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in the DRC.**

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2nd Congo Basin Forum**

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breakthrough based on a plant
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**Cholera outbreak: Kinshasa becomes the third
most affected province in the country**

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When science writes the future



Professor Pius MPIANA TSHIMANKINDA
NSC President

Since the dawn of time, humanity has always sought to unravel the mysteries of the cosmos, harness the forces of nature, alleviate suffering, and push the boundaries of what is possible. In the past, this future was often dictated by the gods, fate, or the immutable cycles of nature. Today, more than ever, a radical transformation is taking place: the future is no longer simply endured, but is increasingly composed, shaped, and even written by the hand of science and research.

At the heart of this writing of the future lies science's ability to reveal the fundamental laws of the universe. Each discovery, each validated theory, is not a mere observation, but a line added to the ledger of our understanding. By understanding how the world works, we gain the power to predict, anticipate, and ultimately intervene. Whether it is mastering the elements of the Congo Basin, understanding ionizing radiation, or exploring the mysteries of Artificial Intelligence, science gives us the language to describe not only what is, but also what could be. It demystifies destiny, transforming it into a set of probabilities that we can influence.

As the light of June 30, a date engraved in the history of the DRC, begins to illuminate this month of June—a prelude to this 65th year of independence—hearts and minds are enlightened. The 38th edition of the Science and Technological Innovation Bulletin takes on its full meaning by contributing to the writing of a particular story: that of scientific research at the heart of development. However, this power to write the future confers an immense responsibility. If science is a pen, who holds it? What stories does it write? This edition demonstrates this once again.

First, the 2nd Congo Basin Forum, as a "strategic crossroads of knowledge, action,

and innovation," invited collective intelligence to focus on one of the most precious assets for the future of our planet: the Congo Basin. Faced with the colossal challenges of climate change, deforestation, and pollution that threaten this water treasure, a fundamental truth was established: mastery of the three vital matrices—soil, water, and air—is the key to our true emancipation. Far from being a mere bold vision, this is an action already aimed at preparing for the 3rd Congolese Scientific Engineering Forum, an incubator of talent designed to unleash and promote our nation's intellectual capital.

Furthermore, the recent adoption of a legislative framework for the safe use of ionizing radiation, which has been welcomed with pride, is another tangible proof of the determination not only of Minister Gilbert Kabanda but also of the DRC government to control our wealth, transforming it into real levers for development.

With our sights firmly set on artificial intelligence, now a key objective of our research policy, the time for mere observation is over; it is now time to actively participate in the global digital dawn. In this field, it is true that writing the future through science is not a neutral act; it is fundamentally ethical, calling for a wisdom that transcends technical knowledge alone, aiming for human progress beyond mere technological prowess.

Nor does this "writing" imply a cold determinism in which researchers are passive. On the contrary, it pushes them to become active co-authors of our own narrative. It is by investing in research, stimulating innovation, and promoting collaboration between ancestral knowledge and cutting-edge technologies that the future will be a manuscript written by our own hand, a reflection of our noblest aspirations.

It is in this vein that the National Scientific Council continues to shape researchers, pursuing, through their training, the seeds of scientific excellence. It gives them the ability to transform knowledge into wealth and shape the economic and social fabric of the country. This has resulted in a surge of vitality, one example of which is the way in which ancestral remedies, particularly for sickle cell disease, are being unearthed from our forests, underscoring that science is a vital investment in the health of our people. It points to a future where disease is defeated by knowledge. Like flashes of genius, these discoveries prove that the combination of our biodiversity and our minds forges solutions that resonate beyond our borders, making science the scribe of our destiny.

Finally, the "duel" between mobile money and cryptocurrencies shows how science anticipates and writes the future of our exchanges.

This Bulletin, as we approach the 65th anniversary of our independence, testifies to the resilience and ardor of our scientific community. Each page added to the edifice of our greatness demonstrates that by cultivating the scientific spirit and embracing innovation, the DRC is writing its sovereign and prosperous future. The torch of 1960 is now fueled by the sacred fire of knowledge.

Under the unifying theme of “Unlocking the Potential of Water Resources Services for Sustainable Development in the Congo Basin,” this forum positions itself as a strategic hub for knowledge, action, and innovation in service of one of the most precious natural heritage sites of our country, continent, and universe: the Congo Basin. The Congo Basin, the world's second largest ecological lung after the Amazon, covers more than 3.7 million km² and offers a water potential of more than 1,300 billion m³ of water per year. It accounts for more than 50% of Africa's freshwater resources and is the lifeblood of agriculture, hydroelectricity, river transport, biodiversity conservation, food security, and climate security.

But this treasure is now exposed to multiple threats: climate change, accelerated deforestation, industrial, mining, and domestic pollution, as well as a lack of scientific and technological infrastructure. Hence the need for us researchers, decision-makers, managers, and innovators to work together to build a common, resilient, and sustainable vision for the future of the basin.

Ladies and gentlemen,

On the eve of the celebration of the 65th anniversary of our country's national independence on June 30, 2025, I would like to strongly emphasize that, in the vision of His Excellency the President of the Republic, Head of State, Félix-Antoine Tshisekedi Tshilombo, unleashing Congolese scientific genius and mastering the sciences of the elements of nature—water, fire, soil, and wind, and promoting the results of scientific research, inventions, and innovations is the best way to regain our independence and sovereignty.

Political independence has paved the way.

Economic independence requires mastery of our knowledge and expertise. But scientific and technological independence is the key that will open the doors to progress, sovereignty, and collective prosperity in a sustainable manner. It is in this spirit that I announce today that the Third Forum of Congolese Scientific Engineering will be held next August, under the high patronage of His Excellency the President of the Republic, Head of State.

Registration on the Ministry of Scientific Research and Technological Innovation portal is now open. I therefore invite all Congolese, both in the diaspora and in the country, to register in large numbers.

The Head of State's message is clear: to create Congolese millionaires based on endogenous knowledge, local materials, and values rooted in our culture.

I would like to warmly congratulate the Regional Water School of the University of Kinshasa, as well as the Congo Basin Water Resources Research Center, for their scientific leadership and regional vision. May their example inspire our other public and private research centers to actively engage in this dynamic of transformation through science. This international forum is a valuable opportunity to: disseminate recent scientific advances on water resources in the Congo Basin; assess the challenges and opportunities in their sustainable management; strengthen regional and international partnerships; and, above all, guide public policies based on robust scientific data.

While inviting you to visit the stands displaying concrete solutions presented by the Congolese Scientific Engineering Incubator, and to make good use of them, I hope that the discussions at this second Congo Basin Forum will be rich, relevant, and conducive to concrete solutions for the peoples of the basin. With these words, and on behalf of the Government of the Republic, I declare the Second Congo Basin Forum open.

Long live scientific research in the service of Africa!

Long live Congolese ingenuity!

And long live the DRC, sovereign and radiant through its research results, inventions, and innovations!

Thank you.



The National Assembly approves the bill presented by Gilbert KABANDA

The National MPs approved the bill on the safe, secure, and peaceful use of ionizing radiation and nuclear applications presented by the Minister of Scientific Research and Technological Innovation on May 28, 2025, during a plenary session.

Minister Gilbert KABANDA explained that the term "ionizing" means that when one is in an environment where uranium is present, for example, invisible rays emitted by this mineral can disrupt, disturb, or destroy substances such as hemoglobin and certain molecules, preventing them from functioning properly in the human body. As a result, exposure to ionizing radiation causes the affected person to become ill.

A specialist in aeronautical and space medicine, Gilbert KABANDA KURHENDA said he was proud and happy to see the DRC adopt a good law that had been sorely lacking for several years. He stated that once enacted, this law will enable the government to manage a large nuclear field of mining waste that emits ionizing radiation, causing diseases that are often overlooked. He indicated that thanks to this law, the Congolese state will be able to prevent and properly treat the population against these dangers linked to our natural resources.

Finally, the President of the National Assembly, Vital KAMERHE, congratulated Minister Gilbert KABANDA for the

clarity and conciseness with which he responded favorably to the fourteen questions asked by the national deputies.

Following Minister Gilbert KABANDA KURHENDA were the Secretary General of the SRTI, NDAMBU Odon, the Commissioner General for Atomic Energy, Professor Steve Mwanza KAMUNGA, and Legal Advisor Christian CHIMANUKA.

Minister's Communications Unit at SRTI

Gilbert KABANDA: "Artificial intelligence is one of the objectives of his research policy..."

« Artificial intelligence is one of the objectives of its research policy, which is awaiting the material, legal, and financial resources to be able to participate in this global activity », said Gilbert Kabanda, Minister of Scientific Research and Technological Innovation, in Kinshasa on May 24, 2025, at the closing of the international symposium organized by Omnia Omnibus University on artificial intelligence and the development of African societies.

Minister Gilbert KABANDA asked the Rector to reserve a copy of the conclusions for him, as they will form fundamental elements to be included in the objectives of his Ministry, which he is currently establishing



and which will be clearly presented after the enactment of the Scientific Research and Technological Innovation Act at the end of the current parliamentary session.

In their conclusions, the participants recognized that artificial intelligence can be used to diagnose diseases, optimize

education systems, and assist vulnerable people. However, it must be used ethically, prudently, and with discernment.

The three days of reflection were attended by eminent researchers and doctors, along with their hosts from the DRC. They noted that artificial intelligence can contribute to

the common good if it is geared towards human needs.

Communications Unit of the Minister of SRTI



Gilbert KABANDA invites CGSF officials to the introductory meeting.

In accordance with the roadmap for the 2025 edition of the Congolese Scientific Genius Forum (CSGF-2025), the Minister of Scientific Research and Technological Innovation, Gilbert KABANDA, invited all the chairs of the subcommittees, their vice-chairs, reporters, and assistant reporters of the FGSC 2025 to an initial meeting on May 23, 2025, at the Intelligent Building in Kinshasa.

This introductory meeting was led by the Secretary General for Scientific Research and Technological Innovation and Deputy Coordinator of the NDAMBU Odon Commission. It had three items on the agenda: evaluation of the CSGF-2025 Roadmap, review of the tasks of some Sub-Committees, and Miscellaneous.

It should be noted that the CSGF-2025 organization includes five subcommittees: the Scientific Subcommittee, the Administrative and Logistics Subcommittee,



the Financial Subcommittee, the Communications Subcommittee, and the Technical Secretariat Subcommittee.

Logistics relies on the use of equipment and tools dedicated to the CSGF-2025. The Communications Subcommittee organizes the content of messages to be disseminated, proposes and implements

a comprehensive communications plan. It ensures that participants are made aware of the event through registration. Finally, the Financial Subcommittee mobilizes resources for the organization of the CSGF-2025, in accordance with the new requirements for use..

Communications Unit of the Minister of SRTI



NSC Activities

The NSC and ISTM/Kinshasa are organizing a training course for PhD students in the DRC.

National seminar on capacity building for doctoral students: a historic first at ISTM/Kinshasa.

The National Scientific Council (NSC) of the Ministry of Scientific Research and Technological Innovation, in partnership with the Higher Institute of Medical Techniques of Kinshasa (ISTM/Kinshasa), organized a national training and capacity-building seminar for doctoral researchers in the Democratic Republic of Congo on June 6 and 7, 2025. This seminar marks a historic first for ISTM Kinshasa, which is now establishing itself as a key player in the national research and innovation ecosystem.

More than a hundred participants from various universities, higher education institutions, and research centers across the country actively took part in this ambitious event. More than ten high-level trainers led the various sessions, offering intensive, multidisciplinary, and practical training.

Training schedule

First day (June 6, 2025)

The first day was opened by Professor Pius MPIANA TSHIMANKINDA, President of the NSC, who addressed the topic: "Researchers and Research Professions," originally scheduled for Professor WUFELA André. Professor MPIANA reminded the audience that a researcher is a hard-working, curious, and rigorous individual who works in a laboratory, in the field, or in a library, and whose publications provide a window on the world. These publications ensure scientific visibility, institutional recognition, and material benefits.

The Director of Research at PS/NSC, Maître Freddy IPUKA BADJE, spoke about the functioning of a research institution, emphasizing the roles, missions, and responsibilities of researchers. He identified four fundamental missions: scientific production, promotion of results,



dissemination of scientific information, and training through research. He also presented the essential qualities of a good researcher: creativity, honesty, rigor, patience, open-mindedness, among others.

Professor Jean-Paul NGBOLUA KOTOTE-NYIWA closed the first day with an in-depth presentation on writing scientific articles, highlighting international publication standards and best practices for submitting to indexed journals.

Participants unanimously praised the initiative of the NSC and ISTM/Kinshasa. They also made relevant recommendations for the sustainability of such training programs, considered essential for the development of high-quality doctoral research.

The second day (June 7, 2025)

The second day featured a series of presentations covering cross-cutting themes such as: responsible management of scientific data, scientific visibility and researcher marketing, bibliometric indicators, the use of artificial intelligence in research, best practices for successful PowerPoint presentations, an introduction to Mendeley software, and writing

and structuring a research project.

A highlight of the day was the practical workshop on the theme: "From scientist to entrepreneur," highlighting strategies for leveraging research results through business plans, in connection with funding opportunities, and their impact on sustainable development and local employment.

Professor Pius MPIANA TSHIMANKINDA concluded the training with a masterful presentation on writing research projects and identifying sources of funding, providing participants with concrete tools to transform their ideas into feasible projects.

Participants and recognition

Eight trainers contributed their expertise to these two days :

- Prof. Pius MPIANA TSHIMANKINDA
- Prof. Jean-Paul NGBOLUA (Formateur Principal)
- Prof. Damien TSHIBANGU
- Prof. Benjamin ZOAWÉ
- Maître Freddy IPUKA
- Georges MABIALA
- Reagen NGOTO
- Rolly KITENGE

Participants unanimously praised

the initiative of the NSC and ISTM/ Kinshasa. They also made relevant recommendations for the sustainability of such training programs, which are considered essential for the development of high-quality PhD research in the DRC.

of participation was awarded to each PhD student who took part in this training session. It should be noted that the session was moderated by Advisor DELLY MBEMBE.

As a token of appreciation, a certificate

Christian MAZONO/NSC

Echoes of Research Institutions

Interview

Scientific Director of RIHS, Prof. Jean-Marie LIESSE IYAMBA: The state must take ownership of scientific research and its funding.

In an interview conducted in Kinshasa, the Bulletin "Sciences et Innovations Technologiques" spoke with Professor Jean-Marie LIESSE IYAMBA, Scientific Director of this organization. During the interview, he expressed his view that the state should take ownership of scientific research and its funding.

Christian MAZONO: Could you introduce yourself to our readers?

Prof. Jean-Marie LIESSE IYAMBA: I am Jean-Marie LIESSE IYAMBA, University Professor, Doctor of Biomedical and Pharmaceutical Sciences at the Free University of Brussels (FUB) since October 12, 2012, specializing in Medical and Pharmaceutical Microbiology. As a full professor at the Faculty of Pharmaceutical Sciences at the University of Kinshasa (UNIKIN), I teach general and medical microbiology, industrial pharmaceutical microbiology, and general and pathological immunology. I am also secretary of the Department of Biopharmaceutical and Food Sciences, in charge of research and teaching.

At the Institute for Health Sciences Research (RIHS), I have been Scientific Director since 2022.

Christian MAZONO: Could you briefly describe the RIHS?

Prof. Jean-Marie LIESSE IYAMBA: The Institute for Health Sciences Research (RIHS) is a public scientific and technical institution established under Ordinance No. 82-040 of November 5, 1982, on the organization of scientific research and technology in the Democratic Republic of Congo (DRC). The RIHS is a research institute of the Ministry of Scientific Research and Technological Innovation. The RIHS aims to initiate and promote research capable of preventing threats of all kinds to the quality of life and improving the health of the Congolese people, both in the field of modern medicine and traditional medicine. The RIHS consists of two main departments: the Scientific Department and the Administrative and Financial Department. There are also provincial branches that report to these two departments. The Scientific Department consists of six departments, three of which are part of the General Directorate and three of which are part of the Center for Mixed Medicine and SS Anemia (CMMASS) in Yolo. These are the



following departments:

- Department of Clinical Biology (located at CMMASS);
- Department of Documentation and Publication;
- Department of Mixed Medicine (located at CMMASS);
- Department of Sociocultural and Environmental Research;
- Department of Paraclinical Sciences (located at CMMASS);
- Department of Improved Traditional Medicines

The Departments are headed by Department Heads. They are subdivided into sections and run by Department Heads and Secretaries, as well as Section Heads and Secretaries. Some sections contain Research Units headed by Unit Heads.

The Administrative Directorates are headed by Directors.

Each Directorate comprises Divisions and Offices headed by Division Heads and Office Heads, respectively.

The Branches are supervised by an Office Head under the direction of the Scientific Director and the Administrative and Financial Director.

Christian MAZONO: What are the major research projects being conducted at RIHS?

Prof. Jean-Marie LIESSE IYAMBA: It should be noted that since the creation of the RIHS, numerous projects have been carried out.

These mainly involve research, development, and manufacturing of improved traditional medicines from Congolese plants to combat several diseases, including sickle cell anemia, infectious diseases, cancer, diabetes, malaria, etc.

Under the leadership of the Committee, several activities have been carried out, including: the organization of scientific

meetings, scientific days on strengthening the capacities of researchers, etc.

Christian MAZONO : What are the prospects for the future?

Prof. Jean-Marie LIESSE IYAMBA: In the field of research, the RIHS plans to work efficiently.

1. Intensification of research into improved medicines

- Continue and strengthen research programs on the formulation of improved medicines derived from Congolese medicinal plants.
- Develop integrated therapeutic solutions for priority infectious diseases (malaria, respiratory infections, tuberculosis, viral infections), as well as for non-communicable diseases such as sickle cell disease, diabetes, and cancer.
- Promote products derived from traditional pharmacopoeia through supervised clinical trials, in collaboration with partner universities and laboratories.

2. Integrated management of sickle cell disease at CMMASS

- Consolidate the Centre de Médecine Mixte et d'Anémie SS (CMMASS) as a center of excellence in multidisciplinary care for sickle cell disease.
- Integrate modern and traditional medicine to offer scientifically validated complementary treatments.
- Develop national care protocols based on the results of research conducted at the RIHS and CMMASS.
- Integration of traditional medicine into research and care
- Establish a national program for documenting, validating, and integrating traditional knowledge into clinical practice.
- Strengthen collaboration between traditional practitioners, researchers, and health professionals

to promote a mixed, safe, and accessible form of medicine.

- Promote the standardization and regulation of herbal medicines derived from traditional Congolese medicine.
- Regular organization of Scientific Days
- Institutionalize RIHS Scientific Days as a space for popularization, exchange of experiences, and promotion of research results.
- Encourage the participation of national and international researchers, students, policy makers, and field workers.
- Produce scientific proceedings to enhance the national and international visibility of the RIHS

5. Capacity building and skills transfer

- Establish a continuing education program for researchers, clinicians, and paramedical staff involved in research and care activities.
- Develop academic partnerships with national universities and international research centers.
- Offer opportunities for research grants, practical workshops, and internships abroad to promote scientific excellence.

6. Implementation of a scientific succession strategy

- Identify, train, and mentor a new generation of researchers through doctoral and postdoctoral programs.
- Create a scientific incubator for young researchers interested in endemic diseases, innovative therapies, and medicinal plants.
- Encourage scientific mentoring, collaborative research projects, and international publications.

7. Advocate for sustainable funding and strengthened

governance

- Mobilize resources from the government, international donors, and the private sector to ensure stable funding for research.
- Implement an ethical and transparent management policy based on results and impact on population health.

The RIHS also wishes to rehabilitate the laboratory where the former Director of the RIHS, Professor LURHUMA, worked.

Christian MAZONO : What are the challenges facing the RIHS?

Prof. Jean-Marie LIESSE IYAMBA : The RIHS faces several challenges. In particular, we can note that :

- From the point of view of scientific output, there is a weakness in the conduct of laboratory research (lack of equipment, reagents, and consumables) and in scientific output (articles). In addition, the Center suffers from a shortage of qualified supervisors (PhDs) to support the scientific staff. In terms of figures, it should be noted that among the 280 scientific staff at the IRSS, there are seven PhDs, four of whom are medical specialists. Hence the need to strengthen institutional capacities in terms of associate researchers and training in scientific writing for staff and managers. The coordination encourages the Center's researchers to participate in all capacity-building training initiated by the NSC.
- The working conditions are not conducive to good performance. There is a lack of space to accommodate all the scientists, the buildings and premises at the General Directorate are dilapidated, and above all, there is a lack of funding for research activities.

Christian MAZONO : A word on research in the DRC and recommendations ?

Prof. Jean-Marie LIESSE : I would like to encourage all initiatives taken by His Excellency

Minister Gilbert KABANDA and the NSC to support research in the country (institutionalization of the Congolese Scientific Engineering Forum) and advocate for research funding.

The future of the RIHS is based on an ambitious and pragmatic vision: to become a regional scientific center of excellence, capable of producing innovative knowledge, proposing therapeutic solutions adapted to the African context, and ensuring a competent and committed scientific succession. The RIHS will thus contribute significantly to improving health in the DRC and the sub-region.

I advocate for research to be funded by the DRC government, and this should be a national priority. In short, the state must take ownership of scientific research and its funding.

Christian MAZONO/NSC

The RIHS is organizing scientific days on sickle cell disease and hemoglobin S screening in Kinshasa.

The Institute for Health Sciences Research (IHSR) will host a scientific conference on the theme: "Current advances in the management of sickle cell disease" in the Maitre José Mpanda Kabangu

conference room at CRESH on June 19, 2025, and another day dedicated to raising awareness and screening for hemoglobin S at the CETA military camp on June 21, 2025..

The ceremony will feature several panelists who will

discuss a variety of topics. These include: Professor Puis MPIANA, Phytotherapy and Traditional Medicine; Professor Benoit KABENGELE, Sickle Cell Disease: A Significant Reality; Mr. Maurice KALONJI, Occult Hepatitis in Sickle Cell Disease

Patients; Mr. Dany KANINIA, Reasons for Sickle Cell Disease Patients Seeking Dental Care, etc.

Christian MAZONO/NSC



Reflections of our researchers

Sickle cell disease: scientific breakthrough based on a plant endemic to northern DRC

Project Manager Ruphin Djolu Djoza, a researcher at the University of Gbado-Lite, defended his ASD (Advanced Studies Diploma) thesis at the University of Kinshasa. This research work falls within the field of ethnopharmacology and focused on the scientific validation of a medicinal plant endemic to the Ubangi ecoregion, traditionally used in the treatment of sickle cell anemia (SS anemia).

The study highlighted the presence of bioactive molecules capable of interacting

with hemoglobin S, an interaction confirmed through molecular modeling studies. These results reinforce the interest in this plant as a promising candidate for the development of a phytotherapeutic treatment for sickle cell disease.

The research was conducted at the Laboratory of Ethnobiology and Medical Phytochemistry of the Faculty of Science and Technology at the University of Kinshasa, under the scientific direction of Professor NGBOLUA KOTO-TE-NYIWA, PhD. The thesis was highly praised by

the jury, receiving a grade of Grande Distinction with a remarkable score of 85%.

The thesis was defended before a jury composed of :

- President: Professor Mpiana Tshimankinda (President of the National Scientific Council, MSRTI, Member of the African Academy of Sciences and the Congolese Academy of Sciences);
- Secretary: Professor Gindo Mbaya (Faculty of Agricultural Sciences and

- Environment) ;
- Professor Ngbolua Koto-Te-Nyiwa, PhD (Promoter, Honorary Rector, Secretary General in charge of Research at ISTM Kinshasa, Member of the Congolese Academy of Sciences, Merck Foundation Laureate);
 - Professor Itoku Bekomo (Co-supervisor, Honorary Director General, Vice Dean in charge of research at the Faculty of Science and Technology, University of Kinshasa);
 - Professor Basilua Kanza (Head of Quality Assurance at the Higher Institute of Medical Techniques in Kinshasa) ;
 - Professor Ilumbe Bayeli (Life Sciences, Faculty of Science and Technology, University of Kinshasa) ;
 - Professor Odette Kabena Ngandu (Life Sciences, Faculty of Science and

Technology, University of Kinshasa; Vice-President of the National Committee for Protection against Ionizing Radiation).

Professor NGBOLUA KOTO-TE-NYIWA

The Ngoga Family in Yakoma and the Congolese Kalashnikov: Expertise to be Leveraged for the Technological Sovereignty of the DRC

In the remote region of Yakoma, in northern Ubangi, one family has stood out for decades thanks to its unique expertise, passed down and perfected from generation to generation: the Ngoga family, famous for developing a traditional weapon system known locally as the "Congolese Kalashnikov." This term, both provocative and revealing, evokes not only impressive technical skill but also a symbolic gesture of resistance and technological self-determination.

In a country often relegated to the role of passive consumer of imported technologies, the Ngoga family's mechanical prowess stands out as an act of patriotic ingenuity. This local expertise demonstrates that, even in precarious conditions, it is possible to design complex instruments that were previously reserved for highly technical defense industries. The very existence of this type of artisanal weaponry should challenge scientific, academic, and political institutions in the DRC: what if this popular technology, born of intuition and empiricism, became the basis for a national defense and innovation project ?

Academic recognition and technological sovereignty

It is imperative that Congolese universities take ownership of and modernize this technology, stripping it of its stigma as informal tinkering and incorporating it into a rigorous scientific process. The integration of a reverse engineering program,

backed by research in mechanical engineering, metallurgy, and ballistics, would not only document this invention, but also improve it, secure it, and contextualize it within a national defense strategy.

The DRC, faced with multiple and constant security challenges, needs more than ever a defense system based on its own resources, local intelligence, and geopolitical realities. The Ngoga family may be just the tree that hides the forest of technical genius that is often ignored or marginalized. By providing this innovation with a scientific, legal, and industrial framework, the Congolese state could lay the foundations for a sovereign defense industry that creates jobs, fosters national pride, and acts as a bulwark against external predation.

A lesson for public policy and scientific diplomacy

The story of the Ngoga family is also a call to reconfigure the country's science and technology policy. It shows that it is not enough to consume foreign technology, but that it is also necessary to believe in, support, and develop endogenous talent. The DRC's scientific diplomacy could even use examples such as Yakoma to assert the country's voice on the international stage: that of a people capable of innovation with dignity, even under pressure.

Innovation to be protected, not feared

This is an opportunity to inform public

opinion that this technological feat is in no way a source of insecurity. On the contrary, it is a source of national pride, a symbol of Congolese ingenuity, and an affirmation of the DRC's status as a sovereign state. It is not a question of glorifying the proliferation of artisanal weapons, but of recognizing and channeling this intelligence into a secure, controlled institutional framework geared toward national defense and peace.

Conclusion

The artisanal technology developed by the Ngoga family in Yakoma is not a mere curiosity. It is an embryonic national technological base, a lever of sovereignty, and proof of intellectual resilience. By modernizing it, documenting it, and transforming it into public policy, the DRC would be part of a historic dynamic: that of regaining control of its defense and its technological destiny, starting with its own hands.

Ngbolua Koto-Te-Nyiwa, PhD
Ordinary Professor
Member of the Congolese Academy of Sciences (ACCOS)

Who is the new AFD of GMRC MUANDA Daniel?

Born in Paris (France) on September 7, 1984, married and father of several children, the new Administrative and Financial Director of the Geological and Mining Research Center (GMRC), MUANDA Daniel, holds a bachelor's degree in Human Resources Administration and Management from the High School of Commerce and Management in Cotonou, Benin.

With a calm and reassuring temperament, Mr. Daniel MUANDA MAVUNGU NDIMBA is a dynamic, disciplined, and highly motivated individual with eleven years of professional experience in both the public and private sectors. He was Head of Communications, Marketing, and Product at the national airline Congo Airways, Marketing and Sales Manager at CINEKIN, and Head of Public Relations and Event Projects at Privilège. Mr. Daniel MUANDA has seven years of experience as Administrative and Financial Director at MSRTI, making him one of the most senior Administrative and Financial Directors in the sector (February 2018 to July 2020 at the Institute for Health Sciences Research (IHSR), July 2020 to September 2024 at the Center for Research in the Social Sciences (CRSS), and from September 2024 to the present at the Center for Research in Geology and Mining (CRGM).

His career has left an indelible mark thanks to his leadership, his cross-functional management skills, his participatory management style, his solid organizational skills, his communication and negotiation skills, and his rigorous methodology, which has ensured the financial health and growth of the Center or Institute while respecting its main objective: to make the Research Centers and Institutes competitive.

His remarkable career and experience within the Ministry of Scientific Research enabled him to chair the subcommittee on regulatory acts for the Scientific Research and Technological Innovation Bill and the Ministry's Transport Commission, as well as to serve as a member of several commissions within the Ministry.

Daniel MUANDA is the author of several individual and collective scientific publications. He is a researcher at RIHS.



MAZONO MPIA Christian NSC

MUANDA Daniel
AFD of RCMG



At the time of Innovation

Mobile Money and Crypto: Battle for Supremacy in Digital Money in the DRC

In the Democratic Republic of Congo, where access to banks remains limited, mobile money and cryptocurrency are emerging as the new stars of finance. One is a pillar of everyday life, the other a bold bet on the future. Between stability and innovation, which will appeal to the Congolese? A deep dive into a monetary revolution.

Emission and regulation: when the chaperone meets the rebel

Mobile Money is the well-behaved child of digital money. Issued by telecommunications companies and regulated by financial authorities, it inspires confidence. With well-regulated services such as M-Pesa, Airtel Money, Orange Money, and Afrimoney, it has become a key solution for fast payments and transfers.

On the other hand, cryptocurrency plays the rebel without a cause. It is decentralized, often

created by anonymous web geniuses, and escapes any central authority. While Bitcoin and Ethereum inspire dreams, their lack of regulation is worrying. Their results also pose a problem. They offer total freedom, but also open the door to scams and fraud.

Technology: simplicity versus sophistication

Mobile Money is based on centralized technology and is accessible even via a simple keypad phone. In the DRC, where internet access remains limited, this simplicity is a compelling argument. Cryptocurrency, on the other hand, is based on blockchain, a complex but revolutionary technology. Each transaction is secure, immutable, and verified by a network of nodes. But to access it, you need a digital wallet and a reliable internet connection, which is a challenge in some remote areas of the country.

Use: everyday versus speculation

Mobile Money is an ally for small everyday tasks: paying your electricity bill, sending money to your family, or shopping online. In the DRC, it has become an economic pillar for millions of people.

Cryptocurrency, on the other hand, plays in a different league. Although it can be used for transactions, it is mainly seen as an investment asset or a means of circumventing traditional financial systems. But beware of the reckless: its extreme volatility can turn a dream of wealth into a ruinous nightmare.

All grands lacs



Read for you

Cholera outbreak: Kinshasa becomes the third most affected province in the country

"The city of Kinshasa has been affected by an outbreak of cholera since late April and early May 2025," revealed actualité.cd on June 11, 2025, in Kinshasa.

As of May 25, 2025, 11 confirmed cases and one death have been recorded, representing a fatality rate of 9.09% after two

weeks without any new cases being reported. This situation puts Kinshasa back in the top three provinces with the highest fatality rates, behind Sankuru and Haut-Katanga.

The health zones of Makala and Kokolo are among the most affected by cholera. In response, health authorities have set up a cholera

treatment center in the Ngiri-Ngiri health zone.

The DRC has recorded at least 26,805 cases of cholera and approximately 542 deaths, representing a fatality rate of 2.02% in 10 of the 26 provinces.

L'actualité.cd

PUBLIC-SECTOR RESEARCH CENTERS AND INSTITUTES IN THE D.R. CONGO

RIHS (Research Institute in Health Science)

Objective: To improve the state of health of the population through research in the following fields: pharmaceutical, medical, anthropological, psychological or socio-cultural.

Address: 9, Av. Lukusa / Gombe; E-mail: dnyembo@gmail.com; Tel: 0824580211

ATSRC (Applied and Technologic Sciences Research Center)

Objectif: Mettre au point des matériaux, des appareils, des méthodes ou procédés. Objective: To develop materials, equipment, methods or processes with a view to finding solutions to the population's urgent problems in various fields: housing, rural development and the modernization of the society.

Address: 106, Blvd du 30 Juin, C/Gombe; E-mail: Jeannoel.mputu@gmail.com; Tel: 0824138261

RCHS (Research Center in Human Sciences)

Objective: To ensure the human development of the Congolese people through the study of its social, economic and political dimensions with a view to identifying the factors that have a positive or negative influence on its development.

Address: 33, Av. comité urbain C/ Gombe; E-mail: mingashang@yahoo.fr; Tel: 0819377821

RCMT (Research Center in Mathematics Teaching)

Objective: To carry out research in the field of mathematics teaching with a view to improving quality.

Address: 84, Av. des Ambassadeurs C/ Gombe; E-mail: mabelamatendorostin@gmail.com; Tel: 0815031877

GRC (Geophysical Research Center)

Objective: To provide the country with a national geophysical observation network, for the global study of the internal behavior of the earth in the DRC.

Address: 44, Av. de la démocratie, C/ Gombe (within GMRC); E-mail: tondozi@gmail.com; Tel: 0854426228

AIPS (African Institute of Prospective Studies)

Objective: To carry out forward-looking studies in order to propose solutions to crises and problems linked to the evolution of African societies.

Address: Av. Cardinal Malula, C/ Lemba; E-mail: mgrtarcibangu@yahoo.fr; Tel: 0996658741

MDRC (Multidisciplinary Development Research Center/Matadi)

Objective: To carry out operational research in central Congo in the field of applied linguistics of African cultures and applied sciences

Address: Hôtel de la porte Matadi; E-mail: Mwanzanicolos5@gmail.com; Tel: 0815037949

NCPIR (National Committee for the Protection of ionizing Radiation)

Objective: - Regulatory authority for protection against the dangers of ionizing radiation in the DRC management of radioactive sources of radioactive materials such as uranium.

Address: 4675, Av. Colonel Ebeya, Immeuble Quitus 2ème niveau; Email: Flory1963@gmail.com; Tel: 0816684665

AEC (French Atomic Energy Commission)

Objective: To carry out, promote and coordinate scientific and technical research in various fields of science and industry, concerning the use of atomic energy and space research.

Address: UNIKIN building; E-mail: Steve.muanza.kamunga@gmail.com; Tel: 0808643248

CGI (Congo Geographic Institute)

Objective: Production of the base map of the DRC at a scale of 1/50,000 and its derivatives.

Address: 106, Blvd du 30 Juin, C/Gombe; E-mail: Fidele.balibuno@unikin.ac.cd; Tel: 0974449240

GMRC (Geologic and Mining Research Center)

Objective: To carry out studies and analyses to improve knowledge of the soil and subsoil of the national territory.

Address: 44, Av. de la démocratie, C/ Gombe; E-mail: rolandkakule@gmail.com; Tel: 0851506161

NIASR (National Institute for Agronomic Study and Research)

Objective: To promote the development of agriculture in the Congo. To maintain varieties, multi-local trials, and its farmers, management and conservation of germplasm. Set up a program to monitor and evaluate research activities.

To disseminate new varieties. Give the emerging technical department its reason for being, with a view to producing basic and pre-basic seed. Resume publication of the agricultural magazine to disseminate research results.

Address: 13, Av. des Cliniques, BP :2037 KINSHASA, C/Gombe; E-mail: domikankonde@yahoo.fr; Tel: 0818248620

RCALC (Research Center into African Language and Culture)

Objective: To coordinate and carry out all research projects concerning African languages and cultures.

Address: 53 C, Av. Makiso, blvd du 30 juin, Kisangani/ Tshopo. Tel: 0851934320

AFRC (Agro-Food Research Centre/Lubumbashi)

Objective: To identify processes for processing and preserving basic local agricultural products.

To improve the quality of imported or locally produced foodstuffs by applying approved standards and quality control.

Help the technological development of the existing agro-industry by providing them with technical assistance wherever possible.

Address: 1, Av. Président ILEO, Q/CRAA, C/Lubumbashi; E-mail: Julesnkulu@gmail.com; Tel: 0997131002

SSRC (Social Science Research Center / Bandunduville)

Objective: to carry out practical scientific research into major socio-economic and cultural issues.

To promote sustainable aquatic development.

Address: 29, Av. de la mission, Q/Salongo, C/Basoko. BANDUNDUVILLE, BP. 223; E-mail: akuzituka@gmail.com; Tel: 0815898971

FERC (Forest Ecology Research Center /Mabali)

Objective: Scientific research on plants, aquatic species and animal species.

Address: D.S/MBANDAKA D.S/MBANDAKA/PROVINCE OF ECUADOR; E-mail: bosomboependi2@gmail.com; Tel: 0825241704

NDRC (Nutritional Diseases Research Center/Gemena)

Objective: Research into diseases linked to malnutrition, such as related diseases by isolating certain molecules, such as SYZYSIUM GUINESIE to combat amoebic yeasts and diarrhea in South Ubangi.

Address: Mobutu n° 220/A. GEMENA/ SOUTH UBANGI PROVINCE; E-mail: cherusangi@yahoo.fr; 0992416091

NSRC (Natural Sciences Research Center /Lwiro)

Objective: To carry out, promote and coordinate research in the fields of science, technology and industry throughout the DRC.

Address: LWIRO LWIRO, TERRITORY OF KABARE/SUD KIVU; E-mail: robert.kasisi@umontreal.com; Tel: 0996806699.

MDRC (Multidisciplinary Development Research Center /Bunia)

Objective: To carry out operational research in the north-east of the DRC in the fields of applied linguistics, African cultures and applied sciences.

Study of nature, fauna, flora and protection of endangered species.

Address: BUNIA/ITURI; E-mail: Kermwathomas@gmail.com; Tel: 0997717070

HRC (Hydrobiology Research Center in Uvira)

Objective: To program, coordinate and monitor research activities in hydrobiology, limnology and hydrology.

hydrobiology, limnology and fisheries in all ecosystems.

Address: 115, Av. du Congo, Q/Kimanga, C/Kalundu, UVIRA / SUD KIVU; E-mail: bida-kamuhoza@gmail.com; Tel: 0997716307.

CBRNEC (Chemical, Biological, Radiological and Nuclear Excellence Center)

Objective: To contribute to the mitigation of chemical, biological, radiological and nuclear risks.

Address: 106, Blvd du 30 Juin, C/Gombe; E-mail: coe.cbrn.rdc@gmail.com; Tel: 0817742543.

GVO (Goma Volcanological Observatory)

Objective: Prevention of volcanic risks by monitoring volcanoes and Lake Kivu. Kivu; Management of natural risks; scientific research.

Address: 142, Avenue Du Rond Point ; Quartier Les Volcans ; Commune de Goma ; Ville Goma; North-Kivu; E-mail: mavotulu@gmail.com; Tel: 0998584734

WERC (Water and Environment Research Center)

Objective: To serve as a training and research center focusing on water and environmental management.

To propose solutions to problems that could arise around water. Create a national network of Congolese scientists and researchers to analyze and disseminate information on the impact of climate change in the DRC. Promote education and the right to the environment.

Address: 44, Comité Urbain C/ GOMBE; E-mail: ngelipatience@gmail.com; Tel: 0818105625.

RCSARP (Research Center for the Selection and Adaptation of Ruminants and Pigs)

Objective: To carry out studies and research in the field of ruminant and pig breeding

Address: 45, Av. Lumumba, Q/de la gare, LUPUTA/ KASAI-ORIENTAL; E-mail: tshamalagabriel@gmail.com; Tel: 0851817370

NCRS (National Center for Remote Sensing)

Objective: Research in remote sensing.

Address: PLACE ROYAL IMMEUBLE PLACE ROYAL IMMEUBLE KASAI; E-mail: davidngindub@gmail.com; Tel: 0815103502.

NCROS (National Center for Research in Oral Science)

Objective: To carry out studies and research in the field of oral health.

Address: 13, 10ème Rue, Industriel Quarter, C/Limete; E-mail: Cnrsbd.rdc@gmail.com; Tel: 0822244152; 081835159; 0840922982

CAS (Congolese Academy of Sciences)

Objective: Promotion and dissemination of science, technology, arts and letters. Support for inventive initiatives.

Address: Sciences Faculty/ UNIKIN local 28; E-mail: jlmuyembet@gmail.com; Tel: 0813330242

MIPRC (Matadi Interdisciplinary Pedagogical Research Center)

Objective:--Information science.

Address: The buildings of the Matadi Higher Pedagogical Institute; Tel: 0896501462



MINISTÈRE DE LA
RECHERCHE SCIENTIFIQUE
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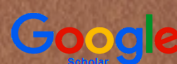
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The National Scientific Council (NSC) is the sole supervisory and decision-making body for all research centers and institutes in the DR Congo

In accordance with article 24 of Ordinance-Law n°82-040 of 5 November 1982 on the organization of scientific and technical research, the National Scientific Council is responsible for:

1. to deliberate on the guidelines and priorities of the scientific and technological research plans and programs to be carried out in the country ;
2. to deliberate on the allocation of resources from the State budget to scientific and technological activities;
3. supervising the financial management of research centers and institutes
4. approving the budgets of the Research Institutes and Centers and submitting them to the Minister for Scientific Research for approval
5. approving the organic regulations of the Research Institutes and Centers;
6. . proposing to the Minister for Scientific Research the appointment and promotion of scientific and administrative personnel.

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