

Question Report

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ISMRRM Spotlights Africa - Virtual Meeting

#	Question	Asker Name	Answer(s)	Answer(s)	Answer(s)	Answer(s)	Answer(s)	Answer(s)	Answer(s)
1	Would be interested in the potential applications of LowField-MRI (<0.1T). Advantage: little maintance	Daniel Gembris	Hello Daniel, super low field(<0.1T) certainly can be assumed to be lower maintenance due to the lower complexity. However, one must also balance the lower breadth of applications available especially with respect to the various examples shown today. It will be best used as an additional device rather than a main device at a location.	In the context of stroke, there is a great recent review article by Seema Bhat, et al. "Low-Field MRI of Stroke: Challenges and Opportunities" https://onlinelibrary.wiley.com/doi/abs/10.1002/jmri.27324	Today's low-field products are highly improved in terms of performance, quality, very small footprint and enhanced servicing. I certainly see a strong potential for "high-performance low-field MRI" here. Especially today, in the times of COVID-19, low-field actually has an advantage over other field strengths when imaging lung for instance.				
2	Thank you for the enlightening presentations thus far. Can contact information for panelists be provided before the end of the event?	Babatunde Falohun	live answered	Babatunde, can I have your email address, I can send you a list of the panelist and emails. Thanks	Thank you Dr. Udunna [redacted]@gmail.com	Good job Dr Anazodo			
3	Thank you	Debra Patterson							
4	In the first talk it was suggested to offer MRI systems at a special price to Sub-Saharan Africa. Has there been any discussions about such an idea with the major vendors of clinical MRI scanners?	RalfM	From the vendor perspective, there are various programs in places, but unfortunately they are country and OEM specific and not consistent. Having a wider program across the continent would be more effective.	Thanks a lot!					
5	Thank you so much for this important webinar and for the excellent speakers! I have two questions for Dr Ntusi in particular: 1. you mentioned that older cardiologists are not as familiar or comfortable with CMR. What are the main "competitor" modalities? Nucmed and echo? Or is CT widely available as well? 2. Would it help to have "core labs" or central places available to help with post-processing CMR images from multiple centres if local expertise unavailable (at least in the short term)? Thankyou!	Rebecca Thornhill	Rebecca, I'm not sure if Dr. Ntusi is here but I love your idea of looking into core labs for post processing and genereal support. To do this, I think it is important to also improve imaging enterprises to be more digital with access to a robust PACS system for image storage, transferring and retrieval that way we can have a decentralized approach	Hi Rebecca, thank you for your question. Prof Ntusi had an emergency and is not able to join the meeting. I will send your question to him and get to you. Thanks					
6	The first problem of MRI in Africa is availability of MRI machines, yes, but... we do have a big shortage of radiologists and technologists, not too mention Biomedical Engineers. We should never forget that the machines and the workforce have to tackled hand in hand! Any overview of the personnel problem all over Africa?	Mario Forjaz Secca	Mario, I think this problem gets solved over time from both sides. On one end, OEM equipment needs to continue to be more reliable and simpler to use. AI techniques have come a long way in helping. On the other end, an increased level of training and work force availability is key. As we just saw in the presentations, availability of equipment without support(technologists to use and engineers to fix) does fix the problem.						
7	Yes	Dr Sunil Kumar Suguru Laxman							
8	Dou you think that the expansion of MRI examinations is a desire also from the governmental agencies in Africa? They undestand that the use of MRI can reduce costs on the health care system?	Alessandro Mazzola							

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9	General question: Where do you think the opportunities are for ISMRM members to assist in helping grow MRI service and sustainability in Africa. Education, scanner development, technologist training?	Elizabeth Hecht	We have a working group within ESMRMB that concentrates on that. Youu should join! Contact Udunna.	That would be great, will reach out, thanks!	Yes Elizabeth, please send me an email uanazodo@lawsonimaging.ca. Thanks				
10	Excellent presentation on Cardiovascular MRI. What are some key technical challenges to be solved for some of the specific disease presentations in SSA?	Anonymous Attendee							
11	Of course, one of the connected problems in Africa is the difficulty in getting proper maintenace and as important training personnel / application specialists!	Mario Forjaz Secca							
12	Is there a sense of the distribution of new mri purchases in Africa per year in public and private sectors and of these the distribution of refurb systems vs. new factory systems...	Anonymous Attendee	That is what CAMERA (ESMRMB) is trying to do, and WHO! Both with the help of RadAid. Hopefully we should have data in the near future						
13	Should we focus more on doing clinical MRI research in Africa, or on clinical MRI education in Africa?	Godwin Ogbole	live answered	or both?	I would hope for a strong focus on training of MR knowledge, engineering, applications, and then to learn from the local radiologists and technologists about what works in the local need and local opinion. Research exchange is ALWAYS valuable for learning from and with each other.	MRI education is obviously paramaount, but I also believe research drives education - one would require the skillset in MRI to carry out impactful research	Godwin, we have to have good clinical MRI education before we can do good clinical research, but it should definitely not be left too much behind. That dephasing should be as small as possible.	Research can also provide insights into the challenges unique to Africa and lead to targeted solutions	Totally agree, Edward!
14	Thank you for the great information. I am an mri technologist with great experience in Breast and cardiac mri based in Washington DC. I am originally from senegal and living in Maryland . I am looking for an oppportunity to give back to my community anywhere in Africa. Has any of the panelist have an oppportunity for me or any suggestions Thank you !	Anonymous Attendee	Hello, I am happy to help link you up with opportunities in the region. Please send me an email - uanazodo@lawsonimaging.ca						
15	which is the main body or organisation that could help to contribute to improving logistics to increase access to MRI scanners in Africa?	Godwin Ogbole	Good question!!!						
16	For Dr. Razek: 1) Are there general differences in typical treatment strategies and time-lines for breast cancer in Africa. For instance to accomodate travel distances and access to care centers, or cost? 2) Are there differences in prevalence for specific types of breast cancer? Thank you!	James Holmes	yes differene in all, care & cost & according to the type of BC , treatment strategy						
17	Thanks a lot for organizing this webinar! One very general question: in your opinion (regardless of your own research/study focus), in which application or organ MRI would be the most efficient at improving the Africans' health level? Do you see a dominant application/disease or should this be addressed on a country-by-country basis?	Simon Levy	Or on an organ-by-organ basis?						
18	Is wide bore (70cm) more or less important for the African market compared to other regions?	Andrew Wheaton	Is wide bore (70cm) more or less important for the African market compared to other regions?	Similar question for field strength: ultra-low (<0.1T), low (<1T), mid (1.5T), high (3T)? What scanner mixture is expected for Africa ten years from now?					
19	For our presenters specializing in cardiac and breast MRI: What field strength is needed for the diagnostic imaging that you presented here? Is lack of scanners specifically of appropriate field strength a challenge in these areas?	Abigail Cember	lack of specialized people 1 breast radiologist /100000 women						
20	Thank you so much!	Rebecca Thornhill							

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21	Thank you for an interesting meeting. In your opinion, will improving access to MRI in SSA actually have any effect on the lives of the poorest people living in those countries, or is MRI and other advanced (and expensive) healthcare interventions limited to providing benefits to those rich enough to pay for them or have health insurance? How do you think the benefits from MRI can be extend throughout the wider population?	Sophie Schauman	live answered						
22	Which clinical applications (in LMIC) should we prioritize, in terms of research or service ? Brain, Cardiac, breast,OR MSK?	Anonymous Attendee	My biased answer is Cardiac but I'm sure more than one clinical application can be prioritized						
23	Is there possibilities for enhancing the low field images using machine learning trained on individuals that have both low & higher field images? A sort of image - to -image transfer.	Tavia Evans	ah we are talking about this now anyhow! fabulous!	Hi Tavia, absolutely! We are seeing some good results in this. It is important to ensure that the noise quality and presentation are accounted for, though. it is an area with a lot of potential					
24	how do we get the vendors to increase their role in providing sustainable and accessible MRI solutions and research opportunities in africa?	Anonymous Attendee							
25	what could be done to improve logistics to increase access to MRI scanners?	Anonymous Attendee							
26	great work RE the machine learning in AD- this would be interesting to possibly try and implement this in the newly forms UNITED consortium (www.theunitedconsortium.com) when recruitment has progressed- they are aiming to bring together diverse populations on neuroimaging in neurodegeneration - Not all data can be shared though so would it be possible to impliment the ML training via federated (multi-site) training?	Tavia Evans	Yes quite possibly - would be very interested to look into it! Thanks for the thought and do get in touch if you want to pusue it.	Will do! Great presentation though, A range of very interesting topics					
27	Would more formal academic partnerships be useful for the issue of "brain drain"- more international mentorship of technologist, MDs, fellowships, visiting professorships, more exchange of knowledge and funding opportunities.	Elizabeth Hecht	Well, I think to some extent. The dynamics of brain drain are so complex. People have different needs and wants, and whatever opportunities they may desire.						
28	What efforts are being made to enhance capacity building in AI/ML imaging applications in Africa?	Godwin Ogbole							
29	Is there currently any use of AI technology to help read and analyze scans in areas with a limited number of radiologists?	Anonymous Attendee	Lots of development going on on this kind of idea, but working systems... I would say not yet.						
30	My question to Dr Daniel Alexander on machine-learning is that what should be the primary focus for improving image analysis of lower field strength MRI scanners?	Mubaraq Yakubu	Very broad question! And I don't think there should be a single focus. Lots of potential application areas can be enabled by improving both the imaging and image analysis on low-field machines. And often developing a solution for a very specific application area - like my example of paediatric epilepsy - actually provide a good first step for solutions applicable in many other areas and clinical needs.						
31	The ISMRM membership for us in Brazil is 6 times higher because 1 dólar is R\$ 6,00 (reals). It is really very difficult for us also. Is teher any possibility to reduce this membership prices?	Alessandro Mazzola							
32	To the Vendors, what's the helium accessibility & availability in Africa?	Hassan Ahmed							

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33	What about energy resources, infrastructure issues and ways to advocate or support that, alternative energy sources?	Elizabeth Hecht							
34	My question to Dr Fatade, Recently, Nigerian Sovereign Investment Authority (NSIA) has established some "sophisticated" center in Nigeria in a bid to improve healthcare services, is there any other organization/group that has made or is currently making similar efforts in Nigeria or Africa as a whole? Also, what can be done to see that people with very low income have access to these "sophisticated" healthcare services?	Mubaraq Yakubu							
35	It's becoming clear Africa may need indigenous MRI to solve some of these issues	Michael Garwood	Hi Michael, thank you for your question. Can you clarify what you meant by 'Indigenous MRI'?	I'm suggesting finding a plan and resources to begin manufacturing a (low cost) mri system within Africa.	Oh yea, perhaps a "climate tolerant" MRI type!	Obviously a permanent magnet is the way to go. Stripped down other hardware to save cost and power consumption.	Dr. Anazodo, you'll agree that MRI is a heavy duty equipment which generates a lot of heat. Africa is also hot. Bringing a large heat generating equipment into a hot climate environment in itself is a challenge. Meanwhile our power systems are also not adequate to sustain the operation of these equipment.	B0 gradients are a big power consumer. Need other technologies that demand less power (eg, Multicoil arrays).	Perfect, I agree
36	What would be the most useful training courses/schools to have to increase training? (For example, bringing people from across ISMRM to run/teach.)	Paul Taylor	That can be a good approach. Simply put, the training should be formalized for both technologists and radiologists. Many people train on-the-job, which is a big challenge, not only for operating the scanner efficiently, but also for image interpretation.						
37	How is Hyperfine planning to work with africa	Godwin Ogbole	We are starting! Images will be acquired in March. Initial units have to be placed under ethics committee approval.						
38	There are a lot of levels and methodologies for running training courses, that are relatively cheap (<<price of scanner...). And I am sure a lot of interest in people contributing to them.	Paul Taylor							