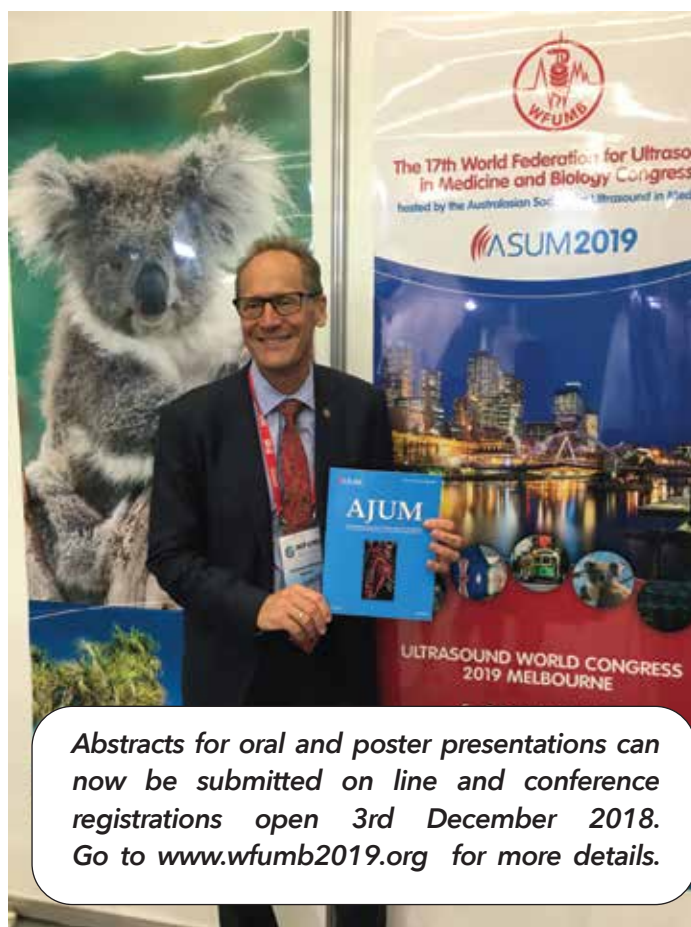


WFUMB 2019 hosted by the Australasian Society for Ultrasound in Medicine

Time is ticking down to the premier multidisciplinary ultrasound conference of 2019.

WFUMB2019 will be held 6th - 9th September at the Melbourne Convention and Exhibition Centre in the state of Victoria, Australia.

This conference will offer cutting edge talks and workshops by world luminaries and local talent across a multitude of streams, including musculoskeletal, rheumatology, abdominal, gastrointestinal, paediatrics, emergency, critical care, breast, head & neck, cardiac, obstetrics & gynaecology, vascular, therapies and men's health. In addition, we shall be offering two days of ground-breaking medical education that will be suitable for all those involved in training.



Abstracts for oral and poster presentations can now be submitted on line and conference registrations open 3rd December 2018. Go to www.wfumb2019.org for more details.

September is the beginning of springtime in Australia and Melbourne is renowned for its social scene with tantalising restaurants, great coffee, art galleries and further afield to the scenic landscapes of Australia from the great Ocean Road to the vineyards of Mornington Peninsula, the Yarra Valley and Macedon Ranges. The conference centre is within easy walking distance to major hotels, great shopping arcades and beautiful gardens.

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FEDERATION REPORTS: AIUM Update

Michael Blaivas, MD, MBA, FACEP, FAIUM

The American Institute of Ultrasound in Medicine (AIUM) had an active several months since the annual convention this March in New York City.

While planning is well on its way for next year's annual convention in Orlando, AIUM has also been busy on multiple other projects. This year's Fellow's class has been one of the largest in recent history, reflecting the continued growth of AIUM and maturation within many specialties that make up the AIUM.

Recently updated practice parameters include Developmental Dysplasia of the Hip, Extracranial Head and Neck, Obstetric (Standard). AIUM continues its work on Point of Care Ultrasound training guidelines and a curriculum for those point-of-care specialties that currently do not have their own curricula established.

AIUM produces regular webinars with a wide range of topics for its members.

Topics range from lung ultrasound, physical examination augmentation by ultrasound, obstetrical topics, fetal arrhythmia assessment to elastography and other advanced radiological ultrasound techniques. Archived webinars are available on the AIUM website for members to review. The webinar series has been a great vehicle for AIUM to broaden outreach to emerging ultrasound users as well as providing continued cutting edge education to established ultrasound providers.



The 42nd Annual Advanced OB-GYN Ultrasound Seminar, to be held in February, is better than ever and selling out quickly. A distinguished slate of faculty once again highlights this course which has become an AIUM tradition that continuously establishes new attendance records. AIUM continues working with multiple medical specialty societies including partnering with SUSME on ultrasound in medical education. Additionally, it continues to help the American College of Physician organize its (now 6th) annual ultrasound pre-course. The AIUM annual convention will be held in Orlando, Florida from April 6th to 10th, 2019. More information on these and multiple other projects and topics AIUM is currently undertaking please visit the website.

Ultrasound Update 2019 A Course in Tórshavn, Faroe Islands

Arranged by: Danish Society for Diagnostic Ultrasound (DSDU) and in collaboration with the
World Federation for Ultrasound in Medicine and Biology (WFUMB)

June 20 - 21, 2019



DANSK ULTRALYDDIAGNOSTISKESELSKAB - DSDU
DANISH SOCIETY OF DIAGNOSTIC ULTRASOUND - DSDU



ECHOES
WORLD FEDERATION FOR ULTRASOUND IN MEDICINE AND BIOLOGY



FEDERATION REPORTS: AFSUMB Update

of AFSUMB members: 19,686

Prepared by Secretary of AFSUMB &

Administrative Councilor of WFUMB: Iwaki Akiyama

AFSUMB consists of 16 affiliated societies, namely, BSU: Bangladesh Society of Ultrasonography, CTSUM: Chinese Taipei Society of Ultrasound in Medicine, HKSUM: Hong Kong Society of Ultrasound in Medicine, IFUMB: Indian Federation of Ultrasound in Medicine and Biology, ISUM: Indonesian Society of Ultrasound in Medicine, JSUM: Japan Society of Ultrasonics in Medicine, KSUM: Korean Society of Ultrasound in Medicine, MSDU: Mongolian Society of Diagnostic Ultrasound, MSUM: Malaysian Society of Ultrasound in Medicine, MUSS: Medical Ultrasound Society of Singapore, MUST: Medical Ultrasonic Society of Thailand, PSUCMI: Philippine Society of Ultrasound in Clinical Medicine Inc, SUM/CMA: Society of Ultrasound in Medicine of Chinese Medical Association, USP: Ultrasound Society of Pakistan, USN: Ultrasound Society of Nepal.

AFSUMB is the second largest ultrasound federation under the WFUMB family. The federation represents over 19,686 physicians, scientists, engineers, technologists and sonographers in Asia. One of the AFSUMB's goals is to provide resources for ultrasound education

A relaxed atmosphere among AFSUMB council & the local organizing committee.



programs in developing and emerging countries, to promote the technical development and knowledge of ultrasonography. In the past few years, leaders from AFSUMB, including Prof. Byung Ihn Choi, Prof. Masatoshi Kudo, Prof. Cheng-Wen Chiang, Prof. Seung-Hip Kim and Prof. Yi-Hong Chou had been working enthusiastically for the promotion of US training in Asia.

The two important events of AFSUMB in 2018 were the 13th AFSUMB congress which was successfully held at Coex in Seoul at May 23-26, 2018.

The Chairman of the workshop was Professor Won Jae Lee who is also currently the president of AFSUMB. The another important ultrasound event is that AFSUMB Workshop held at 16-18 November, 2018 in Indore, India. Chairman of the workshop was Dr. S. Gokhale. Six delegates from AFSUMB council joined this workshop; Dr. Y.L.Wan, Dr. S.H. Kim, Dr. Y.H.Chou, Dr. W.J.Lee, Dr. K.Bala, and Dr. K.Y.Leung.

The AFSUMB workshop 2019 will be held in Indonesia. 14th AFSUMB Congress will be held in Beijing in 2020.



AFSUMB Workshop 2019 was held at Brilliant Convention Centre in Indore, India.



A relaxed atmosphere among AFSUMB council and the local organizing committee.



WFUMB2019

The highly anticipated WFUMB 2019 World Congress will be hosted by the Australasian Society of Ultrasound in Medicine (ASUM) in Melbourne September 4th – 8th 2019. The Scientific Committee is working diligently to put together an amazing program across a broad range of ultrasound specialties. Keep an eye on the high quality multi-disciplinary program which can be seen on the website (www.wfumb2019.org). Registrations open on the 3rd December 2018; hurry to sign up on the website www.wfumb2019.org to ensure you don't miss out on the latest news about the upcoming World Congress in Ultrasound.

AJUM

The Australasian Journal of Ultrasound in Medicine (AJUM) is in its 20th year. The AJUM has recently paired up with the publisher Wiley and this partnership has improved the visibility of the AJUM both nationally and internationally. 53% of downloads are now coming from 137 countries outside Australasia; the AJUM truly does have a global readership. The journal recorded over 23,000 full-text article downloads in 2017 and is on track to do so again in 2018.

The AJUM is available in 4,390 institutions worldwide, listed in EMBASE and is available in 7,669 Research4life libraries. The AJUM app was downloaded 276 with 565 articles read in 2017.



We have increased our international editorial board membership to include members from the United-Kingdom, United States of America, Europe and Hong Kong. Through the diligent work of our internationals and local editorial board members, we have not only increased the throughput of submitted manuscripts but also increased our rejection rate; a critical step in the lead up to our MEDLINE application preparation.

If you have original research, systematic reviews or even a "How to....." article, please submit your manuscripts to the AJUM online. These "How to....." articles are highly downloaded and made freely available through our publisher Wiley for our national and international audience.

Outreach

ASUM recently assisted the Kimberley Aboriginal Medical Service (KAMS) to organise an outreach ultrasound workshop for a remote area of Western Australia (WA). KAMS were keen to run a workshop aimed at their medical practitioners and midwives in basic obstetric scanning. The Kimberley is WA's most northern region and forms one sixth of WA's land mass.

It is twice the size of Victoria and three times the size of the United Kingdom.

The two largest towns in the Kimberley – Broome and Kununurra - are respectively 2231 km and 3205 km from Perth. There are more than 100 Aboriginal communities in the region. The Kimberley is a unique demographic set that includes around 44% Aboriginal people and a young workforce that is aiming to capitalise on regional opportunities. The Kimberley has a population of approximately 39 620 (approximately 17430 Aborigines) (2016).

Thank you to our volunteers and congratulations who supported those attending the valuable workshop.

Education

ASUM is currently reviewing all assessment material in our credential courses to ensure they remain at the highest standard for patient care and outcomes. We are looking to introduce a new credential for our specialist members focused on gynaecology predominantly as the first new offering in 2019.



FEDERATION REPORTS: ASUM Update continued ...

George Condous
ASUM President

Events

As 2018 draws to a close, ASUM is reflecting on the professional events we have supported our membership with. In addition to our conferences, we have run 25 events across Australia and New Zealand, reaching well over 1000 within the ultrasound community. To do this with have had amazing support from our volunteers in convening and presenting educational topics.

We have also had amazing support from our many sponsors who continue to support ASUM and ultrasound education. Thank you all.

Our first major event for 2019 will be held in Kingscliff NSW: 'Surf Sand and Soundwaves' which may be enticing for our northern hemisphere friends if you are looking for education in the warmer weather! We will be covering musculoskeletal, cardiac and vascular streams. All our events are on the website www.asum.com.au and all are welcome.

The collaboration between ASUM and the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) at the World Congress in Singapore in October

2018 was a huge success. With more than 2,400 attendees, this was the first time ASUM had held its annual scientific meeting (ASM) offshore and only the second time ISUOG had held its ASM in the Asia Pacific region. The expertise that ASUM has in delivering an international World Congress means that the upcoming WFUMB2019 meeting in Melbourne September 2019 will deliver the highest quality scientific and educational program.

See you in Melbourne!



WFUMB NEWS: Website Developments

Suzanne Cain
WFUMB Web Administrator

The WFUMB website and combined App have been well received since the relaunch in June 2018 but we still have much work to do to spread the word of all of the exciting work that WFUMB carries out.

Amongst the many requests for updates and changes we are currently working on, we have begun a new micro site to house all of the events and updates for the Centres of Education. This can be found at <http://wfumb.info/>. A full set of approved Centre of Education logos have been created and assigned to each centre, furthering the uniform look for all COE's.

A new and improved events calendar is currently being programmed plus an extensive menu system to make all information one click away.

Further upgrades include hosting the WFUMB Webinar presentations and making the site more interactive with updated online training modules about to be released.

The WFUMB administration team also produce the ECHOES publication and are working on a new LinkedIn group for the Student Network.

Finally we have produced a promotional WFUMB USB thumb drive with more information and a welcome message from our President to increase WFUMB's profile further.





FEDERATION REPORTS: EFSUMB Update

Odd Helge Gilja
EFSUMB Past-President 2017-2019
Chairman WFUMB Education Committee
WFUMB Administrative Councilor

The Euroson Congress 2018 took place in Poznan, Poland 6-9 September, and was a great success with around 1300 participants. Wojciech Kosiak and his team did a great job to generate high quality scientific and educational program, also including a substantial student program with lots of hands-on training.

As this congress was a 30 years jubilee, 8 past-presidents were gathered on this occasion giving a seminar on European ultrasound history (see picture). We can be proud of the great impact European researchers have made on the development of ultrasound technology and clinical applications.



The first ever EFSUMB-WFUMB webinar took place in September 2018 on the topic GIUS with 4 lecturers from Europe and North-America. In October, EFSUMB conducted a webinar on pediatric CEUS and in November on ultrasound breast imaging.

The role of education is highly important to EFSUMB and Euroson Schools, CEUS Schools and Endorsed Courses and Ultrasound Learning Centres are continuously available for you to attend.

The first ever Chinese Euroson School under the leadership of Paul Sidhu took place 9.-10. November in Hong Kong.

Visit the **EFSUMB** website to stay tuned for the latest news in ultrasound: <http://www.efsumb.org>

In 2019, the Euroson congress will take place in Grenada, Spain 29th of May to 1st of June. The deadline for abstracts is 5th of March. In 2020 the Euroson congress will be arranged 11-13 June in Bergen, Norway. You are most welcome to attend the Euroson congresses even if you belong to other federations.

The Gastrointestinal Ultrasound (GIUS) Guidelines are continuing to be released and three more papers are now submitted for publication. These are inflammatory and infectious (non-IBD), transrectal and perineal ultrasound, and ultrasound in acute appendicitis and diverticulitis.

Stay tuned at the EFSUMB website to download the guidelines in due time (www.efsumb.org).

Eight past-presidents of EFSUMB: Dietrich, Bolondi, Jaeger, Eik-Nes, Gilja, Evans, Lutz, and Nolsoe.





FLAUS UPDATE

Written on 20/11/2018

By Ana Chavarría, MD

19TH FLAUS CONGRESS

The Federation of Latin American Ultrasound Societies (FLAUS) is excited to invite you to travel to Bahia, Brazil for the 19th Federation of Latin American Ultrasound Societies Congress, which will be held from Friday 12 July to Saturday 13 July 2019 at the Bahia Othon Palace Hotel.



2019 TO THE FLAUS 2021 BAHIA CONGRESS

Dr. Antonio Matteoni de Athayde, from Bahia, Brazil, was the eighteenth radiologist to be elected President of FLAUS.

ULTRASOUND CERTIFICATE PROGRAM

Together, FLAUS, Inteleps, the College of Physicians and Surgeons of Costa Rica and the Costa Rican Medical Ultrasound Association are working to offer the Obstetrics and Gynecology examination that tests basic obstetrics and gynecology knowledge and skills essential to sonographer-level professionals in Costa Rica.



WE LOOK FORWARD TO SEEING YOU ALL IN BAHIA AT THE FLAUS 2019 CONGRESS!

Read more at: <https://www.flaus-us.org>

During the ISUOG 2018 world congress in Singapore, WFUMB Executives met with representatives from the ISUOG board to discuss collaboration opportunities.

The International Society for Ultrasound in Obstetrics and Gynaecology conduct numerous courses around the world that cover basic and advanced concepts in O&G. In particular ISUOG have training programs for outreach groups in under resourced regions, supported by their strong group of volunteers.

WFUMB Centres of Education, also located in under resourced areas, could potentially be sites that ISUOG could utilise for some of their education activities. It is hoped that the two groups could work in collaboration to provide support for areas of need.



S Westerway, Christian Nolsoe and Jocelyn Basseal promoting WFUMB 2019 at ISUOG.



FEDERATION REPORTS: **MASU Update**

*Sudhir Vinayak, MASU President
Hassen A. Gharbi, WFUMB MASU councilor*

Tunisia is located in the northeast part of Africa, with 11.3 million inhabitants, part of the developing countries in the world. It is a small country but a great future prospect in all the areas in medicine. It has 4 Medical Schools and 24 University hospitals. US is well developed in several fields since 1977. We have 800 radiologists, 750 ob-gyn, 500 cardiologists which is a good number in our area.

The MASU was born in Tunisia almost 30 years ago.

The Tunisian Society of Ultrasound has held his bi-annual International Congress this semester on October 4-6, 2018 in Tunis, Tunisia, under the auspices of WFUMB and MASU, with the collaboration of FMF (the Fetal Medicine Foundation) and 7 different Tunisian Medical associations: radiology, ob-gyn, cardiology ... There have been special mentions for the loss of Professor Francis Weill, friend of Tunisia and WFUMB Past President, and for the promotion of the WFUMB 2019 Congress and the Next Euroson in Grenada, Spain 2019

It was a successful multidisciplinary meeting with 350 participants: ob-gyn, radiologists, cardiologists, anesthesiologists, biophysicists...- doctors and midwives, 35 speakers, from all the areas of Tunisia, but also from UK and France.

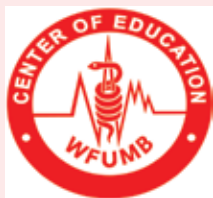
Different topics were included with special mentions for artificial intelligence program in obstetrics and senology. Several hands-on-sessions were organized and really appreciated.



STED Congress 2018 Organising Committee and (right), the late Professor Francis Weill at the World Congress 2011 in Vienna.



A lecture at STED 2018 (right) and (left) invited lecturers US Pioneers in OB/GYN field M. Althsuer from France and K. Nicolaides from United Kingdom.



COE Reports: **MASU COE Activities**

*Sudhir Vinayak, MASU President
Hassen A. Gharbi, WFUMB MASU councilor*

- The COE in Nairobi at Aga Khan University Hospital has been active throughout the year culminating in the annual conference in October themed on breast imaging. Detailed report is follows below. COE director is Sudhir Vinayak
- Centre for Ultrasound Research and Education (C.U.R.E) is based in Nigeria and is the 56th Affiliate Centre of the Jefferson Ultra-sound Research and Education Institute, Philadelphia, PA, USA. The COE in Nigeria has a project involving Sonographer training in obstetric imaging. Since inception more than 170 trainees have graduated. C.U.R.E has been hosting an annual conference since 2012, generously supported by WFUMB. In 2016, the centre embarked on a 'train the trainer' program using GE V-scan machines in collaboration with WFUMB. COE director is Kofo Seyabi.
- Sudanese COE is based in Khartoum; it is the newest COE with activities held on a regular basis. A more detailed report is shown on subsequent pages. COE director is Suzan Elhakim
- The Ethiopian COE is under the umbrella of MASU and is gaining momentum in it's activities. Successful ultrasound conferences have been held in Addis Ababa and Arba Minch; speakers from WFUMB, MASU and University of Bergen, Norway participated. A more detailed report has been given by Odd Helge in this issue. COE director is Amir Sultan.
- The Ugandan COE is the first COE in the region and is well established. Their courses are well run and a full report will follow at the end of year. The COE director is Michael Kawooya
- The next MASU congress will be held in Rome, Italy. The exact dates are yet to be finalized but provisionally November 2019 has been slated in. MASU will run the congress under the auspices of WFUMB.



Nairobi (Kenya) COE annual conference

2018 KESUMB/ WFUMB BREAST IMAGING CONFERENCE

The Kenya Society of Ultrasound in Medicine and Biology KESUMB held its first ever conference on breast imaging from 4-5th October 2018. This was held at the Aga Khan University Hospital in Nairobi, Kenya which is a Center of Education (COE) for WFUMB in the region following inauguration in 2014. The theme of the conference was 'Strengthening utility of ultrasound in breast imaging and interventions in LMICs'. This was informed by the ready availability of ultrasound in LMICs and the need to update those using this modality in the area of breast imaging.

The conference featured both international and local speakers that included Dr. Nathalie Duchesne (Canada), Dr. Victoria Mango (USA) and Dr. Rose Ndumia (Kenya). The other local speakers included Sonographers, Radiologists, Radiology Residents, Pathologists, breast surgeons and a representative from the ministry of health.

It kicked off with a pre-conference 'hands-on' workshop on 4th October with 25 participants from various institutions across the country. Lectures on ultrasound-guided procedures and specimen handling were first provided, followed by a hands-on component whence procedures were demonstrated to participants who then broke into

smaller groups and practiced the various procedures with supervision from the local and international breast Radiologists.



Portable ultrasound units were utilized and the procedures included ultrasound-guided biopsies and clip insertions.



The main conference was held on 5th October 2018, drawing a further 60 participants from both public and private institutions across the country. The presentations covered various aspects of breast ultrasound and ultrasound-guided interventions. These included the role of ultrasound in screening, optimizing breast ultrasound technique, evaluation of the axilla, various breast pathologies, evaluation of nipple discharge, cystic breast lesions, correlation of imaging findings with other modalities, ultrasound guided procedures, setting up a multidisciplinary breast center, role of ultrasound in breast cancer staging, post biopsy rad-path correlation.

There were additional presentations by a breast surgeon to get their perspective and from a representative in the ministry of health to highlight related government efforts. The conference was summed up by a presentation on the local opportunities for breast imaging presented by Dr. Rose Ndumia, one of only two fellowship-trained breast radiologists in the country. She is based at the Aga Khan University Hospital COE and served as the chair of the scientific committee. The conference helped to empower both sonographers and radiologists on the role of ultrasound in breast imaging and image guided procedures.

The future of breast imaging is therefore bright and will further strengthen efforts in improving breast care in the region. This is more so in diagnostic work-up of breast cancer patients to facilitate an accurate diagnosis.

The support from WFUMB cannot be overemphasized. It was greatly appreciated and made a major contribution to making this event a resounding success. It goes to show the value of international collaborations in strengthening the practice of ultrasound in LMICs.





Sudan COE - the newest COE!

Since its establishment in 1997 the dedicated Ultrasound unit of the National Centre of Gastroenterology & Hepatology (NCGH) in Ibn Sina Hospital has been used for workshops in clinical & interventional abdominal examinations.

In the years that followed, Dr. Suzan Al/Hakeem organized annual workshops in basic, advanced & clinical Ultrasonography during the event of the annual conference of the Sudanese Society of Gastroenterology (SSG) hand in hand with the radiologists & Gastroenterologists. In 2010 Prof. Dieter Nuernberg, representing EFSUMB and DEGUM started his association with SSG and have continued since.

In October 2016, a meeting with the President of MASU Prof. Sudhir Vinayak, WFUMB representatives & the Sudanese U/S representatives was held in Alexandria to prepare for the Accreditation of Khartoum as a COE and to integrate the SSUS into MASU.

In March 2017 the NCGH in Ibn Sina Hospital, Khartoum was accredited by WFUMB and MASU as an approved WFUMB COE. The COE is chaired by Dr. Elrayah M. Mustafa, president of the Sudanese Society of Ultrasound (SSUS) as Director and Dr. Suzan Elhakeem, the head of the US department of the NCGH in Ibn Sina Hospital as co-director. The WFUMB COE Khartoum will work as a COE type 2: basic ultrasound interdisciplinary and

advanced in gastroenterology.

Training of registrars, clinicians & Gastro fellows in U/S including interventional procedures is ongoing on a daily basis. One candidate was fully trained this year, and performs all available procedures including biliary drainage. EUS is practiced once a week attended by GI fellows for training.

Research Studies are ongoing and more details will be furnished soon.

*Sudhir Vinayak, MASU President
Hassen A. Gharbi, WFUMB MASU councilor*



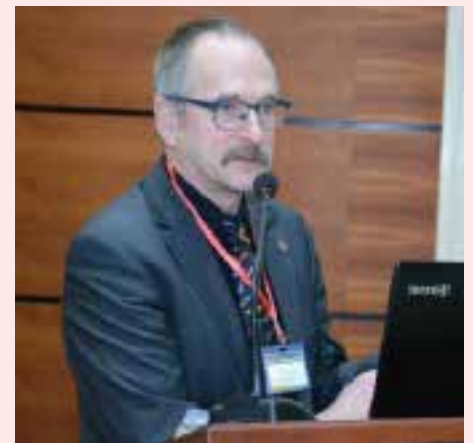
Future plans:

Dr Elrayah has arranged for a Critical Care Ultrasound course to take place in Khartoum from January 13-17 2019, by the society of Critical Care Medicine (SCCM).

Thoughts have been directed towards the creation of a sub society of Ultrasonography & EUS within the body of the Society of Gastroenterology (SSG), under the name of U/S & EUS corner for monthly presentation of cases.

Plans have been proposed & were approved by EUS experts for twice or even more per year EUS workshops for targeted topics. One of them is special training on looping of fundal varices which is a grave problem in Sudan related to Bilharziasis.

The COE has not managed to create a website and neither has an e-learning centre with a library & teaching material. They have requested assistance in this regard.





The center of Education WFUMB-Venezuela was founded in 2005 and it organizes multiple educational activities such short courses, seminars, hands-on training and one annual meeting concurrent with ECOMED, the annual congress of the Venezuelan Society of Ultrasound.

This year, in a middle of an important economic crisis and with the unconditional support of WFUMB, we had a very successful meeting summarized as follow:

Congress and Center of Education-Venezuela Meeting, ECOMED 2018

XXXII Congress and XIV Center of Education Meeting, 28 and 29 September, 2018

Paseo Las Mercedes Hotel, Caracas -VENEZUELA

HONORARY PRESIDENT: Dr. Jorge Rabat

ATTENDEES: 284

NUMBER OF CONFERENCES: 42

COURSE TRANSCONGRESS: 1 (Ultrasound in Trauma and Urgency -Eco-Fast for Obstetricians)

NUMBER OF TEACHERS-SPEAKERS: 33

SPECIAL GUEST SPEAKERS:

Dr. Miguel Jimenez Taboada- Mexico

Dr. Luis Fernando Chavarria - Costa Rica

Course Director: Dr. Leandro Fernandez - Venezuela.

Inaugural Ceremony: The Protocol highlighted the support of WFUMB and the importance of having a Center of Education in Venezuela, in addition to the allusive banners with Logos in the Main Room.



The COE conducted training events in various aspects of ultrasound in the last year.

One major area of activity was in relation to the training of doctors engaged in various practices. We have provided training in Arbaminch for 30 doctors who come from diverse backgrounds, including general practitioners, surgery, Ob/gyn and some other specialists. Lecturers were Dr. Christian Nolsoe (Denmark), Peter Coombs (sonographer from Australia), Dr. Trond Engjom (Norway), and Prof. Odd Helge Gilja (Norway). The post-graduate course was sponsored by WFUMB and Haukeland University Hospital, Bergen, Norway.

The training involved topics ranging in «6+ abdominal ultrasound», liver, elastography, POCUS, pancreas, intervention, biopsies, pediatric abdominal ultrasound, and ultrasound in obstetrics and gynecology. The city is located 500 km from the capital Addis Ababa and carries a historical significance as it was the first place to get hold of ultrasound in the country some 30 years ago. The equipment and expertise were provided by Norwegian doctors and patients were actually travelling all the way from Addis to get ultrasound scanning in AM. Currently, ultrasound is available in most part of the country and trainings provided by the WFUMB COE have a great impact in enabling doctors to

make better informed decisions in managing patients.

The center also provided trainings to various doctors in training in the field of internal medicine in short consecutive sessions aided by hands on training over the year. This year 5 rounds of training were provided and each round garnered around 10 trainees. Success in the trainings was assessed by the doctors being able to use ultrasound in the detection of simple pathologies. Lectures were provided by local and international collaborators. Advanced trainees also had a chance to attend trainings on tissue acquisitions mainly liver biopsy.



One major limitation noted in the center is lack of availability of elastography machines. The country has high burden of liver diseases and the lack of an elastography machine has been a major obstacle in training doctors in the field. It is hoped that with the availability of such machines will help upgrade level of care provided in the country.

Arba Minch is a key centre in the South of Ethiopia with a population of around 200,000 people. It's a picturesque place, set in the hills at an altitude of 1285m. Locally, it's important as the 'fruit bowl' of Ethiopia. A small trickle of tourists stop over here as a gateway to experience safaris or to see the tribes of the Omo Valley. It's a very unusual place to find an Australian Sonographer working for 10 days. Here is the story.

Arba Minch is also a university town. Arba Minch University has a College of Medicine and Health Sciences which trains 140 doctors per annum meaning that there are around 1000 trainees going through the program at any given time. The local hospital is their training ground. This hospital was actually the first place in Ethiopia to have an ultrasound system, provided by Norwegian missionary doctors. At that time, in the eighties, people travelled for many days all the way from Addis to receive scanning in Arba Minch.



In November 2018, WFUMB ran a 4 day 'Course in Abdominal Ultrasound' in Arba Minch. The attendees were mainly doctors with shared appointments at the local University and Hospital. Content was provided by Dr Christian Nolsøe, President of WFUMB, Prof Odd Helge Gilja (Chairman of EduCom, WFUMB) and Dr Trond Engjom Gastroenterologists from the University of Bergen and I, a Sonographer from Australia. There was also a small local faculty.

The Sonographer on this teaching mission had additional responsibilities. My brief was to, teach in the academic program and provide hands-on teaching in small group workshops. As well as this, I was commissioned to stay behind after the course, to augment the learning through additional teaching.



What is my skillset that has me selected for this role? Primarily, I am an Australian Sonographer with tertiary experience in all areas of clinical ultrasound including fetal medicine and paediatrics. Am also a Senior Lecturer in Ultrasound at Monash University which equipped me for the teaching component. Finally, I have worked extensively in other developing countries mainly through the Asia-Pacific region. And as it happens, this trip was very challenging, demanding every one of these skills.



The structure of the course that evolved due to local geography, was to provide the lectures in the morning at the University. Approximately 30 attendees enjoyed the high-quality academic component of this visit. The hands-on training sessions were held at the local Arba Minch Hospital. Real clinical cases and a large number of participants in the local environment of small spaces and reasonable humidity proved challenging. Nonetheless, the outcomes of the course were very good and seemed to inspire a number of physicians to become on-going learners in clinical ultrasound. As it happens, the course is only a small part of my story. It was immediately evident that as much of my time as possible should be spent in the Ultrasound Department.



Before I explain this, I should identify the critical role that ultrasound plays in a place like Arba Minch.

The health status of Ethiopia is poor. The population suffers significantly from the preventable diseases such as HIV, malaria, tuberculosis, intestinal parasites, acute respiratory infections and diarrhoeal diseases. The hospitals have limited resources and are challenged to provide basic tests and hygiene. In Arba Minch, there is no CT or MR. Like much of the developing world, ultrasound is critical to diagnosis and to the triaging care. The Ultrasound Department at Arba consists of a very small, unventilated ultrasound room with a single ultrasound system. Three sonographers rotate shifts performing 60-70 examinations per day. At any given time through the day there is a queue of 10-20 patients crammed at the door waving referrals, making their case that they should be the next person seen. The cacophony of noise and surrounding chaos is quite something. The sonographers have limited training and aren't equipped with the technology and resources to adequately support this demand. There is no radiologist to oversee their work. This is the environment, I largely invested myself in for the time spent at Arba Minch. The objectives were to get the sonographers as much training as I could offer. A secondary objective was to build links with the local physicians to improve communication when results didn't match the clinical expectation.

So what is it like? Day 1 session 1, I was whisked off to the paediatric ward to perform some scans. There were two children who were in acute renal failure. The first, a 2 yo boy had been previously diagnosed with "polycystic kidney disease". Immediately it was evident that both kidneys had severe hydronephrosis and that he had a bladder outlet obstruction.

The second was a 6 yo boy who was very unwell. He was malnourished and no strength to move. He had completely normal kidneys. A quick eFAST exam showed a large pericardial effusion. A review of his heart show very poor contractility of the left ventricle and normal aortic valve with the most likely diagnosis being a very late presentation Anomalous Left Coronary Artery From the Pulmonary Artery (ALCAPA Heart).

This was a cardiac cause of the renal dysfunction. Both conditions are eminently treatable in the developed world with surgery.

Surgery is available in Ethiopia but requires cost and travel to a major centre which is out of reach of many. Despite this, accurate diagnosis greatly assists care and patient management.

Many sonographers express their desire to perform this type of work. Often it is the fascination of seeing advanced and rare pathologies that is attractive. And it is a truth. Pathologies are seen in advanced states (eg. large neoplastic and inflammatory masses) and delayed presentations (intussusceptions seen days after the commencement of symptoms).

The reality in this world, just like our own environments, is that the services are overwhelmed with the needs of good low-level obstetric surveillance and non-specific abdominal pain. The training needed is also basic. System optimisation, the use of standard scan planes and the complete scanning of organs dominate every training session. The reward isn't in the pathology, but the satisfaction in seeing the local team progress in their skill development and their joy in having some quality sustained education. There are numerous challenges to anyone volunteering for this type work. Language and the environment are considerable barriers, although in Ethiopia, the medical staff learn in English so communicate well. The lack of a diagnostic 'safety net' can be daunting. To a sonographer new in these environments, there is an acute awareness that your diagnoses are immediately directing care without the checks of advanced pathology testing, or the multi-disciplinary teams that construct care in the developed world. It can also be disheartening, as the clinical team look at you for an answer, and you have to concede that you can't find anything knowing that they have no other testing available.

In the very short time of this program, we did meet the required objectives. The course was well received as described. The local team were very pleased with their training and humorously report that they have "depth, focus, tgc" imprinted in their memories. An important outcome of the visit was to build networks between the obstetric team and the local sonographers. Before our arrival, Arba had no spectral Doppler surveillance available for fetuses impacted by severe pre-eclampsia. Some of the training was focussed to get the obstetricians and sonographers performing this together. In all, a very rewarding educational activity which would great benefit from the allocation of additional time and resources.



Moldova COE - Chisinau Workshop

The third Workshop of WFUMB CoE Chisinau entitled "Gastrointestinal Ultrasound" was held on 26 October 2018, Chisinau, Republic of Moldova. Invited WFUMB lecturers were: prof Odd Helge Gilja (Bergen, Norway), prof Dieter Nurnberg (Neuruppin, Germany), prof Harald Lutz (Bayreuth, Germany) and prof Ioan Sporea (Timisoara, Romania).

The event was held in conjunction with the WFUMB CoE Timisoara, Romania (Director – prof Ioan Sporea), Society of Ultrasound in Medicine and Biology of the Republic of Moldova (President – prof. Andrei Testemitanu) and State University of Medicine and Pharmacy "Nicolae Testemitanu" (Rector – acad. Ion Ababii). The workshop was attended by 144 participants (sonographers, gastroenterologists, radiologists, fellows in training) from Moldova and Transnistria. The program was composed of 8 main lectures focused exclusively on Gastrointestinal Ultrasound. There were two live demonstrations (by the WFUMB experts) on normal appearance and some pathologies of the gastrointestinal tract. The workshop ended by a session of clinical cases.

The workshop was very appreciated by both the speakers and participants.

The Workshop's program: Friday, 26 October, 13.00-18.00

- | | |
|-------------|---|
| 13.00-13.30 | History of Gastrointestinal Ultrasound (GIUS) and its place among modern imaging modalities, prof Harald Lutz |
| 13.30-14.10 | New GIUS guidelines from EFSUMB and bowel scanning methodology, prof Odd Helge Gilja |
| 14.10-14.40 | GIUS, live demonstration (normal appearance) |
| 14.40-15.00 | Coffee-break |
| 15.00-15.10 | Samsung 5D Technology, a new standard in ultrasound. Chiran Denis-Mihail |
| 15.10-15.40 | Appendix, diverticuli. Appendicitis and diverticulitis, prof Dieter Nürnberg |
| 15.40-16.10 | Inflammatory bowel disease, prof Ioan Sporea |
| 16.10-16.30 | Complications in inflammatory bowel disease, prof Ioan Sporea |
| 16.30-16.50 | Gastrointestinal emergencies, ileus and perforation, prof Dieter Nürnberg |
| 16.50-17.05 | Transperineal ultrasound, prof Dieter Nürnberg |
| 17.05-17.35 | Clinical cases |
| 17.35-18.00 | GIUS, live demonstration (pathology) |
| 18.00-18.20 | Discussions |





The decision to set up a WFUMB COE in the ASUM region of Oceania and the Pacific was made by the incoming WFUMB president, Christian Nolsoe and ratified at the WFUMB Council meeting during the conference in Taipei in October 2017.

Background

The Republic of Fiji is in the South Pacific Ocean and is made up of over 330 islands, of which only 110 are inhabited.



direct flights from not only surrounding island countries but also major cities in Australia, New Zealand. And the Singapore hub.

Ultrasound was introduced to Fiji in 1982

There are three sub-divisional hospitals in the capital city of Suva with a workload of more than 100 scans per day performed in 5 rooms servicing obstetrics and gynaecology clinics, general clinics and medical and surgical wards.



Ultrasound workshops have also been organised by visiting sonographers from Australia & New Zealand.

With a population of approximately one million, its main source of income is tourism & sugar. There are three universities and two medical schools, the Fiji National University (FNU), the University of Fiji & the University of South Pacific. The College of Medicine, Nursing & Health Sciences [CMNHS] at the FNU is a merger of two of Fiji's oldest medical and health institutions, the Fiji School of Medicine and the Fiji School of Nursing. There is a radiography course with hope that a sonography course will commence in the second semester of 2019.

Fiji has more radiologists, O&G specialists & radiographers than any other island nations in the region, including Tonga, Samoa, Vanuatu, Solomon Islands, Cook Islands, New Caledonia and Tavalu. Fiji was considered the best location due to the

More than 50 scans are performed per day in the Radiology department. The private hospital has an ultrasound machine as well as several other private clinics which also have their own 'sonographers' (radiographers with scanning experience).

There is a high demand for formal training in ultrasound with the current system unsustainable. Radiology registrars are taught ultrasound by senior registrars and consultants and may also be sponsored to go to New Zealand or Australia for intensive ultrasound training. O&G staff source out their own ultrasound training from visiting consultants. Student radiographers are taught the principles of ultrasound during their radiography course work and learn practical ultrasound from senior radiographers during their hospital placements.

Proposed COE Co-Directors

As per the proposal by the WFUMB council and COE task force, two directors have been sought for Fiji COE so as to ensure better communications. Mr Raymond Keshwan is the head teacher at the FNU school of medical imaging & also president of the MIT society of Fiji and Dr Komal Singh is an enthusiastic female radiologist. Both have an interest in ensuring ultrasound training is available to all medical and relevant allied health professionals. At this stage rather than forming their own society, Fiji will become an Associate of ASUM.



WFUMB COE Candidate in Fiji (continued)

by Sue Westerway
Regional Director ASUM COE

Fiji COE Test Course was held from 27th to 29th September at the College of Medicine, Nursing and Health Sciences, Fiji National University in Suva.

The course details were advertised via the MIT group & university and hospital notice boards. The expression of interest was high with over 40 wanting to attend. The list includes 19 from FNU – 12 doctors from the medical school, & seven MRI staff, 16 radiographers from the hospitals & clinics in Fiji and Tonga six from the private sector (a radiologist and five radiographers). As there were no locals to either give a talk or assist with hands on, we restricted the numbers to those who have already replied.

Course lecturers were Christian Nolsoe, Odd Helge Gilga and Sue Westerway who gave lectures on upper abdomen, renal, biliary system, gastrointestinal and gynaecology. For the scanning workshops, the class was split into three groups in three scanning rooms. The school has three Sonoscape units, each with a sector, linear, hockey stick & TV transducer.

The course was a resounding success thanks to the organisational skills of the School of Medical Imaging staff and the excellent lecture room and workshop facilities. The participant feedback was excellent, with all attendees enthusiastic about involvement with future WFUMB courses. With WFUMB Council permission we would like to hold another event in June 2019.



WFUMB NEWS:

WFUMB Medical Student Network Group

The WFUMB Student Education Task Force has been looking at ways to encourage medical students to become more of an integral part of WFUMB.

Working alongside the WFUMB Web Administrator, a WFUMB Medical Student Network Group is being created utilising the Social Media platform, LinkedIn. Currently in test mode, the New LinkedIn group will shortly be available to join using an online form and a simple process – especially if you are already a LinkedIn member!

The WFUMB Medical Student Network Group is where you can share your experiences via discussions, videos, images and posts to help WFUMB to build a community sharing knowledge and achieving goals.

The Network invitation will be available shortly so look out for announcements on Social Media and join up to become part of a community of Medical Students within the WFUMB Family.



Don't just join a group, be part of a COMMUNITY



ECHOES
WORLD FORUM FOR ULTRASOUND IN MEDICINE AND BIOLOGY

**Medical ultrasound disinfection and hygiene practices: WFUMB global survey results.**

Infection prevention and control has become an important issue for ultrasound practitioners. Every ultrasound examination is a potential source of bacterial or viral contamination as a result of operators failing to effectively clean the transducers and other ultrasound equipment between patients. As ultrasound technology rapidly evolves and is used more frequently in every area of medical diagnosis and treatment, it may be overlooked as a potential vector in the transmission of a health care associated infection.

In 2016 WFUMB invited ultrasound users around the world to participate in an infection control survey to better understand the cleaning and reprocessing of medical ultrasound equipment and hygiene practice amongst ultrasound users. The online survey was disseminated via WFUMB to its six member federations and associated ultrasound societies globally.

There were 1029 responses obtained across a broad range of ultrasound practitioners.

The results indicate that some users do not comply with basic disinfection practice and there is a gap in knowledge on infection prevention and control education within the ultrasound unit.

As the infectious status of a patient is not often disclosed prior to an ultrasound examination, training in suitable protocols for the cleaning and disinfection of ultrasound equipment is imperative to mitigate the risk of potential infection. Open ended responses indicated that access to clear infection control guidelines would be beneficial. The full article has been published in the WFUMB journal *Ultrasound in Medicine & Biology*.

Westerway SC, Basseal JM, Abramowicz J. Medical ultrasound disinfection and hygiene practices: WFUMB global survey results. Ultrasound Med Biol. 2018; DOI:10.1016/j.ultrasmedbio.2018.09.019

Thank you to the survey task force members Jacques Abramowicz MD, Chair of the WFUMB Safety Committee and Jocelyne Basseal PhD (microbiology) from ASUM who was instrumental in the survey development and analysis.

**Former WFUMB and EFSUMB President Francis Weill died earlier this year.**

An In Memoriam will be included in a future issue of *Ultrasound in Medicine and Biology*. This was written by former WFUMB and EFSUMB President Michel Claudon who himself died on 20 November.

Both will be greatly missed.



A picture is worth a thousands words

Photo Gallery

... images from WFUMB adventures





Hiroki Watanabe

Iwaki Akiyama

Q. How and when did you become involved in ultrasound?

When I just finished the Post-graduate Doctor Course of the Tohoku University, Sendai, in 1965, I was looking for new diagnostic modality for the prostate, because only examination in our hands in those ages was very classical rectal digital palpation, which was introduced in the Greeks' era. In the early autumn of 1967, I visited a cardiologist in the same University, Dr. Motonao Tanaka, who was a leading researcher of medical engineering. The purpose of visiting was to consult a possibility of my poor idea that some sound from urinary stream in the prostate could be detected, if an electric stethoscope was inserted into the rectal cavity. Occasionally in his laboratory, I found a strange stick. It was a special ultrasonic probe to obtain a section of the heart via the esophagus. This very new device could not, however, to be used on human subjects, because it caused too much pain to insert into the esophagus. Incidentally and luckily, I became involved in the situation. My poor idea for an intrarectal stethoscope was abandoned at once and we agreed enthusiastically to apply the new device to trying to obtain a prostatic section via the rectum. The very next day, I took a patient with benign prostatic hyperplasia to Dr. Tanaka's laboratory. After much entreating and some threats he was laid on the bed and the probe was inserted into his rectum. The sonogram of the prostate we obtained

was fantastic. This was the first section of the prostate in a living body, of which human had ever seen, because it was 10 years before the commercialization of CT and 20 years before that of MRI. The images looked to me as if it was rose colored!

We published this world's first image modality for the prostate under the name of "transrectal ultrasonography (TRUS)" in 1968 but following near 20 years had been spent until its generalization as a routine diagnostic modality. Today, however, we can find the "TRUS machine" in any urologic clinic in the world. In October, 2017, the "50 years Memorial Symposium for TRUS" was organized in the WFUMB 2017 Congress in Taipei.

Q. Were there any particular people that influenced your work?

As mentioned in my previous answer, Dr. Tanaka led me into the ultrasound world. At that time, he had already obtained the world's first ultrasound tomograms of the moving human heart by means of an originally developed ECG-synchronized pulse-projecting ultrasound technique, 15 years before the appearance of real-time ultrasound. According to this technique, ultrasonograms of each phase of cardiac section were taken by a rotation of the angle of ultrasound beam little by little. Though it took more than an hour to record 20-30 sonograms of all phases, the obtained sections were far much clearer than sonograms by real-time scanner in later years. He is still active in research works even now.

Q. What were your career highlights?

Maybe my career highlight in my memory was the establishment of "WFUMB COE (Center of Excellence)". I served WFUMB as the President from 2000 to 2003. During this period, a matter of ultrasound education for developing countries was often discussed in the administrative councilors' meetings. The "Global Steering Group for Education and Training in Diagnostic Imaging" in WHO once planned to establish education centers in Africa as the "African project" but no financial resources were found. Moreover, this plan seemed to me as if developed countries favored developing ones from mercy. So I proposed my specific plan for the establishment of "WFUMB COE", based upon a principle that "WFUMB only gives the name and local societies organize each education center for ultrasound by their own effort". The plan was carried in the WFUMB Administrative Council Meeting in Montreal on May 31, 2003, and the first COE was established in Dhaka, Bangladesh, followed by in Kampala, Uganda, during the next year, 2004. The latter one realized the uncompleted plan of the "African project". Right now, COE has been established in 13 countries in the world and plays one of the most important roles of WFUMB. I thank many people to support this project and to develop this much. Marv Ziskin, the next President, and Byung Ihn Choi, who led the COE Committee after me, were two key persons for this movement.

Q. What are your impressions of the ultrasound technology available today?

New technologies appeared in recent years are very much welcome. I think, however, much efforts to refine the image itself should be paid utilizing newly developed functions, because medical ultrasound is essentially an "image modality".

Q. Are you still involved with the ultrasound world?

Yes, I published two very important works with ultrasound during these several years. The first one was concerned with an active opening function of the human urethra, against the conventional physiology that the urethra has only closure function and the opening is due to a passive motion by urine flow. This finding was obtained by transrectal/transvaginal ultrasound (Int J Urol 2014, 21: 208-11).

The second one was concerned with a fact that the human bladder absorbs at least hundreds mL of water from urine during sleep, which is also against the conventional physiology that the bladder is a simple reservoir and absorbs nothing. We performed the periodical measurement of urine volume during sleep by transabdominal 3-D ultrasound and found a definite temporary volume reduction for several times a night (Int J Urol 2016, 23: 182-7). This concept will give a serious impact to the renal physiology and the etiology of various urological diseases.

WFUMB EFSUMB AFSUM CEUS Liver guidelines update in conjunction with ASUM, AIUM and MASU (work in progress)

The need for new worldwide guidelines on the use of CEUS in the liver has become apparent due to the different forms of application and levels of evidence for the available ultrasound contrast agents. In addition in the last guidelines the use of SonoVue™ and Sonazoid™ was not strictly separated and the published evidence on the use of Sonazoid™ has improved. The World Federation for Ultrasound in Medicine and Biology (WFUMB) represents the ultrasound federations of societies worldwide. International experts with a scientific reputation in CEUS of the liver have been invited to update the individual parts. The co-leaders of the project will be Christoph F Dietrich (Chair of WFUMB Publications Committee) and Christian Nolsøe (WFUMB President).

The level of published evidence, the grade of recommendation and the consensus will be published according to the Oxford System as done in most recent guidelines. A consensus meeting will take place in Granada, Spain in June 2019 with a view to publication next year.

The latest published Elastography Liver Guidelines published in UMB:

Liver Ultrasound Elastography: An Update to the World Federation for Ultrasound in Medicine and Biology Guidelines and Recommendations

[https://www.umbjournal.org/article/S0301-5629\(18\)30284-9/fulltext](https://www.umbjournal.org/article/S0301-5629(18)30284-9/fulltext)

