



**International Fetal Medicine and Surgery Society  
Annual Meeting 2023, September 4-9  
Visby – Stockholm, Sweden  
Scientific Program**

**TUESDAY, 5 September. Venue Donners event.**

**8.00 AM Welcome and Opening Remarks**  
**Carmen Mesas Burgos & Peter Lindgren**

**8.15-10.05 Session 1: Fetal Center Organization/ Risk Stratification / Counseling**  
*Moderators: Charlotta Ingvoldstad Malmgren & Julie Moldenhauer*

**8.15-8.23 Counseling and multidisciplinary family-centered fetal care: Lessons from advocacy and education**  
*Jonathan Castillo*

**8.23-8.31 Understanding provider perspectives on prenatal decision-making related to congenital anomalies**  
*Jessica Fry*

**8.31-8.39 Innovative delivery of resuscitation guidelines for newborns with congenital anomalies**  
*Natalie Rintoul*

**8.39-8.47 Developing a person-centered care scale for fetal centers**  
*Abigail Wilpers*

**8.47-8.55 "The compassion in that room was palpable": Patients' experiences in U.S. fetal care centers**  
*Katie Francis*

**8.55-9.03 Specialized childbirth classes for pregnant persons with diagnosis of fetal anomalies**  
*Bonnie Zapolin & Kassie Merrill*

**9.03-9.13 Janssen welcome**  
*Paige Meizlik & Yosuke Komatsu*

**9.13-9.21 When fetal therapies create unpredictable outcomes: ethical considerations in formulating a response**  
*Janyne Althaus*

**9.21-9.29 Supporting patients & families with a fetal spina bifida advanced practice nurse program coordinator**  
*Katie Schmidt*

**9.29-9.37 A delivery room learning health system**  
*Anna Ades*

- 9.37-9.45 Identification of perinatal mental health and maternal risks among BIPOC women carrying fetuses with congenital anomalies**  
*Joanna C.M. Cole*
- 9.45-9.53 Development of Machine learning algorithms for Antenatal risk StratificatiON (MASON) using large datasets from Sweden and Chile**  
*Mahesh Choolani*
- 9.53-10.01 An innovative data management platform for fetal care: a focus on efficiency and validity**  
*Tom Reynolds*
- 10.01-10.05 Before and after the implementation of an innovative data management platform in a fetal center**  
*Tom Reynolds*

**10.05-10.35 BEVERAGE BREAK** *Hotel Wisby*

**10.35-12.00 Session 2: Genetic & Stem cell therapy**

Moderators: *Mahesh Choolani & Erik Iwarsson*

- 10.35-10.43 The value of exome sequencing in investigating the genetic causes of NIHF - A single-center experience**  
*Xing Wei*
- 10.43-10.51 Repeated fetal hydrops with fetal and neonatal death associated with RYR1 gene mutation**  
*Ricardo Barini*
- 10.51-10.59 The Performance of the Expanded Non-invasive Prenatal Testing (NIPT) in High-risk Twin Pregnancy**  
*Meng Meng*
- 10.59-11.07 How to support the profession in prenatal diagnostic counseling in Sweden**  
*Charlotta Ingvoldstad Malmgren*
- 11.07-11.15 A case of Schuurs-Hoeijmakers syndrome presenting as hydrops fetalis**  
*Wen-wei Hsu*
- 11.15-11.23 Impact of fetal genomic result availability on initial neonatal care of inborn errors of metabolism**  
*Richard Parad*
- 11.23-11.31 Bidirectional traffic of donor mesenchymal stem cells in transamniotic stem cell therapy (TRASCET)**  
*Kamila Moskowitzova*
- 11.31-11.39 Postnatal Fate of Donor Hematopoietic Stem Cells after Syngeneic Transamniotic Stem Cell Therapy**  
*Kamila Moskowitzova*
- 11.39-11.47 Screening protocol for myogenic stem cell differentiation: The first steps**  
*Monalisa Attif Hassan*
- 11.47-11.55 Unravelling heterogeneity of human amniotic fluid stem cells subpopulations**  
*Agnes Klar*

**11.55-12.03 “I feel good that we did it”- Experiences of parents & stakeholders involved in the BOOSTB4-study**  
*Charlotta Ingvaldstad Malmgren*

**12.03-1.35 Delegate photo + LUNCH** *Hotel Wisby*

**1.35-3.05 Session 3: Innovative biomolecular therapies**  
Moderators: *Alan Flake & Joanne Verweij*

- 1.35-1.43 Trials and tribulations of reproducing a retinoic-induced myelomeningocele model for in utero repair**  
*Zoe Saenz*
- 1.43-1.51 Transamniotic fetal immunotherapy (TRAFIT) with secretory IgA: A potential novel strategy for the prevention of necrotizing enterocolitis**  
*Ashlyn E Whitlock*
- 1.51-1.59 Lipid nanoparticles for in utero base editing of surfactant protein disorders**  
*Nicole Kus*
- 1.59-2.07 In utero lipid nanoparticle targeting of the fetal skin for mRNA therapies**  
*Ana Maria Dumitru*
- 2.07-2.15 Optimizing prenatal and postnatal therapeutic base editing for hereditary tyrosinemia type 1**  
*Ana Maria Dumitru*
- 2.15-2.22 Characterizing pre-existing maternal immunity as a potential barrier to CRISPR-Cas9 in utero gene editing for metabolic liver diseases**  
*William Peranteau*
- 2.23-2.31 Increased efficiency of CRISPR-mediated homology directed repair in the fetus compared to the adult**  
*Nicole Kus*
- 2.31-2.39 Prenatal stress modifies maternal circulating small extracellular vesicles and enhances their targeting to the fetoplacental unit**  
*Sebastián Illanes*
- 2.39-2.47 Transamniotic delivery of surfactant protein B mRNA in a healthy model**  
*Kamila Moskowitzova*
- 2.47-2.55 Vascular dysregulation via NF-κB in fetal growth restriction**  
Timothy M Crombleholme
- 2.55-3.05 Ionizable lipid nanoparticles for therapeutic base editing of congenital brain disease**  
*Rohan Palanki*

**3.05-3.35 BEVERAGE BREAK** *Hotel Wisby*

**3.35-5.45 Session 4: Artificial Placenta, Fetal Therapy**

Moderators: *Ganesh Acharya & George Mychaliska*

**3.35-3.55 Keynote: Update on Artificial Placenta**

*Alan Flake*

**3.55-4.03 The role of fetal hemoglobin in the artificial placenta**

*George Mychaliska*

**4.03-4.11 Characterizing patterns of fetal response to physiologic stress**

*Steven Papastefan*

**4.11-4.19 Multiparameter continuous probe monitoring of fetal physiologic derangement in fetal surgery**

*Steven Papastefan*

**4.19-4.27 Rodent model demonstrates reduced collagen synthesis in uterine scar**

*Anisha Apte*

**4.27-4.35 The Vortex shunt – short-term feasibility studies in the fetal ovine lower urinary tract obstruction and pleural effusion model**

*Enrico Danzer*

**4.35-4.45 Short break**

**4.45-4.53 The impact of in-utero OSB closure on intra-operative fetal perfusion and maternal vital signs**

*Sami Backley*

**4.53-5.01 Fetoscopic lysis of amniotic band sequence using a 2-port technique: report of four cases**

*Sami Backley*

**5.01-5.09 Successful open fetal surgery resection of intrapericardial teratoma**

*Darrell L. Cass*

**5.09-5.17 Stitching of fetal membrane defects in vivo to minimize iPPROM rate**

*Yannick Devaud*

**5.17-5.25 Needle fetoscopy: a technique for placement of challenging thoracoamniotic and vesicoamniotic shunts**

*Steven Papastefan*

**5.25-5.45 The US Supreme Court sabotaging prenatal diagnosis and fetal therapy in America**

*Mark Evans*

**WEDNESDAY, 6 September. Venue Donners event.**

**07.00 AM Fetal Diagnosis & Therapy Editorial Meeting  
(By invitation only. Location: hotel Wisby)**

**08.00 AM Housekeeping Carmen Mesas Burgos & Peter Lindgren**

**8.10-09.55 Session 5: Thoracic, Airway, Cardiac**  
Moderators: *Anita Moon-Grady & Holly Hedrick*

**8.10-8.18 Perinatal airway management in a birth cohort with goiter**  
*Michael Puricelli*

**8.18-8.26 Congenital lung malformation, Lessons from the last 30 years**  
*Reuven Achiron*

**8.26-8.34 Multifocal congenital thoracic lesions**  
*Anthony di Natale*

**8.34-8.42 Prenatal measurements of congenital lung malformations: can they predict postnatal size?**  
*Erin Perrone*

**8.42-8.50 Utility of 3-Dimensional modeling in prenatally diagnosed large fetal neck mass**  
*Inna Lobeck*

**8.50-8.58 Fetal intervention for giant congenital cystic adenomatoid malformation with fetal hydro: Case seria**  
*Gongli Chen*

**8.58-9.06 Prenatally diagnosed large lung lesions: Timing of resection and perinatal outcome**  
*Sourav Bose*

**9.06-9.14 Detection of fetal hydrothorax associated with mucopolysaccharidosis VII for fetal therapy**  
*Haruhiko Sago*

**9.14-9.22 Comparison of best landmarks for fetal jaw index by ultrasound and MRI to predict postnatal outcome**  
*Bailey Lyttle*

**9.22-9.30 Fetal pleural effusions and hydrops: Cause and effect determines prognosis**  
*Kristen Gosnell*

**9.30-9.38 Improving prenatal detection of heart disease scalable analysis of six fetal cardiac biometrics**  
*Anita Moon-Grady*

**9.38-9.46 Direct fetal amiodarone administration for fetal supraventricular tachycardia: a case series**  
*Irvan Adenin*

**9.46-9.55 Modulation of the amniotic fluid protein corona on polymeric nanoparticles by varying pegylation**  
*Anna Lynn*

**9.55-10.25 BEVERAGE BREAK Hotel Wisby**

**10.25-11.45 Session 6: Congenital Diaphragmatic Hernia, Fetal Tracheal Occlusion**

Moderators: *Carmen Mesas Burgos & Philip DeKoninck*

- 10.25-10.50 Keynote Innovation: Smart balloon from an engineer's perspective**  
*Nicolas Sananès*
- 10.50-10.58 Association between initial mode of ventilation & NICU outcomes for infants with severe CDH**  
*K Taylor Wild*
- 10.58-11.06 Increased alveolar deposits of fibronectin may be responsible for the pathophysiology of CDH and it may be a potential target for future therapy**  
*Carolina Pinzon Guzman*
- 11.06-11.14 On-ECMO muscle flap CDH repair associated with fewer bleeding complications and improved survival**  
*Alyssa E Vaughn*
- 11.14-11.22 Bleeding on ECMO: does anticoagulation agent matter in neonates with congenital diaphragmatic hernia**  
*Caroline Credille*
- 11.22-11.30 Prenatal recognition of hepatopulmonary fusion in right-sided CDH for successful operative planning**  
*Timothy Crombleholme*
- 11.30-11.38 Video review of delivery room resuscitation of neonates with congenital diaphragmatic hernia**  
*K Taylor Wild*
- 11.38-11.46 Delivery room resuscitation of infants treated with FETO: beyond the balloon**  
*K Taylor Wild*

**11.45-12.50 LUNCH** *Hotel Wisby*

**12.50-2.10 Session 7: Fetal tumours and abnormalities, CNS, Abdominal, Urogenital**

Moderators: *Shinjiro Hirose & Stephen Emery*

- 12.50-12.58 Revisiting an ovine model for in utero repair of gastroschisis**  
*Emily Byrd*
- 12.58-1.06 Antenatal risk factors for fetal MP: New insights from a 10-year case-control study**  
*Yan Feng*
- 1.06-1.14 Congenital Extrahepatic Portosystemic Venous Shunt from Fetus to Neonate A Need for a New Paradigm**  
*Reuven Achiron*
- 1.14-1.22 Obstetric risk profile of serial amnioinfusions for renal anhydramnios**  
*Jena Miller*
- 1.22-1.30 Consensus diagnosis, management, and core outcomes set of fetal LUTO: a Delphi procedure**  
*Hiba Mustafa*

- 1.30-1.38**    **Transperineal sagittal view for the diagnosis of Posterior Urétral Valves**  
*Jonathan Rosenblatt*
- 1.38-1.46**    **The “Halo Sign” of cystic renal dysplasia on fetal MRI**  
*Judy Estroff*
- 1.46-1.54**    **Postnatal management and variation in care among neonates in the RAFT trial**  
*Ellen Bendel-Stenzel*
- 1.54-2.02**    **Amniotic band syndrome with complete extracephalic brain development: The math of morphology**  
*Christian Macedonia*
- 2.02-2.10**    **Novel ventriculo-amniotic shunt for treatment of fetal aqueductal stenosis**  
*Stephen P Emery*

**THURSDAY, 7 September. Venue Donners event.**

**07.00 AM**    **IFMSS Executive Board Meeting**  
**(By invitation only. Location: hotel Wisby)**

**08.00 AM**    Housekeeping Carmen Mesas Burgos & Peter Lindgren

**08.10-10.00** **Session 8: MMC part 1**  
Moderators: *Peter Conner & Scott Adzick*

**8.10-8.18**    **Characterization of amniotic fluid stem cells obtained from pregnancies with spina bifida aperta**  
*Katarzyna Micka*

**8.18-8.26**    **Neonatal outcomes within the Children’s Hospitals Neonatal Consortium following fetal MMC surgery**  
*Stefanie Riddle*

**8.26-8.34**    **Open spina bifida prenatal repair exclusion criteria in a Chilean reference center**  
*Edgardo Corral*

**8.34-8.42**    **Does the psychosocial profile influence the results of open spina bifida surgery?**  
*Silvana Echeverria*

**8.42-8.50**    **MCA Doppler around fSB repair: an indirect sign of hindbrain compression and decompression?**  
*Ladina Vonzun*

**8.50-8.58**    **Sleep-Disordered Breathing in Neonates with Myelomeningocele: Fetal vs Postnatal Surgery**  
*Ellen Bendel-Stenzel*

**8.58-9.06**    **Pain scores after open spina bifida repair in comparison to caesarean sections**  
*Nele Strübing*

**9.06-9.16**    **Short break**

- 9.16-9.24 Maternal obesity in fetal spina bifida repair: is maternal and fetal safety warranted?**  
*Julia Zepf*
- 9.24-9.32 Absence of hindbrain herniation in myelomeningocele/myeloschisis: A closer look**  
*Gregory Heuer*
- 9.32-9.40 Fetal surgery for MMC: favorable results with expanded indications and refined surgical technique**  
*Darrell L. Cass*
- 9.40-9.48 Transient pseudocyst after open fetal myelomeningocele repair**  
*Amanda Kalan*
- 9.48-9.56 Differences between Myeloschisis and Myelomeningocele in patients undergoing prenatal repair of OSB**  
*Jose Müller*
- 9.56-10.04 Importance of long-term follow-up to the management of myelomeningocele study (MOMS)**  
*Katie Schmidt*

**10.05-10.40 BEVERAGE BREAK** *Hotel Wisby*

**10.40-12.00 Session 9: MMC part 2**  
Moderators: *Martin Meuli & Gregory Heuer*

- 10.40-10.48 Heterotopia and neurodevelopmental outcomes: Prenatal myelomeningocele or myeloschisis**  
*Gregory Heuer*
- 10.48-10.56 Neurodevelopmental outcomes of 5-year old patients after open prenatal spina bifida aperta repair**  
*Beth Padden*
- 10.56-11.04 Fetoscopic myelomeningocele repair is associated with less fetal bradycardia compared to open repair**  
*Steven Papastefan*
- 11.04-11.12 Impact of universal fetal myofascial flap in maternal-fetal surgery for myelomeningocele closure**  
*Julie Moldenhauer*
- 11.12-11.20 Fetal spina bifida repair – case one in 2010, case 200 in 2023: The Zurich center’s biography from fetal to adult life**  
*Martin Meuli*
- 11.20-11.28 Gestational diabetes in women with fetal spina bifida repair - influence of perioperative management**  
*Ladina Rueegg*
- 11.28-11.36 Level dependent outcome after fetal spina bifida repair**  
*Ueli Moehrlen*
- 11.36-11.44 Measuring physical functioning in the MOMS3 Fetal Surgery Study: An interprofessional collaboration**  
*Janet Jackson-Coty*



**11.44-11.52 Global folate fortification efforts**

*Gregory Heuer*

**11.52-12.00 Perinatal mood and anxiety in women undergoing open maternal-fetal surgery for myelomeningocele**

*Nina Paidas Teefey*

**12.00-1.30 LUNCH** *Hotel Wisby*

**1.30-2.45 Session 10: Multiple Pregnancies**

Moderators: *Sverker Ek & Mark Johnson*

**1.30-1.38 Association of fetal growth restriction and stillbirth in twin compared to singleton pregnancies**

*Asma Khalil*

**1.38-1.46 Prediction of stillbirth and adverse perinatal outcomes in dichorionic twin pregnancies**

*Asma Khalil*

**1.46-1.54 Perinatal outcomes in twin reversed arterial perfusion sequence with early or late intervention**

*Luming Sun*

**1.54-2.02 Neurodevelopmental Outcomes in Complicated Twin Pregnancies: Prospective Observational Study**

*Asma Khalil*

**2.02-2.10 Machine-Learning prediction of gestational hypertension and preeclampsia in twin pregnancies**

*Asma Khalil*

**2.10-2.18 Consensus protocol for the management of early and late twin-twin transfusion syndrome: Delphi study**

*Alireza Shamshirsaz*

**2.18-2.26 Management of twin-reversed arterial perfusion sequence: a systematic review and meta-analysis**

*Inna Lobeck*

**2.26-2.34 Early unfavorable outcomes of umbilical cord occlusion for complicated monochorionic twins**

*Tuangsit Wataganara*

**2.34-2.42 Twin Reversed Arterial Perfusion Sequence Indonesia Single Center Experiences in Fetal Interventions**

*Dudy Aldiansyah*

**2.42-3.20 BEVERAGE BREAK** *Hotel Wisby*

**3.20-5.35 Session 11: TTTS, Intra Uterine Transfusions**

Moderators: *Ken Moise & Enrico Lopriore*

- 3.20-3.28 Placental panorama picture generated by a magnetically assisted robotic surgery system for the treatment of twin-to-twin transfusion syndrome**  
*Ueli Moehrlen*
- 3.28-3.36 Stitch it up! Trans-amniotic membrane closure of fetoscopic site in laser photocoagulation for TTTS**  
*Foong Yen Lim*
- 3.36-3.44 Long-term outcomes in children treated with laser therapy for TTTS in a U.S. cohort**  
*Eric Bergh*
- 3.44-3.52 Amniotic fluid biomarkers of fetal stress response to cardiac dysfunction in TTTS**  
*Steven Papastefan*
- 5.52-4.00 The impact of cannula diameter on preterm prelabor rupture of membranes after laser surgery**  
*Anouk van der Schot*
- 4.00-4.08 M-sign in middle cerebral artery Doppler in twin-to-twin transfusion syndrome**  
*Ladina Rüegg*
- 4.08-4.16 Rapidly progressive TTTS despite fortnightly US surveillance**  
*Greg Ryan*
- 4.16-4.24 Changes in hematocrit following uncomplicated laser ablation for TTTS**  
*Martin Walker*
- 4.24-4.32 Investigation on dual fetal demise in twin-twin transfusion syndrome following fetoscopic laser**  
*Luming Sun*

**4.32-4.45 *Short break***

- 4.45-4.53 Perinatal survival following intrauterine transfusion for red cell alloimmunized pregnancies**  
*Alireza Shamshirsaz*
- 4.53-5.01 Atrioventricular plane displacement in fetuses before and after intrauterine blood transfusion**  
*Aikaterini Zamprakou*
- 5.01-5.09 Clinical outcomes of standard of care for early-onset severe HDFN**  
*Dick Oepkes*
- 5.09-5.20 Nipocalimab in pregnancies at high risk for early-onset severe HDFN**  
*Kenneth J. Moise Jr*
- 5.20-5.28 Phase 3 study design of nipocalimab in pregnancies at risk for severe HDFN**  
*Joanne Verweij*
- 5.28-5.35 Postnatal management and outcome in hemolytic disease of the fetus and newborn (HDFN): results from an international registry (Dionysus study)**  
*Enrico Lopriore*

**FRIDAY, 8 September. Stockholm Theater Ship 1.30-4 pm**

**Lunch 12 - 1.20 PM**

**1.20-4.00 Session 12: Special lectures and business meeting**

Moderators: *Peter Lindgren & Greg Ryan & Ueli Möhrlen*

**1.20-1.28 Growth in children with Osteogenesis Imperfecta type III after prenatal treatment with fetal mesenchymal stem cells**

*Magnus Westgren*

**1.28-1.43 The contribution of genetics to Cerebral Palsy**

*Mark Evans*

**1.43-1.51 IFMSS at 40: You heard it here first**

*Francois I. Luks*

**1.51-1.59 What happens in Cabo shouldn't stay in Cabo: our lessons learned**

*Amy B Powne*

**2.00-2.30 Behind the scenes at the Nobel festivities**

*Tobias Degsell*

***Short break***

**2.45-4.00 Business meeting and meeting closing (all delegates, plus-ones welcome)**