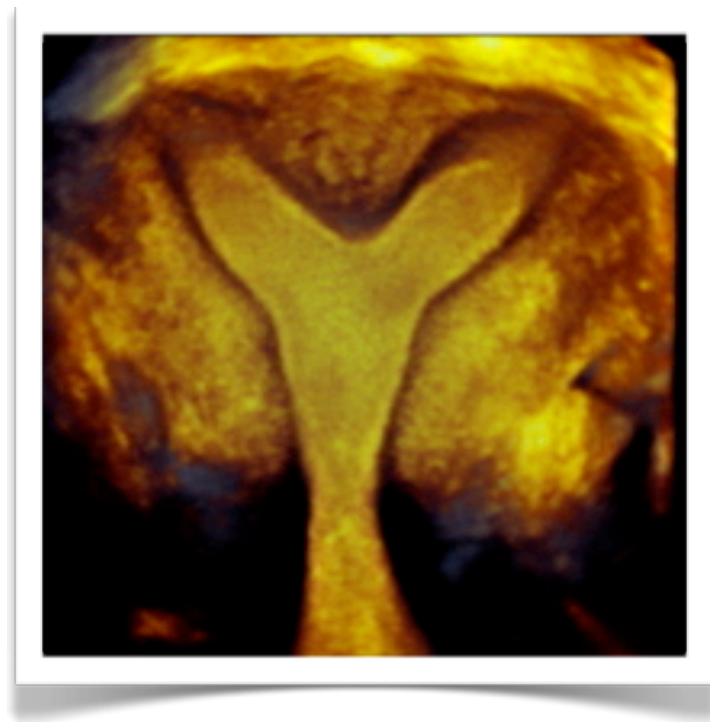


3D Ultrasound in Gynaecology



The Nottingham Theoretical
Training Course in
3D Ultrasound for Gynecologists

Dear Friends,

I would like to invite you to Nottingham to join us for this unique and exciting course dedicated to 3D gynaecological ultrasound. The course, which has now been running for ten years, has received excellent feedback and comes highly recommended. I promise it will prove to be intellectually stimulating and rewarding for each and every one of you regardless of your expertise and knowledge. The course has been designed specifically for those of you who practice gynaecological ultrasound and want to learn more about advanced scanning techniques particularly 3D and Doppler ultrasound but is also suitable for beginners and improvers. Its' *bespoke* nature allows us to personalise the course for all who attend so do let us know what you hope to achieve either before or when you arrive. The aims of the course, which has distinct practical and clinical components, include:

Establishing the basic principles of gynaecological ultrasound:

- *getting the best out of your machine*
- *assessment of the pelvis with 2D and Doppler ultrasound*

Qualitative and quantitative 3D ultrasound:

- *3D data acquisition and image display*
- *manual and automatic quantification of 3D data*
- *the practical applications and clinical relevance of 3D*

Hands-on practical sessions:

- *live scanning (using a gynecology phantom)*
- *4D view: basic and advanced applications*
- *4D view: clinical cases and worked examples*

A large proportion of the course involves working with **4D View**. Each delegate will be given a USB or a CD, which contain a series of 3D datasets that we will look through together as a group during the hands-on practical sessions to provide working examples of the topics discussed. You will become confident with the software and leave being able to use the different display options and perform reliable measurements of volume and vascularity. You can assess your progress in an informal quiz on the final day! We also have **Voluson machines** and a gynaecological phantom to practice '**live**' scanning.

The course is held at the Crowne Plaza Hotel, a modern, four-star hotel in the heart of the city within walking distance of the main shopping and business districts. The course dinner is held on the Friday leaving Thursday evening free for you to do as you please. Please note that whilst we offer advice and help with your transport and accommodation these are not covered in the course fee and will be added to your invoice.

Venue:

Crowne Plaza Nottingham
Wollaton Street, Nottingham NG1 5RH

For further information:

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The legendary Robin Hood

Timetable

Thu	Session	Learning objective
<i>GETTING THE BASICS RIGHT</i>		
13.00	Introduction & Welcome	An Overview of the Course
13.15	Setting up Your Machine	How to Get the Best 2D Image
13.45	2D Assessment of the Pelvis	Defining Standards in Gynecological Scanning
14.15	3D / 4D Data Acquisition	How to Acquire Your 3D datasets
14.30	<i>Live 'Phantom' Demonstration</i>	Live Scanning on Voluson Machines
15.15	<i>COFFEE</i>	
15.30	4D View: An Introduction	Dataset Management, Image Settings, Options for Image Display and Standardization
16.30	<i>Practical Session 1</i>	How to Get the Best Image

Evening: free (please ask for a list of recommended restaurants)

Fri	Lecture	Learning objective
<i>ADVANCED 3D IMAGING</i>		
09.00	Clinical Applications of 3D Ultrasound	Diagnostic Advantages of 3D: <i>The Uterus and Endometrium</i>
09.45	<i>Practical Session 2</i>	Uterine Volumes
11.00	<i>COFFEE</i>	
11.15	Clinical Applications of 3D Ultrasound	Diagnostic Advantages of 3D: <i>The Ovaries and Adnexa</i>
12.00	<i>Practical Session 3</i>	Ovarian Volumes
13.00	<i>LUNCH</i>	

Fri	Lecture	Learning objective
<i>ADVANCED 3D IMAGING</i>		
14.00	4D View: Advanced Options	Tomographic Ultrasound Imaging, Omni View, Image Rendering, and Cine Mode
14.45	<i>Practical Session 4</i>	Advanced Image Displays and Rendering
15.30	<i>COFFEE</i>	
15.45	Clinical Applications of 3D Ultrasound	Diagnostic Advantages of 3D: <i>Early Pregnancy</i>
16.30	<i>Practical Session 5</i>	Clinical Cases

Evening: Course Dinner (meet in hotel lobby at 19:00)

Sat	Lecture	Learning objective
<i>ADVANCED 3D IMAGING</i>		
08:45	Volume Analysis	VOCAL and SonoAVC: <i>Techniques and Clinical Applications</i>
09.30	<i>Practical Session 6</i>	Manual and Automatic Volume Calculation
10:45	<i>COFFEE</i>	
11.00	Doppler Ultrasound	Qualitative and Quantitative 2D and 3D Doppler: <i>Techniques and Clinical Applications</i>
11.45	<i>Practical Session 7</i>	Qualitative and Quantitative 3D power Doppler
13.00	The Final Word	Reflections and an Overview of the Course

Meeting closes

Important

Please note that the practical sessions using 4D View require that it is essential to:

1. **bring your own laptop, and**
2. **have a working version of 4D View installed on it**

Previous courses have shown this ensures you get the most out of the course.

Warning ... 4D View does not work with:

- **Apple Macintosh** computers unless you have installed 'Parallels' or 'VMware Fusion' but we recommend you check this before your arrival.
- **Windows Vista** and some versions of **Windows 7**

We do have a limited number of spare laptops but would strongly advise you to bring your own to avoid disappointment. We also recommend that you check your version works before you leave by physically opening and working on one or two datasets. Please feel free to bring any interesting cases along with you. We can look at these as a group.

There are 3 ways to get 4D View:

1. **Purchase 4D View Option from GE** - & install it on your computer. It is essential to remember the Dongle to allow the 4D View programme to open and work the datasets
2. **Install the 60 day demo version** - this option does not require a dongle and lasts for 60 days from when you first open the application (please note this version does not offer sonoAVC and cannot currently be installed on PCs running Windows Vista)
3. **Install a "free unlimited de-featured version"** - this option does not require a dongle and does not expire over time but has reduced 3D / 4D data capability and several restrictions as it does not offer:
 - ⊗ volume data storage / archiving
 - ⊗ VOCAL
 - ⊗ SRI filter
 - ⊗ inversion mode
 - ⊗ static VCI
 - ⊗ sonoAVC

Whilst you would still be able to open and manipulate the data files supplied during the course the absence of these facilities may reduce your enjoyment and learning experience. Only use this version if you are unable to load the demo version.

For further information, and to download 4D View, please visit the Voluson Club website: <http://www.volusonclub.net/emea/4dview>

I sincerely look forward to welcoming you to Nottingham.

Yours sincerely,

Nick Raine-Fenning

N J Raine-Fenning MBChB MRCOG PhD

Course Director & Convenor

Biography



Nick Raine-Fenning is a Reader of Reproductive Medicine and Surgery at the University of Nottingham and a Consultant Gynaecologist at Nottingham University Hospitals' NHS Trust.

He also works as the Medical Director of Nurture Fertility, one of the leading assisted conception units in the UK, and is the Lead Clinician and Person Responsible for the Burton Fertility Clinic.

Nick has a special interest in both gynaecological ultrasound and reproductive medicine. He is an internationally recognised expert in three-dimensional ultrasound and was awarded a PhD in 2004 for work relating to the quantification of pelvic blood flow using quantitative 3D power Doppler angiography.

Nick is a regular invited speaker at most international meetings and is known for his inspirational, thought-provoking talks and presentations. He has been an invited speaker on the VISUS Course since 2004 and has made a DVD about volume ultrasound in gynecology that is available through the Voluson Club.

Nick is an Executive Member of the International Society for Ultrasound in Obstetrics and Gynecology (ISUOG) where he Chairs the Clinical Standards and Patient Liaison Committees. He has also acted as Deputy Editor-in-Chief of Ultrasound in Obstetrics & Gynecology.

Selected publications in Ultrasound relevant to the Course:

Prayer D, Malingier G, Brugger P, Cassady C, De Catte L, De Keersmaecker B, Fernandes G, Glanc P, Gonçalves L, Gruber G, Laifer-Narin S, Lee W, Millischer A, Molho M, Neelavalli J, Platt L, Pugash D, Ramaekers P, Salomon L, Sanz M, Timor-Tritsch I, Tutschek B, Twickler D, Weber M, Ximenes R, Raine-Fenning N. ISUOG Practice Guidelines: performance of fetal magnetic resonance imaging. *Ultrasound Obstet Gynecol* 2017; 49: 671–680

Kollmann M, Martins W, Lima M, Craciunas L, Nastri C, Richardson A, Raine-Fenning N. Strategies for improving outcome of assisted reproduction in women with polycystic ovary syndrome: systematic review and meta-analysis. *Ultrasound Obstet Gynecol* 2016; 48(6): 709-718.

Ghi T, Sotiriadis A, Calda P, Da Silva Costa F, Raine-Fenning N, Alfirevic Z, McGillivray G; International Society of Ultrasound in Obstetrics and Gynecology (ISUOG). ISUOG Practice Guidelines: invasive procedures for prenatal diagnosis. *Ultrasound Obstet Gynecol* 2016; 48: 256–268.

Polanski L, Baumgarten M, Brosens J, Quenby S, Campbell B, Martins W, Raine-Fenning N. Endometrial spatio-temporal image correlation (STIC) and prediction of outcome following assisted reproductive treatment. *Eur J Obstet Gynecol Reprod Biol* 2016; 203: 320-5

Khalil A, Rodgers M, Baschat A, Bhide A, Gratacos E, Hecher K, Kilby M, Lewi L, Nicolaides K, Oepkes D, Raine-Fenning N, Reed K, Salomon L, Sotiriadis A, Thilaganathan B, Ville Y. ISUOG Practice Guidelines: role of ultrasound in twin pregnancy. *Ultrasound Obstet Gynecol* 2016; 47: 247–263

Van Schoubroeck D, Raine-Fenning N, Installé A, De Neubourg D, De Moor B, Bourne T, Van den Bosch T, Timmerman D. Interobserver agreement in assessment of polycystic ovarian morphology using pattern recognition. *Ultrasound Obstet Gynecol* 2016; 47(5): 652-3

Polanski L, Baumgarten M, Brosens J, Quenby S, Campbell B, Martins W, Raine-Fenning N. 4-D assessment of endometrial vascularity using spatiotemporal image correlation: a study comparing spherical sampling and whole-tissue analysis. *Ultrasound Med Biol* 2015; 41(11): 2798-805

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Richardson A, Hopkisson J, Campbell B, Raine-Fenning N. Use of the double decidual sac sign to confirm intra-uterine pregnancy location prior to ultrasonographic visualisation of embryonic contents: A diagnostic accuracy study. *Ultrasound Obstet Gynecol* 2016

Richardson A, Gallos I, Dobson S, Campbell B, Coomarasamy A, Raine-Fenning N. Accuracy of first trimester ultrasound features for diagnosis of tubal ectopic pregnancy in the absence of an obvious extra-uterine embryo: A systematic review and meta-analysis. *Ultrasound Obstet Gynecol* 2016;47:28-37

Richardson A, Gallos I, Dobson S, Campbell B, Coomarasamy A, Raine-Fenning N. Accuracy of first trimester ultrasound in the diagnosis of an intrauterine pregnancy prior to the development of the yolk sac: a systematic review and meta-analysis. *Ultrasound Obstet Gynecol* 2015;46:142-149

Martins W, Kollmann M, Raine-Fenning N. Counting ovarian follicles: updated threshold for diagnosis of hyperandrogenic anovulation. *Ultrasound Obstet Gynecol* 2014; 44: 131-134.

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Nandi A, Martins WP, Jayaprakasan K, Clewes JS, Campbell BK, Raine-Fenning NJ. Assessment of endometrial and subendometrial blood flow in women undergoing frozen embryo transfer cycles. *Reproductive Biomedicine Online*. 2014 Mar;28(3):343-51.

Miyague AH, Raine-Fenning NJ, Pavan TZ, Polanski LT, Baumgarten MN, Nastri CO, Martins WP. Influence of gain adjustment on 3-dimensional power Doppler indices and on spatiotemporal image correlation volumetric pulsatility indices using a flow phantom. *Journal of Ultrasound in Medicine*. 2013 Oct;32(10):1831-6.

Miyague AH, Raine-Fenning NJ, Polanski L, Martinez LH, Araujo Junior E, Pavan TZ, et al. Assessing repeatability of 3D Doppler indices obtained by static 3D and STIC power Doppler: a combined in-vivo/in-vitro flow phantom study. *Ultrasound Obstet Gynecol*. 2013 Nov;42(5):571-6.

Salomon LJ, Alfirevic Z, Bilardo CM, Chalouhi GE, Ghi T, Kagan KO, et al. ISUOG practice guidelines: performance of first-trimester fetal ultrasound scan. *Ultrasound Obstet Gynecol* 2013 Jan;41(1):102-13. PubMed PMID: 23280739

Deb S, Campbell B, Clewes J, Raine-Fenning N. Intracycle variation in number of antral follicles stratified by size and in endocrine markers of ovarian reserve in women with normal ovulatory menstrual cycles. *Ultrasound Obstet Gynecol* 2013;41(2):216-22.

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