

THE 8TH FETAL NEUROSONOGRAPHY MASTERCLASS

UNDER THE AUSPICES OF:

ISRAELI SOCIETY OF ULTRASOUND IN OBSTETRICS & GYNECOLOGY

INTERNATIONAL FOUNDATION OF MATERNO-FETAL MEDICINE

JANUARY- FEBRUARY 2022

MASTERCLASS CONFERENCES

ON-LINE OPUS SIMULATIONS

Course Directors

Prof. Gustavo Malinger
Prof. Mauricio Herrera

Welcome letter

Dear Friends:

I have been looking forward to see you in Israel and to have the opportunity to pass on the knowledge we had accumulated in the field of Fetal Neurosonography during the last 30 years; but the challenging circumstances created by the COVID19 pandemic obligated us to a change of plans.

Following the great success of our first online Masterclass, my friend Mr. Gustavo Abella, the developer of the OPUS simulators, agreed to help once more and to continue the development of our on-line simulation training program that will be offered in conjunction with the video transmission of the lectures.

One of the important insights of this year Masterclass is that since you do not need to travel, the lectures can be presented in a more relaxed way during a longer period of time and without needing to seat in the lecture room for so many hours.

For the Masterclass we limited the number of participants to have the opportunity to really interact and create a different educational and human experience. Before the initiation of the Masterclass, you will receive by International Mail Delivered the OPUS simulator hardware that will be installed in your laptops. Afterwards the OPUS team will train you on the use of the simulator and you will get access to more than 50 normal and pathologic cases of CNS examinations. These cases will be used during the Masterclass lectures and will be accessible as well as the recorded lectures for one month. The hardware remains your property afterwards so you will be able to contact the OPUS team and arrange to continue using the system.

For more than two decades I worked at the Edith Wolfson Medical Center, where an exceptionally talented group of people had the opportunity to meet and work together to

create in 1994 what was probably the first multidisciplinary group in the field of Fetal Neurology.

The initial group was composed of Prof. Tally Lerman-Sagie (Pediatric Neurology), Dr. Dorit Lev (Genetics) and myself. Dr. Liat Ben Sira (Pediatric Radiology-MRI) joined from Tel Aviv Medical Center and Dr. Deborah Kidron (Pathology) from Sapir Medical Center.

During the years the Fetal Neurology Clinic at Wolfson became the leader in the field of fetal CNS care and research in Israel with more than 500 referrals/year and more than 50 publications and a book.

Nine years ago, I moved from Wolfson to Tel-Aviv Sourasky Medical Center; the hospital has over 12000 deliveries per year and with the OB-GYN US Unit team, we have an increasingly number of suspected CNS pathologies for evaluation and have diagnosed, in this relatively short period, more than 1500 CNS pathological cases.

For this year Masterclass, we will count with the participation of Israeli renowned Fetal Medicine specialists including Prof. Zvi Leibovitz (OG-GYN) from Bnei Tzion Medical Center in Haifa; and two of my partners at TLVMC, Dr. Karina Krajden (OG-GYN) and Roe Birnbaum (OB-GYN) that are bringing fresh and innovative ideas to our field. Dr. Adi Reches will present on the Genetics of malformations of cortical development including recent developments from our Center in the field of exomic diagnoses.

We will also be honored by the participation in the FNM of Dr. Mauricio Herrera from Bogotá that will present us with his experience with Congenital Zika Virus Syndrome and will be in charge of the Simulations.

I hope you will have the opportunity not only to learn but to appreciate the way a team, by joining efforts, can reach better results in order to benefit our patients.

Finally, I want to thank you for the confidence and the support of this program. I hope this will be a fruitful experience for all of you and in the future, you will be proud to have participated in a pioneer world-wide on-line experience with the use of US simulators.

Since the time zone span of the participants is very wide, the Masterclass will be spread over time; with a maximum conference time of three/four hours starting by 13.00 Israeli time (early morning in the Americas, noon in Europe and evening in Asia and Australia). You will have access to the recordings of all the conferences in case you will not be able to attend one of them.

Thank you,

Gustavo

ORGANIZING COMMITTEE - FACULTY

Prof. Gustavo Malinger – OB-GYN - Tel Aviv Sourasky Medical Center

Prof. Zvi Leibovitz – OB-GYN- Bnei Tzion Medical Center

Dr. Karina Krajdén Haratz – OB-GYN- Tel Aviv Sourasky Medical Center

Dr. Roeë Birnbaum - OB-GYN- Tel Aviv Sourasky Medical Center

Dr. Adi Reches – Genetics- Tel Aviv Sourasky Medical Center

INTERNATIONAL FACULTY – COURSE CO-DIRECTOR

Dr. Mauricio Herrera – OB-GYN- Clínica Colsanitas, Colombia

OBJECTIVES

The Fetal Neurosonography Masterclass is intended for Obstetricians and Radiologists specializing in Prenatal Diagnosis who want to acquire or expand their expertise in fetal brain diagnosis.

During the Masterclass the participants will learn the theoretical and practical aspects of the performance of neurosonographic examinations with particular emphasis in the diagnosis and management of brain anomalies.

The training will be supported a special session on Fetal Neuropathology, and by Hands-on Simulations of the Neurosonographic TVS technique in normal and pathological cases.

We hope the Masterclass will help the participants in the formation of multidisciplinary Fetal Neurology Clinics similar to Wolfson and Lis FNC's.

PRELIMINARY TENTATIVE PROGRAM

Introductory lectures (without online use of simulator) - Sundays during January.

Sunday, January 9, 2022

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| 13.00 Welcome. The Fetal Neurology Clinic | Prof. Malinge |
| 13.30 US equipment & setup for the examination of the fetal brain | Prof. Leibovitz |
| 14.30 Which brain structures are present at 11-13 weeks? | Prof. Leibovitz |

Sunday, January 16, 2022

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| 13.00 The corpus callosum and midline structures early development | Dr. Birnbaum |
| 14.30 Case presentation & Updates | Prof. Malinge |

Sunday, January 23, 2022

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| 13.00 Spinal dysraphism. Not only open defects | Prof. Malinge |
| 14.30 The genetics of malformations of cortical development | Dr. Adi Reches |

Lectures in red include hands-on case simulations by Prof. Mauricio Herrera

DAY 1 – Thursday, January 27, 2022

- 13.00 – 15.00 CNS anatomy before 20 weeks Prof. Malinge
- 15.00 – 17.00 CNS malformations diagnosed before 20 weeks Dr. Kraiden Haratz

DAY 2 – Friday, January 28, 2022

- 13.00 – 14.00 The transforming brain, changes in brain structure between
20-40 weeks. Anatomy and neurosonographic technique Prof. Malinge
- 14.00 - 15.30 Holoprosencephaly and related disorders Prof. Malinge
- 15.30 – 17.00 Disorders of proliferation. Microcephaly Prof. Malinge

DAY 3 – Saturday, January 29, 2022

- 13.00 – 14.00 Disorders of proliferation. Macrocephaly & brain overgrowth Prof. Malinge
- 14.00 – 17.00 Disorders of migration & organization Prof. Malinge

DAY 4 – Thursday, February 2, 2022

- 13.00 – 14.00 The corpus callosum Prof. Malinge
- 14.00 – 15.30 Stroke, hemorrhage Prof. Malinge
- 15.30 – 17.00 Infective fetopathy Prof. Malinge

DAY 5 – Friday, February 3, 2022

- 13.00 – 15.00 Midbrain-Hindbrain malformations Dr. Kraiden Haratz
- 15.00 – 16.00 Cerebellar hypoplasia and more Prof. Malinge
- 16.00 – 17.00 Congenital Zika virus syndrome Prof. Herrera

DAY 6 – Saturday, February 4, 2022

- 13.00 - 14.30 Ventriculomegaly Prof. Herrera
- 14.30 – 15.00 Cysts and tumors Prof. Malinge
- 15.00 – 16.00 Participants case presentations Prof. Malinge/Dr. Herrera
- 16.00 – 17.00 Quiz and final remarks

REGISTRATION

Demonstrations of interest to participate at the 8th Fetal Neurosonography Masterclass 2022: nicolemalinger@gmail.com.

Registration fee is 2500 Euro. Registration includes all the benefits of education and simulation work, educational materials and the OPUS simulator hardware open for use with more than 50 cases during the Masterclass and one month afterwards.

“Uncensored” comments of participants from the last Masterclass held through ZOOM

Thank you for the opportunity to take a part in that course. There are very high-level lectures. I really enjoy them. This OPUS system is very clever. I am able to do most of the exercises. In my opinion, I need more exercises one-by-one to check myself if I correctly recognize structures and pathologies. For self exercises, the best are tests (named in opus "pre-test").

I did enjoy every lecture and also the hands-on sessions.

I found the content of the lectures very useful in clinical practice.

I was a little bit sceptic about the OPUS system in the beginning. But the organization and the teaching during these sessions convinced me completely!

It is almost the same as I would expect if we were in Tel-Aviv.

Only positive feedback!

The second it is an honor to see you, hear you and to fallow in action with Volutracer O.P.U.S. It's a fantastic way to see how, what and when to look for. I have never looked at brain like you before! This course is a huge amount of knowledge in a short period. Thank you for all the tips you are giving to us (for example, to make an own catalogue of brain images in different gestational ages, the fetal NeuroUS protocol we can use in real practice etc.). All the lecturers are brilliant and have opened my eyes wide to the brain.

There are no borders to share knowledge and no obstacles to realize it because of the perfect team you have!

Thank you very much!!!

Best,

This is my 2nd time to attend the course, though not in Israel. It's a fantastic class and helps me very much in my daily practice. I learned a lot, not only updating my knowledge but also in scanning technique with the help of OPUS. Thank you very much.

I am greatly impressed with the organization of the course, beginning with Federico who helped out with the setup of OPUS and is always with us to assist as with technical support. The lectures are wonderful, I am learning a lot - there are a lot of examples and I am so happy You are showing us step by step what we are supposed to see - because like You said if You don't know what to look for You will miss it. I am greatly impressed with the possibility of practicing USG at home with OPUS - amazing technology. Like I said during our meeting I am grateful for making everything so simple, I really like the fact that we are going over each case very slowly where Dr Mauricio is making his drawings. I am learning a lot , and at the same time I am becoming aware of how far from becoming good at it.

One thing that I would add is an explanation of the homework - case examples - I follow everything during the lectures but when I'm performing exercises at home I'm not sure am I right with what I see. Maybe You could add a "procedure" where You ask to find a certain structure and on the next slide there will be an arrow/picture confirming our examination.

Once again, I am greatly impressed and happy and I will definitely recommend this course to all my friends!!!

I was very excited to enroll last year for the course as I looked forward to travelling to Israel for it. When Corona shook the world and you offered the masterclass as an online course I was very unsure. In the end, because it was easier than cancelling and organizing it for in a few years, I decided to participate despite being convinced it would not be as good as the masterclass held in Israel.

I could not have been more wrong. The course has not only been amazing so far, I have, pretty much daily, said to my family how glad I am it is online. Mainly because online with candidates from all over the world you were forced to break it up in small pieces. That has two main advantages for me. It is not too overwhelming at once and I can review the case material in between sessions.

The speakers have so far been excellent. I obviously expected that. Your masterclass has an excellent reputation. But I was surprised about the value of the OPUS. I was not sure it would work online but it has really been a crucial part of this course. It makes all the difference that one can practice. And again, review the lecture and try again to do the cases.

I am sure I am the least knowledgeable participant because my focus has not really been much on obstetrical ultrasound. I am a obstetrician gynaecologist with a subspecialty in gynaecological and obstetric ultrasound. I have lived in xx for 20 years and my main focus these days is almost exclusively gynaecological ultrasound. Mainly endometriosis assessment. But because in private practice I still see quite a few obstetric patients I felt I needed to upskill. Particularly the brain as beyond the Isuog guidelines, I never look at much else. Usually I look at my patient list in the morning and am happy if it has mainly or exclusively gynaecology but in the last week I have found myself excited about seeing obstetric patients on my list.

I have learned so much in this course already and we are only just over half way. And because of the expertise presented I feel like this knowledge will remain current and state of the art for many years to come. I can truly say this has been the most exciting learning opportunity since travelling to Brazil 11 years ago to learn endometriosis assessment, which represented a great leap in gynaecological ultrasound.

Thank you so much to you and Mauricio for your enthusiasm and expertise in running this course. I look forward to next week.

I believe it has been a great experience and nothing less I could imagine.

It was disappointing the change of program due to COVID but then, I have felt exited to go through this new experience.

it is still difficult even after almost one year to get used and accept the reality pandemia has forced everybody to live but not less, there have been positive aspects anyway.

There is something in knowledge which is contagious. I believe OPUS is a great tool to teach but the real issue in teaching, give a method and make things easy, depends on how deep, oriented, documented is knowledge...In France there is a way of saying I love:

La culture est comme la confiture, moins on a plus on étale

Culture is like jam less we have more we spread.

Thanks to all and just sorry having missed to meet all of you

Regarding the course:

The course has been excellent so far.

I think the Zoom format has worked brilliantly.

Having short sessions of 3-4 hours works very well.

I think I have been able to learn more than I would have if it had been compressed into only a few days.

The OPUS system is excellent - although possibly is a little disorganized at times? Maybe that's unfair. It is a new way to do things and really going very well.

I will strongly recommend the course to colleagues.

Your positive and generous attitude is fabulous.

I find the course excellent so far, and I hardly believe that the upcoming classes will be far from that.

The lecturers are obviously the best.

To my surprise I consider the increasing number of on-line classes, equivalent in merit to on-site classes, unless no practice with patients is needed, as a positive effect of the COVID-19 pandemic.

Pros:

1. Classes are split into blocks of several hours, which allows one to maintain concentrated and not overwhelmed with a volume of daily material. Sitting in classes for 8 or 9 hours, only with a lunch break, does not facilitate maintaining concentration over an entire day, so more and more content is missed over time.

2. The possibility to re-review the lectures is priceless! During an on-site course, I would probably miss half or more of the content, and I would have no possibility to get back to it later. With on-line classes, I am all ears, and during the re-review, I can make notes or take some screenshots (for private use, obviously). I am, alas, advanced in years, so I cannot listen and make notes/diagrams at the same time.

3. Raising questions during classes is much easier. With on-site classes, some persons may be ashamed and feel awkward to interrupt, which is much easier with on-line course. It is particularly important for me that we can get back to a previous slide and point to or refer to materials we do not understand. Finally, I got the location of the optic chiasm—it was so difficult, and yet so simple!

4. The use of the simulating devices is definitely okay, especially when Prof. Herrera can highlight some structures, as we all know what to look for and what to focus on. The cursor is manageable, but I noticed each person sees the particular area pointed with a cursor slightly different. Nevertheless, the possibility to highlight some areas is great.

5. Small groups allow for asking questions and give possibility for some retraining, which will not be possible with larger groups—especially as we are just getting used to use simulators, and I think over time we will have more courage than now, after just 2 weeks of classes.

6. The course is cheaper, as we do not have to cover the travel costs, so I will definitely take a part in the next edition. With on-site classes, I usually have little to no time for city seeing (mostly due to financial possibilities, as here all courses are self-paid), so on-line classes are a perfect fit for me. I can also avoid tiresome traveling...

7. Having the classes on-line, I can stay at my own home, care after my kids, needing only a couple of hours alone. Having my own kitchen, coffee, loo, and dinner during the class are awesome (and I really feel sorry for the lecturers—they obviously have no time to munch on anything...). My conscience is not biting again for abandoning my house and my home.

Cons:

It is a pity that we were deprived of a chance to meet in person, but this may be just a sign of current times. I would highly appreciate a possibility to take a 2-3-day (possibly paid) practical training just to see how you handle examinations, discuss cases with radiologists, geneticists, and pathologists. Get to know the way you work would be of utmost value for me. My colleague, gained a skyrocketing experience after such visits, and I would like to follow his example. I have never had a proper ultrasound teacher, so I have to learn from my own mistakes—which is generally good, but any technical problems are hard to pin down, as they remain unnoticed or stem out from a bad examination technique.

I would really like to receive feedback on cases (simulator) I work with, with detailed information on errors—especially as sometimes I am unsure whether I have noticed everything that was to be seen.

Generally, I started preparations for this course a year ago, after a Berlin congress, where I approached Dr. Haratz and asked about some tips to squeeze the most from the classes. I practiced a lot with an endovaginal transducer, I read many papers—without that, the classes could be way more difficult for me.

I would really like to thank you for these on-line classes—I was simply woeful when everything was shut down and no one knew anything. I am really glad that you decided to share your knowledge and experience in us, so we, as doctors, can benefit from it.