Fertility 2022
Rising to global challenges
5-8 January 2022
Conference Handbook
VitriFit®

Designed to fit every need

Successful vitrification requires an efficient vitrification carrier, and in most cases open system carriers provide the best clinical outcome – especially for oocytes.

VitriFit, an open carrier, is designed to maximize efficiency and flexibility – both in shape and function. The innovative hexagonal shape allows tighter packaging during storage, increasing storage efficiency by up to 50% compared with other popular open system carriers.

The loading area is curved for easy loading and the protection of specimens. All parts are made from the same material, making VitriFit robust and ensuring a perfect fit between handle and cap during assembly and storage.

Now up to 50% improved storage efficiency*

*Compared to popular carriers commercially available

Benefits

• Fits all media systems and stages: from oocyte to blastocyst
• Hexagonal shape for optimal storage efficiency
• Visual markings to ensure correct orientation
• Curved loading area for easy loading and specimen protection
• Flexible handling, available in eight colors

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WELCOME

It is with great pleasure that I welcome you to Fertility 2022, the 15th joint fertility meeting organised by the Association of Reproductive and Clinical Scientists (ARCS), the British Fertility Society (BFS) and the Society for Reproduction and Fertility (SRF), and the 2nd online Fertility meeting. The theme for Fertility 2022 is **Rising to Global Challenges**, and I’m sure everyone will agree the last 2 years have been challenging!

I’d like to first thank the members of ARCS, BFS and SRF, the speakers and the sponsors who all supported our decision to convert the original planned face-to-face meeting in Liverpool to a virtual meeting as a result of the increasing concerns with the omicron variant. It was obviously initially disappointing for us to make the decision, especially as up to that point we were fairly confident that we would be able to proceed with the face-to-face meeting, but the safety of our delegates was our priority. We were very grateful for the positive and supportive feedback we received from everyone and have no doubt that Fertility 2022 online will be as successful as Fertility 2021. We are currently on track to reach, and most likely to exceed, the number of delegates who registered for last year’s online conference.

The organising committee have put together an excellent programme with high profile UK and international speakers who will provide virtual presentations in an extensive range of current issues relating to fertility, assisted reproduction and reproductive biology. The whole conference will be available from the comfort of your home, or workplace, without the need to travel and it can fit in with your schedules. Access to presentations will be available online for three months after the event allowing you the possibility to view on demand at a time that suits you.

The original programme has successfully been adapted to the online format and as always includes the three eponymous Fertility lectures: Bob Edwards Memorial Lecture, Anne McLaren Memorial Lecture, and the Patrick Steptoe Memorial Lecture. These, together with the plenary and update sessions, will allow renowned experts from around the world to present the latest developments in a wide range of areas of interest to delegates. There is also the opportunity to attend parallel short paper sessions and the various sponsored sessions.

There will be the customary prizes for oral and poster presentations and there will be a prize giving session on the final afternoon of the conference to announce the winners which we hope you will be able to join us for.

It has been an honour to Chair the Programme committee for Fertility 2022 and I would like to thank my colleagues from the three societies for their contribution and dedication to creating a high quality scientific programme. I would also like to thank our conference organisers Profile Productions for their ongoing support.

Finally, it only remains for me to wish all our delegates a very enjoyable and scientifically rewarding Fertility 2022 conference.

**Karen Schnauffer**
Programme Chair Fertility 2022
The future of egg and embryo care is TMRW.

The TMRW platform delivers state-of-the-art technology to the IVF lab, including unique digital chain of custody for each patient and 24/7 monitoring, offering peace of mind to both patients and clinics.

Learn how TMRW is raising the standard of care for frozen eggs and embryos by joining our Fertility 2022 breakfast session on Friday, January 7th, or by contacting kaj@tmrw.org to request a TMRW-hosted in-person demonstration of our automated cryomangement platform.

See more at tmrw.org/fertility2022.
### SRF Satellite Day

**Wednesday 5 January**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:50</td>
<td><strong>Join SRF Satellite Day</strong></td>
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<tr>
<td>12:00</td>
<td><strong>SRF Early career researchers’ symposium</strong></td>
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<td></td>
<td><em>Chair:</em> Federica Lopes, ECR Representative, SRF</td>
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<td></td>
<td><em>Facilitator:</em> Piero Vitelli, Managing Director, Island 41</td>
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<tr>
<td>12:50</td>
<td><strong>Join SRF Satellite Day</strong></td>
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<tr>
<td>13:00</td>
<td><strong>SRF Post-Doctoral Prize Session</strong></td>
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<td><em>Chair:</em> Mark Fenwick, Programme Committee, SRF</td>
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<tr>
<td></td>
<td>• Metabolomics to identify pregnancies at risk of preeclampsia Daniel McKeating, Post-Doctoral</td>
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<td></td>
<td>Research Associate, Cambridge University, UK</td>
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<td></td>
<td>• Differential follicle stimulating hormone glycosylation modulates pre-antral follicle growth</td>
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<tr>
<td></td>
<td>and survival rates Gillian Johnson, Post-Doctoral Research Associate, King’s College London,</td>
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<td></td>
<td>UK</td>
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<td></td>
<td>• Dynamics of Foxl2 gene regulation in the mouse ovary Roberta Migale, Post-Doctoral Training</td>
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<td></td>
<td>Fellow, The Francis Crick Institute, UK</td>
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<td></td>
<td>• The expression of HMG2, a predicted target of conceptus-derived microRNAs, increases in the</td>
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<td></td>
<td>blood of pregnant cattle on days 19 and 23 Irene Malo Estepa, Post-Doctoral Research Fellow,</td>
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<td></td>
<td>University of Leeds, UK</td>
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<td></td>
<td>• The imprinted Igf2 gene in the mouse placental endocrine zone regulates maternal metabolism</td>
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<tr>
<td></td>
<td>with impacts on fetal nutrient supply and growth Jorge Lopez-Tello, Sir Henry Wellcome Postdoctoral</td>
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<td></td>
<td>Fellow, University of Cambridge, UK</td>
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<tr>
<td>14:05</td>
<td><strong>In Memoriam</strong> – SRF tributes to Roger Short, Twink Allen and Keith Inskeep</td>
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<td><em>Chair:</em> Richard Lea, Chair, SRF</td>
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<td>14:20</td>
<td><strong>SRF/SSR New Investigator UK (2020)</strong> Putting pregnancy on hold down under</td>
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<td></td>
<td><em>Dr Jane Fenelon</em>, Research Fellow, Monotreme and Marsupial Reproduction and Development, The</td>
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<td></td>
<td>University of Melbourne, Australia</td>
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<td>14:45</td>
<td><strong>SRF/SSR New Inv USA (2020)</strong></td>
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<td></td>
<td><em>Dr Sue Hammoud</em>, Assistant Professor, University of Michigan Medical School, USA</td>
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<tr>
<td>15:10</td>
<td><strong>SRF/SSR New Investigator UK (2021)</strong></td>
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<td></td>
<td><em>Dr António Galvão</em>, Research Scientist, Babraham Institute, University of Cambridge, UK</td>
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<tr>
<td>15:35</td>
<td><strong>Reproduction Journal Prize Lecture</strong> Differential RA responsiveness among subsets of mouse</td>
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<td></td>
<td>late progenitor spermatagonia Shinnosuke Suzuki, Specially Appointed Assistant Professor,</td>
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<td></td>
<td>National Institute for Basic Biology, National Institutes of Natural Sciences, Japan and Brian</td>
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<td></td>
<td>P Hermann, Associate Professor, University of Texas</td>
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<tr>
<td>16:00</td>
<td><strong>Q&amp;A with all presenters</strong></td>
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<td>16:15</td>
<td><strong>Break</strong></td>
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<td>16:45</td>
<td><strong>Society AGMs – separate links to join</strong></td>
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<td><em>ARCS</em></td>
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<td><em>BFS</em></td>
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<td>17:00</td>
<td><strong>SRF including the Marshall Medal (2021) Prof. R. Michael Roberts</strong></td>
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<tr>
<td>18:00</td>
<td><strong>Visit the poster showcase</strong></td>
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YOU ARE INVITED TO:
Merck-sponsored virtual medical symposium at Fertility 2022

Precision medicine in ART: From hyper- to hypo-responders

Thursday 6 January 2022 | 17:55–18:55

Join our faculty virtually to discuss and learn more about personalised treatment approaches to optimise clinical outcomes in different patient populations.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>17:55–18:00</td>
<td>Welcome and introduction</td>
<td>Prof. Nick Macklon,</td>
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<td></td>
<td>Group Medical Director, London Women’s Clinic, London Egg Bank and London Sperm Bank, UK</td>
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<tr>
<td>18:00–18:15</td>
<td>Developing a personalised approach for optimal care of hyper-responders</td>
<td>Prof. Panagiotis Drakopoulos, Professor and Senior Fertility Specialist University of Brussels, Belgium</td>
</tr>
<tr>
<td>18:15–18:45</td>
<td>Developing a personalised approach for optimal care of hypo-responders</td>
<td>Prof. Nikolaos Polyzos, Head of Reproductive Medicine Dexeus University Hospital, Barcelona, Spain</td>
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<tr>
<td>18:45–18:50</td>
<td>Panel discussion</td>
<td>All faculty, chaired by Prof. Nick Macklon</td>
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<tr>
<td>18:50–18:55</td>
<td>Final remarks</td>
<td>Prof. Nick Macklon</td>
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ART, assisted reproductive technology.

Merck is a sponsor of the Fertility 2022 British Fertility Society Annual Conference.

Date of preparation: December 2021 | UI-NONF-00368
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**Thursday 6 January | Biological**

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<th>Time</th>
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<tr>
<td>08:50</td>
<td>Join Fertility 2022 online</td>
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**PLENARY SESSION**

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<thead>
<tr>
<th>Time</th>
<th>Sessionadinforef</th>
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<tbody>
<tr>
<td>09:00</td>
<td>Chair’s opening remarks <em>Karen Schnauffer, Programme Chair, ARCS</em></td>
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<td>09:05</td>
<td><em>Fishing for insight – the application of evolutionary thinking in fertility research</em> <em>Professor Neil Gemmel, University of Otago, New Zealand</em></td>
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<td>09:30</td>
<td><em>Endocrine programming of intrauterine development</em> <em>Professor Abigail Fowden, Department of Physiology, Development and Neuroscience, University of Cambridge, UK</em></td>
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<tr>
<td>09:55</td>
<td><em>Improving DNA damage</em> <em>Professor John Aitken, Distinguished Laureate, Professor of Biological Sciences, University of Newcastle, Australia</em></td>
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<td>10:20</td>
<td>Q&amp;A discussion</td>
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<td>10:40</td>
<td><em>Gedeon Richter mini session:</em> Demonstration of egg collection simulator available for in clinic familiarisation <em>Ian Pearce, Fertility National Sales Manager, Gedeon Richter</em></td>
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<tr>
<td>10:55</td>
<td>Comfort break and opportunity to view poster showcase</td>
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<tr>
<td>11:15</td>
<td><em>Ann McLaren Memorial Lecture</em> <em>Chair: Richard Lea, Chair, SRF</em> Epigenetic inheritance – models and mechanisms <em>Professor Anne Ferguson-Smith, Department of Genetics, University of Cambridge, UK</em></td>
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<tr>
<td>12:00</td>
<td><em>Ferring sponsor’s symposium:</em> Changing practice in IVF <em>Chair: Mr Tim Child, Group Medical Director, TFP Oxford Fertility</em> Key patient/partner drivers and barriers on seeking infertility treatment in the UK and an innovative coaching and mentoring program for fertility nurses <em>Mr Stuart Lavery, Divisional Director Women’s Health UCLH, Associate Professor UCL, Director Aria Fertility</em> Rekovelle - Most recent published RCT data on follitropin delta and RWE from a Dutch IVF clinic <em>Dr Pauline Boom, Fertility Doctor, Gynaecology and Reproductive Medicine, Erasmus MC, Rotterdam, The Netherlands</em> Real world experience on use of Rekovelle from a UK IVF clinic <em>Mr Andrew Drakeley, Divisional Clinical Director for Gynaecology &amp; Fertility and Lead Clinician, Hewitt Fertility Centre, Liverpool</em> Close: <em>Mr Tim Child, Group Medical Director, TFP Oxford Fertility</em></td>
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<tr>
<td>12:50</td>
<td>Lunch break and opportunity to view poster showcase</td>
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### SP1A ARCS PRE-REG & JEAN PURDY PRIZE SESSION
**Chair:** Lorraine Frew, Programme Committee, ARCS

- **Controlled ovarian hyper-stimulation protocol and embryo euploidy rate** Orla Green, Embryologist, London Women’s Clinic, UK
- **A comparison of osmolality changes, during extended embryo culture between non-humidified EmbryoScope 8 (Vitrolife, Sweden) and humidified Geri (Merck, Germany) incubation systems** Megan Lockwood, Trainee Embryologist, CARE Fertility, UK
- **Morphokinetic differences in cleavage patterns and blastulation between fresh and frozen oocytes; a retrospective analysis** Liliana Abreu, Embryologist, London Women’s Clinic, UK
- **Re-expansion profile predicts implantation potential in vitrified/warmed blastocysts — a retrospective timelapse study** Lydia Firminger, Trainee Clinical Embryologist, Centre for Reproductive Medicine, UK
- **A reduction in 37°C incubation time during semen preparation for treatment benefits couples with older oocytes and poor-quality sperm samples** Katy Wagg, Trainee Embryologist, Hewitt Fertility Centre, UK
- **Does artificial oocyte activation (AOA) affect blastocyst euploid rates?** Thomas Bamford, Doctoral Clinical Research Fellow, CARE Fertility, UK

### SP1B BFS Young Clinician prize session
**Chair:** Ephia Yasmin, Programme Committee, BFS

- **Immunological Testing in women with Recurrent Pregnancy Loss (RPL)** Jennifer Tamblyn, Clinical Lecturer, University of Birmingham, UK
- **Prevalence of mental health disorders amongst infertile women: A systematic review** Inosha Bambaranda, Clinical Research Fellow, Newcastle Upon Tyne NHS Trust, UK
- **Serum progesterone levels on the day of frozen embryo transfer (ProFET): a prospective, double-blind, multicentre cohort study** Pedro Melo, Clinical Fellow in Reproductive Medicine, CARE Fertility, UK
- **Comparison of early pregnancy outcomes arising from donor or partner sperm - An analysis of 326,554 IVF Pregnancies from anonymised HFEA data** Christopher Allen, Sub Speciality Trainee, Aberdeen Fertility Centre, UK
- **Fertility preservation in transgender males: A single centre experience** Xulin Foo, Clinical Fellow in Reproductive Medicine, University College, London
- **Acceptability of cannabidiol (CBD) as a potential fertility sparing treatment option for women suffering with chronic pelvic pain** Nicola Tempest, SST/Academic Clinical Lecturer, University of Liverpool, UK

### SP1C BFS Nursing prize and psychosocial session
**Chair:** Debbie Evans, Executive Committee Member, BFS

- **Safe Sedation: developing the role of 140 non-anaesthetist sedationists** Andreia Trigo, Nurse, Sedate UK
- **Covid-19 - The effect on fertility nursing within the NHS and private sector** Katie Best, Lead Consultant Nurse, Hewitt Fertility Centre, UK
- **Satisfaction with current NHS maternity care after IVF-assisted conception** Jiali Xu, MRes Student in Reproduction and Pregnancy, University of Manchester, UK
- **Preliminary analysis of 943 patients using the Fertility Risk Detection Tool** Beatriz Trigo, Head of Wellbeing and Healthy Minds, Enhanced Fertility, UK
- **Balancing fertility treatment and employment: Three types of ‘labour’ and resulting work-life conflict** Dr Krystal Wilkinson, Senior Lecturer in HRM, Manchester Metropolitan University
**SP1D**  
SRF PhD Prize session  
Chair: Mark Fenwick, Programme Committee, SRF  
- Checkpoint inhibitor immunotherapy diminishes oocyte number and quality: Consequences for fertility of female cancer survivors Lauren Alesi, PhD Candidate, Monash University, Australia  
- TOP3A is required for the maintenance of the ovarian follicular reserve and oocyte quality XueBi Cai, PhD, Monash University, Australia  
- Puma knockout protects the uterus from radiotherapy-mediated damage: implications for fertility preservation for female cancer survivors Meaghan Griffiths, PhD Candidate, Monash University, Australia  
- The impact of paternal diet on late gestation fetal growth, placental gene expression and maternal metabolic health during gestation Afsaneh Khoshkerdar, PhD Student, University of Nottingham, UK  
- Stress-responsive O-GlcNAc protein modification regulates trophoblast development in an organoid model of implantation Atalie Scrivener, PhD Student, University of Manchester  
- Is inbreeding causing early pregnancy loss in thoroughbred horses? Charlotte A. Shilton PhD Student, Royal Veterinary College, UK

**SP1E**  
Andrology including Iwan Lewis-Jones Prize  
Chair: Jackson Kirkman-Brown, Executive Committee Member, ARCS  
- Real-time sperm analysis using artificial intelligence at the time of ICSI: Correlation of single sperm characteristics with fertilization and blastocyst formation using SiD; a proof-of-concept Alejandro Chavez-Badiola, CEO, IVF 2.0 Ltd, UK  
- Variation in Leydig cell functional capacity does not inform spermatogenesis in eugonadal men Ravinder Anand-Ivell, Associate Professor, University of Nottingham, UK  
- Chemotherapy activates MAPK, PI3K|AKT and TOR signalling in mouse spermatogonial stem cell lines Federica Lopes, Post-Doctoral Research, University of Edinburgh, UK  
- Role of two-pore channel 2 (TPC2) in sperm motility and energy utilisation John Parrington, Associate Professor, University of Oxford, UK  
- High dose testosterone induces changes in stromal collagen and elastin content of ovaries of transgender men Emily Bailie, Clinical Research Fellow, University of Edinburgh, UK  
- Sperm proteomics of iRPL affected couples Savita Yadav, Professor, All India Institute of Medical Sciences, India

14:30  
Comfort break

**SPONSORED SESSION**  
CooperSurgical mini session:  
Stop, slow, or go. What the HFEA outcome data tells us about the traffic light guidance for PGT-A  
Darren Griffin, Professor of Genetics, University of Kent
### UPDATE SESSIONS 1A AND 1B

#### U1A
15:00 **Clinical evidence and horizon scanning**  
Chair: Stuart Lavery, Programme Chair, BFS  
- **Unexplained fertility** – Dr Sesh Sunkara, Clinical Senior Lecturer in Reproductive Medicine, King’s College London, UK  
- **Fibroids and polyps** – Mr Mostafa Metwally, Consultant in Reproductive Medicine and Surgery, Sheffield Teaching Hospitals, UK  
- **Miscarriage prevention** - Professor Arri Coomarasamy, Professor of Gynaecology, University of Birmingham, UK

#### U1B
15:00 **Environmental impact on reproductive function**  
Chair: Richard Lea, Chair, SRF  
- **Environmental exposure on ovarian function** – Dr Aileen Keating, Professor, Iowa State University, USA  
- **The nutritional antecedents of poor pregnancy outcome in young adolescents: temporary setback or lifetime consequences?** Dr Jacqueline Wallace, Principal Investigator, Rowett Institute, University of Aberdeen, UK  
- **A new recipe for southern white rhino breeding success?** Christopher Tubbs, Associate Director Reproductive Sciences, San Diego Zoo Wildlife Alliance, California, USA

16:00 Q&A discussion

16:15 Comfort break
### SPONSORED MINI SESSION

**16:25-16:40**  
**Ferring mini session:**  
The Rekovelle pen demonstration and launch of the app update  
*Sue Cheetham, Key Account Manager, Reproductive Health Division, Ferring Pharmaceuticals Limited and Yakub Umer, Sales & Marketing Manager, Reproductive Health Division, Ferring Pharmaceuticals Limited*

### UPDATE SESSIONS 1C AND 1D

**16:40-17:55**  
#### U1C  
**Embryology Clinical Science**  
Chair: Karen Schnauffer, Programme Chair, ARCS  
16:40 **Challenges with embryo selection using polygenic scores**  
Daniel J. Benjamin, University of California, Los Angeles, US  
17:00 **iBlastoids - models for embryonic development**  
Professor Jose Polo, Monash University, Melbourne, Australia  
17:20 **Results of E-Freeze trial**  
Dr Abha Maheshwari, Lead Clinician and Person Responsible, NHS Grampian, UK  
17:40 **Q&A discussion**

#### U1D  
**OHSS**  
Chair: Yvonne Wedden, Programme Committee, BFS  
16:40 **Ovarian Hyperstimation Syndrome**  
Anne Howard, Senior Fertility Nurse Practitioner, Peppy Health, UK  
17:00 **Ambulatory management of severe OHSS**  
Mr David Ogutu, Consultant Gynaecologist and Medical Director, Herts and Essex Fertility Centre, UK  
17:20 **The Clinical Research Nurse - Not just a resource to manage and recruit patients**  
Clare Pye, Lead Research Nurse (Projects) & NIHR Senior Nurse Research Leader, Sheffield Teaching Hospitals NHS Foundation Trust, UK  
17:40 **Q&A discussion**

### SPONSORED SESSION

**17:55-18:55**  
**Merck symposium:**  
Precision medicine in ART: From hyper to hypo responders  
Chair: Prof Nick Macklon, Group Medical Director, London Women’s Clinic, London, UK  
Developing a personalised approach for optimal care of hyper responders  
Prof. Panagiotis Drakopoulos, Centre for Reproductive Medicine (UZ Brussel), Belgium  
Developing a personalised approach for optimal care of hypo responders  
Prof Nikolaos Polyzos, Dexeus University Hospital, Barcelona, Spain
REKOVELLE® supports live birth outcomes from the first cycle\textsuperscript{1,3}

REKOVELLE\textsuperscript{®} shows higher live birth\textsuperscript{*} rate in normal to high responders\textsuperscript{1,2}

REKOVELLE\textsuperscript{®} demonstrates consistently lower rate of OHSS (any grade)\textsuperscript{1,3}

Easy to use dosing algorithm for precise and personalised prescribing of REKOVELLE\textsuperscript{®}

\textsuperscript{*}Live birth rate was a secondary outcome. ESTHER-1, STORK and GRAPE were neither designed nor powered to assess results based on secondary outcome and no final conclusion can be derived from these results.

\textsuperscript{1}The only recombinant FSH derived from a human cell line.

References:
4. Rekofvelle CmdPC.

UK-RMMH-2100034 Date of preparation: December 2021

Prescribing Information and Adverse Event reporting can be found here

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Friday 7 January | Technological

SPONSORED MINI SESSION
08:45 TMRW Mini session:
Raising the standard of care: The next generation of IVF and biobanking
Rohit Gupta, Chief Scientific Officer and Kaj Rydman, Executive Director International, TMRW

PLENARY SESSION
09:00 Chair: Suman Rice, Programme Chair, SRF
09:02 In vitro gametogenesis
Professor Katsuhiko Hayashi, Kyushu University and Osaka University, Japan
09:30 Mitochondrial Replacement - from bench to bedside and back
Professor Mary Herbert, Professor of Reproductive Biology and Scientific Director, Newcastle University, UK
09:55 New horizons in pre-implantation genetic testing
Professor Dagan Wells, Director of Juno Genetics and Associate Professor, University of Oxford, UK
10:20 Q&A Discussion

SPONSORED MINI SESSION
10:40-10:55 Merck mini session

10:55 Comfort break and opportunity to view poster showcase

PLENARY SESSION
11:15 PATRICK STEPTOE MEMORIAL LECTURE
"Matters of life": ART in Africa in the context of global reproductive health
Chair: Raj Mathur, Chair, BFS
Professor Silke Dyer, Groote Schuur Hospital and Faculty of Health Sciences, University of Cape Town, South Africa

SPONSORED SESSION
12:00 CooperSurgical symposium
Stop, slow, or go. What the HFEA outcome data tells us about the traffic light guidance for PGT-A
Darren Griffin, Professor of Genetics, University of Kent, UK
Mismatches: How do we prevent them and how do we know we’ve prevented them?
Anker Thisted, Product Manager, Witness, CooperSurgical and Tony Gordon, VP Business Development, Life Sciences, CooperSurgical

12:45 Lunch and opportunity to view poster showcase

13:30-14:30 PARALLEL SHORT PAPERS 2
SP2A ARCS POST REG Prize session
Chair: Jason Kasraie, Chair, ARCS
- Uncertainty and the diagnosis of male infertility: The use of discrete WHO reference thresholds leads to the ‘over-labeling’ of men as subfertile
  Josephine Salter, Clinical Scientist, NUH Life, UK
- Efficacy of the combined use of ICSI and antioxidants on the clinical outcomes of patients with high DNA fragmentation index (DFI)
  Violetta Soura, Clinical Embryologist, The Agora Fertility Clinic, Brighton, UK
• RNA-Seq transcriptome profiling of human metaphase II oocytes as a method for assessing the impact of oocyte cryopreservation Tope Adeniyi, Senior Clinical Embryologist and NIHR Clinical Fellow, Manchester University NHS Foundation Trust, UK

• Oocytes and embryos are exposed to unnecessary risk during routine fertility cryopreservation and storage Rachel Gregoire, Scientific Director, Hewitt Fertility Centre, UK

• Artificial intelligence versus the embryologist; could the embryologist be replaced by the machine for embryo developmental assessment? Amy Barrie, Laboratory Manager, CARE Fertility, Chester, UK

SP2B BFS Young Scientist prize and clinical science session
Chair: Raj Mathur, Chair, BFS

• Can morula grade predict live birth outcome? Selina Boardman, Embryologist, CARE Fertility, UK

• RNA velocity analysis reveals waves of transcriptome changes in human embryos at the morula and early blastocyst stages Ivan Wangsaputra, Marie Curie Early-Stage Researcher, University of Manchester, UK

• Germ cell tumour susceptibility is governed by a reduced sensitivity to programmed cell death in mice Peter Nicholls, Lecturer, University of Bradford, UK

• Modelling of the embryo-endometrial interface using single-cell transcriptomes identifies functional gene networks with potential utility in prediction of implantation failure Taqua Khashkhusha, Student, University of Manchester, UK

• The effect of cisplatin on fetal gonads in vitro Agnes Stefansdottir, Teaching Track Lecturer, University of Edinburgh, UK

SP2C Gametes to embryo
Chair: Mark Fenwick, Programme Committee, SRF

• The effect of male age on fertility and reproductive outcomes at a large NHS IVF provider over 12 years Susan Tracey, Clinical Research Fellow, Manchester University NHS Foundation Trust, UK

• A novel artificial intelligence approach to semen analysis Zoé Simon, Applied Physics Engineer, MOJO, France

• Cohesion fatigue does not occur during Meiosis-II in mouse and human oocytes Adélaïde Allais, PhD Student, CRCHUM, Canada

• Fibronectin type III domain containing 5 (FNDC5) expression in bovine ovary and in vitro effect on bovine granulosa cell proliferation and steroidogenesis Mathilde Daudon, PhD Student, CRCHUM, Canada

• A functional analysis of mutations in DAZL identified in infertile patients Nicola Gray, Professor, University of Edinburgh, UK

• RHAMM, MAPK, Smad, and Integrins are involved in early bovine embryo-maternal communication Heather Steele, PhD Candidate, University College Dublin, Ireland

SP2D Refining ART
Chair: Karen Schnauffer, Programme Chair, ARCS

• Does biopsy by the flicking method affect aneuploidy or mosaicism? Carolina Andrés Santé, Embryologist, Tambre Fertility Clinic, Spain

• Does adjuvant letrozole during ovarian stimulation for IVF reduce the need for luteal support? A randomized controlled trial Marianne Dreyer Holt, Region Hovedstaden, Denmark

• Growth of twins conceived using Assisted Reproductive Treatments (ART) from birth up to 5 years old - A Scottish growth cohort Fiskani Kondowe, Marie Curie Early-Stage Researcher, University of Manchester, UK
### 14:30 Comfort break

### SPONSORED MINI SESSION

**14:40-14:55** Vitrolife mini session  
**iDAScore: Automated AI Based Embryo Evaluation and Ranking at Your Fingertips**  
**Dr Walid Maalouf, Science and Training Manager, Vitrolife**

### 15:00-16:15 UPDATE SESSION 2A and 2B

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
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<tbody>
<tr>
<td>15:00</td>
<td><strong>AI Clinical update</strong></td>
<td>Chair: Stuart Lavery, Programme Chair, BFS</td>
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<tr>
<td>15:20</td>
<td><strong>Artificial Intelligence and the IVF lab</strong></td>
<td>Dr Cristina Hickman, Chief Scientific Officer, Apricity, UK</td>
</tr>
<tr>
<td>15:40</td>
<td><strong>How to regulate AI in fertility treatment</strong></td>
<td>Victoria Askew, Policy Manager, Human Fertilisation &amp; Embryology Authority, UK</td>
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<tr>
<td>16:00</td>
<td><strong>Q&amp;A discussion</strong></td>
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</table>
### SCIENTIFIC PROGRAMME

**U2B**  
**Materno-fetal/embryonic interactions**  
**Chair:** Suman Rice, Programme Chair, SRF  
**15:00** Maternal recognition of pregnancy in primates: Impact of endometriosis – Niraj Joshi, Assistant Professor, Michigan State University, USA  
**15:20** How to build a primate: modelling embryogenesis in a dish – Dr Thorsten Boroviak, Principal Investigator, Sir Henry Dale Fellow, University of Cambridge, UK  
**15:40** Big baby, small baby, how does your placenta grow - Dr Karen Forbes, Associate Professor, University of Leeds, UK  
**16:00** Q&A discussion

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**16:15** Comfort break

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**16:40-17:55** UPDATE SESSION 2C and 2D

**U2C**  
**Andrology**  
**Chair:** Sheena Lewis, Programme Committee, ARCS  
**16:40** Why men matter to fertility and pregnancy success: What do we know and where do we go? - Professor Carmen Messerlian, Harvard T.H. Chan School of Public Health, USA  
**17:00** Impact of paternal age on ART - Denny Sakkas, Chief Scientific Officer, Boston IVF  
**17:20** Sperm quality as an indicator of future health - Dr Michael Eisenberg, Director, Male Reproductive Medicine and Surgery; Associate Professor of Urology and Obstetrics & Gynaecology (by courtesy), Stanford University, USA  
**17:40** Q&A discussion

---

**U2D**  
**Technology**  
**Chair:** Yvonne Wedden, Programme Committee, BFS  
**16:40** Fertility care through apps - Francesca Steyn, Director of Fertility, Peppy Health, UK  
**17:00** Fertility support platforms - the good, the bad and those that can be sometimes unhelpful - Tracey Sainsbury, Senior Fertility Counsellor, Fertility Counselling, UK  
**17:20** Caring for intimate data in fertility technologies - Dr Maryam Mehrnezhad, Research Fellow, Newcastle University, UK  
**17:40** Q&A discussion

---

**SPONSORED SESSION**

**17:55-18:40** Gedeon Richter symposium  
Is exogenous LH activity necessary for ovarian stimulation in an ART cycle?  
*Dr Ippokratis Sarris, Director and Consultant in Reproductive Medicine, King’s Fertility*
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*FSH, Follicle-stimulating hormone.
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## SCIENTIFIC PROGRAMME

### Saturday 8 January | Ethical

#### PLENARY SESSION

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<th>Time</th>
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<tbody>
<tr>
<td>09:00</td>
<td>BOB EDWARDS MEMORIAL LECTURE</td>
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<tr>
<td>09:45</td>
<td>Fertility Network UK update - Kate Brian, Operations Manager, Fertility Network UK</td>
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<tr>
<td>10:20</td>
<td>Democratising access to IVF - David Sable, Director, Life Sciences Innovation Funds, USA</td>
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<tr>
<td>10:45</td>
<td>Q&amp;A discussion</td>
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#### 11:15 Comfort break and opportunity to view poster showcase

#### 11:30-12:15 PARALLEL SHORT PAPERS 3

**SP3A  Global challenges**  
Chair: Raj Mathur, Chair, BFS  
- Barriers and facilitators for the inclusion of fertility care into reproductive health policies in Africa: A systematic qualitative evidence synthesis Anna Afferri, PhD Student, University of Sheffield, UK  
- BNT162b2 COVID-19 vaccine has no negative effect on IVF outcomes and women’s fertility Myriam Safrai, Doctor, Hadassah Medical Centre, Israel  
- The COVID-19 vaccine from the perspective of male fertility patients Laurentina Scholer, Clinical Research Fellow, Merrion Fertility Clinic, Ireland  
- Inherited conditions in donor conceived offspring: Consequences for clinics and parents. A two-year retrospective evaluation across four commercial overseas donor banks Valerie Shaikly, Clinical Scientist, Fertility Genetics, UK

**SP3B  Fertility preservation**  
Chair: Richard Lea, Chair, SRF  
- Fertility in cancer survivors: A population-based analysis of family size and reproductive lifespan Richard Anderson, Professor, University of Edinburgh, UK  
- Evaluation of semen quality following cryopreservation in males with different cancer types Sabrina Jaffer, Trainee Andrologist, Cambridge IVF, UK  
- Fertility preservation in girls: 6 years’ experience in a tertiary centre Sania Latif, Clinical Research Fellow, University College London, UK  
- Evidence of PI3K signalling activation and the potential for chemoprotection in human ovarian cortex exposed to cyclophosphamide Roseanne Rosario, Post-Doctoral Research Scientist, University of Edinburgh, UK

**SP3C  Reproductive risk factors**  
Chair: Mark Fenwick, Programme Committee, SRF  
- Multivariable analysis to determine risk factors associated with spontaneous miscarriage in the horse Jessica Roach, PhD Student, Royal Veterinary College, UK  
- Evaluating the progression to thyroid disease in euthyroid thyroid-peroxidase antibody women and a comparison of pregnancy outcomes: A secondary data analysis from TABLET trial Sofia Gill, Medical Student, University of Birmingham, UK  
- High fat high sugar diet in mice alters fetal blood glucose and inflammatory markers in association with changes in placental labyrinth zone gene expression Alejandro A. Candia, PhD Student, University of Cambridge, UK
### SCIENTIFIC PROGRAMME

#### Fertility 2022 Online

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
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| 12:25 - 13:35       | **UPDATE SESSION 3A**                        | **U3A** Joint ARCS and BFS clinical update  
Chair: Jason Kasraie, Chair, ARCS  
12:25 **Male contributions to miscarriage** - Justin Chu, Consultant Obstetrician and Gynaecologist Sub-Specialist in Reproductive Medicine and Surgery, Birmingham Women’s and Children’s NHS Foundation Trust, UK  
12:55 **Equity and fertility - Who truly benefits from ART?** - Dr Christine Ekechi, Consultant Obstetrician and Gynaecologist, Imperial Healthcare and Co-Chair, RCOG Race Equality Taskforce, UK  
13:05 The HFEA 30 years on - what needs to change? Julia Chain, Chair, Human Fertilisation & Embryology Authority, UK  
13:25 Q&A discussion |
| 13:35               | Lunch and opportunity to view poster showcase |                                                                                                                                          |
| 14:00 - 15:00       | **UPDATE SESSION 3B and 3C**                 | **U3B** Zoonotic diseases and transmission  
Chair: Richard Lea, Chair, SRF  
14:00 **Zoonotic transmission in Tanzania** – Professor Sarah Cleaveland, University of Glasgow  
14:25 Impact of SARS-CoV-2 on fertility, miscarriages and stillbirth - Professor David Baud, Head of Obstetrics, Lausanne University Hospital (CHUV), Switzerland  
14:50 Q&A discussion |
| 15:00               | **Comfort break**                            |                                                                                                                                          |
|                     | **U3C** Ethical issues                       | **Chair:** Yvonne Wedden, Programme Committee, BFS  
14:00 **My experience as a fertility nurse in bridging the gap for people of different cultures trying to conceive** - Yemi Adebile, Fertility Nurse Consultant, ABC, UK  
14:25 The new HFEA consent on intra partner donation and shared motherhood - Natalie Sutherland, Partner, Burgess Mee Family Law and a Trustee of PET, UK  
14:50 Q&A discussion |

#### SP3D

**Non-invasive gamete assessment**  
Chair: Karen Schnauffer, Programme Chair, ARCS
- Fine tuning by clinic improves the performance of ERICA, an embryo ranking deep machine learning software Alejandro Chavez-Badiola, CEO, IVF2.0 Ltd, UK
- Improved sperm parameters using microfluidic chip-based sperm sorting Marie Claire Aquilina, PhD Student, University of Kent, UK
- Investigation of cumulus cell mitochondrial genetics and metabolic state in relation to patient characteristics and ART outcomes Kishlay Kumar, Post-Doctoral Researcher, University of Oxford, UK
- Exploring the utilisation of amino acids and their metabolites as predictors of follicle activation and growth during culture Kenichiro Sakaguchi, Sponsored Researcher, University of Edinburgh, UK
**FINAL PLENARY SESSION**

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>15:10</td>
<td>Debate: This house believes that chemicals in the environment have contributed significantly to declining male reproductive health</td>
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<td></td>
<td>Chair: Raj Mathur, Chair, BFS</td>
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<tr>
<td></td>
<td>For: Jorma Toppari, Professor, University of Turku, Finland</td>
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<tr>
<td></td>
<td>Against: Richard Sharpe, Honorary Professor, MRC Centre for Reproductive Health, University of Edinburgh, UK</td>
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**CLOSING PLENARY**

<table>
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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>15:50</td>
<td>Chair: Richard Lea, Chair, SRF</td>
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<tr>
<td></td>
<td>Fetal surgery: operating on the world’s smallest patients</td>
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<td></td>
<td>Professor Aris Papageorghiou, Professor in Fetal Medicine and Obstetrics, St George’s Hospital and University of Oxford, UK</td>
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<tr>
<td>16:20</td>
<td>Prize giving, UK – Karen Schnauffer, Programme Chair, ARCS</td>
</tr>
<tr>
<td>16:30</td>
<td>Closing remarks - Richard Lea, Chair, SRF</td>
</tr>
</tbody>
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The Association of Reproductive and Clinical Scientists (ARCS) is a professional body run by Reproductive Scientists supporting the needs and research and development interests of those involved in reproductive sciences in the UK and worldwide.

Founded in 2020, ARCS strives to promote high standards of practice in Reproductive Science and to support the professional interests of those working in the UK and internationally. ARCS boasts a membership in excess of 700 members and strives to advance the profession through training and education, providing information, support and a global community for our members.

Our mission statement is:

- To promote the highest standards of research, diagnosis, patient care and educational outreach in the fields of fertility and reproductive science.
- To promote high quality, evidence-based diagnosis, treatment and patient care using a range of experimental models.
- To further excellence and innovation in the fields of human and animal reproductive research.
- To provide a professional forum for members working in basic and applied reproductive science.
- To provide strategic leadership, advice and professional guidance at all times.
- To engage with other organisations, regulators and the public in the field of reproduction.
- To promote and provide education and training to all disciplines within and allied to the field of reproduction.

The British Fertility Society (BFS) is a membership body for professionals working in all disciplines of reproductive medicine. The BFS actively promotes the sharing of knowledge, further education and raising standards of practice. It recognises the multidisciplinary nature of science and practice of reproductive medicine and welcomes andrologists, counsellors, embryologists, endocrinologists, nurses, and other professional groups working in this field, into its membership. It is regarded as the most prestigious association at the forefront of fertility in the UK, with an increasing global profile.

www.bfs.org.uk

The Society for Reproduction and Fertility organises a joint annual Fertility conference, awards a wide range of grants and scholarships to members, and sponsors relevant scientific workshops. The Society’s Journal, ‘Reproduction’, publishes original research articles and topical reviews in reproductive biology.

Bioscientifica is the publisher of ‘Reproduction’ and ‘Reproduction and Fertility’ which are both official journals of the Society for Reproduction and Fertility.

Reproduction publishes original research articles and topical reviews on the subject of reproductive and developmental biology, and reproductive medicine. With a current Impact Factor of 3.906, Reproduction is a well-established and trusted journal in the fields of reproductive and developmental biology.

Reproduction and Fertility is an open-access, peer-reviewed journal publishing research and reviews on basic, translational and clinical reproduction and fertility. APCs are currently waived, making the journal the perfect home for authors seeking to publish their work open access.
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<th>Authors</th>
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<td>001</td>
<td>Failure to provide samples for sperm banking: Root cause investigation from 15 years of data from a regional cryopreservation service</td>
<td>Mathew Tomlinson; Karen Pooley; Kritika Batra; Tracey Kohut</td>
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<td>Nottingham University Hospital; University of Nottingham</td>
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<tr>
<td>002</td>
<td>New technique for human sperm cryopreservation using emptied Sheep's ovarian follicles</td>
<td>Ahmed Zwamel; Muhammad Baqir Fakhridin; Hayfa Hassani</td>
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<td>Jabir Ibn Hayyan Medical University, Faculty of medicine; Islamic University Najaf, College of medical techniques; University of Baghdad, College of Sciences</td>
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<tr>
<td>003</td>
<td>Standardizing semen preparation, cryopreservation and thaw across NHS IVF units in Scotland</td>
<td>Sylvia Milne; Michael Baines; Elizabeth Ferguson</td>
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<td>Aberdeen Fertility Centre, University of Aberdeen, Aberdeen Maternity Hospital, Forresterhill, Aberdeen</td>
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<td>Lisa Bosman; Iulia Grosu; Darren Griffin; Peter Ellis; Sheryl Homa</td>
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<td>College of Health Sciences, University of Ilorin</td>
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1University of Ilorin; 2Al-Hikmah University

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1Department of Clinical Sciences; Division of Reproduction, Swedish University of Agricultural Sciences; 2Department of Animal Breeding and Genetics, Bioinformatics, Swedish University of Agricultural Sciences; 3Department of Reproductive Biology, Estonian University of Life Sciences; 4Animal Breeders’ Association of Estonia

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1MRC Centre For Reproductive Health; 2Centre for Inflammation Research

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1University of Birmingham; 2Abertay University; 3Edge Hill University

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1College of Veterinary Medicine, University of Duhok, Iraq; 2The Roslin Institute and R(D)SVS, University of Edinburgh, United Kingdom

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1X&Y Fertility, CRGH; 2X&Y Fertility

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1Aintree University Hospital; 2Liverpool Women's Hospital

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1Medical University - Sofia; 2Corniche Fertility Center, Abu Dhabi

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1Academic Unit of Population and Lifespan Sciences, School of Medicine, University of Nottingham; 2Nottingham Arabidopsis Stock Centre (NASC), School of Biosciences, University of Nottingham

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1Institute of Women’s health, University College London, UK; 2Reproductive Medicine Unit, University College London Hospital, UK

041 Fertility preservation for non-malignant disease
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University College London Hospital

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Lynne Cooke; Tulay Karasu
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044 Clinician (dis)satisfaction with age-appropriate patient information for fertility preservation. A national survey of reproductive medicine specialists and paediatric oncologists

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1Cardiff University; 2Wales Fertility Institute, Swansea Bay University Health Board; 3Cardiff University, Wales Fertility Institute, Swansea Bay University Health Board

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1University College London; 2University College London Hospitals NHS Foundation Trust

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Shin Thong Low1; Maya Chetty2
1University of Edinburgh; 2Edinburgh Fertility Centre
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¹Liverpool Women’s Hospital NHS Trust; ²Liverpool Women’s Hospital

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¹Imperial College London; ²The Lister Fertility Clinic

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¹Imperial College London; ²The Lister Fertility Clinic

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¹Imperial College London; ²The Lister Fertility Clinic

053 Attitudes to assisted reproductive techniques: Financial and accessibility perspectives
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¹Cork University Maternity Hospital; ²National Perinatal Epidemiology Centre

057 Assisted reproduction: A luxury for the rich and a debt weight for the poor
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¹Merrion Fertility Clinic; ²University College Dublin

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¹Ferring Pharmaceuticals A/S; ²Ferring Pharmaceuticals

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¹University College Cork; ²Cork University Maternity Hospital; ³National Perinatal Epidemiology Centre

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¹Seren Natural Fertility; ²X&Y Fertility
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1Erasmus MC, University Medical Center, Rotterdam; 2Bio Talentum Ltd., Hungary; 3University of Nottingham
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1Jessop Fertility; 2CREATE Fertility
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084 Public opinions and knowledge of ovarian reserve testing and social egg freezing
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1University of Liverpool, Hewitt Fertility Centre, Liverpool Women’s Hospital; 2University of Liverpool; 3The University of Liverpool, Hewitt Fertility Centre; 4Hewitt Fertility Centre; 5Liverpool John Moore’s University; 6The University of Liverpool, Liverpool Women’s Hospital

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094 Retrospectively comparing treatment outcomes in Bologna criteria poor responders across long agonist and short antagonist protocols
Steven Eaton1; Lynne Nice1; Michael Carroll2
1CARE Fertility; 2Manchester Metropolitan University
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<td>¹SfHARR, University of Sheffield; ²MRC The Gambia Unit; ³Centre of Expertise on Gender, Diversity and Intersectionality at the Vrije Universiteit Brussel (VUB); ⁴Ministry of Health, The Gambia; ⁵Medical School, University of Sheffield</td>
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<td>¹Institute of Biomedicine and Translational Medicine, Faculty of Medicine, Tartu University, Tartu, Estonia; ²Competition Centre on Health Technologies, Tartu, Estonia; ³Women’s Clinic, Infertility Treatment Center, East Tallinn central hospital, Tallinn, Estonia</td>
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<td>¹Region Zealand; ²Region Hovedstaden; ³TFP Stork Fertility, The Fertility Partnership; ⁴London Women’s Clinic</td>
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