

# THE ASSOCIATION OF NIGERIAN SCHOLARS IN HONG KONG



## THE ANNUAL RESEARCH FORUM

Saturday, 19 June 2021



*Theme:*  
**Academic Research, Global Challenges,  
and the Way Forward**

**Research Forum Proceedings**

Prepared by 2021 Research Forum Committee

Mrs. Juliet Metu | Mr. Bamidele Ola | Ms. Chiamaka Okoli  
Mr. Ayomide Oladosu | Mr. Blessing Adeoti (Chair)

## Acknowledgments

The 2021 ANSHK Research Forum Committee would like to thank the ANSHK Executives for the opportunity to serve our scholars in this assignment. We would also like to acknowledge the commitment of our guest speakers, reviewers, university delegate chairs and session chairs which comprised of the following:

### Guest Speakers

1. Dr. Tobi E. Morakinyo - Assistant Professor, School of Geography, University College, Dublin, Ireland.
2. Dr. Uchechi S. Anaduaka - Postdoctoral Fellow, Hong Kong University of Science and Technology, Hong Kong
3. Dr Saliyu S. Musa - Postdoctoral Fellow, The Hong Kong Polytechnic University, Hong Kong
4. Mr. Stanley Isangha - Doctoral Student, City University of Hong Kong, Hong Kong

### University Delegate Chairs

1. Mr. Kayode Oyesina - City University of Hong Kong (CityU)
2. Miss Mistura Salaudeen - Hong Kong Baptist University (HKBU)
3. Dr. Idorenyin A. Iwe - Hong Kong University of Science and Technology
4. Mr Ayomide Oladosu - Lingnan University (LU)
5. Mr. Philip Bodunde - The Chinese University of Hong Kong (CUHK)
6. Mr Oladapo Chris Esan - The Hong Kong Polytechnic University (PolyU)
7. Mr. Blessing Adeoti - The University of Hong Kong (HKU)

### Reviewers

1. Miss. Chiamaka Okoli - The Chinese University of Hong Kong (CUHK)
2. Mrs. Juliet Metu - City University of Hong Kong (CityU)
3. Mr. Bamidele Ola - Hong Kong Baptist University (HKBU)
4. Mr. Stanley Isangha - City University of Hong Kong (CityU)

5. Miss. Mistura Salaudeen - Hong Kong Baptist University (HKBU)  
 6. Dr. T.O. Olugbade - The Federal University Technology Akure (FUTA)

### Session and Session Chairs

Session	Theme	Chair
1.	General session	<b>Mr Bamidele E. Ola,</b> Hong Kong Baptist University
2.	Health and Wellbeing: Impacts on Research and Development in Time of Crisis	<b>Mrs Chioma Vivian Ezeh,</b> City University of Hong Kong
3.	Issues in Gender, Race and Global Politics	<b>Mr Oladapo C. Esan,</b> The Hong Kong Polytechnic University
4.	Innovative Solutions in Engineering, Science and Technology	<b>Mr Philip Bodunde,</b> The Chinese University of Hong Kong

We appreciate the important contributions of all our forum participants and in particular those who shared with us their personal insights and aspirations.

## Table of Contents

Acknowledgments	2
Foreword	5
Introduction and welcome message	6
Programme and Presentation Schedule	7 - 10
Sessions and Abstracts	11 - 28
Closing remarks	29

## Foreword

Dear Authors and Esteemed Readers,

I have the greatest pleasure to write the foreword to the Proceedings of the 2021 Association of Nigerian Scholars in Hong Kong (ANSHK) Research Forum held today the 19th of June, 2021. The ANSHK Research Forum is an annual event and we do this to cultivate the principle of knowledge exchange from all research backgrounds that make up ANSHK as an organisation of scholars. The invitations that are extended to ANSHK alumni also help the organisation to continuously draw motivation and inspiration from the alumni's research accomplishments over the years.

We are gathered virtually today because of the peculiarity of this period, as we face the reality of the global effect of COVID-19 on humanity. This challenge calls for a deep reflection and has motivated the theme of the 2021 Research Forum – “**Academic Research, Global Challenges and the Way Forward**”. The forum comprises three plenary sessions, with four guest speakers and nine contributed abstracts from across three continents – Asia, Europe, and Africa. We are happy that ANSHK is making progress with the increased number of participants willing to participate in the forum.

The three plenary sessions will cover the most important issues on (1) Health and Wellbeing: Impacts on Research and Development in Time of Crisis, (2) Gender, Race and Global Politics, (3) Innovative Solutions in Engineering, Science and Technology. The last session will focus on how to get published in high-impact journals. The 2021 Research Forum is loaded with highly promising presentations. I believe this will inspire new ideas and motivate further research and professional accomplishments. I encourage you all to be curious, ask questions and network among yourselves.

On behalf of the 2020/2021 ANSHK Executives and the 2021 Research Forum Committee, I want to sincerely thank all the authors, reviewers, university delegate chairs, session chairs and all participants for their contributions towards the success of this event.

All the very best to you all!

**Blessing Adeoti**  
2021 ANSHK Research Chair

## Introduction and welcome message

Dear Participants,

A warm welcome to you! Nghoh yiht liht dei fun yihng neih deih!

On behalf of the 2020/21 ANSHK Research Forum Committee and the ANSHK Executive Board, let me welcome you all to the 2021 Annual ANSHK Research Forum. We look forward to the many conversations that each presenter and participant will ignite during and after the online forum. This year marks just the second time when the ANSHK Research Forum will be held online, owing to the raging COVID-19 pandemic and its consequences on the city.

First held in November 2015, the annual Research Forum prides itself as a melting pot of research, discussions, engagements, presentation, innovations, and skill honing, not just for members across all the constituent Hong Kong universities but also non-members. On the back of last year's huge success, this year's forum ushers in a designated Cross-institutional Knowledge-sharing Platform, as well as improvements in inclusivity.

This 7th Research Forum has attracted 13 participants from 3 countries and continents. The forum will feature 4 guest presenters, and 9 cross-institutional research presenters, across various fields of research and backgrounds. I hope that the presentations will trigger new ideas and collaborations in your research and other endeavors.

We wish to express our most sincere gratitude to all presenting authors, contributing authors, and participants, who have made this forum a success. We also appreciate the invaluable work done by the 5 members of the 2020/21 ANSHK Research Forum Committee led by Mr. Blessing Adeoti, the 7 university delegate chairs, the 6 peer reviewers, and the 4 session chairs towards achieving this feat. Many thanks to all ANSHK members and the ANSHK Executive Board for their relentless efforts in making the association better and improving the image of African in Hong Kong.

I wish you all a pleasant and fulfilling time at today's forum and beyond.



Mujib O. Adeagbo  
ANSHK President (2020/21 Academic year)  
Ph.D. Candidate  
City University of Hong Kong, HKSAR

## Programme and Presentation Schedule

S/N	SESSION	PRESENTER	PAPER TITLE	UNIVERSITY AFFILIATION	DESIGNATION	TIME
1	Conference Welcome address	Mr. Blessing Adeoti		Hong Kong University, Hong Kong, SAR		2.15-2.20
2	Introducing the session chairs	Bamidele Ola		Hong Kong Baptist University, Hong Kong SAR		
3	Health and Wellbeing: Impacts on Research and Development in Time of Crisis	Dr. U. S. Anaduaka	Methodological and ethical considerations in the study on children's everyday lives under COVID-19 in three African countries	Hong Kong Baptist University, Hong Kong SAR	Guest/keynote presentation	2.20-2.35
4		Dr. S. S. Musa	Epidemiological parameters and mathematical model for COVID-19 in Africa	The Hong Kong Polytechnic University, Hong Kong SAR	Guest/keynote presentation	2.36-2.51
5		Mr. A. O. Oladosu	The Perception of public university students on the impact of COVID-19 on learning in Nigeria	Lingnan University, Hong Kong SAR	Cross-institutional research presentation	2.52-2.59
6		All Participants	Questions and Answers	All Participants	All Participants	3.00-3.05

7	Issues in Gender, Race and Global Politics	Mr. S. O. Isangha	Heterosexual Male Victims of Intimate Partner Violence: Influence of Masculinity on Coping	City University of Hong Kong, Hong Kong SAR	Guest/keynote presentation	3.06-3.21
8		Mr. B. E. Ola	Male dependents, female-sponsors: Investigating the roles of persistent patriarchy or compromised masculinity among well-educated young African migrant families in Hong Kong	Hong Kong Baptist University, Hong Kong SAR	Cross-institutional research presentation	3.22-3.29
9		Ms. M. A. Salaudeen	Is China the New Normal? Analysing Elite Conversations on Sino-African Partnership	Hong Kong Baptist University, Hong Kong SAR	Cross-institutional research presentation	3.30-3.37
		Dr. O. G. Adewole	Levels and patterns of male fertility behaviour in Nigeria	Obafemi Awolowo University, Ile-Ife, Nigeria	Cross-institutional research presentation	3.38-3.45
		All Participants	Questions and Answers	All Participants	All Participants	3.46-3.51
14	Innovative Solutions in Engineering, Science and Technology	Mr. O. G. Agbabiaka	Effect of calcination temperature on hydroxyapatite developed from waste poultry eggshell	The Hong Kong University of Science and Technology, Hong Kong SAR	Cross-institutional research presentation	3.52-3.59



15		Mr. K. K. Orisaremi	Potential reductions in global gas flaring for determining the optimal sizing of gas-to-wire (GTW) process: An inverse DEA approach	The Hong Kong Polytechnic University, Hong Kong SAR	Cross-institutional research presentation	4.00-4.07
16		Mrs. J. O. Adeoti	Growth performance of Coffee Bean Weevil ( <i>Araecerus fasciculatus</i> De Geer) in stored starchy foods in Africa and parts of South America	Federal University of Technology, Akure, Nigeria	Cross-institutional research presentation	4.08-4.15
17		Mr. T. M. Alabi	Stochastic multi-objective co-optimization model of a zero-carbon multi-energy system (ZCMES) incorporating energy storage aging model and integrated demand response	The Hong Kong Polytechnic University, Hong Kong SAR	Cross-institutional research presentation	4.16-4.23
		Mr. T. O. Kehinde	Simulation approach to improve service delivery at a retail bank in Ibadan metropolis	The Hong Kong Polytechnic University, Hong Kong SAR	Cross-institutional research presentation	4.24-4.31
18		All Participants	Questions and Answers	All Participants	All Participants	4.32-4.39

<b>19</b>	<b>Journal and Publications</b>	<b>Dr. T. E. Morakinyo</b>	<b>How to publish in high impact journals and get encouraging research impact</b>	<b>University College Dublin, Ireland</b>	<b>Guest/keynote presentation</b>	<b>4.40-5.00</b>
<b>20</b>		<b>All Participants</b>	<b>Questions and Answers</b>	<b>All Participants</b>	<b>All Participants</b>	<b>5.00-5.05</b>

## **Session 1: Health and Wellbeing: Impacts on Research and Development in Time of Crisis**

### **Welcome Address**

Distinguished colleagues,

Welcome to the first session of the 2021 Association of Nigerian Students in Hong Kong Research Forum on Health and Wellbeing: Impacts on Research and Development in Time of Crisis! This theme is very relevant to the current realities of the COVID-19 pandemic and other related health challenges. It is with great pleasure that I usher you all into this 45 minutes session which will include three presentations - two of which will be presented by our esteemed guest speakers - Dr U. S. Anaduaka, Dr S. S. Musa, and the other from our own noble young man, Mr A. O. Oladosu. Dr Anaduaka will be enlightening us “Methodological and ethical considerations in the study on children’s everyday lives under COVID-19 in three African countries”, Dr Musa on “Epidemiological parameters and mathematical model for COVID-19 in Africa” while Mr Oladosu will enlighten us on “the Perception of public university students on the impact of COVID-19 on learning in Nigeria”.

It is my hope that you will find these three presentations not only insightful and informative but also a productive seed for further research, innovation and developmental impact on the central theme of Health and Wellbeing, not only the present COVID-19 pandemic but also in relative times of crises! I assure us that this session will be timely. Our first two speakers will present in 15 minutes each, while the third speaker has 7 minutes. Since we have 5 minutes for Q&A, please send your questions in the chat box while the presentation is on. We also request that all in attendance give an assessment of each presentation by completing the online questionnaire using the link found at the end of your copy of the abstract. You may also include your questions and comments to the presenter on the questionnaire.

So, please sit back, relax and listen so as to learn from this session.

Thank you!

**Chioma V. Ezeh**

# **Methodological and Ethical Considerations in the study on Children's Everyday Lives under COVID-19 in Three African Countries**

**G. D. Gwenzi<sup>1</sup>, U. S. Anaduaka<sup>2\*</sup>, S. B. Adjei<sup>3</sup>, A. O. Oladosu<sup>4</sup>, S. T. Sam<sup>5</sup>**

<sup>1</sup>Department of Social Work, University of Johannesburg, South Africa

<sup>2</sup>Department of Economics, Hong Kong Baptist University, Hong Kong SAR, China

<sup>3</sup>Department of Interdisciplinary Studies, University of Education, Ghana

<sup>4</sup>School of Graduate Studies, Lingnan University, Hong Kong SAR, China

<sup>5</sup> Department of Sociology and Social Policy, Lingnan University, Hong Kong SAR, China

\*Presenter: [usanaduaka@hkbu.edu.hk](mailto:usanaduaka@hkbu.edu.hk)

## **Abstract**

Although the children are not the face of the COVID-19 pandemic, the expected socioeconomic impact is considered to be far worse for them than for adults, especially for vulnerable children. The government-imposed policies during the pandemic e.g., school closures changed the context in which children live. The restrictions on physical human contact from non-household members was expected to have implications for their emotional and psychological wellbeing. Although their lives are predominantly studied at a much smaller scale, children's everyday lives are shaped by processes that take place at a larger scale (Ansell, 2009). Henrick (2008) argues that research with children often includes asking the adults in their lives about their wellbeing and the dominant narrative frames children as 'vulnerable'. The sociology of childhood paradigm changed the view and argued that children have the right to be heard. The aim of this study was to describe the use of diary methodology and ethical considerations to study children's everyday lives during COVID-19 in three African countries with nationwide lockdowns at the end of March 2020, namely Ghana, Nigeria, and South Africa. The authors invited 44 child participants aged 10-17 years via social media platforms, to submit daily diaries and share their first-hand experiences of their lives under the lockdown. This method enabled the researchers to hear directly from children amidst the social distancing requirements, thus posing no or minimal threats to the lives of the children. Another advantage of the diary method is that it records events in natural settings (Butcher & Eldridge, 1990) and when done in a timely fashion minimizes the delay between the event and the time of the recording (Lavrakas, 2008). As with other studies, ethical considerations in a study with children were highlighted e.g., protection from harm, confidentiality, and parental consent. One of the key findings was that children were able to express themselves better, as they were

in charge of how much they wanted to write or say, which did not add further strain to their lives under the current circumstances. The study ends with some reflections about the choice of research methods that may be useful for future studies with children during a crisis.

**Keywords:** COVID-19; Pandemic; Children; Experiences; Research Methods

## References

Ansell, N., (2009). "Childhood and the politics of scale: descaling children's geographies?" *Progress in Human Geography* 33(2) 190–209.

Butcher, R., & Eldridge, J. (1990). The use of diaries in data collection. *Journal of the Royal Statistical Society. Series D - The Statistician*, 39 (1), 25-41. doi:10.2307/2348192.

Hendrick, H. (2008). The child as a social actor in historical sources. *Research with children: Perspectives and practices*, 40-65.

Lavrakas, P. J. (2008). *Encyclopedia of Survey Research Methods*. Retrieved from <https://dx.doi.org/10.4135/9781412963947.n134>.

Links to questionnaires

<https://forms.gle/iihuw4kV23Ni3MvM9>

# Epidemiological parameters and mathematical model for COVID-19 in Africa

**Salihu. S. Musa**

Department of Applied Mathematics,  
The Hong Kong Polytechnic University,  
Hong Kong.

## **Abstract**

The coronavirus disease 2019 (COVID-19), a respiratory disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), emerged in China and resulted in the first pandemic of coronaviruses in human history. We study and analyze the initial phase of the outbreaks to estimate the exponential growth rate and basic reproduction number ( $R_0$ ) of COVID-19 in Africa. We quantify the instantaneous transmissibility of the outbreak by the time-varying effective reproductive number ( $R_{eff}$ ) to show the potential of the disease to spread across Africa. Furthermore, a compartmental model is developed, which incorporates high-and-moderate risk populations and is used to investigate the influence of each population on the overall transmission dynamics. Our results highlight that proper surveillance, especially movement of individuals from high-to-moderate risk populations, proper testing, as well as the imposition of other non-pharmaceutical interventions (NPIs) measures are vital strategies for mitigating the COVID-19 epidemic in Nigeria and beyond.

Links to questionnaires

<https://forms.gle/uSWyprckbXUmJL968>

# The Perception of Public University Students on the Impact of COVID-19 on Learning in Nigeria.

**A.O. Oladosu**

School of Graduate Studies, Lingnan University, Hong Kong  
ayomideoluwasoladosu@ln.hk

## **Abstract**

At the turn of the 21st century, many educational institutions switched gradually from traditional paper-based to online learning, following the domestication of digital technologies and the spread of the internet. The outbreak of COVID-19 has proven how beneficial online learning can be, as students and teachers can remain connected and share information in an event of a crisis. The Nigerian government imposed school closures at the end of March 2020, to reduce the spread of the coronavirus. This action disrupted learning for approximately 1.5 million students enrolled in higher educational institutions. Private universities, having access to digital technologies, were able to resume learning remotely at the end of April. Conversely, 94 percent of the tertiary students who are enrolled in public universities (PU) were limited as most of their institutions lacked digital technologies and thus could only transmit knowledge face-to-face. In addition, socioeconomic and demographic differences may mitigate or amplify the effect of COVID-19 on learning. Students from poor families or those who reside in remote areas with poor internet connectivity may not be able to access e-learning platforms. Understanding the effect of COVID-19 on learning and how it can play out for different types of students can have significant implications on the higher education sector in Nigeria. Using an in-depth interview, this study aims to investigate how PU students are learning, and how they perceive the effect of the disruption on their learning and learning outcomes. A sample of 15 students was interviewed and a snowball sampling technique was used to locate the participants. The findings would be useful to policymakers and non-governmental organizations interested in bridging the digital divide across tertiary institutions in Nigeria.

**Keywords:** COVID-19; Higher Education; Public University; Learning Outcomes.

Links to questionnaires

<https://forms.gle/Nh2zw6MZ7ZE8XFX26>

## **Session 2: Issues in Gender, Race and Global Politics**

### **Welcome Address**

Distinguished colleagues,

I welcome you to the second session of the 2021 Association of Nigerian Students in Hong Kong Research Forum titled "Issues in Gender, Race and Global Politics." This theme is very relevant to the current global debates on gender, race and international politics. It is with great pleasure that I usher you all into this session which will include four presentations - one of which will be presented by our esteemed guest speaker - Mr Stanley Oloji Isangha and the others include our wonderful guest from Nigeria Ms Ololade G. Adewole, and our very own members Mr Bamidele E. Ola and Ms. Mistura Salaudeen. Mr Isangha will be talking to us about the "Heterosexual male victims of intimate partner violence: Influence of masculinity on coping."

As we sit back and listen, I encourage you all to see these presentations not only as an opportunity to learn from current global issues and to make contributions to global debates. I assure you that this session will be informative and very timely. Our guest speaker will make his presentation in 15 minutes, while the other speakers in this session will make their presentations in 7 minutes each. At the end of this session we will have 5 minutes for Q&A. Let's be reminded to please send our questions in the chat box while the presentations are on. We also request that all in attendance give an assessment of each presentation by completing the online questionnaire using the link found at the end of your copy of the abstract. You may also include your questions and comments to the presenter on the questionnaire.

So, please sit back, relax, listen and enjoy this session.

Thank you!

**Oladapo C. Esan**



# Heterosexual Male Victims of Intimate Partner Violence: Influence of Masculinity on Coping

Stanley Oloji Isangha\*\*<sup>1</sup> Choi Wai Man Anna<sup>2</sup> and Marcus Yu Lung Chiu<sup>3</sup>

<sup>1,2,3</sup>Department of Social and Behavioral Sciences, College of Liberal Arts and Social Sciences, City University of Hong Kong, Hong Kong SAR.

\*Corresponding Author: soisangha2-c@my.cityu.edu.hk | #Presenter: soisangha2-c@my.cityu.edu.hk

## Abstract

Each year 25-50% of intimate partner violence (IPV) victims are men, yet heterosexual male victims remain a hidden population largely due to masculinity and societal stereotype. This systematic review surveyed studies between 2010 and 2020 to examine how they cope and negotiate their victimization. A search through online databases including Web of Science, Scopus, PsycINFO, Medline, Sociological Abstract and PubMed yielded 24 studies after going through screening and selection procedures. Through thematic analysis, findings show experiences like that of women and homosexual/bisexual men, but also, those common among heterosexual men including legal-administrative abuse and weaponization of children. Their problem-focused and emotion-focused coping strategy was largely influenced by masculinity at both the individual and societal levels. Series of physical and mental health impacts were reported as a result of their victimization experiences, however, only one study was able to associate their coping strategies and mental health. In conclusion, there is a need to create more awareness on IPV against men and to counter the existing ideologies of masculinity which is a moderating factor in the ways male victims cope and negotiate their victimization. More studies are needed to understand the relationship between male victims coping and their wellbeing. Also, there is a need to examine the religious context of coping and wellbeing among male victims as this was very much absent in the reviewed studies.

**Keywords:** coping strategies; heterosexual male victims; Intimate partner violence; masculinity.

Links to questionnaires

<https://forms.gle/C6aEVMxhg11pfjiM6>

# Levels and patterns of male fertility behaviour in Nigeria

**Ololade G. Adewole**

National Centre for Technology Management,  
Obafemi Awolowo University, Ile-Ife, Nigeria  
ololadegrace@yahoo.com

## **Abstract**

The role of men in population growth rate is often overlooked by health programmes in developing countries and is an under-researched area of study globally. Hence, this study considered the hierarchical characteristics of men to examine the levels and pattern of male fertility behaviour in Nigeria. The study employed a quantitative method adopted from a repeated cross-sectional data of secondary data from 2003, 2008, 2013 and 2018 Nigeria Demographic and Health Survey (NDHS) using a men's questionnaire. Both direct and indirect techniques were done. Charts and ANOVA were done for the direct technique while age-specific fertility rates were done and for the indirect technique. The results showed that for the past ten years, the children (CEB) have not really experienced a significant change. Men with the age of 35 and above, no education, Traditional religion, those working in an informal setting, Hausa, who had no desire for more children, and those who desired more children from 5 and above were those CEB on average were the highest. In addition, the poorest and men with four to five wives have high CEB. Considering the community characteristics, men residing in the North-West, living in the homogeneous environment, living in the community with few numbers of men that are poor, living in the few numbers of men that are educated, living in the community with a high number of people with high family-size norm have a high mean number of children ever born. Thus, population control is seriously needed if Nigerians are to leave sustainably. In conclusion, to ensure a sustainable development goal, more efforts need to be put in place to reduce the population growth rate.

**Keyword:** Men; fertility; community variables

Links to questionnaires

<https://forms.gle/DsCpeLPknfE2E2G97>

# **Male dependents, female-sponsors: Investigating the roles of persistent patriarchy or compromised masculinity among well-educated young African migrant families in Hong Kong**

**Bamidele E. Ola**

Department of Sociology,  
Hong Kong Baptist University (HKBU), Hong Kong

## **Abstract**

The current study employed the ethnographic method of participant observations (family visits) and in-depth interviews in explaining cases of persistent patriarchy and/or compromised masculinity in African [Nigerian] migrant families in Hong Kong. It focused on understanding how men and women are motivated differently to migrate into regions of the world where they knew they would not be allowed to work but solely depend on their female or male partners. Then, it extended into exploring how breadwinner status influences household marital power configuration in household decision-making and domestic responsibilities, testing two conflicting hypotheses – “persistent patriarchy” by gender theorists and “compromised masculinity” of the bargain resource theorists. The study found that motivation for migration varied by gender – men aspired, but women experienced “cultural compulsions”. In the families studied, patriarchal structures persisted, and relative resources mattered less. The female breadwinners only continued to live as they would if they were the dependents. There was practically no difference between the female sponsors and female dependents in terms of household decision-making participation and traditional domestic responsibilities or household chores.

Links to questionnaire

<https://forms.gle/xWPKg5fAB3Qog9zeA>

# **Is China the New Normal? Analysing Elite Conversations on Sino-African Partnership**

**Mistura Salaudeen**

School of Communication, Hong Kong Baptist University.  
18481264@life.hkbu.edu.hk

## **Abstract**

For many decades, the African continent has been considered as the jurisdictional sphere of influence of western power blocs, however, this position has recently been threatened by China's budding diplomacy with Africa. Although the interaction between China and Africa dates back to the 1950s, this relationship was of little or no global significance until a few decades ago when China's unprecedented economic transformation thrust it into international spotlight. Within the decades that Sino-African interaction took off, the relationship has morphed from agro-trading, transcended economic partnerships, and has evolved into political and cultural diplomacy. Public diplomacy analysts and academic scholars posit that China is actively and strategically engaging soft and smart power tactics in Africa to two ends: one, to establish a solid and positive footprint on the continent, and two, to project itself as a better ally to Africa than the west. With the establishment of Forum on China-African Cooperation (FOCAC), Brazil, Russia, India, China, and South Africa (BRICS) Summit, and the Belt and Road Initiative (BRI), the continent is witnessing an unprecedented economic, technological, and infrastructural transformation through partnership with China, an engagement which has surpassed the hitherto unparalleled Afro-western economic partnership. In Nigeria particularly, the newfound friendship with China, its vastly different economic models, and its unique diplomatic initiatives have had the country, slowly but surely, adjusting to the 'Chinese way of doing business'. This begs the questions of how these new engagements with China have been impacting the nation economically, politically, and culturally, and how Nigerians have been adjusting to the recent influx of Chinese people, businesses, and products in the country. In spite of the prevalent scholarship on Sino-African relations, little academic spotlight has been shone on the way Africans respond to the subtle socio-economic and socio-political changes that is attendant with China's increased presence on the continent. Given that the elite population in a given society play crucial roles in the policy making decisions of a nation, it is important to examine elite conversations about China's soft power strategies in Africa. Hence, this article examines the dispositions of the Nigerian middle-class about China's affairs in Africa. This paper further explores the articulations of Nigerian elites

about the impact of China's soft power tactics on Nigeria's economic and political landscape. Preliminary findings from in-depth interviews with 20 middle-class Nigerian professionals, university professors, politicians, and journalists included, reveal a general admiration of China's diplomacy, an acceptance of Chinese partnership, albeit a disdain for Chinese products and a growing skepticism of China's uncertain motives and influence in Nigeria.

**Keywords:** Sino-African relations, soft power, China-Nigerian partnership, Elite discourse

Links to questionnaire

<https://forms.gle/vP7amskyk51J6TNAA>

## **Session 3: Innovative Solutions in Engineering, Science and Technology**

### **Welcome Address**

Distinguished colleagues,

I thank you all for sitting back and listening to the wonderful presentations from all our speakers today. I hope we have not only learnt from their research, but that we have been inspired with innovative ideas for this challenging time. As we seek solutions to global challenges including this present one caused by COVID-19, this session promises to be packed with innovative ideas from our astute scholars. This session is enriched with forward thinking research from bright minds including - Mr Orisaremi from The Hong Kong Polytechnic University, Ms Adeoti from Federal University of Technology Akure, Mr Agbabiaka from Hong Kong University of Science and Technology, Mr Kehinde from The Hong Kong Polytechnic University and Mr Alabi from the Southern University of Science and Technology, Shenzhen, China.

At the end of this session we will have one final final presentation, which I believe we are all looking forward to. Our guest speaker Dr. Morakinyo from University College Dublin will be giving us tips on “How to publish in high impact journals and get encouraging research impact.”

Hopefully, at the end of this session we will be stimulated with cutting edge ideas that will produce solutions to societal problems. All the speakers in this session will have seven minutes each to make their presentations, and our guest speaker who is our final speaker for today will have 15 minutes. At the end of this session we will have 5 minutes for Q&A. Let's be reminded to please send our questions in the chat box while the presentations are on. We also request that all in attendance give an assessment of each presentation by completing the online questionnaire using the link found at the end of your copy of the abstract. You may also include your questions and comments to the presenter on the questionnaire.

Thank you all!

**Philip Bodunde**

# Potential reductions in global gas flaring for determining the optimal sizing of gas-to-wire (GTW) process: An inverse DEA approach

Kelvin K. ORISAREMI<sup>a</sup>, Felix T.S. CHAN<sup>a</sup> and Nick S.H. CHUNG<sup>a</sup>

<sup>a</sup>Department of Industrial and Systems Engineering,

The Hong Kong Polytechnic University, Hung Hom, Hong Kong

\*Corresponding author: kelvin.orisaremi@connect.polyu.hk(Kelvin K. ORISAREMI)

Felix T.S. CHAN: f.chan@polyu.edu.hk

Nick S.H. CHUNG: nick.sh.chung@polyu.edu.hk

## Abstract

Routine gas flaring in oil producing nations is one of the top environmental challenges that must be addressed for improving sustainability measures across the petroleum industry. How can we accurately estimate potential reductions in gas flaring? This paper describes an extended inverse data envelopment analysis (DEA) model for estimating potential reductions in global gas flaring. The potential reductions are needed for the conversion of flared gas to electricity via the gas-to-wire (GTW) process. In this connection, the optimal sizing of the GTW process depends on the potential reductions and the annual gas usage requirement of turbines. The proposed methodology in this paper was applied to the situation in member nations of the organization of the petroleum exporting countries (OPEC). Initial results revealed that six nations were inefficient oil producers, indicating that there is ample room for reduction in gas flaring. The main results showed that the maximum potential reductions in gas flaring for Algeria, Indonesia, Iraq, Nigeria, UAE, and Venezuela are 83.11%, 78.35%, 91.62%, 91.24%, 55.76% and 95.06%, respectively. For all six producers, the computed number of turbine units required for setting up the GTW process are 8, 5, 25, 38, 1 and 25, respectively. Further, Nigeria and Venezuela are currently experiencing an energy supply crisis, and, as evident in our results, both these oil producing nations can generate power using a maximum of 38 and 25 turbine units, respectively. We recommend both producers should invest in the GTW process and in a more highly skilled labor force, on par with those of the benchmarks identified by our proposed model.

**Keywords:** Routine gas flaring; sustainability; petroleum industry; inverse DEA; gas-to-wire process; turbines.

Links to questionnaires

<https://forms.gle/fuViEtSf5HBHoZZQ8>

# Growth performance of Coffee Bean Weevil (*Araecerus fasciculatus* De Geer) in stored starchy foods in Africa and parts of South America

<sup>1</sup>Joy O. Adeoti\*, <sup>2</sup>Olaniyi C. Ogungbite, <sup>3</sup>Olufemi S. Salami, <sup>4</sup>Olusola O. Odeyemi

<sup>1,2,3,4</sup>Department of Biology, Federal University of Technology, Akure, Nigeria

\*Corresponding author: joyadeoti2@gmail.com

## Abstract

Coffee bean weevil, (*Araecerus fasciculatus*) DeGeer (Coleoptera Anthribidae) infestation is a major challenge affecting processed, dried, and stored foods globally. However, the growth performance of this insect pest in the processed stored food media is not clear. Understanding the growth performance will enhance African countries' food security. In this study, we investigated the relationship between the anti-nutritional (i.e. phytate, alkaloids, saponin, tannin, and oxalate) contents in cassava, cocoyam, plantain and yam and the survival rate of *A. fasciculatus* at laboratory conditions ( $20 \pm 5$  °C and  $70 \pm 5$  % R.H.). Our results show that the life span, growth, and feeding characteristics of the adult *A. fasciculatus* decrease in order from Cassava, Plantain, Yam to Cocoyam. We observed that Cocoyam has the highest tannin, alkaloid, and phytate values. We interpret these high values of the anti-nutritional contents as the most likely inhibiting factors for the growth of the larvae, pupae, and adults' *A. fasciculatus*. This study revealed that processed and stored products (e.g. cocoyam) with high anti-nutritional factors can survive *A. fasciculatus* under prolonged storage. We recommend the biofortification of foods with low antinutritional properties for food security and management in developing countries where storage facilities are a major challenge.

**Keywords:** *Araecerus fasciculatus*; Cassava; Cocoyam; Yam; Plantain; phytate, Alkaloids, Saponin, Tannin, Oxalate

Link to questionnaire

<https://forms.gle/KCdmqDSVBUrFNhnG9>



# Effect of calcination temperature on hydroxyapatite developed from waste poultry eggshell

**Okikiola G. Agbabiaka**

The Hong Kong University of Science and Technology  
ogagbabiaka@connect.ust.hk

## **Abstract**

Recent researches have been to explore agricultural wastes as biomaterials for biomedical problems in order to curtail their environmental menaces. In this view, we investigated the effect of calcination temperature on the biological performances of hydrothermally synthesized hydroxyapatite (HAp). Locally sourced eggshells were used as precursor material which was thereafter heat treated after being divided into 3 portions following a three-stage calcination treatment. Afterwards, the calcined samples were reacted with orthophosphoric acid, and then subjected to thermal ageing to produce lumped white solid which was subsequently characterized to observe its structural morphology, elemental and phase constituents. From the results, it was observed that 1000 °C was suitable for the synthesis process with optimal yield. Meanwhile, the as-prepared HAp showed almost similar stoichiometry ratio ( $\text{Ca/P} = 1.65$ ) with natural bone ( $\text{Ca/P} = 1.64$ ). This implies that our HAp can be substituted for human bones, and is beneficial for body fluid circulation.

Link to questionnaire

<https://forms.gle/1jUcNQrVQvQMHFgGA>

# Simulation Approach to Improve Service Delivery at a Retail Bank in Ibadan Metropolis

T.O. Kehinde<sup>1</sup> and O.P. Ogundile<sup>2\*</sup>

<sup>1</sup>Department of Industrial and Systems Engineering, the Hong Kong Polytechnic University,  
Hong Kong

<sup>2</sup>Department of Mathematics, Covenant University Ota, Nigeria  
opeyemi.ogundile@covenantuniversity.edu.ng

## Abstract:

The Banking industry is a competitive market place where profitability is key to having more shareholders. The idea of customers spending much time on the queue is unproductive to the customers, as this time can be spent on other things that can offer a financial reward. This study aimed at minimising the waiting time of customers at the Customer Service Unit of a selected bank located at the busiest market in Ibadan, Nigeria. Data was observed and collected for 8 hours. The process diagram was used in representing the behaviour of the system as much as possible. Queuing parameters such as average waiting time, average service time, average time spent by customers in the system, arrival rate and service rate were calculated and used in the simulation logic developed using SIMAN language of ARENA software. The simulation carried out was run for 8 hours with 20 replications each, and repeated for three other alternatives models; M/M/3, M/M/4, and M/M/5 models. By comparison, alternative model 1 (M/M/3) was chosen to be the best because it eliminates the problem of underutilisation of servers and also minimises the cost of employing redundant workers. Implementation of model 1 (M/M/3) shows that the concerned bank will have its average waiting time, average service time, and average time spent in the system reduced from 25.30 minutes to 1.69 minutes (i.e., 93.32% reduction), 5.43 minutes to 5.40 minutes (i.e., 0.55% reduction), and 30.73 minutes to 7.09 minutes (i.e., 76.93% reduction), respectively, without overutilising or underutilising the servers involved.

**Keywords:** Bank; Simulation; Queuing; Customer Service Unit; Waiting time; operations research.

Link to questionnaire

<https://forms.gle/Mxv1ZckonE7kHJQz6>

# Stochastic multi-objective co-optimization model of a zero-carbon multi-energy system (ZCMES) incorporating energy storage aging model and integrated demand response.

Tobi Michael Alabi<sup>a,b</sup>, Lin Lu<sup>b\*</sup> and Zaiyue Yang<sup>a</sup>

<sup>a</sup>Department of Mechanical and Energy Engineering, Southern University of Science and Technology, Shenzhen, China

<sup>b</sup>Renewable Energy Research Group (RERG) Department of Building Services Engineering, The Hong Kong Polytechnic University, Hong Kong, China

\*Lin Lu, email: [vivien.lu@polyu.edu.hk](mailto:vivien.lu@polyu.edu.hk)

## Abstract

To model a realistic and improve the flexibility of a zero-carbon multi-energy system (ZCMES), a novel modeling strategy for ZCMES incorporating energy storage aging influence and integrated demand response (IDR) is proposed. Firstly, a novel integrated clustering-scenario generation, and reduction approach(IC-SGRA) is developed to quantify the uncertainties associated with the datasets. Secondly, the whole mathematical problem is formulated as a multi-objective problem (MOP), and the weighting sum method approach is adopted to solve the problem. Finally, to mitigate the risk associated with uncertainties during decision making, the optimal balance between risk and economy is handled using the Markowitz portfolio risk theory approach. The proposed approach is evaluated using a developed ZCMES configuration and the residential district energy data as a case study. The simulation results reveal that energy storage is oversized when aging effects are not considered, and the proposed approach can reduce the investment cost and the operation cost by 10.86% and 80.66% respectively, while the overall expenditure is reduced by 23.09%. Furthermore, the effect of BES lifetime and IDR load factors are also examined on ZCMES optimal planning, and it was concluded that IDR is a promising strategy to encourage the adoption of zero-carbon policies flexibly and economically.

**Keywords:** Zero-carbon, multi-energy system, stochastic optimization, Battery ageing, integrated demand response, risk optimization.

Link to questionnaire

<https://forms.gle/QuevB18BbkKqa2Nhr9>

# How to publish in high impact journals and get encouraging research impact.

**T.E. Morakinyo**

School of Geography, University College Dublin, Ireland.  
tobi.morakinyo@ucd.ie

## **Abstract**

The idea of academic publishing historically stemmed from the need to announce, archive, and openly disseminate new knowledge and discovery to the public. It has since moved beyond its original aim to becoming a major graduation requirement for research degree students and a key performance indicator for the career progression of higher education faculties. In recent decade or so, research impact, a measure of the quality and societal relevance of scholarly scientific research has emerged and it is as important as the quantity of a researcher's published work. To measure research impact, a few indices such as citation, h-index, i10-index, and other altimetric have been devised and generally accepted across global universities and higher education associations. Thus, this talk aims at intimating the audience with valuable tips for publishing in high-impact peer-reviewed journals in their fields. Besides, the audience will learn about key research impact metrics while getting informed on ways to improve their individual and overall publication(s) performance and the importance of self-tracking.

**Keywords:** Publishing; high impact; journal; and citation.

Link to questionnaire

<https://forms.gle/Agm1r8K22jjKPyXB8>

## **Closing Remarks**

### **Esteemed Scholars,**

What a great experience to come to the end of such a productive discussion finally. As today's main theme is "Academic Research, Global Challenges and the Way Forward", by listening to the excellent presentations and discussions, I am sure we have gained some perspectives on interdisciplinary research outside our various fields. I would like to thank all participants, invited presenters, presenters, reviewers, and the session chairs for your valuable efforts. It is evident from the presentations that you have worked hard to make worthwhile contributions, and you succeeded! I also appreciate the Research Forum Committee for a job well done. For the first time, we have this many contributors. Many thanks to members of the Executive Committee, too, for their support. Lastly, I shall give a brief highlight of the discussions over the four plenary sessions.

Dr Anaduaka outlined the findings from a research on the impact of COVID-19 virus on 44 children in Ghana, Nigeria and South Africa. The second presenter, Dr Musa presented results from his studies on the influence of different categorical populace on the overall transmission dynamics and formulated a mathematical model for COVID-19 in Africa. Mr. Oladosu, understanding the challenges of the outbreak on public-owned universities in Nigeria presented key findings on the perception of the students in government-owned universities on how the virus outbreak has impacted their learning

The second session started with Mr. Isangha. The presenter charted an uncommon path by examining the physio-psycho impact of intimate partner violence (IPV) on male victims. The extensive study advised the need to create more awareness on intimate partner violence against men. Ms. Ololade examined the role of men in population growth rate and concluded on the need to put in more efforts to reduce the ever-growing population growth rate in Nigeria, in order to achieve a sustainable development goal. The third presenter of the session, Mr. Bamidele Ola presented a study on compromised masculinity among well-educated young African migrant families in Hong Kong. The outcome of the study states that there is no practical difference between the female sponsors and female dependents in terms of household decision-making participation and traditional domestic responsibilities or household chores. Ms. Mistura Salaudeen explored the articulations of Nigerian elites about the impact of China's soft power tactics on Nigeria's economic and political landscape. The study revealed a general admiration of China's

diplomacy, an acceptance of Chinese partnership, albeit a disdain for Chinese products and a growing skepticism of China's uncertain motives and influence in Nigeria.

I am delighted that you could all attend this year's research forum. I hope today's session has bridged some gaps for research interactions and collaborations among us. Through knowledge-sharing and implementations, we can drive the change that Nigeria deserves.

Again, on behalf of the organizers, thank you all for participating.

**Kehinde OYETUNDE**

Secretary,

ANSHK 2020/21 Executive Committee