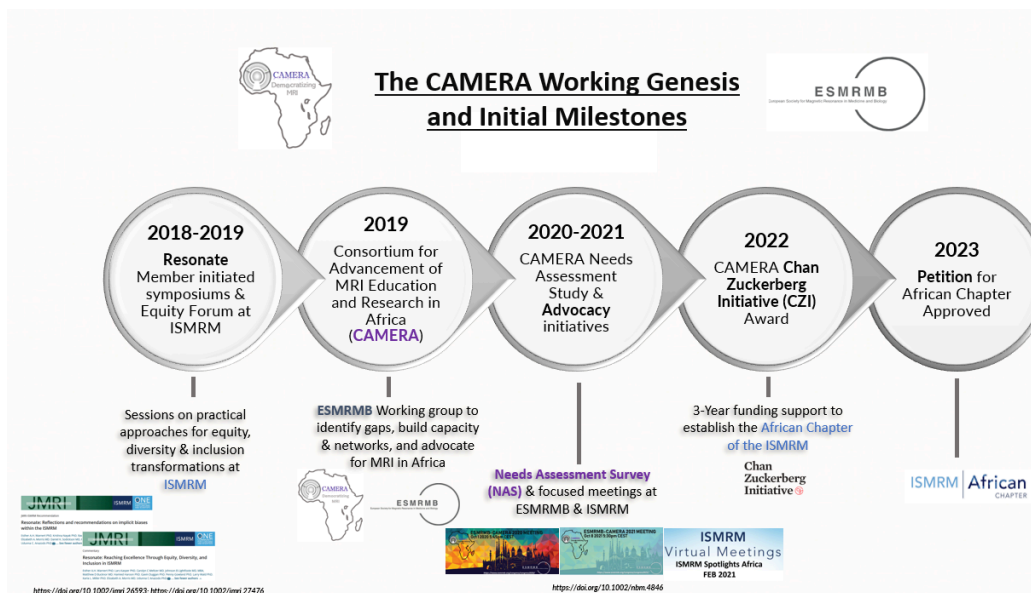**ESMRMB Working Group**
Consortium for Advancement of MRI Education and Research in Africa (CAMERA)
Terms of Reference
August 2024

I   Network Name

The name of the ESMRMB Working Group is Consortium for Advancement of MRI Education and Research in Africa (CAMERA).

II   Purpose

CAMERA is a Working Group of the ESMRMB established in 2019, comprising of a global network of biomedical imaging experts dedicated to enhancing MRI education and research in Africa and expanding this to Low- and Middle-Income Countries (LMICs).

Historical overview of CAMERA inception, establishment and initial working group milestones.

<u>Vision</u>[1]: Make MRI accessible to provide high value care in Africa and to advance innovation geared towards solving the relevant healthcare needs of the continent[1].

<u>Mission</u>[1], to:

1. **C**reate enabling clinical and research MRI environments.
2. **A**dvance MRI education by training and retaining experts in place.
3. **M**aintain, expand, and strengthen MRI networks in Africa.
4. **E**mpower African researchers toward need-specific imaging innovation.
5. **R**ealize lasting partnerships with academia, industry, and relevant organizations.
6. **A**dvocate for diversity and inclusion in MRI.

CAMERA aims to provide a variety of strategic imaging initiatives and structuring projects that will increase Africa's contribution to imaging science regionally and globally to increase its impact on health care systems on the continent. CAMERA acts in an advisory role for ESMRMB, as well as other related imaging societies and health care organizations, such as the International Society for Magnetic Resonance in Medicine (ISMRM) and the Medical Image Computing and Computer Assisted Interventions (MICCAI), among others, to provide informed strategies and frameworks for imaging initiatives in Africa, including perspectives that will shape health systems policy on the continent as well as advance access to biomedical imaging in other resource limited settings around the world.

III Strategy and Approach

CAMERA's strategic framework rests on four pillars informed by a comprehensive need assessment study[1]: advocacy, training, networking, and innovation, each designed to enhance accessibility to high-value MRI in LMICs, with a focus on Africa:

1. **Advocacy:** Utilizing webinars, symposia, and partnerships to raise awareness about MRI's pivotal role in addressing Africa's healthcare needs, advocating for funding support, and facilitating collaborations with MRI equipment stakeholders.
2. **Training and Mentorship:** Implementing a train-the-teacher approach to empower emerging MRI experts in clinical practice, imaging physics, biomedical engineering, and entrepreneurship through social media and online platforms.
3. **Networking:** Organizing cross-regional meetings, such as establishing the African Chapter of ISMRM and facilitating partnerships with international imaging societies to increase presence of African imaging experts globally, and forum for sharing best practices and resources.
4. **Innovation:** Supporting the development and implementation of sustainable MRI technologies such as AI, contrast-free imaging techniques, low-cost imaging solutions

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[1] *Anazodo UC, Ng JJ, Ehiogu B, et al., NMR Biomed. 2023 Mar;36(3):e4846.*

through enhancing open-source imaging technologies and fostering local MRI research innovations.

The CAMERA Conceptual Framework
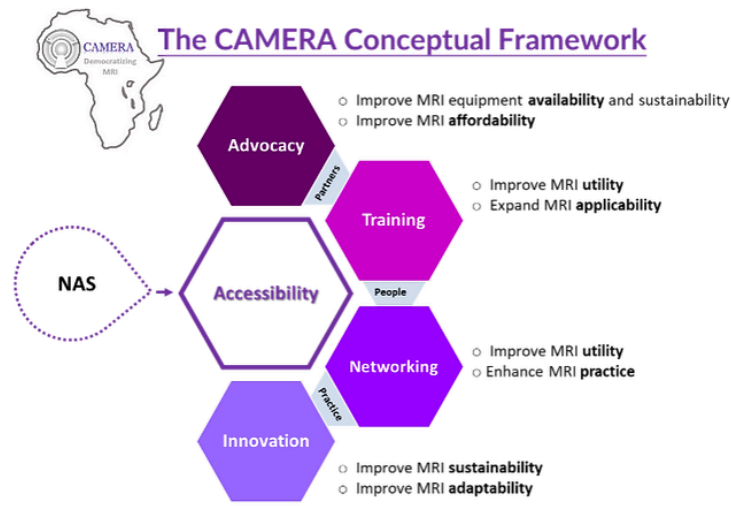
IV Participation

Membership of CAMERA is open to ESMRMB members and to researchers, educators, clinicians, and technologists interested in advancing MRI in Africa and other underserved communities around the world.

There is no membership fee to participate and contribute to CAMERA activities. Volunteers are encouraged to specify their desired roles (e.g., Advisory Board, project involvement) by completing the CAMERA Volunteer Form on the CAMERA website[2]. The CAMERA leadership and project leads will enroll volunteers in CAMERA projects.

All members are kept informed of CAMERA projects and activity updates through CAMERA website[2], electronic mailing lists and CAMERA WhatsApp community, as well as at the annual CAMERA general meeting.

Participation Code of Conduct

CAMERA is dedicated to providing a harassment-free experience and safe environment for all participants and volunteers, regardless of race, cultural affiliation, gender, nationality, religion, age, or disability. All volunteers on CAMERA projects, activities, network events, and forums including on social-media platforms or in-person are expected to comply with this code of conduct and violations of its standards may result in dismissal from participating in CAMERA activities, events, forums or can result in the revoke of CAMERA membership, at the discretion of the CAMERA leadership. Upholding the standards of behavior is mandatory to maintain CAMERA's integrity and for creating a positive environment for all.

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[2] *https://www.cameramriafrica.org*

Expected Behaviour at Events

All volunteers and speakers at CAMERA events must:

- Behave professionally and responsibly towards everyone, both in-person and online, during all formal and informal social activities, regardless of location or forum.
- Respect each other and avoid making judgments based on race, gender, nationality, tribe, religion, age, sexuality, or disability.
- Refrain from any form of harassment, bullying, or discrimination towards fellow participants.
- Maintain confidentiality of any sensitive information shared during events.
- Avoid engaging in any illegal or unethical behavior.
- Avoid behaving in a manner that is disruptive or disrespectful towards other participants, volunteers, or the event itself.
- Avoid using language that is inappropriate, disrespectful, or offensive towards other participants, volunteers, or the event itself.
- Avoid engaging in any behavior that may pose a threat to the safety or security of other participants, volunteers, or the event itself.

Conduct on Community Forum (including WhatsApp, Slack, etc)

All participants and volunteers are expected to engage in:

1. Respectful Communication: Maintain Professionalism and respect in all interactions.
2. Relevant Content: Share only topics related to medical imaging, MRI education, and research opportunities.
3. No Spamming: Avoid irrelevant messages, ads, or promotions.
4. Confidentiality: Respect privacy and do not share sensitive information without consent.
5. Moderation: Moderators will guide discussions and address issues promptly.
6. Feedback: Provide constructive feedback to enhance community engagement.
7. Social networking platform policies: Adhere to the social networking platform terms of service (e.g., for WhatsApp: https://www.whatsapp.com/legal/terms-of-service).
8. Reporting: Report violations to moderators promptly.

Reporting Process: To report any concerns regarding the violation of the aforementioned guidelines, please email the CAMERA leadership at info.camera.mri@gmail.com. The concerns will be investigated and addressed as soon as reasonably possible.

V   Projects and Activities

CAMERA actively engages in impactful initiatives aimed at advancing MRI education, research, and accessibility across Africa and LMICs using the CAMERA framework. Current projects include:

1. **SPrint AI training for AfRican medical imaging Knowledge translation (SPARK):** SPARK is aimed at advancing AI methods for medical imaging in Africa. It provides comprehensive

training to African researchers, enabling them to develop and implement AI tools for medical diagnostics. The program emphasizes practical skills through case-based learning and participation in challenges such as the MICCAI Brain Tumor Segmentation (BraTS) Challenge.

2. **Scan With Me (SWiM):** SWiM is a training initiative focused on enhancing the skills of MR imaging technologists in LMICs. SWiM uses a combination of case-based and hands-on learning approaches to rapidly build competency and best practices in MR image acquisition.

3. **Own Your Future Mentorship (OYFM):** OYFM empowers young African imaging professionals with tools for career development and leadership. It includes mentoring and training programs focused on clinical practice, imaging physics, and entrepreneurship.

4. **Spotlight Podcast:** The 'Spotlight' podcast showcases inspiring stories of African imaging researchers who are driving medical imaging innovation in the region. Each episode features personal journeys, challenges, and successes in transforming healthcare through MRI technologies.

5. **Imaging without Borders (IMAGINE):** is a summer school designed to provide hardware and engineering skills training to biomedical engineers and MR imaging personnel working in MRI hardware and scanner maintenance in LMICs, or clinicians and researchers interested in low-field and accessible imaging. IMAGINE is focused on creating low-cost open-source tools that will sustainably democratize diagnostic imaging and make it readily accessible to all.

6. **CONNExIN (COmprehensive Neuroimaging aNalysis Experience In resource constraiNed settings):** is designed to provide experiential learning in neuroimaging to researchers practicing in LMICs, with focus on Africa, to enable the power of experience that will unlock neuroscience discoveries. The program will deliver state-of-the-art knowledge in neuroimaging methods and applications by instructors with local experience.

7. **SMART Africa:** is a 3-year project (2022 - 2024) funded by the Chan Zuckerberg Initiative (CZI) to establish the African Chapter of ISMRM and support and facilitate annual meetings of the Chapter during these three formative years.

Process for Proposing New Projects

Members of CAMERA can propose projects that align with the vision, mission and objectives of CAMERA.

To propose a project, members shall complete a project proposal form and submit the form to the CAMERA Steering Committee via the CAMERA contact email (info.camera.mri@gmail.com). The Steering Committee will review the project and approve it within 60 days of submission to ensure the proposed project aligns with CAMERA's goals and does not overlap with existing projects.

Project proposals must describe the rationale for the project, how the project aligns with CAMERA's mission, the project objectives, duration, approach, deliverables/outcomes, how the project outcome will be measured, budget table and justification, existing or planned funding sources, and project team. The project team must include one of the existing CAMERA Project Leads or Co-leads as Co-leads on the proposed project. The roles of all team members must be outlined. All project team members must complete the CAMERA Volunteer Form prior to approval of the proposal. Any funding or sponsorship received or to be solicited to support the project must be declared on the project proposal and outlined in the budget table.

CAMERA will work with the project team to:
1) Solicit participation on the project through the CAMERA Network
2) Provide the resources of the communication team to promote the project through CAMERA's website and social networking platforms (X, LinkedIn, Medium, WhatsApp Community).
3) Deliver the project to meet the project and CAMERA's objectives.

VI   Funding

Funding for CAMERA projects and events is acquired through grant applications and in-kind contributions to support salaries of operations manager(s), costs for website and web-based educational and mentorship tools, publications, annual meetings including meeting platforms such as Zoom, and travel funding for project participants, depending on what is agreed upon in specific grants.

Funding applications can be initiated on behalf of CAMERA by members of the Steering Committee as nominated primary applicants or by CAMERA membership as nominated co-applicants. Funding applications shall have a minimum of two CAMERA Steering Committee members as nominated applicants and who hold an independent researcher/academic position at the level of assistant professor, associate professor, or professor and their equivalents at an accredited university or research institute. A memorandum of understanding (MOU) shall be established between CAMERA and all applicants' institutions where funds will be disbursed on behalf of CAMERA projects, prior to submission of funding applications. All funding applications shall adhere to the funder's eligibility and application guidelines.

VII   Organizational Structure / Governance

The organizational structure of CAMERA is shown below: it consists of a Steering Committee (made up of the Executive Chair, Vice-Chair, Operations Manager, Communication Manager, and Project Leads), which is overseen by an Advisory Board and reports to Stakeholders, who engage with CAMERA to effect CAMERA's vision and mission.
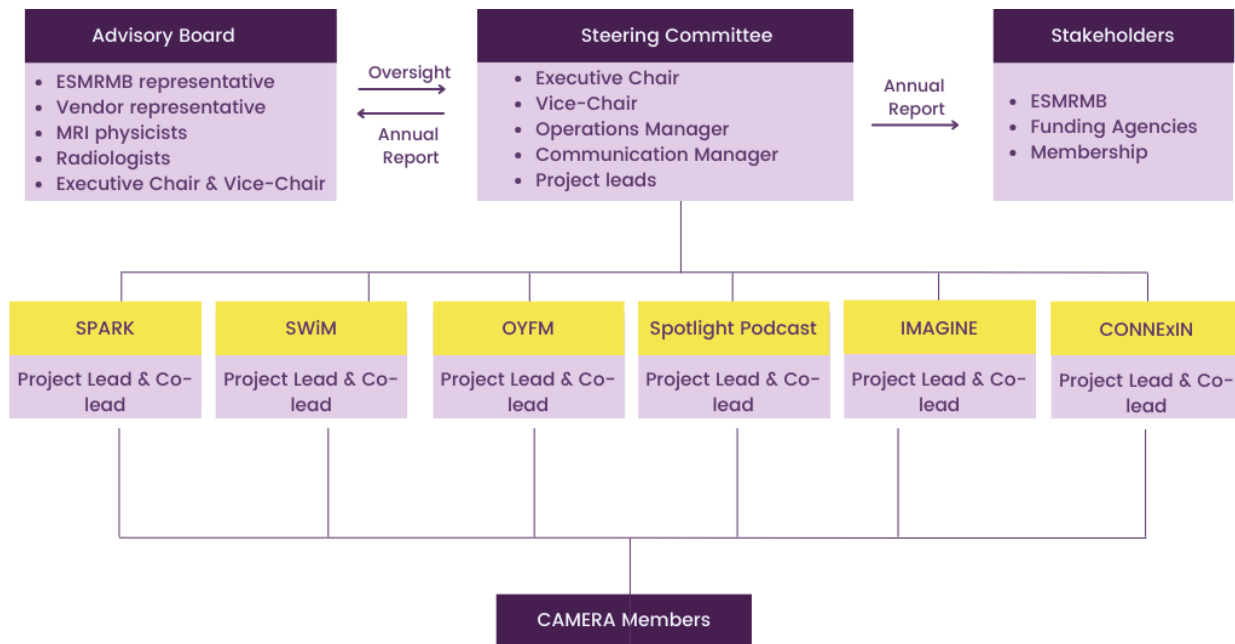
Steering Committee

The Executive Chair of CAMERA is a ten-year position and can seek renewal through Steering Committee approval. The responsibilities of the Executive Chair include but are not limited to overseeing CAMERA's day-to-day functions and activities, designing and updating the strategic plan for CAMERA, preparing annual reports for the stakeholders, reviewing progress reports from each project, presenting an annual report to the Advisory Board, and being responsive to recommendations from the Board. In the event of the Executive Chair stepping down or at the end of term, an election will take place in which all CAMERA members may vote. Applicants can be self-nominated from CAMERA Steering Committee. The Steering Committee will select nominations to put forward to the membership for a vote. A vote shall be called within six months of the vacancy of the Chair position. The Chair can veto nominations.

The Vice-Chair of CAMERA is a five-year position and can seek renewal through Steering Committee approval. The responsibilities include, but are not limited to, providing appropriate support for the Chair in the activities listed above, and substituting for the Chair when the latter is not available. In the case of the Vice-Chair stepping down or the end of term, an election will take place in which all members of CAMERA may vote. Applicants can be self-nominated from CAMERA membership. The Steering Committee will select nominations to put forward to the membership for a vote. A vote shall be called within six months of the vacancy of the Vice-Chair position. The Chair can veto nominations.

The <u>Operations Manager</u> is appointed by the Steering Committee for five years with the option for extension. The Operations Manager is responsible for, but not limited to coordinating CAMERA's day-to-day functions, projects, finances, and activities, drafting meeting minutes, reports, and managing CAMERA in-person and online events.

The <u>Communications Manager</u> is appointed by the Steering Committee for five years with the option for extension. The Communication Manager works with the Operations Manager to manage CAMERA's communication channels and platforms; namely email, X (formerly Twitter), LinkedIn, YouTube, Medium, and other social networking platforms. The Communication Manager is responsible for moderating the community forums, drafting newsletters, updating the website, and creating promotional materials.

The <u>Project Leads</u> hold a 3-year mandate with the option for extension. Specific project topics and leads/co-leads can be proposed by CAMERA membership and will be approved by the Steering Committee. Project leads/co-leads responsibilities include but are not limited to overseeing the design, implementation, and review of their project. The lead and co-leads recruit volunteers from the CAMERA membership and interested individuals to execute their project, as well as reporting on project progress to the Steering Committee. In the case of the project lead or co-lead stepping down or at the end of term, the Chair or Vice-Chair will take on the role, while nomination for a project lead/co-lead is in process. Applicants can be self-nominated from CAMERA membership and will be selected and approved by the Steering Committee

The Steering Committee will meet bi-monthly to discuss project developments and strategic planning.

Advisory Board

The Advisory Board consists of up to 12 researchers, clinicians, industry representatives, and stakeholder representatives. The responsibilities of the advisory board include but are not limited to offering strategic insights, expertise, and guidance tailored to advancing MRI education, research, and innovation in Africa and other underserved communities, ensuring alignment with global best practices and fostering impactful collaborations within the field. CAMERA members can self-nominate or nominate others to this role and the advisory board members will be chosen from the nomination by the Steering Committee. Each member can serve for a period of 3 years with the possibility of extension for up to two terms.

The Advisory Board will meet with the Executive Chair and Vice-Chair, on a bi-annual basis to review CAMERA activities after receiving the report from the Chair. Ad-hoc board meetings can

be held when matters arise that require the boards' oversight and input. Board members shall be notified two weeks prior to ad-hoc meetings.

Stakeholders

Stakeholders are organizations, funding agencies, international MR societies such as the ESMRMB, and collaborating organizations who have active projects and funding support and whom CAMERA serves an advisory role on MR accessibility and democratization.

VIII   Annual meetings and reports

Annual General Meetings

CAMERA shall convene Annual General Meetings held in conjunction with the ESMRMB Annual Meeting in October of each year or during the month of joint ISMRM/ESMRMB Annual Meetings. The meeting will consist of a scientific meeting held as a session of the ESMRMB Annual Scientific Meeting. The CAMERA Annual General Meetings will be accessible to all CAMERA members, who have registered to attend the ESMRMB Annual General Meeting or the Joint ISMRM/ESMRMB Annual Meetings. Attendees will receive detailed agendas, dates, times, and venues at least four weeks prior to the event.

CAMERA Advisory Board Meetings

During each Advisory Board Meeting:
• The Executive Chair or nominated representative will present a comprehensive report on CAMERA's activities.
• Project Leads/co-leads will provide updates on their achievements and challenges.
• The Board will provide input, feedback, and suggestions on the report and project progress.
• The Operations Manager will compile and distribute meeting minutes to all members within one month of the Advisory Board Meeting.

Reporting

Annual Reports shall be prepared by the Operations Manager and approved by the Steering Committee before the final Advisory Board Meeting for the year. The report shall be presented to the Advisory Board and distributed to the membership in December of each year as an Annual Holiday Newsletter. The report will describe progress on projects, funds, and demographic and reach of the membership.

IX   Dissemination of work

CAMERA ensures wide dissemination of its work to maximize impact and visibility across various platforms:

- **Website:** CAMERA maintains an informative and up-to-date website (www.cameramriafrica.org) with project updates, publications, events, and contact information.
- **Social media:** CAMERA engages in advocacy and networking activities through social media platforms such as X, LinkedIn, WhatsApp, website communications, email newsletters, and participation in international meetings and conferences.
- **Educational Content:** CAMERA educational content is publicly available through open-source publications, content sharing on platforms such as YouTube, GitHub, and protocols.io.
- **Online Platforms:** CAMERA utilizes educational, mentorship, and networking platforms such as Fourwaves, Together Mentorship platform, and Zoom to facilitate knowledge sharing, collaboration, and training opportunities in MRI across Africa and beyond.

These platforms are managed by the Operational Manager. The project leads and co-leads provide and update content for educational content tools and online platforms.

CAMERA activities will also be disseminated through the ESMRMB website (www.esmrmb.org) and its social media channels.

X   Final considerations

These Terms of Reference are subject to periodic review and may be amended or supplemented as necessary by consensus and with approval by the Steering Committee and ratification by the ESMRMB Executive Board. Proposed amendments to the CAMERA Terms of Reference by the membership must be submitted three months in advance for consideration by the Steering Committee and presentation to the Board. Any matters not explicitly addressed herein shall be resolved through mutual agreement. New projects may be incorporated into CAMERA's activities at any time with appropriate approval by the Steering Committee.

Last modification: August 27, 2024

Approved by the Steering Committee on: August 29, 2024

Ratified by the ESMRMB Board on: (enter the date)

Tabled to the CAMERA Advisory Board on: (enter the date)