### NASAC Science Education Programme (SEP) Working Group

**Members**

1. Dr Michael ATCHIA – Mauritius  
2. Prof. Paul Kingsley Buah-Bassuah – Ghana  
3. Prof. Bi Guimé Crépin PÉNÉ – Cote D’Ivoire  
4. Prof. Samia Benabbas Kaghouche – Algeria  
5. Dr. Gratian R. Bamwenda – Tanzania  
6. Prof. Nwaorgu Obioma Chebechi – Nigeria  
7. Dr. Lemme Prica Kebaabetswe – Botswana  
8. Prof. Imasiku Anayawa Nyame – Zambia  
9. Dr. Habiba Bouhamed Chaabouni – Tunisia  
10. Prof. Renuka Vithal – South Africa  
11. Prof. Ibrahim M. El-Sherbiny – Egypt  
12. Prof. Afsata PARÉ/KABORÉ – Burkina Faso  
13. Prof. Jean-Pierre O. Ezin – Benin

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**Name: Dr. Michael ATCHIA**

**Area of Specialization:** Environment and Sustainable Development

**Affiliation:** Mauritius Academy of Sciences and Technology

**Brief Bio data:** Dr. Atchia is a senior Mauritian consultant in the Education, Curriculum development and planning and in the Environmental Education sectors, with wide international experience. He has been a Programme Director at UNEP (Chief, Environmental Education and Training Unit) in Nairobi from 1986 to 1996, responsible during the same period for the “International Environmental Education Programme” of UNESCO/UNEP, active in over 100 member states. He has gained his professional experience in both developing countries (Africa, Asia, and South America) and in Europe/North America/Australia. He is a graduate from these Universities: Calcutta (B.Sc with Distinction): London (BSc); Chelsea College of Science and Technology (Postgraduate diplomas in Microbiology, 1st class); Institute of Biology (MIBIOL); Salford in Manchester (MSc, PhD, DSc).

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**Name: Prof. Bi Guimé Crépin PÉNÉ**

**Area of Specialization:** Agricultural Engineering & Environmental Science

**Affiliation:** Academy of Sciences, Arts, Cultures of Africa and African Diasporas

**Brief Bio data:** Prof PÉNÉ is an Ivorian Scientist who held his PhD degrees in March 1994 and Oct. 1999 in Agricultural Engineering at University Colleges of Agronomy (Abidjan in Ivory Coast and Rennes France), and University of Abidjan-Cocody (Ivory Coast). He gained 34 year experience in Applied Agricultural Research conducted in public and private institutions (IDESSA, CNRA, SUCAF-CI/SOMDIAA), where his findings were issued in 51 scientific articles through 16 international Journals, 3 book chapters, 16 scientific communications issued in conference proceedings, and 30 technical notes. He was elected by peers as Member of the Ivorian Science Academy (ASCAD) in February 2008, and graduated Full Research Director in July 2011 by CAMES (African and Malagasy Council for Higher Education and Research). Since Nov. 2020, he has been acting as Senior Lecturer of Irrigation at the Geo-Science Faculty of Abidjan-Cocody University, but also of
NASAC Science Education Programme (SEP) Working Group

Environmental Science, Cell Biology and General Chemistry at STEM Faculty of the International University of Grand-Bassam (IUGB), in Ivory Coast.

Name: **Dr. Gratian R. Bamwenda**

**Area of Specialization:** Environmental Management and Development

**Affiliation:** Tanzania Academy of Sciences

**Brief Bio data:** Dr. Gratian R. Bamwenda has a Master’s in Business Administration degree (MBA); Ph.D. in Environmental Management; and M.Sc. and B.Sc. in Processing Engineering.

Dr. Bamwenda has previously worked at: Queens University, Canada, as a Research Scientist; Advanced Institute for Science and Technology, Ministry of International Trade and Industry of Japan as a Senior Technology Researcher; and a technical specialist and advisor to the Ministry of Agriculture and Ministry of Investment, Industry and Trade of Tanzania. He is the immediate Executive Secretary of the Tanzania Academy of Science, and most recently as the Deputy Director Policy and Investment at Gatsbyafrica. His areas of expertise include: a) Development of productive capacities and capabilities; b) Productivity and Competitiveness Enhancement; c) Analysis, formulation and supporting implementation of policies and strategic plans for Strategic Productive Sectors, including Agricultural development, Climate Change Mitigation and Adaptation, and Industrialization for enhanced value addition and capture; d) Application of Science, Technology and Innovation Processes and Products, Best Ideas, and Best Practices for Development in the context of Developing Countries. Dr Bamwenda is currently working as a development consultant and researcher.

Name: **Dr. Lemme Prica Kebaabetswe**

**Area of Specialization:** Microbiology, Virology, Immunology

**Affiliation:** Botswana Academy of Science

**Brief Bio data:** Dr Kebaabetswe is a Senior Lecturer in the Department of Biological Sciences and Biotechnology, Botswana International University of Science and Technology (BIUST). Her specialized research areas are in virology, immunology, and microbiology. Lately, she has been involved in interdisciplinary research in nanotoxicology, nanotechnology and applied microbiology. She has published work in each of these areas in international peer reviewed journals and contributed to book chapters. She is a member of international groups; InterAcademy Partnership-Covid-19 Advisory Group 2020, American Society for Virology, and the Organization for Women in Science for the Developing World (OWSD). She is currently the chairperson of the BIUST COVID-19 Response Committee, mentor to Shakawe Senior School high achieving girls in maths/science and member of the Botswana Academy of Sciences.
Name: **Dr. Habiba Bouhamed Chaabouni**

**Area of Specialization:** Medicine, Genetics, and Biology

**Affiliation:** Tunisian Academy of Sciences, Letters and Arts

**Brief Bio data:** Doctor Habiba Bouhamed-Chaabouni is a woman who has courageously faced the challenge of developing genetics in medical and health areas in her country. She is professor of medicine at the University of Tunis El Manar, physician and scientific researcher in Human genetics. She founded the first department of medical genetics in a hospital, in her country. She has contributed largely to scientific research through her career; she directed the “human genetics research laboratory” at the “faculté de médecine de Tunis” and implemented Master’s and PhD degrees in the same institution. She coordinated many national and international research projects; in 2006 she implemented the Regional Remote Training Centre in Tunis, for the aim of the European School of Genetic Medicine Courses. Member of the Gene Editing Technology Initiative Working Group (Africa). She is a laureate of the L’Oréal-UNESCO “For Women In Science” award. Member of different Scientific Academies. She published more than 160 papers.

Name: **Prof. Ibrahim M. El-Sherbiny**

**Area of Specialization:** Nanoscience/ Nanotechnology/ Nanomedicine

**Affiliation:** Academy of Scientific Research and Technology; Zewail City of Science and Technology, Egypt

**Brief Bio data:** Dr. Ibrahim M. El-Sherbiny is Tenured-Professor of Nanoscience, Nanotechnology and Nanomedicine, the Founding Chairman of Nano and Materials Sciences Programs, Director of Center for Materials Science at Zewail City of Science and Technology. El-Sherbiny earned Bachelor degree, with honors (top scholar) and Master of Science from Mansoura University, and his PhD in Smart drug delivery from Massey University, New Zealand in 2007. El-Sherbiny joined various research groups as post-doctoral fellow & Senior-Researcher at University of New Mexico and Texas University-Austin in United States. He worked as Research Ass. Professor, College of Pharmacy, University of Texas-Austin, USA. El-Sherbiny was listed in the 2% Top Scientists worldwide by Stanford University, USA and received more than seventy honoring from different countries, several gold medals and local, regional and international scientific awards, including the “Order of the Egyptian Republic in Science and Arts of the First Class” and the prestigious State Award for Excellence in Advanced Technological Sciences.

Name: **Prof. Jean-Pierre O. EZIN**

**Area of Specialization:** Mathematics (Riemannian Geometry and global Analysis). Science Policy, Science Diplomacy.

**Affiliation:** National Academy of Sciences, Arts and Letters of Benin

**Brief Bio data:** Jean-Pierre Ezin was Professor of mathematics of universities. As such he deployed his competences in several universities in Africa, in France, in the USA, Brazil, and Portugal. His areas of teaching and research include Riemannian and pseudo-Riemannian Geometry, nonlinear Analysis and global Analysis and related topics. He founded the
renowned *Institut de Mathématiques et de Sciences physiques (IMSP)* in Porto-Novo, Bénin. He is author and co-author of numerous articles in various peer journals and reviews. Professor Jean-Pierre Ezin was Vice-Chancellor of Université d’Abomey-Calavi. He was African Union Commissioner in charge of Education, Youth, Science and Technology and then Commissioner of ECOWAS (economic Community of West African States) in charge of Education, Culture, Science and Technology. Professor Ezin was member of the Board of *OISE (Office of International Science and Engineering)* of *NSF (National Science Foundation)* of the USA. He was also member of the Board of the Swedish *ISP (International Science Programme)* of Uppsala University and the Chair of the Board of the French *AIRD (Agence Inter-Etablissements de Recherche pour le Développement)*. Professor Jean-Pierre Ezin has been awarded in 2014 the *TWAS President Award* for Science Capacity Building in Africa.

Name: Prof. Imasiku Anayawa Nyambe

**Area of Specialization:** Sedimentology; Hydrogeology; Integrated Water Resources Management (IWRM)

**Affiliation:** Zambia Academy of Sciences

**Brief Bio data:** Professor Imasiku Anayawa Nyambe is the Vice-President of the Zambia Science Academy and awarded the O.R. Tambo Africa Research Chair in Water Conservation at UNZA. He is a Full Professor of geology in the Geology Department of the School of Mines and Coordinator of the University of Zambia (UNZA) Integrated Water Resources Management (IWRM) Centre, a Centre that he established in 2006. He has a Ph.D in earth sciences (sedimentology) 1993 from University of Ottawa, Ontario, Canada, a Masters of Science (M. Sc.) in geology (hydrogeology /sedimentology) 1989 from University of Windsor, Ontario, Canada and Bachelor of Mineral Sciences (B. Min. Sc.) (Geology) 1982 from the University of Zambia. He is a Fulbright Senior Research Scholar on Remote Sensing and Geographic Information Systems at the University of Kansas 1998-1999, Lawrence, USA. Prof. Nyambe has an H-Index of 24, and published over 150 articles and has travelled extensively. Professor Nyambe is a former Director of Research and Postgraduate studies in the Directorate of Research and Graduate Studies (DRGS) (2009 - 2017) responsible for research and postgraduate studies at UNZA. He establishment three multi-disciplinary journals (Journal of Law and Social Sciences – ISSN 2226-6402; Journal of Natural and Applied Sciences – ISSN 2226-6429; Journal of Agricultural and Biomedical Sciences – ISSN 2226-6410) for UNZA registered in Paris, France.

Prof. Nyambe has received awards from Zambia Environmental Management Agency in 2012, from National Science and Technology Council in 2016 and a Lifelong High Achiever Award in geology and hydrogeology from UNZA School of Mines and Copperbelt University. On Public Service, Prof. Nyambe was the Vice-President of the Intergovernmental Hydrological Programme (IHP) Bureau Africa Region 5A as (2019-2021) well as member of the UNESCO’s Intergovernmental Council on IHP representing Zambia (2017-2021). He is former Chairperson of the Board of the National (Zambia) Heritage Conservation Commission (NHCC) (2017-2020). He is Board Member of Zambia Water Partnership – the Zambian Chapter of the Global Water Partnership (GWP), which he founded in 2000 as its first Coordinator. Prof. Nyambe is Chairperson for Zambia Water Forum and Exhibition (ZAWAFE) since 2011. Prof. Nyambe has been the Secretary General of the Geological Society of Africa (2004-2008) and a life Member; and President of the Geological Society of Zambia (GSZ) (2000-2010). He was also Vice-Chairperson on the Commission on Geoscience for Environmental Management of the International Union of Geological Sciences (IUGS) (2004 -2008).
Name: **Emeritus Prof. Obioma C. Nwaorgu**

**Area of Specialization:** Public Health Parasitology and Epidemiology

**Affiliation:** Nigeria Academy of Sciences

**Brief Bio data:** Emeritus Obioma Nwaorgu is a Professor of Public Health Parasitology and Epidemiology has a PhD in 1978 from University of Cambridge UK. Profession Nwaorgu is a Takemi Fellow of the Department of International Health, Harvard School of Public Health, Boston, USA (1994-1995) and a Global Health Leadership Fellow, Roll Back Malaria, WHO, Geneva, Switzerland (1999-2001) with support by Rocke Feller Foundation, She is one of the pioneer members of Roll Back Malaria programme from 1999 to 2001. Prof. Nwaorgu is a Fellow Nigeria Academy of Science (FAS), Fellow of the Royal Society of Tropical Medicine and Hygiene London, Member British and Nigerian Society for Parasitology; Member International Epidemiological Association, Member Third World Organisation for Women in Sciences (TWOWS), Board member Social Aspects of HIV/AIDS Research Alliance (SAHARA), South Africa; Member International Committee on Guinea Worm Certification for Nigeria (June/July 2013), among others. Prof. Obioma Nwaorgu is a consultant to many organizations. WHO, UNICEF, FMOH, APOC, EU-ACT British Council among others. She is the President and founder of a Non-Governmental Organisation, Global Health Awareness Research Foundation (GHARF) involved in adolescent and women sexuality and reproductive health and right issues since 1996. She is presently the Chairman of National Academy of Science (NAS) Education Committee.

Name: **Prof. Paul Kingsley Buah-Bassuah**

**Area of Specialization:** laser and optical physics, science education

**Affiliation:** Ghana Academy of Arts and Sciences

**Brief Bio data:** After serving the University of Cape Coast with distinction for 24 years, Prof. Paul Kingsley Buah-Bassuah was promoted to Full Professor of Physics in April 2008. He started as an Assistant Lecturer in 1984, advanced to Lecturer in 1986, Senior Lecturer in 1991, and Associate Professor in 2000. Till date, he has served meritoriously for 38 years. He has taught and developed Optics and Laser-Related Courses at the Department Of Physics from the Undergraduate Level through to PhD Level. As a distinguished academic, he has supervised over 40 undergraduate student projects, 25 MPhil Dissertations and 10 PhD theses. Some of his mentees have risen to become Professors and Associate professors in the University of Cape Coast. He has served as an External Examiner to other African universities, such as the National University of Science and Tech, Bulawayo, Zimbabwe, university of Stellenbosch, South Africa and Addis Ababa University in Ethiopia.

As a Research Scientist, he played pioneering role in the establishment of the laser and fiber optics center (LAFOC) a research unit in the University and had distinguished himself by co-authoring 46 published Papers In Reputable Journals, 33 Publications In Conference Proceedings, 6 Technical Reports and Edited and Refereed 4 books to his Credit.
He became a Fellow of the International Society For Optical Engineering (SPIE) in 2008, a Fellow of the Ghana Academy of Arts and Sciences in 2011, and African Academy of Sciences in 2017. He received the University of Cape Coast @ 50 award for creativity and innovation in 2012 and an award from the University Teachers Association Ghana.

Name: **Prof. Renuka Vithal**

**Area of Specialization:** Mathematics Education, in particular the social cultural political dimensions; Higher Education, in particular the Scholarship of Teaching and Learning

**Affiliation:** Academy of Science of South Africa

**Brief Bio data:** Prof Renuka Vithal is currently Deputy Vice-Chancellor: Teaching and Learning at the University of Fort Hare, South Africa. Prof Vithal obtained her BA, BA Honours; University Higher Diploma in Education (with Distinction) and BEd Honours (*cum laude*) from the University of KwaZulu-Natal (UKZN); an MPhil in Mathematical Education from the University of Cambridge, UK; and a Doctoral Degree in Natural Sciences (dr.scient., 2000) from Aalborg University, Denmark. She was awarded an honorary doctorate in the Faculty of Engineering, Science and Medicine at Aalborg University, Denmark in 2011.

Formerly a high school mathematics teacher, Prof Vithal joined the UKZN as a mathematics teacher educator and was promoted to full professor in mathematics education in the Faculty of Education, where she also served as Dean of the Faculty of Education and Deputy Vice-Chancellor: Teaching and Learning. She has a research record of over 90 publications spanning a broad range of areas in education, including mathematics education, teacher education, educational research and higher education. She is recognised internationally as a scholar in the social, cultural and political dimensions of mathematics education. Prof Vithal is currently Chair of an international study on School Mathematics Curriculum Reforms, with Professor Yoshinori Shimizu (University of Tsukuba, Japan), conducted under the auspices of the International Commission of Mathematics Instruction (ICMI). The volume *Mathematics Curriculum Reforms Around the World* from this study will be released in December 2022 by Springer. ([https://www.springer.com/series/6351](https://www.springer.com/series/6351))

Prof Vithal has served in leadership roles in research organisations nationally and internationally. She was elected as a member of the Executive Committee of ICMI; and served as Chair of the Southern African Association for Research in Mathematics, Science and Technology Education (SAARMSTE). She is a member of the Academy of Science of South Africa (ASSAf).

Name: **Prof. Samia Benabbas Kaghouche**

**Area of Specialization:** Architecture, urbanisme, Aménagement du territoire, patrimoine, développement durable et local, développement humain.

**Affiliation:** Algerian Academy of Sciences and Technologies

**Brief Bio data:** 32 years of higher education and scientific research/ Designer of 2 bachelor's degree courses, 3 professional master's degree courses, 4 academic master's degree courses and 4 doctoral courses in urban planning and more than 150 scientific articles on architecture, urban planning, heritage, tourism, city, human development, science and gender, economic and social...
development, sustainable and local development. She is a Member of the International Association for the Promotion of Studies and Research in Urban Planning.

Name: Prof. Afsata Paré/Kaboré

Area of Specialization: psycho-pedagogy and the foundations of education

Affiliation: Academy of sciences, arts and letters in Burkina Faso

Brief Bio data: Pr Afsata Paré/Kaboré holds a Ph.D. in Educational Sciences at the University of Montreal-Option Foundations of Education and Psycho-pedagogy associate at the Catholic University of Leuven.

She is a research professor at Norbert ZONGO University (UNZ). A professor of education sciences, she was Director of the Laboratory of Psycho-pedagogy, andragogie, Measurement and Evaluation and Educational Policy (LAPAME) from 2010 to June 2022 and she is, since November 2017, Vice-President of Norbert ZONGO University (UNZ) responsible for professionalization and university-business relations. She is member of National Academy of sciences, arts and letters in Burkina Faso (ANSAL-BF).

She is or has been a member or coordinator of various national and international committees or councils. A specialist in psycho-pedagogy and the foundations of education, her main areas of research are:

- The original African education
- Education/training for girls and women
- Teacher training and practices
- Teaching-learning processes
- Digital learning processes
- The evaluation of apprenticeships

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