



Promoting Excellence in Knowledge

# GHANA ACADEMY OF ARTS AND SCIENCES

## INAUGURAL LECTURE, 2023



**TOPIC**

**BLOOD SUGAR - A  
SOCIAL AND SCIENTIFIC  
DISCOURSE ON ITS  
IMPACT ON OUR HEALTH**

**SPEAKER**

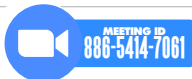
**PROFESSOR MRS.  
SARAH DARKWA, FGA**  
(née Opai-Tetteh)  
Professor of Food Science

**CHAIRPERSON: EMERITA PROFESSOR  
ISABELLA AKYINBAH QUAKYI, FGA**  
Vice President, Sciences Section, GAAS



**DATE:** THURSDAY **19** OCTOBER 2023 | **TIME:** 5:30 PM  
**VENUE:** GHANA ACADEMY OF ARTS AND SCIENCES AUDITORIUM  
#3 Research Crescent, Casely Hayford Road, Airport Residential Area, Accra

### LIVE ON



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Rev. William Owiredu  
Mr. Phillip Young, Esq



**5:30 PM**

■ **Welcome Address and Introduction of Chairperson**

*Prof. George Obeng-Adjei, FGA,*

*Assistant Honorary Secretary, Sciences Section, GAAS*

■ **Chairperson's Remarks and Introduction of Speaker**

*Emerita Professor Isabella Akyinbah Quakyi, FGA*

*Vice President, Sciences Section, GAAS*

■ **Lecture Begins**

■ **Chairperson's Closing Remarks**

■ **Honorary Secretary's Remarks**

■ **Closing [ Guests to pick up bagged refreshments in the foyer ]**

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## SYNOPSIS

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### **BLOOD SUGAR - A SOCIAL AND SCIENTIFIC DISCOURSE ON ITS IMPACT ON OUR HEALTH**

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In the recent past, the social discourse on consumption of all carbohydrates and starchy foods was focused mainly on high blood glucose. Today, scientific discourse shows that different carbohydrate foods add different levels of glucose to the blood (Glycemic index). What should be the social discourse now? What are the glycemic indexes of our local staple foods? Where does social discourse meet scientific discourse today in this respect? With a sharp continuous rise in Type 2 pre-diabetes and diabetes cases in Ghana, it is time for nutritionists, dietitians, food scientists, and other allied health professionals to join hands with medical practitioners in stepping up the discourse on healthy diets that could help address this menace. This discourse has become more important in this post-COVID-19 era where the global economy has declined and we must confront the reality of producing what we eat. Are Ghanaians better off eating their local cereals, roots, tubers, vegetables, and fruits rather than the “exotic foods” that have plagued most Ghanaian homes? The amount of glucose released into the blood when most “exotic foods” are eaten is well documented; yet, that of our local indigenous foods is just beginning to be researched. This lecture will provide comprehensive findings on these foods so as to help consumers make more healthy choices of what they consume.

**PROFESSOR MRS. SARAH DARKWA, FGA**  
**(Nee Opai-Tetteh) Professor of Food Science**

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**P**rof. (Mrs.) Sarah Darkwa (nee Opai-Tetteh) is a Professor of Food Science in the Vocational and Technical Education Department (VOTEC), University of Cape Coast (UCC). She holds a PhD in Environmental Science with specialization in Environmental Systems, Risk Management and Food Environment from the State University of New York, College of Environmental Science and Forestry, Syracuse, New York, USA. She also holds an MPhil in Food Science from the University of Ghana, Legon.

She is currently the Dean of the School of Graduate Studies, a position she has held since 2020. Prior to taking up this position, she served as the Head of VOTEC Department from 2019 - 2020 and 2010 - 2013, Vice Dean, Faculty of Science and Technology Education (FSTE) from 2019 - 2020 and 2016 - 2018. In March 2018, she was appointed as the Chairperson for the 3-member Interim Committee that led and managed the administrative activities of the Cape Coast Technical University.

She has over 24 years of teaching, research and consultancy experience in the areas of Food Science, Nutrition, Environmental Science and Education. Before she entered academia, she worked as a Food Microbiologist at Fruits & Flavour Company in Asebu, an affiliate company of Schweppes International and D & C Company Limited. She taught at her Alma mater, Wesley Girls High School after completing her first degree at UCC. Her research focuses on Food and Nutrition, Education and Environmental Science. She has supervised over Eighty (80) MPhil theses, and six (6) PhD theses and published widely in national and international peer-reviewed journals. She has authored several publications in local, national and international journals based on her areas of interest and specialization. She has won a grant from the Digigrad Erasmus Project 2022 - 2025 in collaboration with colleagues from other universities and participated in HORIZON-CL6-2022-FARM2FORK-01-13Nutri-Trans-Africa. She had earlier received grants from the Great Lakes Research Consortium 2008 - 2007, MELDI – Michigan 2007, Ghana Environmental Protection Agency 2003 and DANIDA grants for research in African fermented foods 1997 - 1999 for various research projects.

She has been a chief examiner for Food and Nutrition in the Colleges of Education since 2010 and an external examiner at the University of Education, Winneba from 2010 - 2012 and 2020 - date. She has served and continues to serve

on a number of University-wide committees and boards in and outside UCC. These include the Executive Committee of Academic Board 2020- date, UCC Institutional Review Board 2020 - date, International Public Sector Accounting Standards (IPSAS) Steering Committee, UCC 2018 - 2020, College of Agriculture and Natural Sciences Board 2017 - date, UCC Medical School Board 2010 - 2013, Academic Board 2010 - 2013; 2017 - date, Academic Planning and Management Board 2015 - 2017; 2019 - 2020, School of Graduate Studies Board 2015 - 2017; 2019 - date, OAK City International College Board 2018 - 2019, Chairperson, Centre for Teacher Professional Development Practice Committee 2017 - 2019 and UCC Estate Committee 2017- date.

A Fulbright Scholar and Australian Leadership Award Fellow, she is also the current Vice President of the Ghana Association for Food Scientists and Technologists, a Delta Gamma World Fellow, 2004 - 2006, SUNY College of Environmental Science & Forestry Award of Excellence 2009, and SUNY College of Environmental Science & Forestry Green Ink Award 2007 - 2008. She is a member of the Ghana Science Association, the National Scholars Honors Society of America, Society for Conservation Biology, and the American Chemical Society. She is a Fellow of the Ghana Academy of Arts and Sciences.

ABOUT THE CHAIRPERSON  
**EMERITA PROFESSOR ISABELLA AKYINBAH QUAKYI, FGA**  
Vice President, Sciences Section, GAAS

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**E**merita Professor Isabella Akyinbah Quakyi is a Professor of Immunology and Parasitology, University of Ghana (UG). The first Emerita Professor in the Sciences at the University of Ghana. Educated at Achimota Secondary School (64 year Group), Accra. She holds a Bachelor of Science (Honors) degree in Human Biology and Immunology from University of Surrey, England, 1973, an MSc in Applied Immunology from Brunel University, Uxbridge, Middlesex, England 1978, and a PhD in Immuno-parasitology from the London School of Hygiene and Tropical Medicine (LSHTM), England, 1980.

For the past four decades, she has taught and researched at the National Institutes of Health (NIH) in Maryland and Georgetown University, Washington DC, both in the USA, and University of Ghana (UG), Legon. Her teaching and research have focused on malaria immunity, immunoparasitology, immunopathology, immunodiagnosis, autoimmunity, molecular immunology and vaccine development. She co-initiated and co-led the first NIH International Center of Infectious Diseases Research (ICIDR), a research partnership between Georgetown University and University of Yaounde I, Cameroon (1990 – 2001). This program built enormous academic scholarship and research capacity in laboratory and field research in Cameroon. She attained Full Professorship of Immunology and Parasitology at UG in 2001.

At the University of Ghana she established the Immunology Unit at NMIMR 1980-1983. She was the first female Director of the UG School of Public Health (UGSPH) and the Foundation Dean of UGSPH, also making her the first female Dean in the College of Health Sciences in the University of Ghana 2002-2007. At UG she built substantial international research capacity, academic scholarship, and the leadership needed to build capacity for Public Health. She remains passionate about Biomedical Research Development and Knowledge Translation. She has over 100 publications including books and scholarly articles.

She has served on numerous National and International Committees and Boards and received several awards; a former member of Ghana Health Service Council, and former UNESCO Chair for Women in Science and Technology in the West Africa Region. She won the 2014 Laureate African Union Kwame Nkrumah Award for Women in Science. She is the 2019 laureate for the Clara Southmayd Ludlow award by the American Society of Tropical Medicine and Hygiene (ASTMH). Women's World day 2021 recognized her as one of seven women in Science who have changed our world for the better. She is a Fellow of the Ghana Academy of Arts and Sciences and Fellow of the African Academy of Sciences.

## INAUGURAL LECTURES

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Since 1973, all newly elected Fellows have had to deliver an Inaugural Address before other Fellows and specially invited guests at evening meetings arranged for the purpose. These lectures are expected to be of a high standard but not so technical as to be beyond the comprehension of non-specialists.

Originally restricted to invited guests and Fellows, the popularity of the lectures and the choice of topics which have always focused on contemporary issues of national or international significance have compelled the Academy to make these lectures public to a larger audience in recent times.

- 1993 The Search for an Anti-HIV (Aids) Drug – The Present Position, Problems and Prospects;  
*Emeritus Prof. Ivan Addae-Mensab\**
- 1994 Health, Medicine and Society;  
*Prof. S. K. Owusu\**
- 1995 Does Africa Really Need Her Universities?  
*Prof. Akilagba Sawyerr*
- 1997 Religion and National Identity: Assessing the Discussion from Cicero to Danquah;  
*Prof. Kwame Bediako*
- 1997 Efficient Utilisation of the Vertic Soils of the Accra Plains: Prospects, Constraints & the Way Forward;  
*Prof. Yaw Abenkorab\**
- 1998 Horticultural Research in Ghana: An Overview;  
*Prof. J. C. Norman\**
- 1999 The Role of the Judiciary in the Establishment of Democracy in Ghana;  
*Dr. S. Y. Bimpong-Buta*
- 2000 Scholarly Authority and the Quest for a New World Academic Order,  
*Prof. Kwesi Yankah*
- 2001 Ghana's Animal Agriculture;  
*Prof. W. S. Albassan\**
- 2002 Theology and Culture: An African Perspective;  
*Most Rev. Peter K. Sarpong, Archbishop Emeritus of Kumasi*
- 2002 Private Investment and Law in a Developing Economy: Some Reflections;  
*Justice Prof. S. K. Date-Bab*
- 2003 The Future of Cardiothoracic Surgery in Ghana;  
*Prof. K. Frimpong-Boateng\**
- 2004 The Impact of Cocoa Research Innovations on Poverty Alleviation in Ghana;  
*Dr. M. R. Appiah\**
- 2004 Bricks, Blocks and the Future Administrative Capital of Ghana;  
*Prof. K. A. Andam\**
- 2004 Voyage from Birth to Death: Health Hazards for Ghanaians;  
*Prof. J. O. M. Pobee\**
- 2005 The Ethnic Factor in National Development: Uses and Abuses;  
*Prof. D. K. Agyeman*



- 2005 Physics for Wealth Creation;  
*Prof. Aba Bentil Andam\**
- 2005 Chemistry – The Neglected Element in the Industrialisation Equation;  
*Prof. V. P. Y. Gadzekpo*
- 2005 Ghana's Juvenile Justice System on Probation: Making Progress with Painful Steps and Slow;  
*Prof. Henrietta J. A. N. Mensa-Bonsu*
- 2006 Libraries and National Development: Implications for Ghana;  
*Prof. A. A. Alemna*
- 2006 Where there is No Silence: Articulations of Resistance to Enslavement,  
*Prof. Naana Jane Opoku-Agyemang*
- 2006 Race, Political Identity and Citizenship in Ghana: The Example of the Lebanese;  
*Prof. E. K. Akyeampong*
- 2006 Embodiment and Epiphanies: Disability in Literature and Society;  
*Prof. L. A. Quayson*
- 2006 Implementing the New Partnership for Africa's Development (NEPAD): Challenges and the Path to Progress;  
*Prof. S. K. B. Asante*
- 2006 Improving Human Livelihood: A Development Challenge of the 21st Century;  
*Prof. K. Asenso-Okyere*
- 2007 Challenges of Post-Conflict Reconstruction: Some Reflections;  
*Dr. Eugenia Date-Bah*
- 2008 The Marriage of Mathematics and Biology;  
*Prof. K. S. Nokoe\**
- 2008 An 11th Region of Ghana? Ghanaians Abroad;  
*Prof. Takyiwaa Manuh*
- 2008 Some Thoughts on Ministerial Reshuffles in Ghana;  
*Prof. J. R. A. Ayee*
- 2008 Nuclear Power for Generating Electricity in Ghana: Issues and Challenges;  
*Emeritus Prof. E. H. K. Akabo\**
- 2008 Urban Housing and Sanitation – Our Habitat, Our Health;  
*Prof. Ralph Mills-Tettey\**
- 2008 African Boundaries and Regional Integration: Ghana, OAU and ECOWAS;  
*Prof. R. B. Bening*
- 2009 The Public Law of Ghana – A Tale of Two Legal Systems;  
*Emeritus Prof. Albert K. Fiadjoe*
- 2009 Modernising Ghana's Agribusiness: Science, Technology, Engineering and Indigenous Bio-process Systems;  
*Prof. S. K. Sefa-Dedeb\**
- 2010 From Everyday Risks to Disaster Risks: Confronting 'Brown' and 'Green' Issues in Ghana's Human Settlements;  
*Prof. J. Songsore*
- 2011 To Mine or Not to Mine: The Economic Controversy and its Resolution;  
*Prof. D. Mireku-Gyimah\**

- 2011 Culture and the Health of the Nation;  
*Prof. K. Anyidobo*
- 2011 Treating Ghana's Sick Health Service;  
*Prof. A. B. Akosa\**
- 2011 The Political Economy of Poverty, Equity and Growth;  
*Prof. K. Ewusi*
- 2012 Poverty and Climate Change in Sub-Saharan Africa: Are we winning or losing the Game?  
*Prof. G. K. S. Aflakpui*
- 2013 Politics in the African Development Bank: A Study on the Role and Limits of Politics in an Intergovernmental Institution;  
*Kantinka Sir Dr. K. Fordwor*
- 2013 The Dangers that Obsolete Chemicals Pose to Us;  
*Prof. J. H. Epbraim\**
- 2013 Harnessing Science for Development of Medicines: Challenges for Ghana in the Global Matrix;  
*Prof. Arthur C. Sackeyfio\**
- 2013 The Role of Veterinary Medicine in National Development;  
*Prof. Paa Kobina Turkson\**
- 2014 The Law and Practice of Contempt of Court in Ghana;  
*Justice Stephen A. Brobbey*
- 2014 Truth and Nation-State Building: A Theologian's Perspective;  
*Rev. Prof. Emeritus John Samuel Pobee,*
- 2014 Tailor Light to Task, For Sustainable Development in Ghana;  
*Prof. Paul K. Buah-Bassuab\**
- 2015 Building Biomedical Research Capacity for Malaria Vaccine and Public Health from Grassroots to Policy: Challenges, Achievements and Future Perspectives;  
*Prof. Isabella Quakyi\**
- 2015 Architecture for Autism: A Technical Response With Mind and Heart to A Dire Human Need;  
*Prof. Dr. Ing. Nii-Adziri Wellington\**
- 2015 Will Our Food Animals Live Beyond Tomorrow?  
*Prof. Ben K. Abunu\**
- 2015 Distressed Fish in Dying Waters?  
*Prof. Rose Emma Mamaa Entsua-Mensab\**
- 2015 An Audit of Our Contemporary Art Heritage: Rationale for the Preservation of the Legacy and the Restoration of the Culture  
*Prof. Ablade Glover*
- 2016 Channels of Prayer, Prophecy and Power: Contemporary Religion, New Media and Transformation of the Public Sphere in Africa;  
*Very Rev. Prof. J. Kwabena Asamoah-Gyadu*
- 2016 Medicines and Healthcare In Ghana;  
*Prof. David Ofori - Adjei\**

- 2016 Slavery In Ghana: Our Story And Our Heritage;  
*Prof. Akosua Adoma Perbi*
- 2016 Peak Phosphorus: What it Means for Ghana's Agricultural Productivity and Food Security;  
*Prof. E. Owusu-Bennoah\**
- 2017 The Philosophy of Man;  
*Justice Prof. V. C. R. A. C. Crabbe*
- 2017 Space Technology Unleashing a Wave of Disruptive New Technologies – To Post-Scarcity Economy;  
*Dr. Ashitey Trebi-Ollennu, FGA\**
- 2017 Plant Diseases, Crop Production and Food Security in Ghana;  
*Prof. G. T. Odamtten\**
- 2017 "Who are We and Whose are We? Identity and Transforming the Nation"  
*Prof. Akosua Adomako Ampofo*
- 2017 The Government of Ghana and International Arbitration;  
*Dr. Richard Frimpong*
- 2017 Access to Sustainable and Affordable Energy for All: The Role of Nuclear Energy;  
*Prof. B.J.B. Nyarkob\**
- 2017 The Tyranny of Foreign Expertise: Epistemic Injustice in the Global Arena with Impacts for Ghanaians' Public Health Care;  
*Prof Helen Lauer*
- 2017 Achieving Food and Nutrition Security Through Plant Breeding  
*Prof. Hans Adu-Dapaab\**
- 2018 Addressing the Crisis of Work in Ghana: What Role for Transformative Social Policy?  
*Prof Dzodzi Tsikata*
- 2019 Understanding Biodiversity as an Infrastructure of Life for Development  
*Prof. Alfred A. Oteng-Yeboah\**
- 2019 Deficit of Critical Citizenship in Ghana: A Critique of Political (il)literacy, Civic (ir)responsibility and (un)critical Followership.  
*Prof. Wisdom Tettey*
- 2021 The Origins and Consequences of the Mass Migration from West Africa to Libya and Europe - A West African Perspective.  
*Prof. Steve Tonah*
- 2021 The Changing Trends in Land Law, Policy, Governance and Management Under the Land Act 2020 (act 1036).  
*Justice Sir Dennis Dominic Adjai*
- 2021 Laughing, Singing, Dancing for Health: Creative Arts and the Science of Health Communication in Ghana.  
*Prof. Ama De-Graft Aikins*
- 2021 Ghanaian Humour in a Time of Crisis: Reflections on the Making of Cultural Meaning  
*Prof. Helen Yitah*
- 2021 The Meat Industry and National Development.  
*Prof. Gabriel Ayum Teye\**

- 2022 Linguistic Pan-Africanism as a Global Future  
*Prof. Adams Bodomo*
- 2022 Pain; the Bane of Mankind  
*Prof. Gladys Amponsah\**
- 2022 Establishment of Academic Medical Centres in Ghana  
*Prof. Aaron Lante Lawson\**
- 2022 Upgrade in Gold Recovery from Refractory Carbonaceous Gold Ores: the Use of Phanerochaete Chrysosporium  
*Prof. Grace Ofori-Sarpong\**
- 2022 *Kasabuam-kasafi'*: Polite and Impolite Language in the Ghanaian Media and Political Landscape  
*Prof. Kofi Agyekum*
- 2023 Fidelity To Constitutional Values: Key To National Survival  
*Prof. Kofi Quashigah*
- 2023 Contribution of African Popular Music Studies to Universities  
*Prof. John Collins*
- 2024 Significance of Terrestrial Impact Structures: A Case Study of the Lake Bosumtwi Impact Crater, Ghana  
*Sylvester Kojo Danuor\**

***\*Science-oriented Presentations***

**T**he Ghana Academy of Arts and Sciences is Ghana's Premier Learned Society. It was founded in November 1959 by Government Instrument of Incorporation. Its aim is to bring together the highest level of intellectuals, experts, professionals in the country to constitute a 'Think Tank' in the Arts and Sciences to enable it advise government and other relevant bodies on issues of importance to national development.

### **Mission**

The mission of the Ghana Academy of Arts and Sciences is to encourage the creation, acquisition, dissemination and utilisation of knowledge for national development through the promotion of learning.

### **Objectives**

The Academy's objectives are to:

- **Promote** the study, extension, and dissemination of knowledge of the Arts and Sciences;
- **Promote** the establishment and maintenance of proper standards of endeavour in all fields of the arts and sciences;
- **Recognize** outstanding contributions to the advancement of the arts and sciences in Republic of Ghana;
- **Contribute** actively to the advancement of Ghana and Africa in particular and the world in general by examining and addressing issues of development; and
- **Do** any other things that are conducive or incidental to the attainment of all or any of the foregoing objects.

## NOTES



# PRESIDENTS

## GHANA ACADEMY OF ARTS AND SCIENCES

[ 1959 - 2024 ]



Duke of Edinburgh, Prince Philip, FGA  
1959 - 1961



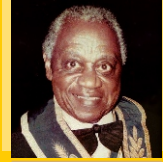
Dr. Kwame Nkrumah, FGA  
1961 - 1966



Mr. Justice N.A. Ollennu, FGA  
1969 - 1972



Prof. E.A. Boateng, FGA  
1973 - 1976



Prof. C.O. Essmon, FGA  
1977 - 1980



Prof. F.G.T. Torto, FGA  
1981 - 1982



Most Rev. Prof. K.A. Dickson, FGA  
1983 - 1986



Dr. E. Evans-Anom, FGA  
1987 - 1990



Rev. Prof. C.G. Baata, FGA  
1991 - 1992



Prof. D.A. Bekoe, FGA  
1993 - 1996



Prof. J.H. Kwashina Nketia, FGA  
1997 - 1998



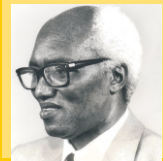
Prof. Prof. T. Sai, FGA  
1999 - 2002



Nana Dr. S.K.B. Asante, FGA  
2003 - 2006



Dr. Letitia E. Obeng, FGA  
2007 - 2008



Prof. Reginald Fraser Amonoo, FGA  
2009 - 2010



Prof. F.K.A. Allotey, FGA  
2011 - 2014



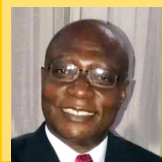
Prof. Akiagba Sawyer, FGA  
2015 - 2016



Prof. Aba Bentil Andam, FGA  
2017 - 2019



Justice Prof. Henrietta J.A.N.  
Mensu-Bonsu, FGA (2019 - 2020)



Emeritus Prof. Samuel Sefa-Dedeh, FGA  
2021 - 2022



Prof. Kofi Opoku Nti, FGA  
2023 - 2024

### OFFICE & LOCATION ADDRESS:

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