laboratories	Louisiana State University Chemistry	Dr. Linda Allen	8/2014 - 5/2016
Research Assistant - Full Time Working on analysis of various formulations of flame retardants using X-ray imaging techniques and m	Louisiana State University Chemistry	Prof. Leslie G. Butler	1/2012 - 6/2016
Solution Assistant - Full Time Working in the organic lab to prepare solutions for the advanced organic chemistry labs	Louisiana State University Chemistry	Dr.Tamara Nauman	8/2011 - 12/2011
Lecturer II Teaching of organic and inorganic chemistry classes and labs	Kwararafa University Chemistry	Dr. Raphael Odoh	2/2010 - 7/2011

Personal identification no. (PIN)	Family name, given name and initial(s) of applicant
	Olatinwo, Mutairu Bolaji MBO

AWARD APPLIED FOR

Type of award	Proposed starting date of award
Visiting Fellowships in Canadian Government Laboratories	2017/01

Proposed degree program (e.g. Bachelors, Masters, Doctorate)	Proposed field of study/research	Research subject code
	POLYMER CHEMISTRY	3750

Title of proposed research

New generation flame retardant studies using X-ray grating interferometry imaging technique coupled with UL 94 test, FTIR, XANES, GCMS, ICPMS and spectrophotometry. 2nd: Natural Products Chemistry

List ten (10) key words that describe your proposed research. Use commas to separate them.

Flame retardants, X-ray K-edge absorption, Tomography, Interferometry, Radiography, UL 94 burn test, Visualization, FEI Avizo, Char layer, Gas bubbles

PROPOSED LOCATION(S) OF TENURE (in order of preference)

Institution/organization	Department	Program of study	Proposed supervisor
Natural Resources Canada,	Advanced Combustion Technology		
Atmospheric Environment Service,	Canadian Light Source		
National Water Research Institute,	Saskatoon		

Are any of your proposed programs of study:

Clinically-oriented? [X] Yes [ ] No Joint programs with a professional degree (e.g., MD/PhD)? [X] Yes [ ] No

SECTION TO BE COMPLETED BY IPS APPLICANTS ONLY

Indicate the total number of months of graduate studies (master's and doctoral) you have completed as of December 31 of the year of application in the natural sciences and engineering.

_____ months of full-time studies _____ months of part-time studies

Indicate the number of months of studies you have completed, as of December 31 of the year of application, **in the program for which you are requesting funding.**

_____ months of full-time studies _____ months of part-time studies

Indicate if you are attending university at the time of application.

Attending full time [ ] Attending part time [ ] Not attending [ ]

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Type of Award	Personal Identification no. (PIN)	Family name, given name and initial(s) of applicant
VFG		Olatinwo, Mutairu Bolaji MBO

SCHOLARSHIPS AND OTHER AWARDS OFFERED (start with most recent and include NSERC awards)

Name of Award	Value $CAD	Level (Institutional, Provincial, National, International)	Type (Academic, Research, Leadership, Communication)	Location of tenure	Period held (yyyy/mm - yyyy/mm)
A. G. Leventis Foundation	15,450	International	Research	LSU	
Student Travel Award, LSU	1,200	Institutional	Academic	LSU Graduate Dean's Award	
Student Travel Award, LSU	650	National	Academic	Argonne National Lab	
Muzaffar Zafr Educational Scholarsh	1,300	Institutional	Academic	LSU	

Type of Award	Personal identification no.(PIN)	Family name, given name and initial(s) of applicant
VFG		Olatinwo, Mutairu Bolaji MBO

THESIS COMPLETED OR IN PROGRESS

1. Degree	Supervisor	Date degree requirements completed
PhD	Prof. Leslie G. Butler	05/2016

Title of thesis
USE OF X-RAY K-EDGE TOMOGRAPHY AND INTERFEROMETRY IMAGING TECHNIQUES FOR THE STUDIES OF BROMINATED FLAME RETARDANTS

2. Degree	Supervisor	Date degree requirements completed
MSc	Dr. Ganiyat K. Oloyede	05/2010

Title of thesis
CHEMICAL CONSTITUENTS AND BIOLOGICAL ACTIVITIES OF LEAVES AND BARK-STEMS OF SANDBOX TREE, HURA CREPITANS

SUMMARY OF THESIS MOST RECENTLY COMPLETED OR IN PROGRESS

Use plain language. Do not reproduce abstract of thesis.

The work presented in the dissertation is based on the studies of flame retardancy performance of various formulations consisting of brominated flame retardants (BFRs: Saytex 8010 and Green Armor) and their synergist, antimony trioxide (Sb2O3) in high impact polystyrene (HIPS). Chemical flame retardants are incorporated in polymers to improve their flame inhibition for optimal applications in electrical and electronic devices, furniture, printers and more. These flame retardant polymer blends are studied using the Underwriters Laboratory vertical burn test (UL 94) and X-ray imaging techniques such as X-ray K-edge absorption tomography and X-ray grating interferometry.

The UL 94 burn test is initially performed to assess the flammability behavior of flame retardant samples before X-ray imaging methods of burnt and pristine polymer blends. Because the UL 94 test bars are formulated with varying concentrations of a brominated flame retardant (Saytex 8010® or Green Armor®) and a synergist, Sb2O3 into a high impact polystyrene (HIPS), samples pass or fail the UL 94 plastics flammability test based on the burn time and other factors. Then, the X-ray imaging techniques are used to reveal internal features for the flame retardant performance during the burn.

The Underwriters Laboratory 94 test bars are imaged with X-ray K-edge absorption tomography between 12 to 32 keV to assess the bromine and antimony concentration gradient across char layers of partially burnt samples. X-ray grating interferometry on partially burnt samples shows gas bubbles and dark-field scattering ascribed to residual blend inhomogeneity. In addition, X-ray single-shot grating interferometry is used to record X-ray movies of test samples during heating intended to mimic the UL 94 plastics flammability test. Key features such as char layer, gas bubble formation, micro-cracks, and dissolution of the flame retardant in the char layer regions are used in understanding the efficiency of the flame retardant and synergist. The samples that pass the UL 94 test have a thick, highly visible char layer, low bromine and antimony concentration in the char layer as well as an interior rich in gas bubbles. Growth of gas bubbles from flame retardant thermal decomposition is noted in the X-ray phase contrast movies. Also noteworthy is an absence of gas bubbles near the burning surface of the polymer; dark-field images after burning suggest a micro-crack structure between interior bubbles and the surface. The accepted mechanism for flame retardant activity includes free radical quenching in the flame by bromine and antimony species.

Type of Award	Personal identification no.(PIN)	Family name, given name and initial(s) of applicant
VFG		Olatinwo, Mutairu Bolaji MBO

JUSTIFICATION FOR LOCATION OF TENURE

Provide a rationale for your choice(s) for location of tenure (maximum 1 page). See instructions for further details.

My first choice of Natural Resources Canada, Advanced Combustion Technology is based on the fact that I have been working on assessment and analysis of brominated flame retardants in collaboration with Albemarle Corporation, flame retardant manufacturing company. The flame retardant helps to reduce polymer flammability, to save lives, properties and environment. I believe doing research in Advanced Combustion Technology will enhance my knowledge and scientific ideas with performance while also contributing to the research and development of Advanced Combustion Technology.

The atmospheric environment service and natural water research institute are also of interest to me because some studies show that brominated flame retardants are found in air and water. It will be exciting to understand various flame retardants in terms of their homogeneity/blending with polymers, generation of toxic gases and leaching level into the water.

These studies will broaden my knowledge using all available techniques.

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URGENT

Please return to:

By date: (yyyy/mm/dd)

FORM 200
Report on the Applicant
IPS, IRDF or VF

Type of award: VFG

Date: 2016/06/14

Read the instructions before you complete this report.

In accordance with the *Privacy Act,* this report will be accessible to the applicant. This report, including your name, may also be disclosed to organizations whose fellowships are administered by NSERC and to partner agencies that offer supplements to NSERC awards.

Family name of applicant	Given name	Initial(s) of all given names	Personal identification no. (PIN)
Olatinwo	Mutairu Bolaji	MBO	

Comment on the applicant's research ability/potential and on the applicant's communication, interpersonal and leadership abilities.

I have known the applicant in my capacity as _____ for _____ years.

Print respondent's

Name: _____

Title: _____

Affiliation: _____

☐ I have read the applicant's completed Form 200.

_____

Signature of respondent

Natural Sciences and Engineering Research Council of Canada | Conseil de recherches en sciences naturelles et en génie du Canada

URGENT

Please return to:

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Family name of applicant	Given name	Initial(s) of all given names	Personal identification no. (PIN)
Olatinwo	Mutairu Bolaji	MBO	

Comment on the applicant's research ability/potential and on the applicant's communication, interpersonal and leadership abilities.

I have known the applicant in my capacity as _____ for _____ years.

Print respondent's

Name: _____

Title: _____

Affiliation: _____

☐ I have read the applicant's completed Form 200.

_____

Signature of respondent

Statement of Research Interests: Mutairu Bolaji Olatinwo

I plan to become indispensable in chemistry, science and technology to immensely contribute my knowledge, experiences and skills to our nations for the betterment of human existence. I like being flexible in research and development to improve problem-solving skills for betterment of existing materials, methods, techniques and discover new efficient systems.

In the past few years, my undergraduate and master programs focused on natural-organic compound isolation with synthesis for their medicinal and biological activities. For instance, the aims of master's dissertation (M.Sc.) were to isolate the medicinal plant constituents and essential oils from the leaves and bark of Sandbox tree (*Hura crepitans*) for phytochemical, antimicrobial screening as well as cytotoxic, antioxidant, and hepatoprotective (*in vitro and vivo*) activities. Some characterizations of the isolated compounds and essential oils were also carried out using various methods of column and thin layer chromatography and elucidation techniques (IR, NMR, MS, UV and GC-MS).

The world is a beautiful place except for the plastic flammability, toxic gas generation and solid waste affecting us in some negative ways. Polymers/plastics are, undoubtedly, a class of materials with numerous applications in all aspects of life. This is because almost everything around us is made of polymers. For example, polymers are used in electronic devices, furniture, printers, textiles, and transportation vehicles to name just a few of their applications.

However, one major problem with these widely used materials is their flammability, which leads to huge losses of life, properties i.e. reaching thousands of lives, billions of dollars and huge recycling problems annually. For instance, according to the U.S. fire statistics in 2011, 1,389,500 fires, 3,005 deaths, 17,500 injuries and $11.7 billion loss of properties (http://www.usfa.fema.gov/data/statistics/) are reported. This also causes damages to our environment, therefore, increasing the solid waste products. Incorporation of safe and efficient flame-retardants (FR) into polymers makes the materials safer, therefore, reducing solid wastes and improving polymer applications. Understanding the mechanisms of safe FR helps to minimize toxic emissions that pose negative effects on humans and environment.

At Louisiana State University, Baton Rouge, started in January 2012, I developed interest in using X-ray imaging in materials science, because it is a powerful and complex technique in revealing the internal structures of materials and systems for their understanding and evaluation. The X-ray imaging involves a lot of processes ranging from the data acquisition through reconstruction to material visualization and analysis. Many programs and software are required to perform a meaningful research with the X-ray imaging system. My PhD research focuses on the use of novel and sophisticated techniques of X-ray imaging techniques to scrutinize the efficiency of brominated flame retardants (BFR) in polymer blends. Another aim is to understand the behavior of FR molecules in polymer composites with ultimate goal of gaining insights that will help make these polymers much safer, economical and effective. Lastly, the objective is to also develop and study more efficient, safe flame-retardants that are non-halogenated using the acquired knowledge, experience and skills gained from BFRs studies. We have been collaborating with Albemarle Corporation (flame retardant manufacturing company) using X-ray imaging techniques for the studies of several BFRs (Saytex-BT93, Saytex-8010,

GreenArmor). Possible future plans are to study the new generation flame-retardants, of light elements using a recent X-ray grating interferometry.

I have more than four years of experience working with a major polymer additive company, Albemarle Corporation. I have studied and assessed the performance of various flame retardant formulations using a novel X-ray interferometry/tomography approach. The studies were performed at two synchrotrons, the Advanced Photon Source (Argonne National Laboratory) and Louisiana State University Center of Advanced Microstructures and Devices (LSU-CAMD). This is the technology that is pushing the X-ray interferometry imaging for low-dose medical applications and rapid image acquisition needed for flame-retardant analysis in polymer matrices.

My knowledge of flame-retardants and their relevance to waste management control can make a great contribution to our nation's health and development. More research is needed to efficiently improve polymer/plastic flame retardancy and recycling of plastics, both high-volume polystyrene, polyethylene terephthalate and low-volume, high-value flame retardant-rich polymers. Safe and efficient flame-retardants for improving the polymer properties and recycling will be achieved with the use of X-ray imaging combined with other methods.

I will continue to work on analysis of various flame-retardants such as new generation flame retardants (nitrogen-based, phosphorous-based, nanoparticle-fillers etc.), and apply the UL 94 burn test, X-ray grating interferometry imaging, optical, near-IR, XANES/EXAFS, XPS, SEM-EDS, GC-MS, ICPMS, GC-MS, HPIC. All these techniques and valuable methods will be used to study low-volume, high-value flame retardant-rich polymers. Aims are to achieve low flammability materials of high industrial applications in electronic devices, aircraft, building and construction, fabric, wire and cables, and furnishings with excellent recycling properties. The techniques will enable us to quantify toxic and non-toxic products generated from various materials under fire conditions to better understand flame retardancy performance and safe flame-retardants.

The X-ray grating interferometry is extremely useful in providing three modalities: Absorption, differential phase contrast and dark-field images in visualizing understanding materials under the investigation. I want to study the design, apply it to various X-ray imaging experiments and improve the X-ray imaging methods, while using the X-ray grating interferometry that relies on the optical elements (phase and analyzer gratings). Design and development of this delicate and extremely important optics are also my interest during the postdoctoral program. This can be performed mostly with a Physics professor in that area of research.

I know how to communicate chemistry with advanced visualization methods. I have nearly daily experience with Avizo, high-end visualization software and other software such as ImageJ and ParaView. I have collaborated and co-authored with visualization experts at the LSU Center for Computation and Technology.

All the available techniques and experience are promising for transitioning from brominated flame-retardants, BFRs to non-brominated ones. The new research can focus on understanding the formulation, performance and environmental implications of the new generation flame-retardants,

which will eventually replace BFRs, and be widely used in polymeric materials to eliminate any environmental concerns on human health. In addition, our environment will be actively protected from fire hazards, minimizing waste disposal, and improving the recycling systems. Putting everything into place through continuous research and development, plastic properties would be improved in terms of low flammability, high mechanical features and optimal applications.

In addition to flame retardant studies, I can possibly add another line of research, which is medicinal natural products chemistry and synthesis. Medicinal plants find applications in pharmaceutical, cosmetic, agricultural and food industries. Recently research has supported the biological activities of some medicinal herbs. Cancer is such a segment where researchers are expecting new molecules from herbs that can provide us with tools/compounds for fighting this dreaded disease. Diabetes mellitus is another area where a lot of research is going on. Hepatoprotective activity of certain botanicals deserves attention now since lots of liver diseases are reported endangering the lives of people. The concept of antioxidants is fastly catching up and latest research has shown that a number of herbal derivatives have excellent antioxidant action. Ancient knowledge coupled with scientific principles can come to the forefront and provide us with powerful remedies to eradicate these fatal diseases. There is a tremendous excitement and challenge in synthesizing molecules never before produced from natural products such as plants or found in nature. There is enough not yet known to keep natural products chemistry interesting and full of opportunities. I always think of new ways to solve problems for scientific discoveries.

I believe that Visiting Fellowship in Canadian Government Laboratories Program will help me to do further research concerning flame retardant applications in intrinsic flammable polymeric materials to save lives, reduce solid waste, enhance recycling and make our environment safe. I will also like to work in partnership with the Atmospheric Environment Service and Natural Water Research Institute to investigate further if flame-retardants mainly contribute to environment pollution in air and seas. In addition, I will also like to explore the field of medicinal chemistry and synthesis to make potent organic compounds of great biological importance, useful in the treatment of deadly diseases such as cancer.

LOUISIANA STATE UNIVERSITY AND A & M COLLEGE

BATON ROUGE, LOUISIANA 70803

OFFICIAL TRANSCRIPT

MUTAIRU BOLAJI OLATINWO BIRTHDATE: 05/05
xxx-xx-0671

DEGREES AWARDED:

03/2007 BS
UNIVERSITY OF IBADAN

09/2010 MS
UNIVERSITY OF IBADAN

UNIVERSITY OF IBADAN UG 1S/2003-2S/2007

UNIVERSITY OF IBADAN GR 1S/2009-2S/2010

COURSE TITLE	DEPT CRSE GR	CARR	EARN	QPTS	
LOUISIANA STATE UNIVERSITY					
1ST SEM 2011-2012 GRAD 7 PCHEM					
INSTR CHAR ORG COMPS	CHEM 4552 A	2.00	2.00	8.00	
INTR PHYSICAL-ORG CH	CHEM 4561 A	3.00	3.00	12.00	
INTERMEDIATE ORG CH	CHEM 4562 A	3.00	3.00	12.00	
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
ENGL COMPOSITION	ENGL 1004 P		3.00		
SPK ENGL INT GRD AST	ENGL 1051 P		3.00		
	SEMESTER	8.00	19.00	32.00	4.000
	LSU SYSTEM	8.00	13.00	32.00	4.000
	CUMULATIVE	8.00	13.00	32.00	4.000
LOUISIANA STATE UNIVERSITY					
2ND SEM 2011-2012 GRAD 7 PCHEM					
ORGAN STRUCT ELUCID	CHEM 4563 A	3.00	3.00	12.00	
INTROD MATH CHEM	CHEM 4581 A	3.00	3.00	12.00	
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		1.00		
ENGL COMPOSITION	ENGL 1005 P		3.00		
SPK ENGL INT GRD AST	ENGL 1051 P		3.00		
	SEMESTER	6.00	16.00	24.00	4.000
	LSU SYSTEM	14.00	23.00	56.00	4.000
	CUMULATIVE	14.00	23.00	56.00	4.000
LOUISIANA STATE UNIVERSITY					
3RD SEM 2011-2012 GRAD 7 PCHEM					
DISSERTATION RES	CHEM 9000 S		6.00		
	SEMESTER		6.00		
	LSU SYSTEM	14.00	29.00	56.00	4.000
	CUMULATIVE	14.00	29.00	56.00	4.000

ISSUED 04/11/2016 TO:

MUTAIRU OLATINWO

Robert K. Doolos

Robert K. Doolos, University Registrar

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LOUISIANA STATE UNIVERSITY AND A & M COLLEGE

BATON ROUGE, LOUISIANA 70803

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MUTAIRU BOLAJI OLATINWO xxx-xx-0671

COURSE TITLE	DEPT CRSE GR	CARR	EARN	QPTS	
LOUISIANA STATE UNIVERSITY					
1ST SEM 2012-2013 GRAD 7 PCHEM					
MACROMOLEC SYS I	CHEM 4010 A	4.00	4.00	16.00	
SYMMETRY & STRUCTURE	CHEM 7770 A	3.00	3.00	12.00	
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		6.00		
	SEMESTER	7.00	16.00	28.00	4.000
	LSU SYSTEM	21.00	45.00	84.00	4.000
	CUMULATIVE	21.00	45.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
2ND SEM 2012-2013 GRAD 7 PCHEM					
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		9.00		
	SEMESTER		11.00		
	LSU SYSTEM	21.00	56.00	84.00	4.000
	CUMULATIVE	21.00	56.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
3RD SEM 2012-2013 GRAD 7 PCHEM					
DISSERTATION RES	CHEM 9000 S		6.00		
	SEMESTER		6.00		
	LSU SYSTEM	21.00	62.00	84.00	4.000
	CUMULATIVE	21.00	62.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
1ST SEM 2013-2014 GRAD 7 PCHEM					
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		9.00		
	SEMESTER		11.00		
	LSU SYSTEM	21.00	73.00	84.00	4.000
	CUMULATIVE	21.00	73.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
2ND SEM 2013-2014 GRAD 7 PCHEM					
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		7.00		
	SEMESTER		9.00		
	LSU SYSTEM	21.00	82.00	84.00	4.000
	CUMULATIVE	21.00	82.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
3RD SEM 2013-2014 GRAD 7 PCHEM					
DISSERTATION RES	CHEM 9000 S		6.00		
	SEMESTER		6.00		
	LSU SYSTEM	21.00	88.00	84.00	4.000
	CUMULATIVE	21.00	88.00	84.00	4.000

Robert K. Doolos

Robert K. Doolos, University Registrar

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BATON ROUGE, LOUISIANA 70803

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MUTAIRU BOLAJI OLATINWO xxx-xx-0671

COURSE TITLE	DEPT CRSE GR	CARR	EARN	QPTS	
LOUISIANA STATE UNIVERSITY					
1ST SEM 2014-2015 GRAD 7 PCHEM					
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		7.00		
	SEMESTER		9.00		
	LSU SYSTEM	21.00	97.00	84.00	4.000
	CUMULATIVE	21.00	97.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
2ND SEM 2014-2015 GRAD 7 PCHEM					
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		7.00		
	SEMESTER		9.00		
	LSU SYSTEM	21.00	106.00	84.00	4.000
	CUMULATIVE	21.00	106.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
3RD SEM 2014-2015 GRAD 7 PCHEM					
DISSERTATION RES	CHEM 9000 S		6.00		
	SEMESTER		6.00		
	LSU SYSTEM	21.00	112.00	84.00	4.000
	CUMULATIVE	21.00	112.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
1ST SEM 2015-2016 GRAD 7 PCHEM					
SEMINAR	CHEM 7800 P		1.00		
SEMINAR	CHEM 7800 P		1.00		
DISSERTATION RES	CHEM 9000 S		7.00		
	SEMESTER		9.00		
	LSU SYSTEM	21.00	121.00	84.00	4.000
	CUMULATIVE	21.00	121.00	84.00	4.000
LOUISIANA STATE UNIVERSITY					
2ND SEM 2015-2016 GRAD 7 PCHEM					
SEMINAR	CHEM 7800 IP	1.00			
SEMINAR	CHEM 7800 IP	1.00			
DISSERTATION RES	CHEM 9000 IP	7.00			
CURRENTLY ENROLLED		9.00			

10/09/2013 PASS GENERAL EXAM

**********END OF ACADEMIC RECORD**********

Robert K. Doolos, University Registrar

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083748-102814

Transcript Guide

CREDITS

Credits are reported in semester hours and are based on the number of times a course meets per week during the regular semester.

GRADING SYSTEM

4.0 (A=4; B=3; C=2; D=1; F=0)

YEAR CLASSIFICATION CODE

1	Freshman
2	Sophomore
3	Junior
4	Senior
5	Senior-5 year curriculum
6	Master's Program
7	Doctoral Program

GRADES

A	Satisfactory
B	Satisfactory
C	Satisfactory
D	Passing But Unsatisfactory
F	Failure
P	Passing
I	Incomplete
IP	In Progress
S	Satisfactory (Thesis and Dissertation Research Courses)
U	Unsatisfactory (Thesis and Dissertation Research Courses)
AU	Audit
*WA	Withdrawal Passing
*WB	Withdrawal Passing
*WC	Withdrawal Passing
*WF	Withdrawal Failing
W	Withdrawal
NC	No Credit

*Beginning 1983 fall semester these grades no longer assigned.

COURSE NUMBERING SYSTEM

Course Level	Effective Sept. 1974	Prior to Sept. 1974
Undergraduate- Remedial	0001-0999	
Undergraduate- Freshman	1000-1999	1—49
Undergraduate- Sophomore	2000-2999	50-99
Undergraduate- Junior	3000-3999	100-199*
Undergraduate or Graduate- Senior or Graduate	4000-4999	100-199*
Graduate- Primarily post- baccalaureate professional courses	5000-5999	100-199*
Graduate- Exclusively for teachers at the elementary, secondary and junior college levels	6000-6999	
Graduate- Graduate credit only	7000-7999	200-299
Graduate- Research courses exclusively for graduate students, primarily for students working toward the Master's Degree	8000-8999	300-399
Graduate- Research courses exclusively for advanced graduate students, primarily for students working toward the doctoral degree	9000-9999	400- Above

*Graduate credit for selected courses only

SUPPLEMENTARY INFORMATION

-Separate totals are maintained on students in nondegree programs. These include EXT (Extension); PASS (Program for Adult Special Students); PIP (Professional Improvement Program); PLUS (LSU 25+ Program); and, effective Fall 1987 (1S/1988), NMATL, NMATR, NMATX (Graduate nonmatriculating).

-Effective with the Fall 1986 (1S/1987) semester, the School of Social Work falls under the jurisdiction of the Graduate School; all credit earned in social work is included in the graduate totals.

-Transfer credit course numbers with one digit and three asterisks reflect transfer equivalency based on course level only.

-Effective with the fall 2013 (1S/2014) semester, students became eligible for the Grade Exclusion Policy. The policy allows students to retake certain courses and to have the grades from the previous attempts removed from the calculation of the cumulative and LSU GPAs beginning in the semester courses were taken. Previous semesters' GPAs are not recalculated.

-Unless specified, student is entitled to honorable dismissal.

RECIPIENTS SHOULD LOOK FOR THE FOLLOWING TO VERIFY THAT THE TRANSCRIPT IS OFFICIAL

-If the student attended LSU in 1983 or thereafter, the transcript is printed on purple security paper.

-The document was mailed directly from the Office of the University Registrar in a sealed institutional envelope.

-The document has a recent date of issue.

-The format of the transcript is consistent with others received from Louisiana State University.

-The records submitted are consistent with the person's academic/employment background and with your knowledge of the candidate.

-The candidate is reluctant to have an official transcript sent.

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

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Ref:

Date *19th November, 2010*

Mr. Mutairu Bolaji OLATINWO,
(SI. 116595),
Department of Chemistry,
University of Ibadan.

Dear *MR. OLATINWO,*

NOTIFICATION OF HIGHER DEGREE RESULT

I have pleasure in informing you that on the recommendation of the *FACULTY OF SCIENCE* Postgraduate Committee and the Board of the Postgraduate School, Senate has approved the recommendation of the examiners that the degree of Master in ***Science (M.Sc) in Chemistry (Organic Chemistry)*** of this University be conferred on you. The effective date of the award is ***21st September, 2010***

You are also eligible to proceed to ***Ph.D***

On behalf of the Vice-Chancellor, I congratulate you on your success in the Examination.

Yours sincerely

M Abioye

M. Abioye (Mrs.)
Examinations Officer
for: Deputy Registrar/Secretary

SECRETARY
POSTGRADUATE SCHOOL
UNIVERSITY OF IBADAN

University of Ibadan

Mutairu Bolaji Olatinwo

having fulfilled all the requirements of the University and passed the prescribed examinations has this day been admitted to the degree of

Bachelor of Science

in

Industrial Chemistry

with First Class Honours

Matric. No. 116595

VICE-CHANCELLOR

March 23, 2007

REGISTRAR

Form 200 - Application for an NSERC Scholarship or Fellowship

Reference Number: 386145724

Applicant: Mutairu Bolaji Olatinwo

Program: Visiting Fellowships in Canadian Government Laboratories

Application Title: New generation flame retardant studies using X-ray grating interferometry imaging technique coupled with UL 94 test, FTIR, XANES, GCMS, ICPMS and spectrophotometry. 2nd: Natural Products Chemistry

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Paper Attachment(s)

Diploma

MSc and BSc Certificates and LSU Transcript

Reference Letters

Prof. Leslie G. Butler

Dr. Benson Edagwa