



# ISCFS 2023

## 5-8 SEPTEMBER

Seattle, Washington, United States

ISCFS PRESIDENT: RICHARD HOPPER MD MS  
HYATT REGENCY HOTEL | [www.iscfs.org](http://www.iscfs.org)

# PROGRAM

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**SHOOTING FOR THE STARS**  
**FROM OUR PAST TO THE**  
**FUTURE OF CRANIOFACIAL SURGERY**

INTERNATIONAL SOCIETY OF CRANIOFACIAL SURGERY

**SEPTEMBER 5 – 8, 2023**  
**SEATTLE, WASHINGTON, UNITED STATES**

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# WELCOME TO SEATTLE!



Welcome to the Emerald City of Seattle and the 20th Congress of the ISCFS. We are finally gathering again in person to share ideas and to celebrate what we have learned over these past four years. More than 600 delegates have registered for the Congress and we received over 70 new society member applications - our society is vibrant and growing!

We have a rich program planned over the following three days with selected podium and poster presentations from 32 countries, invited speakers who will challenge us to shoot for the stars, and stimulating panels that will lead us to discuss and debate. During the breaks, enjoy seeing old friends and meeting new ones while you explore the exhibitions of new technology and medical devices with our industry affiliates. Poster sessions will be available to explore throughout the day with each day focused on a different topic. Poster presentations and judging will take place during the lunch hours.

On Thursday evening, for those who purchased tickets for the Gala Dinner, buses will leave outside the hotel lobby at 6:30 pm for the Museum of Flight. At this black-tie event you will dine under historic planes and jets and hear about the world of global aeronautic leadership from our guest speaker.

On Friday morning we will have the business meeting open to all previously confirmed voting Active Members. At the same time as the business meeting, the new "Young Surgeons" Committee will be holding their first meeting in Room Queets for any residents or fellows interested in contributing their time to the Society through social media or other initiatives. During Friday afternoon, the Craniofacial Orthodontist Members will be hosting a breakout discussion panel in the same room that is open to everyone with an interest in intraoral procedures.

Finally, I hope you can spare a few days before or after the Congress to explore the natural beauty of the Pacific Northwest. Mountain peaks, old growth forests, waterfalls and the charming islands of the Puget Sound are all only a daytrip away. Please enjoy the week and all that Seattle and the ISCFS has to offer!

With best wishes,

**RICHARD HOPPER, MD**  
ISCFS President (2021-2023)

# SCHEDULE OVERVIEW

# SCHEDULE OVERVIEW

<b>TUESDAY, SEPTEMBER 5, 2023</b>	
Room: Elwha	
<b>PRE-CONGRESS SYMPOSIUM</b>	
8:00 am	Welcome and Introductions: Post-Covid Era - Moving Beyond Telehealth into Our Future
8:15 am	Keynote Presentation
9:15 am	PRE-CONGRESS PANEL 1A: Artificial Intelligence (AI) in Craniofacial Surgery: Data & Decision Making
10:15 am	Coffee Break
10:35 am	PRE-CONGRESS PANEL 1B: Artificial Intelligence (AI) in Craniofacial Surgery: Data & Decision Making
11:40 am	PRE-CONGRESS PANEL 2: Extended Reality in Craniofacial Surgery: Surgical Planning, Knowledge/Skill Transfer & Intraoperative Guidance
1:00 pm	Lunch & Hands-On Technology Fair
3:00 pm	Guest Speaker: Ethical Considerations of Artificial Intelligence in Craniofacial Surgery
3:30 pm	Fireside Chat: From Ideas to Creation
4:55 pm	Closing Remarks
5:30 - 7:30 pm	Welcome Reception in Exhibition (Admission by Name Badge)

<b>WEDNESDAY, SEPTEMBER 6, 2023</b>	
Poster Session 1: Craniosynostosis, Neurosurgical Considerations and Virtual Planning Rooms: Foss, Duckabush, Cowlitz	
Room: Elwha	
Opening Ceremony	
8:00 am	KEYNOTE ADDRESS – Climb. Journey. Live.
9:15 am	INVITED LECTURE 1 – Integrated Command and Control: The Boeing E7 Program
9:45 am	Coffee Break
10:15 am	Free Paper Session 1 - Midface and Monobloc
12:50 pm	Lunch Break Poster Presentations
	Satellite Symposium Synthes (Room: Queets)
1:50 pm	INVITED LECTURE 2: SANS: To Boldly Measure ICP Where No One has Measured ICP Before
2:25 pm	Free Paper Session 2 - Intracranial Pressure and Synostosis Outcomes
4:20 pm	Coffee Break
4:50 pm	PANEL 1: Hydrocephalus and its Treatment: When, How, and Where?
5:50 - 7:00 pm	Free Paper Session 3 - Posterior Vault Distraction Osteogenesis

<b>THURSDAY, SEPTEMBER 7, 2023</b>		
Poster Session 2: Team Care, Orthodontic and Maxillofacial, Distraction Osteogenesis, Artificial Intelligence and Facial Feminization Rooms: Foss, Duckabush, Cowlitz		
Room: Elwha A		Room: Elwha B
7:30 am	Free Paper Session 4A - Microsurgery	Free Paper Session 4B - Mandible Distraction and Robin Sequence
8:35 am	Free Paper Session 5A - Artificial Intelligence and Machine Learning	Free Paper Session 5B - Facial Feminization
8:40 am		
9:20 am	Free Paper Session 6A - Facial Clefts and Encephaloceles	PANEL 2: Facial Feminization: Techniques and Indications
10:05 am		
10:40 am	Coffee Break	
11:10 am	Free Paper Session 7A - Unilateral Coronal Synostosis, Airway and Virtual Surgical Planning	Free Paper Session 7B - Orthognathics
1:05 pm	Lunch Break Poster Presentations	
2:05 pm	Free Paper Session 8A - Synostosis and Team Care	Free Paper Session 8B - Cleft Lip and Alveolar Bone Grafting
3:45 pm	Free Paper Session 9A - Neurocognition, Cranial Healing, and Complications	Free Paper Session 9B - Craniofacial Microsomia
5:15 pm		
6:30 pm	Hotel Bus Transfer Gala Dinner	
7:00 - 10:30 pm	Gala Dinner Museum of Flight (Black Tie Attire; Tickets required)	

<b>FRIDAY, SEPTEMBER 8, 2023</b>		
Poster Session 3: Facial Trauma, Clefts and Encephaloceles, Basic Science and Microsurgery Rooms: Foss, Duckabush, Cowlitz		
Room: Elwha		
7:15 am	ISCFS Business Meeting (Active Voting Members Only)	Young Surgeons Committee Meeting (Room Queets)
7:30 am		
8:30 am	Transfer of Presidency	
8:35 am	Announcement of 21 <sup>st</sup> ISCFS Congress	
8:45 am	FERNANDO ORTIZ MONASTERIO LECTURE: The Canada-Ukraine Surgical Aid Program: Reconstructing Casualties of War	
9:30 am	Free Paper Session 10 - Facial Trauma	
11:15 am	Coffee Break	
11:35 am	Free Paper Session 11 - Endoscopic Strip Craniectomy and Fronto-Orbital Distraction	PANEL 3: Craniofacial Orthodontic Panel (Room Queets)
1:10 pm	Lunch Break & Poster Presentations	
1:55 pm	PANEL 4: The Effect of Aging on Craniofacial Outcomes	
2:55 pm	Free Paper Session 12 - Metopic Synostosis	
3:50 pm	Free Paper Session 13 - Sagittal Synostosis	
4:55 pm	Closing Remarks	
5:00 pm	20 <sup>th</sup> ISCFS Congress Adjourns	



Scan QR-Code & Download pdf-Program

## ORGANIZATION

### VENUE

Hyatt Regency Seattle  
808 Howell Street  
Seattle, WA 98101  
Phone: +1 206.973.1234

### DATE

September 5-8, 2023

### SOCIETY



International Society of Craniofacial Surgery (ISCFS)  
ISCFS President 2022-2023: Richard A Hopper, MD FACS FRCS

### CONGRESS SECRETARIAT

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## COMMITTEES

### SCIENTIFIC COMMITTEE

Richard Hopper (United States)  
Nivaldo Alonso (Brazil)  
Eric Arnaud (France)  
Scott Bartlett (United States)  
David Bauer (United States)  
Patricia Beals (United States)  
Craig Birgfeld (United States)  
Jong-Woo Choi (South Korea)  
Lisa David (United States)  
David Dunaway (United Kingdom)  
Amir Elbarbary (Egypt)  
Russell Ettinger (United States)  
Roberto Flores (United States)  
Amanda Gosman (United States)  
Jayaratnam Jayamohan (United Kingdom)  
Noor ul Owase Jeelani (United Kingdom)  
David Johnson (United Kingdom)  
Alex Kane (United States)

Hitesh Kapadia (United States)  
Rohit Khosla (United States)  
Prasetyanugraheni Kreshanti (Indonesia)  
Benjamin Massenburg (United States)  
Irene M. J. Mathijssen (The Netherlands)  
Ezgi Mercan (United States)  
Gerhard Mundinger (United States)  
Kamlesh Patel (United States)  
Rolando Prada (Colombia)  
Cassio Eduardo Raposo-Amaral (Brazil)  
Russell Reid (United States)  
Davinder Singh (United States)  
Srinivas Susarla (United States)  
Jesse Taylor (United States)  
Mark Urata (United States)  
Raj Vyas (United States)  
Steven Wall (United Kingdom)  
Eppo Wolvius (The Netherlands)

## ISCFS

## ISCFS

### COUNCIL 2023

**President:**

Richard Hopper (United States)

**Vice President:**

Xiongzhen Mu (China)

**Secretary-Treasurer:**

Irene M. J. Mathijssen (The Netherlands)

**Parliamentarian:**

Eric Arnaud (France)

**Council:**

Jayarathnam Jayamohan (United Kingdom)

Dov Goldenberg (Brazil)

Pedro Santiago (United States)

Davinder Singh (United States)

Jesse Taylor (United States)

### ISCFS FOUNDING MEMBERS:

Ernest P. Caronni (Italy)

David J. David (Australia)

Milton T. Edgerton (United States)

Ian T. Jackson (United States)

Bengt Johanson (Sweden)

Henry K. Kawamoto (United States)

Daniel Marchac (France)

Joseph G. McCarthy (United States)

Ian R. Munro (United States)

Joseph E. Murray (United States)

Fernando Ortiz-Monasterio (Mexico)

Jorge Psillakis (Mexico)

Kenneth E. Salyer (United States)

Michael Striker (France)

Paul L. Tessier (France)

Jacques van der Meulen (The Netherlands)

Linton A. Whitaker (United States)

S. Anthony Wolfe (United States)

### PAST PRESIDENTS:

Eric Arnaud

2017-2019 | France

Fernando Molina

2015-2017 | Mexico

Kaneshige Satoh

2013-2015 | Japan

Scott Bartlett

2011-2013 | United States

Anil Madaree

2009-2011 | South Africa

Stephen Wall

2007-2009 | United Kingdom

Anthony Wolfe

2005-2007 | United States

David David

2003-2005 | Australia

Ken Salyer

2001-2003 | United States

Claes Lauritzen

1999-2001 | Sweden

Yu Ray Chen

1997-1999 | Taiwan

Linton Whitaker

1995-1997 | United States

Daniel Marchac

1993-1995 | France

Fernando Ortiz Monasterio

1991-1993 | Mexico

Joseph McCarthy

1989-1991 | United States

Ian Munro

1987-1989 | Canada

Paul Tessier

1985-1987 | France

### ISCFS BIENNIAL CONGRESS

**2021** 19th International Congress – Virtual

**2019** 18th International Congress – Paris, France

**2017** 17th International Congress – Cancun, Mexico

**2015** 16th International Congress – Tokyo Bay, Japan

**2013** 15th International Congress – Jackson Hole, WY, United States

**2011** 14th International Congress – Livingston, Zambia

**2009** 13th International Congress – Oxford, United Kingdom

**2007** 12th International Congress – Bahia, Brazil

**2005** 11th International Congress – Queensland, Australia

**2003** 10th International Congress – Monterrey, CA, United States

**2001** 9th International Congress – Visby, Gotland, Sweden

**1999** 8th International Congress – Taipei, Taiwan

**1997** 7th International Congress – Santa Fe, NM, United States

**1995** 6th International Congress – St. Tropez, France

**1993** 5th International Congress – Oaxaca, Mexico

**1991** 4th International Congress – Santiago de Compostela, Spain

**1989** 3rd International Congress – Florence, Italy

**1987** 2nd International Congress – New Delhi, India

**1985** 1st International Congress – La Napoule, France

### ISCFS AWARDS

**Paul Tessier Medal**

**2005** – Fernando Ortiz-Monasterio – Mexico

**2009** – Linton Whitaker – United States

**2013** – Daniel Marchac – France

**2015** – Joseph McCarthy – United States

**2019** – David J. David – Australia

**Paul Tessier Memorial Lecture**

**2003** – Michael Longaker – United States

**2005** – Jeffery Richardson – Australia

**2015** – Joseph McCarthy – United States

**2017** – Kenneth Salyer – United States

**2019** – David J. David – Australia

**Ortiz-Monasterio Memorial Lecture**

**2013** – Joseph McCarthy – United States

**2015** – David David – Australia

**2017** – Linton Whitaker – United States

**2019** – Benoit Lengele – Belgium

**Daniel Marchac Award**

**2017** – Jesse Taylor – United States

**2019** – Pradip Shetye – United States

## INVITED SPEAKERS



### **EDGAR AUSLANDER**

**Pre-Congress Symposium Keynote Speaker  
(No CME)**

Edgar Auslander’s career parallels the innovative spirit of the 20th ISCFS Pre-Congress Symposium on advancing technologies. Currently the Senior Director, Head of Strategic Partnerships and Intelligence at Meta, (fka. Facebook), Mr. Auslander has three decades of experience staying on the pioneering edge of strategic partnerships, venture capital management and start-up acquisitions. We are fortunate to have Edgar as our pre-congress Keynote speaker to set the tone of the day as we start to plan how we too can “think outside the box”.



### **DAVID MORTON**

**Congress Keynote Speaker  
(No CME)**

We are excited to announce David Morton as our Keynote Speaker at the Opening Ceremonies. As one of the world’s premier high altitude expedition leaders he will set the tone of our congress as we think big in what we can achieve for our own future goals. Hearing David’s narration of the stunning images he has captured during his ascents may not inspire us to climb the highest mountains, but it will make us aspire to “shoot for the stars” in our own careers with the same dedication, skill, and grit.



### **MICHAEL A. WILLIAMS, MD**

**Congress Invited Speaker**

As we reach for the stars, we need neurological experts like Dr. Michael Williams to prepare. Michael has conducted NASA-funded research in SANS – Spaceflight Associated Neuro-ocular Syndrome – a disorder affecting astronauts on long missions. At the opening ceremonies, his work will remind us not only to work to address our current challenges, but also to anticipate those we will face in the future.

## INVITED SPEAKERS



### **KIMBERLY HICKS**

**Congress Invited Speaker  
(No CME)**

Kimberly Hicks flew her first airplane at age 12 and received her private pilot’s license in high school. Dedicated to improving our space and flight capabilities, Ms. Hicks’ engineering career at Boeing has involved state-of-the-art technology in her field. She has been Director for the development of the KC-46A Pegasus, as well as the Advanced Capabilities Program Manager for Phantom Works, the innovative prototyping arm of the defense and security side of Boeing. Kim Hicks is currently the Director and Program Manager in Boeing’s Space and Launch Rapid Space Capability Division, where she is responsible for the strategy and technical execution of spacecraft development programs. We are honored to have Ms. Hicks address the Congress as our invited speaker and as an industry leader in advanced spaceflight engineering and technology.



### **OLEH ANTONYSHYN**

**Congress Invited Speaker**

To reach for our goals and overcome barriers requires courage, resilience and determination. Nowhere is this demonstrated more strongly than by the Ukrainian people in the defense of their country. For over a decade, Dr. Antonyshyn has actively engaged in providing surgical care to the civilian and military casualties in Ukraine. His efforts have been recognized with the Ukrainian Order of Merit, and the Canadian Meritorious Service Medal. Oleh will present “The Canada-Ukraine Surgical Aid Program: Reconstructing Casualties of War”.



### **STUART VOBORIL**

**Gala Dinner Invited Speaker  
(No CME)**

Our invited speaker at the Gala Dinner, Stuart Voboril, is the Boeing E-7 Vice President and Program Manager of Mobility and Surveillance Defense, Space & Security. Throughout his career Mr. Voboril has led teams that use cutting edge aeronautical technology to help preserve national and global security. As we dine among the history of air and space flight, Stuart will give his perspective on what it takes to lead and succeed in our rapidly advancing world.

## CONFLICT OF INTEREST DISCLOSURES

unless indicated here, no author or planner has any financial relationship to disclose. Disclosed relationships reviewed by program Chair. Disclosures are mitigated and do not pose a conflict of interest for this activity's content.

ID #	Name	Podium/Poster	Abstract Title	Conflict of Interest DISCLOSURE	Institution	City	State	Country
76	Dillan F. Villavisanis	Podium	Dysmorph: Development of A Normative Three-Dimensional Craniofacial Soft Tissue Database and Image Quantification Tool	DFV is a consultant and fellow to Artis Ventures, LP.	Division of Plastic, Reconstructive, and Oral Surgery, Children's Hospital of Philadelphia	Philadelphia	PA	United States
166	Connor Wagner	Podium	Morbidity of Transcranial Midface Advancement in Patients with Syndromic Craniosynostosis is Associated with Prior Fronto-Orbital Advancement	Co-Authors Dr Taylor is Co-Owner of Ostiio LLC and Dr Swanson has received education grants from KLS Martin and developed educational content for Depuy Synthes/Johnson & Johnson	The Children's Hospital of Philadelphia	Philadelphia	PA	United States
172	Natalie Plana	Podium	Variation in Airway Morphology and Upper Airway Obstruction in FGFR2 Mutation Subtypes of Apert Syndrome	Co-Authors Dillan Villavisanis is a fellow for Artis Ventures, Jordan Swanson is a consultant for KLS Martin and Synthes, and Jesse Taylor is a co-founder of Ostiio, LLC. All other authors have no financial disclosures to report.	The Children's Hospital of Philadelphia	Philadelphia	PA	United States
176	Patrick Smits	Podium	Trametinib prevents formation of vascular lesions in a conditional Map2k1 mutant arteriovenous malformation mouse model.	Co-author Arin Greene owns a patent to treat AVMs with MEK inhibitor trametinib.	Boston Childrens Hospital, Dept. Plastic and Oral Surgery	Boston	MA	United States
344	Ira Maistrel, Max Heiland presenting	Poster	Treatment of children with syndromic craniofacial dysostosis with frontofacial advancement in a bibloc fashion using a customized rigid external distraction system (RED II).	Prof. Dr. med. Dr. med. dent. Heiland and Dr. med. Dr. med. dent. Tobias Ebker have presented educational surgical courses with KLS Martin	Charité - Universitätsmedizin Berlin, Department of Oral and Maxillofacial Surgery	Berlin		Germany
447	Jesse Taylor, Dillian Villavisanis presenting	Poster	Endoscope-Assisted Fronto-Orbital Distraction Osteogenesis Reduces Blood Loss Without Increasing Operative Time in Unicoronal Craniosynostosis	Co-authors, Dr. Taylor is Co-Owner of Ostiio LLC and Dr. Swanson has received educational grants from KLS Martin and developed educational content for Depuy Synthes/Johnson and Johnson.	The Children's Hospital of Philadelphia	Philadelphia	PA	United States

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ID #	Name	Podium/Poster	Abstract Title	Conflict of Interest DISCLOSURE	Institution	City	State	Country
493	Jose Palacios	Poster	Histologic Analysis of Cadaveric Costal Cartilage After Implantation for Ear Reconstruction	This study was conducted under a research grant from MTF Biologics (Edison, NJ) Co-Author Nicholas Bastidas is a consultant for MTF Biologics (Edison, NJ)	Zucker School of Medicine at Hofstra/ Northwell	Hempstead	NY	United States
496	Nicolas Kaplan	Poster	Utilizing Patient-Specific Virtual Reality Planning for Free Fibula Mandibular Reconstruction: A Case Series	Co-Authors Dr. Pravin Patel and Dr. Lee Alkureishi have invested in ImmersiveTouch, the organization whose VR platform has been utilized for this study.	University of Illinois at Chicago College of Medicine	Chicago	IL	United States
523	Christian El Amm	Podium	Intraoperative Augmented Reality Navigation Reduces Dural Sinus Injury and Blood Loss During Craniofacial Surgery: A Pilot Study	Christian El Amm: Xironetic, LLC: Ownership	Section of Plastic Surgery, University of Oklahoma	Oklahoma City	OK	United States
567	Collean Trotter	Podium	A Novel Algorithm for Pediatric Microsurgical Maxillary and Mandibular Reconstruction Using Custom Endoprosthesis	Co-Author Dr. Jeffrey Hammoudeh has worked with KLS Martin that develops endoprotheses. This article does not promote any brand preference or industry favoritism.	Division of Plastic and Maxillofacial Surgery, Children's Hospital Los Angeles	Los Angeles	CA	United States
595	Jesse Taylor	Podium	Kaban-Pruzansky Grade Predicts Perioperative Airway Severity in Hemifacial Microsomia	Co-owner of Ostiio, LLC.	Children's Hospital of Philadelphia	Philadelphia	PA	United States
619	Amelia Hurley-Novatny	Podium	Inhibition of miR-200a regenerates cranial bone in critical-sized rat and sheep skull defects	Co-Author Brad Amendt - Nature miRI - CSO	University of Iowa Carver College of Medicine Medical Scientist Training Program	Iowa City	IA	United States
629	Jordan Swanson	Podium	Radiographic Evidence of Dental Complications Following Mandibular Distraction Osteogenesis: Inverted-L versus Oblique Osteotomy	Consultant for KLS Martin and Synthes	Children's Hospital of Philadelphia	Philadelphia	PA	United States
635	Akishige Hokugo/ Zachary Brooks Presenting	Podium	"Is oral surgery training required to perform orthognathic surgery?": an opinion survey of the American Society of Maxillofacial Surgeons	Akishige Hokugo is a consultant of Maruho Co., Ltd.	David Geffen School of Medicine at UCLA	Los Angeles	CA	United States

**Tuesday, September 5, 2023 | Room: Elwha**

**ISCFS 2023 Pre-Congress Symposium**

Pre-Congress Symposium Chairs: Samuel Browd (United States), Raj Vyas (United States)

8:00 AM

**WELCOME AND INTRODUCTIONS**

**Overview of Congress & Pre-Congress Symposium**  
Richard Hopper (United States)

**Surgery after COVID: Moving Beyond Telehealth into Our Future**  
Raj Vyas (United States)

**Introduction Keynote Presenter**  
Sam Browd (United States)

8:15 - 9:15 AM

**SYMPOSIUM KEYNOTE PRESENTATION**

Edgar Auslander (United States)  
Senior Director, Head of Strategic Partnership and Intelligence at Meta (aka Facebook)

9:15 - 10:15 AM

**PRE-CONGRESS | PANEL 1A:  
ARTIFICIAL INTELLIGENCE (AI) IN CRANIOFACIAL SURGERY:  
DATA & DECISION-MAKING**

9:15 AM

**Automated Syndrome Diagnosis by Three-Dimensional Facial Imaging**  
Hanne Hoskins (Canada)

9:25 AM

**Machine Learning for Cephalogram Mapping and CT Artifact Reduction**  
Soh Nishimoto (Japan)

9:35 AM

**Neural Networks Trained for Synostosis and Microtia: Diagnosis & Outcomes**  
Alex Kane (United States)

9:45 AM

**Leveraging AI / Advanced Machine Learning to Create CranioRate™ –  
A Point of Care Operative Decision Aid for Craniosynostosis**  
Jesse Goldstein (United States)

9:55 AM

**Discussion**

10:15 - 10:35 AM

**Coffee Break in Exhibition**

10:35 - 11:40 AM

**PRE-CONGRESS | PANEL 1B:  
ARTIFICIAL INTELLIGENCE (AI) IN CRANIOFACIAL SURGERY:  
DATA & DECISION-MAKING**

10:35 AM

**Identification of Cleft Anthropometry to Facilitate AR/VR Training**  
Ross Sayadi (United States)

10:45 AM

**Face Value: Machine Learning for Improved Surgical Outcomes**  
Owase Jeelani (United Kingdom)

10:55 AM

**Automated Virtual Planning Using AI and Statistical Shape Models**  
Marc Metzger (Germany)

11:05 AM

**AI Powered Cleft Care: From Handcrafted to Automated PSO and from  
Multi-Step to Single-Step**  
Andreas Mueller (Switzerland)

11:15 AM

**Discussion**

11:40 AM - 1:00 PM

**PRE-CONGRESS | PANEL 2:  
EXTENDED REALITY IN CRANIOFACIAL SURGERY:  
SURGICAL PLANNING, KNOWLEDGE/SKILL TRANSFER &  
INTRAOPERATIVE GUIDANCE**

11:40 AM

**Simulation in Cleft Training: Moving from Digital to Virtual**  
Roberto Flores (United States)

11:50 AM

**VR for Virtual Surgical Planning in Craniofacial Surgery**  
Pravin Patel (United States)

12:00 PM

**AR/VR Live Continuous Navigation and Data Acquisition**  
Sam Browd (United States)

12:10 PM

**AR Using Wearable Glass Tech & Computer Vision for Planning and Navigation**  
Christian El Amm (United States)

12:20 PM

**Spatial AR with 3D Surface Projection for Remote Intra-Operative Guidance**  
Raj Vyas (United States)

12:30 PM

**Discussion**

1:00 - 3:00 PM

**LUNCH & HANDS-ON TECHNOLOGY FAIR**  
Network and try out the latest technology.

3:00 - 3:30 PM

**ETHICAL CONSIDERATIONS OF ARTIFICIAL  
INTELLIGENCE IN CRANIOFACIAL SURGERY**  
Christian Vercler (United States)

3:30 - 4:55 PM

**FIRESIDE CHAT: FROM IDEAS TO CREATION**  
Ryan Douglas, Co-Founder and CEO, DeepWell DTX (United States)  
Scott Phillips, President, StarFish Medical (Canada)  
Armen Vidian, Venture Capitalist (United States)  
Mark Gardner, MBA JD, Gardner Law (United States)

4:55 - 5:00 PM

**CLOSING REMARKS**

5:30 - 7:30 PM  
Exhibition

**WELCOME RECEPTION**  
Drinks and Hors d'Oeuvres; Admission by Name Badge

\*Presenters of papers with an asterisk were not registered at the time of printing due to visa issues or other delays. If a speaker is not present, their time will be used for added discussion of other papers at the Session Chair's discretion.

## Wednesday, September 6, 2023

### Scientific Program

<b>Room:</b> Foss, Duckabush and Cowlitz	<b>POSTER SESSION 1</b> (see page 61) <b>Craniosynostosis, Neurosurgical Considerations, and Virtual Planning</b>  Open for viewing from first Coffee Break to last session. Poster presentations will take place during Lunch Break.
<b>8:00 – 9:45 AM</b> <b>Room: Elwha</b>	<b>OPENING CEREMONIES</b>
8:00 AM	<b>Welcome Remarks and Overview</b> Richard Hopper (United States)
8:10 AM	<b>Welcome (University of Washington, Dept. of Surgery)</b> Doug Wood (United States)
8:14 AM	<b>Welcome (University of Washington, Dept. of Neurosurgery)</b> Richard Ellenbogen (United States)
8:18 AM	<b>Welcome (Seattle Children's Hospital)</b> Andre Dick (United States)
8:22 AM	<b>Remembering Joseph S. Gruss MD</b> Richard Hopper (United States)
8:30 AM	<b>Introduction of Keynote Speaker</b> Richard Hopper (United States)
8:33 AM	<b>KEYNOTE ADDRESS – Climb. Journey. Live.</b> David Morton (United States)
9:13 AM	<b>Introduction of Invited Lecture</b> Richard Hopper (United States)
9:15 AM	<b>INVITED LECTURE 1 –</b> <b>Integrated Command and Control: The Boeing E7 Program</b> Kimberly Hicks (United States)
<b>9:45 – 10:15 AM</b> <b>Room: Exhibition</b>	<b>Coffee Break in Exhibition</b>

<b>10:15 – 12:50 PM</b> <b>Room: Elwha</b>	<b>FREE PAPER SESSION 1 – MIDFACE AND MONOBLOC</b> Session Chairs: Eric Arnaud (France), Mark Urata (United States)
10:15 AM	<b>117 A European Multicenter Outcome Study on the Different Perioperative Airway Management Policies Following Midface Surgery in Syndromic Craniosynostosis: A Proposal for a Standard Operating Procedure</b> Presenter: Irene Mathijssen (The Netherlands) Authors: Irene Mathijssen, Workgroup Craniosynostosis ERN CRANIO Institution: Erasmus Medical Centre, Rotterdam, The Netherlands
10:23 AM	<b>56 Effect of Sub-Cranial Le Fort Osteotomy on Maxillary Molar Development</b> Presenter: Kathryn Preston (United States) Authors: Kathryn Preston, Richard Hopper, Srinivas Susarla, Hitesh Kapadia Institution: Seattle Children's Hospital, Seattle, WA, United States; Phoenix Children's Hospital, Phoenix, AZ, United States
10:27 AM	<b>292 Dental Complications Following Mid-Facial Advancement Surgery in Patients with Syndromic Craniosynostosis: A 20-Year Review</b> Presenter: Jennifer Vesey (United Kingdom) Authors: Jennifer Vesey, Susana Dominguez-Gonzalez, Christian Duncan, Anusha Henedige, David Richardson Institution: Alder Hey Children's Hospital, Liverpool, United Kingdom
10:31 AM	<b>Discussion</b>
10:39 AM	<b>327 Effect of Midface Surgery on Nasal Outcomes in Patients with Craniofacial Deformities: A Two- and Three-Dimensional Quantification Method</b> Presenter: Sarah Versnel (The Netherlands) Authors: Sarah Versnel, Parinaz Rostamzad, Iris Cuperus, Tareq Abdel-Alim, Irene Mathijssen, Simone Bernard, Laura Veder Institution: Erasmus MC, Rotterdam, The Netherlands
10:47 AM	<b>320 Changes in Mandibular Position During Midface Distraction in Patients with Syndromic Craniosynostosis</b> Presenter: Nobuyuki Mitsukawa (Japan) Authors: Nobuyuki Mitsukawa, Kahoko Yamada, Tomoki Miyanagi, Shinsuke Akita Institution: Department of Plastic and Reconstructive Surgery, Graduate School of Medicine, Chiba University, Graduate School of Medicine, Chiba, Japan
10:51 AM	<b>501 Le Fort III Distraction for Severe Midface Hypoplasia in Very Young Children – Interim Outcomes</b> Presenter: Pramod Subash (India) Authors: Pramod Subash, Suhas Udayakumaran, Shibani Nerurkar, Arjun Krishnadas Institution: Amrita Institute of Medical Sciences, Kochi, Kerala, India
10:55 AM	<b>Discussion</b>
11:03 AM	<b>585 Magnesium-Derived Alloys with Nanostructured Surfaces for Distraction Osteogenesis in a Minipig Model</b> Presenter: Justin Cordero (United States) Authors: Justin Cordero, Caleb Ting, Leonardo Alaniz, Dongwei Sun, Yiqing Chen, Patricia Holt-Torres, Earl Steward, Huinan Liu, Raj Vyas Institution: UC Riverside School of Medicine, Riverside, CA, United States

11:11 AM	<p><b>286 Hard- and Soft-Tissue Changes after Midface Surgery in Patients with Craniofacial Deformities: A Three-Dimensional Quantification Method</b>                      Presenter: Parinaz Rostamzad (The Netherlands)                      Authors: Parinaz Rostamzad, Tareq Abdel-Alim, Khalid El Ghoul, Eppo Wolvius, Marie-Lise van Veelen, Mieke Pleumeekers                      Institution: Erasmus Medical Center, Rotterdam, South-Holland, The Netherlands</p>
11:15 AM	<p><b>580 Studies on Preventing Unexpected Fracture in Le Fort III Osteotomy by Image-Guided Technique</b>                      Presenter: Xiao-Jing Liu (China)                      Authors: Xiao-Jing Liu, Yu-Ting Wang, Yue Liu, Guo-Hua Ye, Tao Xu, Yi Zhang                      Institution: Peking University Hospital of Stomatology, Beijing, China</p>
11:19 AM	Discussion
11:27 AM	<p><b>23 Midface Intermediate Osteotomy with Rigid External Distraction in Crouzon Syndrome</b>                      Presenter: Jacques Saboye (France)                      Author: Jacques Saboye                      Institution: Cleft Center Unit Medipole Garonne, Toulouse, France</p>
11:31 AM	<p><b>70 An Institutional Enhanced Recovery After Surgery (ERAS) Protocol for Orthognathic Surgery Reduces Rates of Post-Operative Nausea</b>                      Presenter: Mark Green (United States)                      Authors: Mark Green, Gerardo Alvarez, Sarah Flanagan, Cory Resnick, Bonnie Padwa                      Institutions: Boston Children's Hospital, Boston, MA, United States; Harvard Medical School, Boston, MA, United States</p>
11:35 AM	<p><b>147 Counterclockwise Craniofacial Distraction Osteogenesis: Indications, Outcomes and Mid-Term Follow-up</b>                      Presenter: Howard Wang (United States)                      Authors: Howard Wang, Ezgi Mercan, Annie Nguyen, Hitesh Kapadia, Richard Hopper                      Institutions: Seattle Children's Hospital, Seattle, WA, United States; Division of Pediatric Plastic and Craniomaxillofacial Surgery, University Hospital Rainbow Babies and Children's Hospital, Cleveland, Ohio, Cleveland, Ohio, United States; Division of Plastic Surgery, Department of Surgery, Case Western Reserve University School of Medicine, Cleveland, Ohio, United States</p>
11:43 AM	Discussion
11:51 AM	<p><b>199 Long-Term Skeletal Stability of Rotational Orthognathic Surgery Based on Occlusal Plane Alteration</b>                      Presenter: Seong John Han (South Korea)                      Authors: Seong John Han, Young Chul Kim, Jong Woo Choi                      Institution: Asan Medical Center, Seoul, South Korea</p>
11:55 AM	<p><b>468 A Step Closer to Understanding Mandibular Shape Abnormality in Patients with Apert Syndrome</b>                      Presenter: Lara van de Lande (The Netherlands)                      Authors: Lara van de Lande, Anoopama Ramjeeawon, Eimear O' Sullivan, Khalid El Ghoul, Kevin Bloch, Eppo Wolvius, Neil Bulstrode, Silvia Schievano, Roman Khonsari, David Dunaway                      Institutions: Department of Oral and Maxillofacial Surgery, Erasmus Medical Centre, Rotterdam, Netherlands; Oral and Maxillofacial Surgery Department, Hospital Necker, Enfants Malades, Paris, France; UCL Great Ormond Street Institute of Child Health &amp; Craniofacial Unit, Great Ormond Street Hospital for Children, London, United Kingdom</p>

11:59 AM	<p><b>160 Gearing Effect in Clockwise Rotational Orthognathic Surgery</b>                      Presenter: Tae Hyung Kim (South Korea)                      Authors: Tae Hyung Kim, Soo Hyun Woo, Young Chul Kim, Jang Yeol Lee, Jong Woo Choi                      Institution: Asan Medical Center, Seoul, South Korea</p>
12:03 PM	<p><b>359 Where Do We Grow from Here? A Matched Long-Term Analysis of Oculo-Orbital Outcomes after Le Fort III and Monobloc Distraction Osteogenesis</b>                      Presenter: Matthew Pontell (United States)                      Authors: Matthew Pontell, Connor Wagner, Neil Reddy, Lauren Salinero, Carlos Barrero, Jordan Swanson, Scott Bartlett, Jesse Taylor                      Institution: Division of Plastic, Reconstructive and Oral Surgery, Children's Hospital of Philadelphia, Philadelphia, PA, United States</p>
12:07 PM	<p><b>569 Facial Bipartition Surgery with Rigid External Distraction: Benefits and Complications in 41 Consecutive Cases</b>                      Presenter: Sameena Hassan (United Kingdom)                      Authors: Sameena Hassan, Greg James, Dulanka Silva, Juling Ong, Simon Eccles, Richard Hayward, David Dunaway                      Institution: Great Ormond Street Hospital, London, United Kingdom</p>
12:11 PM	Discussion
12:20 PM	<p><b>188 Outcomes and Complications After Fronto-Facial Monobloc Distraction</b>                      Presenter: Eric Arnaud (France)                      Authors: Eric Arnaud, Giovanna Paternoster, Samer Haber, H Roman Khonsari                      Institution: Hôpital Necker-Enfants Malades, Paris, France</p>
12:28 PM	<p><b>166 Morbidity of Transcranial Midface Advancement in Patients with Syndromic Craniosynostosis is Associated with Prior Fronto-Orbital Advancement</b>                      Presenter: Connor Wagner (United States)                      Authors: Connor Wagner, Matthew Pontell, Michaela Hitchner, Carlos Barrero, Lauren Salinero, Jordan Swanson, Scott Bartlett, Jesse Taylor                      Institution: The Children's Hospital of Philadelphia, Philadelphia, PA, United States</p>
12:32 PM	<p><b>568 All Monoblocs are Equal, but Some Monoblocs are More Equal than Others. Correlating Indications and Results of RED-Monobloc Surgery with Age at Operation: A Review of 91 Consecutive Cases</b>                      Presenter: Richard Hayward (United Kingdom)                      Authors: Sameena Hassan, Greg James, Dulanka Silva, Juling Ong, Simon Eccles, Richard Hayward, David Dunaway                      Institution: Great Ormond Street Hospital, London, United Kingdom</p>
12:36 PM	<p><b>205 Midface Morphology and Growth in Syndromic Craniosynostosis Patients Following Fronto-Facial Monobloc Distraction</b>                      Presenter: Cristiano Tonello (Brazil)                      Authors: Cristiano Tonello, Nivaldo Alonso                      Institution: Hospital for Rehabilitation of Craniofacial Anomalies- University of São Paulo, Bauru, SP, Brazil</p>
12:40 PM	Discussion

12:50 – 1:50 PM Posters in Rooms: Foss, Duckabush, and Cowlitz	Lunch in Exhibition + Poster Judging
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1:50 – 2:25 PM Room: Elwha	<p>Introduction of Invited Speaker Richard Hopper (United States)</p> <p><b>INVITED LECTURE 2 – SANS: TO BOLDLY MEASURE ICP WHERE NO ONE HAS MEASURED ICP BEFORE</b> Michael Williams (United States)</p>
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2:25 – 4:20 PM Room: Elwha	<p><b>FREE PAPER SESSION 2 – INTRACRANIAL PRESSURE AND SYNOSTOSIS OUTCOMES</b> Session Chairs: Owase Jeelani (United Kingdom), Jonathan Burge (Australia)</p>
2:25 PM	<p><b>680 Patterns of Intracranial Pressure Across Craniosynostosis Subtypes: A Comprehensive Analysis Using Optical Coherence Tomography</b> Presenter: Carlos Barrero (United States) Authors: Carlos Barrero, Natalie Plana, Matthew Pontell, Connor Wagner, Lauren Salinero, Scott Bartlett, Jesse Taylor, Jordan Swanson Institution: Children’s Hospital of Philadelphia, Philadelphia, PA, United States</p>
2:33 PM	<p><b>86 Anomalous Venous Collaterals in Apert and Crouzon Syndrome are Related to Ventricle Size</b> Presenter: Iris Cuperus (The Netherlands) Authors: Iris Cuperus, Irene Mathijssen, Jip Mulders, Marie-Lise van Veelen, Marjolein Dremmen Institution: Erasmus MC, Rotterdam, The Netherlands</p>
2:41 PM	Discussion
2:49 PM	<p><b>640 Avoiding VP Shunt in Syndromic Facio-Craniosynostosis: 20 Year Experience in Necker Hospital</b> Presenter: Giovanna Paternoster (France) Authors: Giovanna Paternoster, Syril James, Federico Di Rocco, Eric Arnaud, Christian Sainte Rose Institution: Necker Enfants Malades, Paris, France</p>
2:57 PM	<p><b>591 Management of Hydrocephalus in a Cohort of Patients with FGFR Mutations and Craniosynostosis</b> Presenter: Amparo Saenz (United Kingdom) Authors: Amparo Saenz, Juling Ong, Greg James Institution: Great Ormond Street Hospital, London, London, United Kingdom</p>

3:01 PM	<p><b>92 Patient Tailored Surgery in Saethre-Chatzen Syndrome: Analysis of Reoperation for Intracranial Hypertension</b> Presenter: Chris Parks (United Kingdom) Authors: Arthur R. Kurzbuch, Ben Cooper, Anusha Henedige, Chris Parks Institution: Alder Hey Children’s NHS Foundation Trust, Department of Neurosurgery, Craniofacial Unit, Liverpool, United Kingdom</p>
3:05 PM	Discussion
3:13 PM	<p><b>68 The Impact of Cranial Vault Expansion on Brain and Cerebrospinal Fluid Volumes for Cephalocranial Disproportion in Slit Ventricle Syndrome</b> Presenter: Kate Carroll (United States) Authors: Kate Carroll, Benjamin Massenburg, Ezgi Mercan, Amy Lee, Richard Hopper Institutions: Seattle Children’s Hospital, Seattle, WA, United States; University of Washington, Seattle, WA, United States</p>
3:21 PM	<p><b>586 Quality Improvement Rounds in Action: A Consensus Approach to ICP in Craniosynostosis</b> Presenter: David Moon (Australia) Authors: David Moon, Damian Marucci, Michael Rtshiladze, Christopher Forrest Institution: Sydney Children’s Hospital Network, Sydney, NSW, Australia</p>
3:25 PM	<p><b>506 Craniosynostosis and Chiari I Malformation Managed with Middle 1/3 Calvarial Vault Expansion</b> Presenter: Krystal Tomei (United States) Authors: Krystal Tomei, Brian Rothstein, Howard Wang, Edward Davidson, Anand Kumar Institution: Rainbow Babies &amp; Children’s Hospital, Cleveland, OH, United States</p>
3:29 PM	Discussion
3:37 PM	<p><b>613 Thirty-Year Experience Treating Syndromic Craniosynostosis: Long-Term Outcomes Following Cranial Vault Expansions</b> Presenter: Jeffrey Fearon (United States) Authors: Jeffrey Fearon, Kanlaya Dithakasem, Lucas Harrison, Morley Herbert Institution: The Craniofacial Center, Dallas, Texas, United States</p>
3:45 PM	<p><b>507 The Oxford Craniofacial Unit Experience with 67 Cases of Muenke Syndrome (Pro250Arg Mutation) over 40 Years – Demographics, Surgical Management and Outcomes in a Single Unit</b> Presenter: Steven Wall (United Kingdom) Authors: Steven Wall, David Johnson, Andrew Wilkie, Gregory Thomas Institutions: Oxford Craniofacial Unit, Oxford, United Kingdom; OUH NHS Trust, Oxford, United Kingdom</p>
3:49 PM	<p><b>405 Growth and Morphology of the Endocast in Bicornal FGFR2-Related Craniosynostosis</b> Presenter: Feline Steup (France) Authors: Feline Steup, Omblin Delassus, Maxime Taverne, Ezgi Çetin, Maarten Koudstaal, Giovanna Paternoster, Eric Arnaud, Lara Van De Lande, Roman Khonsari Institution: Necker – Enfants Malades University Hospital, Paris, France</p>
3:53 PM	Discussion

4:01 PM	<p><b>63 Comparative Analysis of Surgical Morbidity of Secondary Frontal Orbital Advancement After Primary Frontal Orbital Advancement for Syndromic and/or Multisutural Craniosynostosis</b> Presenter: Austin Grove (United States) Authors: Davinder Singh, Austin Grove, Tom Sitzman, Nicole Kurnik Institutions: Phoenix Children's Hospital, Division of Plastic Surgery, Phoenix, AZ, United States; Phoenix Children's Center for Cleft and Craniofacial Care, Phoenix, AZ, United States</p>
4:05 PM	<p><b>658 A Single-Center Review of Postoperative Outcomes Following Open Surgical Intervention for Craniosynostosis</b> Presenter: Mark Urata (United States) Authors: Mark Urata, Dylan Choi, Collean Trotter, Devon O'Brien, Christopher Tien, Ilean Roohani, Sarah Alfeerawi, Jeffrey Hammoudeh, Alexis Johns, Gordon McComb Institution: Division of Plastic and Maxillofacial Surgery, Children's Hospital Los Angeles, Los Angeles, CA, United States</p>
4:09 PM	<p><b>650 Outcomes of Conservatively Managed Craniosynostosis at Skeletal Maturity</b> Presenter: Peter Anderson (Australia) Author: Peter Anderson Institution: Cleft &amp; Craniofacial South Australia, Adelaide, SA, Australia</p>
4:13 PM	Discussion

4:20 – 4:50 PM Room: Exhibition	Coffee Break in Exhibition
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4:50 – 5:50 PM Room: Elwha	<p><b>PANEL 1: HYDROCEPHALUS AND ITS TREATMENT: WHEN, HOW, AND WHERE?</b> Panel Chairs: Amy Lee (United States), Jayaratnam Jayamohan (United States) Panelists: Suresh Magge (United States), Suhas Udayakumaran (India), Prabu Rau Sriram (Malaysia), Marie-Lise van Veelen (The Netherlands), Chris Bonfield (United States)</p>
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5:50 – 7:00 PM Room: Elwha	<p><b>FREE PAPER SESSION 3 – POSTERIOR VAULT DISTRACTION OSTEOGENESIS</b> Session Chairs: XiongZheng Mu (China), Steven Dover (United Kingdom)</p>
5:50 PM	<p><b>175 Clinical and Radiological Observations Following Posterior Vault Distraction (PVD) Suggest a Biological Process Different to that of Distraction Osteogenesis</b> Presenter: David Johnson (United Kingdom) Authors: David Johnson, Greg Thomas, Rosie Ching, Steven Wall, Tim Lawrence, Jayaratnam JayaMohan, Shailendra Magdum Institution: Oxford Craniofacial Unit, Oxford, United Kingdom</p>
5:58 PM	<p><b>299 Posterior Vault Distraction with Foramen Magnum Osteotomies for Treatment of Multisuture Craniosynostosis and Chiari I Malformations</b> Presenter: Jacob Dinis (United States) Authors: Jacob Dinis, Nicholas Yim, Ammar Hashemi, Edward Buchanan, Laura Monson, David Bauer, Robert Dempsey Institution: Baylor College of Medicine, Houston, TX, United States</p>
6:02 PM	<p><b>26 Morphometric Analysis and Outcomes Following Posterior Cranial Vault Distraction in Syndromic and Multi-Suture Craniosynostosis: The Hospital for Sick Children's Experience</b> Presenter: Sultan Alshaqsi (Canada) Authors: Sultan Al-Shaqsi, Christopher Forrest, Christine Novak Institution: The Hospital for Sick Children, Toronto, Ontario, Canada</p>
6:06 PM	Discussion
6:14 PM	<p><b>245 A Decision Algorithm for Selection of Spring Driven Posterior Vault Expansion Design for Treatment of Craniosynostosis</b> Presenter: Juling Ong (United Kingdom) Authors: Juling Ong, Kavyesh Vivek, Christopher Hillyar, Luke Smith, Dulanka Silva, Alessandro Borghi, Gregory James, Owase Jeelani, David Dunaway Institution: Great Ormond Street Hospital for Children, London, United Kingdom</p>
6:18 PM	<p><b>348 Posterior Vault Distraction Osteogenesis in Older Syndromic Patients Following Strip Craniectomy</b> Presenter: Priscila Menezes (Brazil) Authors: Cassio Eduardo Raposo-Amaral, Priscila Menezes, Enrico Ghizoni, Marcela Vincenzi, Mateus Lacerda, Andre Gil, Cesar Augusto Raposo-Amaral Institution: SOBRAPAR Hospital, Campinas, SP, Brazil</p>
6:22 PM	<p><b>558 Evolution of the Craniometrics after Posterior Cranial Vault Distraction Osteogenesis: Case-Control Study of Two-Year Outcomes</b> Presenter: Mert Calis (United States) Authors: Mert Calis, Ezgi Mercan, Craig Birgfeld, Amy Lee, Richard Ellenbogen, Richard Hopper Institutions: University of Washington, Seattle, WA, United States; Seattle Children's Hospital, Seattle, WA, United States</p>
6:26 PM	Discussion

6:34 PM	<p><b>683 Effects of Posterior Vault Distraction Osteogenesis on Ventricular Morphology and Volume</b>                  Presenter: Alexander Wilson (United States)                  Authors: Carlos Barrero, Matthew Pontell, Alexander Wilson, Kirin Naid, Lauren Salinero, Connor Wagner, Jordan Swanson, Scott Bartlett, Jesse Taylor                  Institution: Children's Hospital of Philadelphia, Philadelphia, PA, United States</p>
6:38 PM	<p><b>397 A Case Review of a Patient with Craniosynostosis After PVDO Who Underwent Another PVDO to Improve Central Apnea</b>                  Presenter: Daiki Senda (Japan)                  Authors: Daiki Senda, Koichiro Sakamoto, Kazuaki Shimoji, Hiroshi Mizuno, Yuzo Komuro                  Institution: Plastic Surgery, Juntendo University, Tokyo, Japan</p>
6:42 PM	<p><b>681 Posterior Cranial Vault Distraction: A 10-Year Review of Surgical Outcomes at a Tertiary Care Center</b>                  Presenter: Gregory Pearson (United States)                  Authors: Lawrence Lin, Gregory Pearson, Allyson Huttinger, Alyssa Fogolin, Ibrahim Khansa                  Institutions: The Ohio State University Wexner Medical Center Department of Plastic and Reconstructive Surgery, Columbus, OH, United States; Nationwide Children's Hospital Section of Plastic &amp; Reconstructive Surgery, Columbus, OH, United States</p>
6:46 PM	<p><b>360 Sagittal Sinus Venous Outflow Assessment in 79 Syndromic Craniosynostosis Patients: Candidates for Posterior Vault Distraction Osteogenesis</b>                  Presenter: Enrico Ghizoni (Brazil)                  Authors: Enrico Ghizoni, Cássio Eduardo Raposo-Amaral, João Pedro Leite Pereira, Camila Gomes Martins, Letícia Mansano de Souza, César Augusto Raposo-Amaral                  Institutions: Sobrapar, Campinas, São Paulo, Brazil; University of Campinas, Campinas, São Paulo, Brazil</p>
6:50 PM	<p><b>Discussion</b></p>

Thursday, September 7, 2023

Scientific Program

Room:  
Foss, Duckabush  
and Cowlitz

**POSTER SESSION 2**

**Team Care, Orthodontic and Maxillofacial, Distraction Osteogenesis, Artificial Intelligence, and Facial Feminization**

Open for viewing from first Coffee Break to last session.  
Poster presentations will take place during Lunch Break.

7:30 – 8:35 AM Room: Elwha A	<p><b>FREE PAPER SESSION 4A – MICROSURGERY</b>                  Session Chairs: Dov Goldenberg (Brazil), Srinivas Susarla (United States)</p>
7:30 AM	<p><b>222 Microsurgical Reconstruction of Skull Base Oncologic-Related Defects</b>                  Presenter: Siyou Song (United States)                  Authors: Siyou Song, Justin Cheng, Solomon Lee, William Hoffman, Esther Kim                  Institution: University of California San Francisco, San Francisco, CA, United States</p>
7:34 AM	<p><b>503 Tubed Pedicles: A Relic from the Past or Still a Useful Adjunct?</b>                  Presenter: Erin Wolfe (United States)                  Authors: S. Anthony Wolfe, Erin Wolfe                  Institution: University of Southern California, Los Angeles, CA, United States</p>
7:38 AM	<p><b>158 Free Flaps for Reconstruction of Advanced Oncological Defects of the Midface and Anterior Skull Base: Prospective Randomized Study</b>                  Presenter: Bruno Albuquerque (Brazil)                  Authors: Bruno Albuquerque, Fernando Dias, Marcus Acioly, Daniel Valente, Jéssica Marquet                  Institution: Brazilian National Cancer Institute, Rio de Janeiro, Rio de Janeiro, Brazil</p>
7:42 AM	<p><b>389 Microsurgery in Craniofacial Reconstruction in Pediatric Population</b>                  Presenter: Krzysztof Dowgierd (Poland)*                  Authors: Krzysztof Dowgierd, Maciej Borowiec, Łukasz Krawczyk, Dominika Lech, Jeremi Matysek, Robert Maksymowicz, Cyprian Strączek, Robert Marguła                  Institution: Division Maxillofacial Surgery for Children and Young Adults in Head and Neck Clinic, Regional Specialized Children's Hospital in Olsztyn, Olsztyn, WM, Poland</p>
7:46 AM	<p><b>Discussion</b></p>
7:53 AM	<p><b>527 The Digital Prosthesis for Microtia</b>                  Presenter: Kai Wang (China)*                  Author: Kai Wang                  Institution: Shi-Bei Hospital, Shanghai, China</p>
7:57 AM	<p><b>239 Combining Microsurgery with Craniofacial Techniques for Challenging Problems: A Multi-Institutional Experience</b>                  Presenter: Naji Bou Zeid (United States)                  Authors: Naji Bou Zeid, Akriti Choudhary, Pravin Patel, Chad Purnell, Lee Alkureishi                  Institution: Department of Surgery, Division of Plastic, Reconstructive, and Cosmetic Surgery, University of Illinois at Chicago (UIC), Chicago, IL, United States</p>

8:01 AM	<b>272 Scalp Reconstruction in Patients with Intracranial Antibiotic-Resistant Bacterial Infections Using Microvascular Free Tissue Transfer</b> Presenter: Junwon Lee (South Korea) Authors: Junwon Lee, Se Ho Shin, Sang Seok Woo, Ki Hyun Kim, Kyung Min Kim, Seong Hwan Kim, Jae Gu Choi, In Suck Suh Institution: Kangnam Sacred Heart Hospital, Seoul, South Korea
8:05 AM	<b>Discussion</b>
8:12 AM	<b>196 A Novel Workflow of Concomitant Fibula Free Flap and Orthognathic Surgery for the Reconstruction of Dentomaxillofacial Deformity Secondary to a Long-Term Mandibular Defect</b> Presenter: Xudong Wang (China) Authors: Xudong Wang, Jian Cao, Lei Zhang, Min Zhu Institution: Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China
8:16 AM	<b>176 Trametinib Prevents Formation of Vascular Lesions in a Conditional MAP2K1 Mutant Arteriovenous Malformation Mouse Model</b> Presenter: Patrick Smits (United States) Authors: Patrick Smits, Yu Sheng Cheng, Michal Ad, Matthew Vivero, Arin Greene Institution: Boston Childrens Hospital, Dept. Plastic and Oral Surgery, Boston, MA, United States
8:20 AM	<b>316 MAP2K1 Mutant Murine Model Recapitulates Human Cutaneous Arteriovenous Malformation</b> Presenter: Michal Ad (United States) Authors: Patrick Smits, Michal Ad, Yu Sheng Cheng, Matthew Vivero, Arin Greene Institution: Boston Children's Hospital, Boston, MA, United States
8:24 AM	<b>47 Arteriovenous Malformation of the Head and Neck: Treatment Outcome and Factors Related to Recurrence: A Single-Center Retrospective Analysis</b> Presenter: Thi Ngoc Linh Do (Vietnam) Authors: Thi Ngoc Linh Do, Hong Ha Nguyen, Thanh Dung Le Institution: Viet Duc University Hospital, Ha Noi, Vietnam
8:28 AM	<b>Discussion</b>
7:30 – 8:40 AM Room: Elwha B	<b>FREE PAPER SESSION 4B – MANDIBLE DISTRACTION AND ROBIN SEQUENCE</b> Session Chairs: Davinder Singh (United States), Roberto Flores (United States)
7:30 AM	<b>329 Polysomnography Metrics as Predictors of Extubation Failure Following Mandibular Distraction Osteogenesis</b> Presenter: Jeff Hammoudeh (United States) Authors: Collean Trotter, Dylan G. Choi, Idean Roohani, Sarah Alfeerawi, Naikhoba C.O. Munabi, Artur Fahradyan, Mark Urata, Jeffrey Hammoudeh Institution: Division of Plastic and Maxillofacial Surgery, Children's Hospital Los Angeles, Los Angeles, CA, United States

7:34 AM	<b>584 True Incidence of Marginal Mandibular Nerve Palsy Following Neonatal Mandibular Distraction Osteogenesis</b> Presenter: Lucas Dvoracek (United States) Authors: Megan Pencek, Sarah Myers, Anne Glenney, Joseph Mocharnuk, Justin Beiriger, Madeleine Bruce, Sayna Matinrazm, Lucas Dvoracek, Anjali Raghuram, Zhazira Irgebay, John Smetona, Joseph Losee, Jesse Goldstein Institution: University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA, United States
7:38 AM	<b>629 Radiographic Evidence of Dental Complications Following Mandibular Distraction Osteogenesis: Inverted-L versus Oblique Osteotomy</b> Presenter: Elizabeth Card (United States) Authors: Carlos Barrero, Elizabeth Card, Isabel Ryan, Lauren Salinero, James McGraw, Connor Wagner, Matthew Pontell, Scott Bartlett, Joseph Napoli, Jordan Swanson, Hyun-Duck Nah, Jesse Taylor Institution: Children's Hospital of Philadelphia, Philadelphia, PA, United States
7:42 AM	<b>448 Mandibular Distraction to Correct Severe Non-Isolated Mandibular Hypoplasia: The Role of Drug-Induced Sleep Endoscopy (DISE) in Decision Making</b> Presenter: Eppo Wolvius (The Netherlands) Authors: Eppo Wolvius, Pleun van der Plas, Koen Joosten, Bas Pullens, Irene Mathijssen Institution: Erasmus MC, Rotterdam, The Netherlands
7:46 AM	<b>Discussion</b>
7:54 AM	<b>66 Implementation of Mandibular Distraction Osteogenesis for Patients with Pierre Robin Sequence in a Developing Country Through International Collaboration: A Paradigm for Success</b> Presenter: Phuong Nguyen (United States) Authors: Phuong Nguyen, Thom Dang Hoang, Huan Nguyen, Son Thiet Tran, Lam Ngoc Vu, Christopher Runyan Institution: Children's Hospital of Colorado, Aurora, CO, United States
7:58 AM	<b>581 Critical Analysis of Feeding Outcomes After Surgical Intervention for Pierre Robin Sequence</b> Presenter: Megan Pencek (United States) Authors: Megan Pencek, Anne Glenney, Pooja Humar, Lucille Cheng, Alexander Comerc, Joseph Mocharnuk, Erin Anstadt, Lucas Dvoracek, Jesse Goldstein Institution: University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA, United States
8:02 AM	<b>71 MicroNAPS: A Novel Classification for Infants with Micrognathia and Robin Sequence</b> Presenter: Cory Resnick (United States) Authors: Cory Resnick, Alistair Varidel Institution: Boston Children's Hospital, Boston, MA, United States
8:06 AM	<b>530 A Comparative Assessment of Midterm Outcomes Following Mandibular Distraction and Tongue-Lip Adhesion in the Treatment of Robin Sequence</b> Presenter: Jeffrey Ai (United States) Authors: Jeffrey Ai, Sameer Shakir, Cleo Yi, Kristen Klement, Robert Havlik, Kant Lin Institution: Children's Wisconsin, Milwaukee, WI, United States
8:10 AM	<b>Discussion</b>

8:17 AM	<p><b>224 Outcomes of Patient and Public Involvement for a European Clinical Guideline on Robin Sequence</b>                  Presenter: Elin Weissbach (The Netherlands)                  Authors: Elin Weissbach, ERN Cranio Working Group on a European Guideline on Robin Sequence                  Institution: Erasmus MC, Rotterdam, The Netherlands</p>
8:21 AM	<p><b>514 Analysis of Routine Intensive Care Unit Admission Following Palatoplasty in Patients with Robin Sequence</b>                  Presenter: Esperanza Mantilla-Rivas (United States)                  Authors: Esperanza Mantilla-Rivas, Joseph M. Escandon, Ashley E. Roger, Md Sohel Rana, Nakul Ganju, Brandon Corydon, Monica Maria Manrique, Nathanael S. Oh, Gary F. Rogers, Albert K. Oh                  Institution: Children's National, Washington, DC, United States</p>
8:25 AM	<p><b>645 Quarter Century Review of Velopharyngeal Insufficiency Rates between Palatoplasty Techniques among Patients with Robin Sequence</b>                  Presenter: William Magee (United States)                  Authors: Idean Roohani, Collean Trotter, Pasha Shakoori, Dylan Choi, Sarah Alfeerawi, Artur Fahradyan, Jessica Lee, Mark Urata, Jeffrey Hammoudeh, William Magee                  Institutions: Division of Plastic and Reconstructive Surgery, Keck School of Medicine of USC, Los Angeles, CA, United States; Division of Plastic and Maxillofacial Surgery, Children's Hospital Los Angeles, Los Angeles, CA, United States</p>
8:29 AM	<p><b>466 Characterizing Mandibular Morphology in Robin Sequence – A 3D Statistical Shape Analysis</b>                  Presenter: Khalid El Ghouli (The Netherlands)                  Authors: Khalid El Ghouli, Lara S. van de Lande, Eimear O' Sullivan, Praveen Kumar Guntaka, Cory M. Resnick, Roman H. Khonsari, David J. Dunaway, Eppo B. Wolvius, Maarten J. Koudstaal                  Institution: Department of Oral and Maxillofacial Surgery, Erasmus Medical Centre, Rotterdam, The Netherlands</p>
8:33 AM	<p><b>Discussion</b></p>

8:35 – 9:20 AM Room: Elwha A	<p><b>FREE PAPER SESSION 5A – ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING</b>                  Session Chairs: Jordan Swanson (United States), Soh Nishimoto (Japan)</p>
8:35 AM	<p><b>656 Streamlining Cleft Treatment Strategies Through AI-Based, fully Automated Palatal Plate Fabrication</b>                  Presenter: Andreas Mueller (Switzerland)                  Authors: Andreas A Mueller, Benito K. Benitez, Yoriko Lill, Prasad Nalabothu, Andrzej Brudnicki, Gosla S. Reddy, Till N. Schnabel, Lasse Lingens, Paulo Gotardo, Baran Gözcü, Markus Gross, Barbara Solenthaler                  Institutions: Department of Oral and Craniomaxillofacial Surgery, University Hospital Basel and University of Basel, Basel, Switzerland; Department of Clinical Research, University of Basel, Basel, Switzerland; Department of Biomedical Engineering, University of Basel, Basel, Switzerland; Botnar Research Center for Child Health, Basel, Switzerland</p>
8:39 AM	<p><b>428 AI-Driven Real-Time Evaluation of 3D Photogrammetry to Quantify Surgical Outcomes of Patients with Non-Syndromic Craniosynostosis in a Clinical Setting</b>                  Presenter: Antonio Porras (United States)                  Authors: Connor Elkhill, Jiawei Liu, Scott LeBeau, Marius George Linguraru, Brooke French, Antonio Porras                  Institutions: University of Colorado Anschutz Medical Campus, Aurora, CO, United States; Children's Hospital Colorado, Aurora, CO, United States</p>
8:43 AM	<p><b>434 Using Artificial Intelligence to Predict Development from Imaging Data in Real Time for Longitudinal Patient Evaluation</b>                  Presenter: Connor Elkhill (United States)                  Authors: Connor Elkhill, Scott LeBeau, Natasha Lepore, Marius George Linguraru, Brooke French, Antonio Porras                  Institutions: University of Colorado Anschutz Medical Campus, Aurora, CO, United States; Children's Hospital Colorado, Aurora, CO, United States</p>
8:47 AM	<p><b>27 Magnetic Resonance Cranial Imaging in Pediatric Patients: Evaluation of Both Motion Corrected and Automated Deep Learning Pseudo-CT Estimated MR Images</b>                  Presenter: Andrew Linkugel (United States)                  Authors: Andrew Linkugel, Parna Eshraghi Borojeni, Cihat Eldeniz, Gary Skolnick, Paul Commean, Corinne Merrill, Jennifer Strahle, Manu Goyal, Hongyu An, Kamlesh Patel                  Institution: Washington University School of Medicine, St. Louis, MO, United States</p>
8:51 AM	<p><b>Discussion</b></p>
8:58 AM	<p><b>76 Dysmorph: Development of A Normative Three-Dimensional Craniofacial Soft Tissue Database and Image Quantification Tool</b>                  Presenter: Dillan Villavisanis (United States)                  Authors: Dillan Villavisanis, Pulkit Khandelwal, Connor Wagner, Jovial Joseph, Jordan Swanson, Jesse Taylor, Paul Yushkevich, Scott Bartlett                  Institution: Division of Plastic, Reconstructive, and Oral Surgery, Children's Hospital of Philadelphia, Philadelphia, PA, United States</p>

9:02 AM	<b>388 Application of Artificial Intelligence Algorithm in the Design of a Guide Plate for Mandibular Angle Osteotomy</b> Presenter: Yingjie Yan (China) Authors: Yingjie Yan, Chaofan Lv Institution: Shanghai Ninth People's Hospital Affiliated to Shanghai Jiaotong University School of Medicine, Shanghai, Shanghai, China
9:06 AM	<b>169 Utilizing Swap Disentangled Variational Autoencoders to Improve the Diagnosis of Craniofacial Syndromes and Assess Surgical Outcomes</b> Presenter: Alexander Rickart (United Kingdom) Authors: Alexander Rickart, Simone Foti, Bongjin Koo, Eimear O' Sullivan, Lara van de Lande, Athanasios Papaioannou, Roman Khonsari, Danail Stoyanov, Noor ul Owase Jeelani, Silvia Schievano, Matthew Clarkson, David Dunaway Institution: UCL Great Ormond Street Institute of Child Health and Craniofacial Unit, Great Ormond Street Hospital for Children, London, United Kingdom
9:10 AM	<b>561 Novel Machine Learning Models to Facilitate Objective Clinical Assessment of Facial Form and Deformity</b> Presenter: Mitch Stotland (United States) Authors: Abdullah Hayajneh, Mohammad Shaqfeh, Erchin Serpedin, Mitchell Stotland Institution: Sidra Medicine, Doha, Qatar
9:14 AM	<b>Discussion</b>

8:40 – 10:05 AM Room: Elwha B	<b>FREE PAPER SESSION 5B – FACIAL FEMINIZATION</b> Session Chairs: Michael Alperovich (United States), Diana Gomez (Columbia)
8:40 AM	<b>672 Quantifying Facial Feminization Surgery's Impact on Patient Facial Satisfaction</b> Presenter: David Alper (United States) Authors: David P. Alper, Mariana N. Almeida, Hellia Hosseini, Mica C.G. Williams, John A. Persing, Michael Alperovich Institution: Yale School of Medicine, New Haven, CT, United States
8:48 AM	<b>424 The Effect of Chin Position on Perceived Femininity: A Crowdsourcing Study</b> Presenter: Jordan Swanson (United States) Authors: Carlos Barrero, Lauren Salinero, Elizabeth Card, Connor Wagner, Matthew Pontell, Carrie Morales, Scott Bartlett, Jesse Taylor, Anjan Chatterjee, Jordan Swanson Institution: Children's Hospital of Philadelphia, Philadelphia, PA, United States
8:52 AM	<b>122 Taking the "M" Shape out of "M"asculine Hairlines: A Prospective Evaluation of a Technique Using Temporal Rotation Flaps to Improve Hairline Shape in Facial Gender Affirming Surgery</b> Presenter: Stacey Francis (United States) Authors: Stacey Francis, Graham Ives, Alex Martin, Naikhoba Munabi, Michael Chu, Julie Ames, James Lee Institution: Kaiser Permanente, Los Angeles, CA, United States

8:56 AM	<b>268 Is It Safe to Continue Estrogen Therapy in Gender-Diverse Individuals Undergoing Facial Feminization? A Pilot Study of 588 Patients</b> Presenter: Ruth Tevlin (United States) Authors: Ruth Tevlin, Maia Shoham, Diego Gomez, Arya Andre Akhavan, John Henry Pang, Shane Morrison, Thomas Satterwhite Institution: Division of Plastic and Reconstructive Surgery, Stanford Medicine, Palo Alto, CA, United States
9:00 AM	<b>Discussion</b>
9:10 AM	<b>425 Facial Feminization Surgery: Region-Specific Importance Recognized by Artificial and Human Intelligence Gender Recognition Correlates with Patient Satisfaction</b> Presenter: Joshua Choe (United States) Authors: Joshua Choe, Meghan Miller, Global Health and Gender Studies, Dana Bregman, James Bradley Institution: Northwell Health, NYC, NY, United States
9:14 AM	<b>256 Clarifying the Anatomy of the Zygomatic Cutaneous Ligament: Its Application in Midface Rejuvenation</b> Presenter: Jing Duan (China) Author: Jing Duan Institution: Guangdong Second Provincial General Hospital, Guang Zhou, Guang Dong, China
9:18 AM	<b>75 Is Outpatient Facial Feminization Surgery Safe?</b> Presenter: Tommy Liu (United States) Authors: Mengyuan Tommy Liu, Natalie Hernandez Institution: Polyclinic Plastic Surgery, Seattle, WA, United States
9:22 AM	<b>430 Osseous Transformation with Facial Feminization Surgery: Improved Anatomical Accuracy with Virtual Planning</b> Presenter: Christopher Aiello (United States) Authors: Sabrina Sam, Meghan Miller, Joshua Choe, James Bradley, Christopher Aiello Institution: Northwell Health, NYC, NY, United States
9:26 AM	<b>576 Planning Chin Height, Width, and Shape in Feminizing Genioplasty: An Anatomical Study</b> Presenter: R'ay Fodor (United States) Authors: R'ay Fodor, Abir Kalandar, Antonio Rampazzo, Raymond Isakov, Cecile Ferrando, Francis Papay, Bahar Bassiri Gharb Institution: Cleveland Clinic Department of Plastic Surgery, Cleveland, OH, United States
9:30 AM	<b>Discussion</b>
9:40 AM	<b>599 Racial and Ethnic Differences of the Upper Third of the Face: A Systematic Review and Meta-Analysis</b> Presenter: Essie Ghafoor (United States) Authors: Essie Ghafoor, Madyson Brown, Claudia Taccheri, Stella Seal, Mona Ascha, Fan Liang Institution: Johns Hopkins University, Baltimore, MD, United States

9:44 AM	<b>688 Correlations between FACE-Q Satisfaction and Craniofacial Changes among Facial Feminization Patients</b> Presenter: Mica Williams (United States) Authors: Mica Williams, Mariana Almeida, David Alper, Omar Allam, Jinesh Shah, Andrew Craver, Abigail Judge, Jean Carlo Rivera, John Persing, Michael Alperovich Institution: Yale School of Medicine, New Haven, CT, United States
9:48 AM	<b>703 Technique for Cephalometric Analysis of the Craniofacial Skeleton Following Facial Feminization Surgery</b> Presenter: Ali Aral (United States) Authors: Mica Williams, Mariana Almeida, David Alper, Omar Allam, Jinesh Shah, Jean Carlo Rivera, John Persing, Michael Alperovich, Ali Aral Institution: Yale School of Medicine, New Haven, CT, United States
9:52 AM	<b>198 Assessment of Robot-Assisted Mandibular Contouring Surgery in Comparison with Traditional Surgery: A Prospective, Single-Center, Randomized Controlled Trial</b> Presenter: Haisong Xu (China)* Authors: Li Lin, Haisong Xu Institution: Department of Plastic and Reconstructive Surgery Shanghai 9th People's Hospital School of Medicine, Shanghai JiaoTong University, Shanghai, China
9:56 AM	Discussion

9:20 – 10:40 AM Room: Elwha A	<b>FREE PAPER SESSION 6A – FACIAL CLEFTS AND ENCEPHALOCELES</b> Session Chairs: Nivaldo Alonso (Brazil), Juan Carlos Rodriguez (Argentina)
9:20 AM	<b>455 Retrospective Longitudinal Bi-Centric Study of Posterior Encephalocele from Antenatal Management to Post-Surgical Follow-Up</b> Presenter: Federico Di Rocco (France) Authors: Federico Di Rocco, Claudia Pasquali, Sofia Guernouche, Alexandru Szathmari, Pierre-Aurélien Beuriat, Isabelle Verlut, Matthieu Vinchon Institution: Department of Pediatric Neurosurgery, HCL, Lyon, France
9:24 AM	<b>420 Congenital Orbital Anomalies: A Novel Classification System</b> Presenter: Tyler Stumm (United States) Authors: Tyler Stumm, Krish Shah, Kelly Hoerger, Howard Wang, Anand Kumar, Edward Davidson Institution: Case Western Reserve University/University Hospitals Cleveland Medical Center, Cleveland, OH, United States
9:28 AM	<b>573 Reconstruction of the Orbit in Patients with Neurofibromatosis Type 1 (NF-1)</b> Presenter: Simon Eccles (United Kingdom) Authors: Simon Eccles, Dulanka Silva, Sri Gore, Owase Jeelani Institution: Great Ormond St Hospital NHS Foundation Trust, London, United Kingdom
9:32 AM	<b>18 A Novel Surgical Technique for Management of Frontonasal Encephaloceles: The Mercy Ships Method</b> Presenter: David Chong (Australia) Authors: David Chong, Naikhoba Munabi, Eric Nagengast, Gary Parker, Shailendra Magdum, Mirjam Hamer Institution: Royal Childrens Hospital, Melbourne, VIC, Australia

9:36 AM	<b>306 Tessier 0 Cleft: Epidemiology and Management in Zimbabwe</b> Presenter: Salma Eltoun Elamin (United Kingdom)* Authors: Salma Eltoun Elamin, Wayne Manana Institutions: Oxford University NHS Foundation Trust, Oxford, United Kingdom
9:40 AM	Discussion
9:48 AM	<b>494 Hypertelorbitism Corrected by Facial Bipartition Improves Exotropia</b> Presenter: James Bradley (United States) Authors: James P. Bradley, Joshua Choe, Meghan Miller, Mark Fisher, Kevin Chen, Henry K. Kawamoto Institution: Zucker School of Medicine at Hofstra/Northwell, Lake Success, NY, United States
9:56 AM	<b>711 Assessment of Soft Tissue Changes Relative to Bone Following Box Osteotomy and Facial Bipartition for Correction of Hypertelorism</b> Presenter: Sarah Alfeerawi (United States) Authors: Pasha Shakoori, Sarah Alfeerawi, Idean Roohani, Collean Trotter, Dylan Choi, Eric Nagengast, Artur Fahradyan, Jeffrey Hammoudeh, Mark Urata Institution: Division of Plastic and Reconstructive Surgery, Keck School of Medicine of USC, Los Angeles, CA, United States
10:00 AM	<b>338 Craniofrontonasal Dysplasia: Outcomes of Hypertelorism Correction in Late Presenting Patients</b> Presenter: Cassio Eduardo Raposo-Amaral (Brazil) Authors: Cassio Eduardo Raposo-Amaral, Enrico Ghizoni, Mateus Laerda, Marcela Vincenzi, Cesar Augusto Raposo-Amaral Institution: SOBRAPAR Hospital, Campinas, SP, Brazil
10:04 AM	<b>437 Amplified Rhinoplasty with Fixed Central Axis: Proposal of Technique for Hypertelorbitism Correction</b> Presenter: Daniella Camargo (Brazil) Authors: Daniella Camargo, Jullyana Heinen Peixoto, Alessandra Santos Silva, Vera Lucia Nocchi Cardim Institutions: NPA (Núcleo de Plástica Avançada), São Paulo, SP, Brazil; PUC - Campinas, Campinas, SP, Brazil
10:08 AM	Discussion
10:16 AM	<b>664 Unilateral Box Osteotomy: An Under-Utilized Versatile Procedure for Surgical Correction of Orbital Malposition</b> Presenter: Eric Nagengast (United States) Authors: Eric Nagengast, Idean Roohani, Artur Fahradyan, Jeffrey Hammoudeh, Mark Urata Institution: Division of Plastic and Reconstructive Surgery, Keck School of Medicine of USC, Los Angeles, CA, United States
10:20 AM	<b>81 Comparative Study Between Surgical Navigation and Screw-Track Transfer Guide Plate in Treating Orbital Hypertelorism</b> Presenter: Jie Yuan (China) Authors: Jie Yuan, Min Wei Institution: Shanghai 9th People's Hospital, Shanghai, China

10:24 AM	<b>513 Clinical Findings and Surgical Correction for Tessier Cleft Number 4: An Analysis of 86 Cases</b> Presenter: Nivaldo Alonso (Brazil) Authors: Nivaldo Alonso, Cristiano Tonello, Philippe Pellerin, Renato da Silva Freitas Institutions: Hospital for Rehabilitation of Craniofacial Anomalies-University of São Paulo, Bauru, SP, Brazil; Hospital of Clinics- University of São Paulo, São Paulo, SP, Brazil
10:28 AM	<b>88 Treatment of Rare Craniofacial Clefts: Experience from an Egyptian Center</b> Presenter: Karam Allam (Egypt)* Author: Karam Allam Institution: Sohag University, Sohag, Sohag, Egypt
10:32 AM	Discussion

10:05 – 10:40 AM Room: Elwha B	<b>PANEL 2: FACIAL FEMINIZATION: TECHNIQUES AND INDICATIONS</b> Panel Chair: Amanda Gosman (United States) Panelists: Stacey Francis (United States), Sol Mundinger (United States), Russell Ettinger (United States)
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10:40 – 11:10 AM Room: Exhibition	Coffee Break in Exhibition
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11:10 AM-1:05 PM Room: Elwha A	<b>FREE PAPER SESSION 7A – UNILATERAL CORONAL SYNOSTOSIS, AIRWAY, AND VIRTUAL SURGICAL PLANNING</b> Session Chairs: David Johnson (United Kingdom), Jordan Steinberg United States)
11:10 AM	<b>172 Variation in Airway Morphology and Upper Airway Obstruction in FGFR2 Mutation Subtypes of Apert Syndrome</b> Presenter: Natalie Plana (United States) Authors: Connor Wagner, Natalie Plana, Larissa Wietlisbach, Anchith Kota, Dillan Villavisanis, Matthew Pontell, Carlos Barrero, Lauren Salinero, Jordan Swanson, Jesse Taylor, Scott Bartlett Institution: The Children’s Hospital of Philadelphia, Philadelphia, PA, United States
11:14 AM	<b>171 Tongue Reduction for Macroglossia in Beckwith-Wiedemann Syndrome: Considerations of Surgical Timing and Epigenetics</b> Presenter: Carrie Morales (United States) Authors: Connor Wagner, Matthew Pontell, Elizabeth Malphrus, Lauren Salinero, Carlos Barrero, William Drust, Madison DeMarchis, Eric Liao, Jennifer Kalish, Jesse Taylor, Carrie Morales Institution: The Children’s Hospital of Philadelphia, Philadelphia, PA, United States

11:18 AM	<b>228 (Epi)Genotype-Phenotype Correlations of Beckwith-Wiedemann Syndrome in China</b> Presenter: Songchunyan Zhang (China) Authors: Dongyi Lan, Chenbin Dong, Songchunyan Zhang Institution: Children’s Hospital of Fudan University, Shanghai, China
11:22 AM	<b>251 Skeletal and Soft-Tissue Imaging Findings Predictive of Obstructive Sleep Apnea: A Systematic Review and Meta-Analysis</b> Presenter: Sobhi Kazmouz (United States) Authors: Sobhi Kazmouz, Nathan Calzadilla, Lander McGinn, Austin Seaman, Akriti Choudhary, Chad Purnell Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States
11:26 AM	<b>417 The Role of Airway Management on Feeding Difficulties in Children with Pfeiffer Syndrome</b> Presenter: Wendy Blumenow (United Kingdom) Authors: Wendy Blumenow, Sunil Sharma, Anusha Henedige, Su De, Emma McCann, Emily Yassaie, Joseph Salem Institution: Alder Hey Children’s Hospital Liverpool, Liverpool, United Kingdom
11:30 AM	Discussion
11:39 AM	<b>282 Prevalence of Ocular Torticollis in Patients with Unicoronal Craniosynostosis (UCS) and Its Related Ophthalmic Features</b> Presenter: Mieke Pleumeekers (The Netherlands) Authors: Mieke Pleumeekers, Emily Tan, Parinaz Rostamzad, Yasmin Esser, Sjoukje Loudon Institution: Erasmus Medical Center, Rotterdam, The Netherlands
11:47 AM	<b>646 Objective Tools for Measurement of Lambdoid and Unicoronal Craniosynostosis</b> Presenter: Griffin Bins (United States)* Authors: Griffin Bins, Larry Zhou, Lisa David, Christopher Runyan Institution: Wake Forest Department of Plastic and Reconstructive Surgery, Winston-Salem, NC, United States
11:51 AM	<b>402 Reduced Asymmetry with Growth in Patients with a Less Severe Phenotype in Unicoronal Synostosis</b> Presenter: Hanna Lif (Sweden) Authors: Hanna Lif, Maxime Taverne, Johan Nysjö, Maya Geoffroy, Roman Khonsari, Daniel Nowinski Institution: Uppsala Academic Hospital, Uppsala, Sweden
11:55 AM	<b>206 Reconstructive Surgery of Orbital Dystopias and Asymmetric Hypertelorism Secondary to Non-Syndromic Craniosynostoses</b> Presenter: Bin Yang (China) Authors: Bin Yang, Ye-Hong Zhong, Qin-Hua Huang Institution: Plastic Surgery Hospital, Beijing, China
11:59 AM	Discussion

12:08 PM	<p><b>588 Application of Modern Visualization Techniques and Biomechanical Research in Virtual Preoperative Planning in Reconstructive Surgery of Children with Syndromic Craniosynostoses</b>                      Presenter: Dawid Larysz (Poland)                      Authors: Dawid Larysz, Patrycja Larysz, Małgorzata Koszowska, Sebastian Radziak, Krzysztof Dowgierd, Arkadiusz Szarek                      Institutions: Department of Head and Neck Surgery for Children and Adolescents, University of Warmia and Mazury, Olsztyn, Poland; Department of Head and Neck Surgery for Children and Adolescents, Regional Specialized Children's Hospital, Olsztyn, Poland</p>
12:12 PM	<p><b>159 Artificial Intelligence-Based Estimation of Craniofacial Soft and Hard Tissue Defect for Virtual Surgical Planning</b>                      Presenter: Bimeng Jie (China)                      Authors: Bimeng Jie, Boxuan Han, Chengyi Wang, Hongen Liao, Yi Zhang, Yang He                      Institution: Peking University School and Hospital of Stomatology, Beijing, China</p>
12:20 PM	<p><b>308 Black Bone MRI as a Radiation-Free Alternative to CT for Imaging Craniofacial Structures: A Survey of Physician Knowledge and Practice Patterns</b>                      Presenter: Rachel Pan (United States)                      Authors: Rachel Pan, Tiffany Lee, Lake Lindo, Adrian Osias, Rajendra Sawh-Martinez                      Institution: University of Central Florida College of Medicine, Orlando, FL, United States</p>
12:24 PM	<p><b>38 The Carbon Footprint of the Craniomaxillofacial Surgeon: A Single Center Analysis of 3D-Printed Constructs</b>                      Presenter: Matthew Heron (United States)                      Authors: Matthew Heron, Atharva Bhagwat, Katherine Zhu, Cynthia Yusuf, David Febre Alemañy, Christopher Lopez, Robin Yang                      Institution: Johns Hopkins University School of Medicine, Baltimore, MD, United States</p>
12:28 PM	<p><b>331 Application of Augmented Reality in Craniofacial Surgery: A Feasibility Study and Application on Patients</b>                      Presenter: Federica Ruggiero (Italy)                      Authors: Federica Ruggiero, Laura Cercenelli, Emanuela Marcelli, Nicolas Emiliani, Giovanni Badiali, Micol Babini, Beatrice Gardenghi, Mariella Lefosse, Mino Zucchelli, Achille Tarsitano                      Institutions: Alma Mater Studiorum University of Bologna, Bologna, Italy; AUSL Bologna, Bologna, Italy</p>
12:32 PM	<p><b>Discussion</b></p>
12:41 PM	<p><b>594 Planning of Complex Craniopagus Separation Surgery in Virtual Reality – The Increasing Role Technology Has Played in our Six Sets of Craniopagus Separations at Gemini Untwined</b>                      Presenter: Silvia Schievano (United Kingdom)                      Authors: Noor ul Owase Jeelani, Silvia Schievano, David Dunaway, Gabriel Mufarrej, Endrit Pajaziti, Juling Ong, Mickey Gideon, Heron Werner, Luke P. J. Smith, Claudio Capelli, Gemini Untwined                      Institution: UCL Great Ormond Street Institute of Child Health, London, United Kingdom</p>

12:45 PM	<p><b>593 Predicting the Future of Craniofacial Surgery in Virtual Reality – Is This Where Our Surgical Practice is Heading?</b>                      Presenter: Noor ul Owase Jeelani (United Kingdom)                      Authors: Noor ul Owase Jeelani, Alessandro Borghi, Silvia Schievano, David Dunaway, Endrit Pajaziti, Claudio Capelli, FaceValue Team                      Institution: UCL Great Ormond Street Institute of Child Health, London, United Kingdom</p>
12:49 PM	<p><b>607 Real-Time Mixed Reality and Preoperative Virtual Surgical Planning (VSP) Methods for Pediatric Cranial Vault Reconstructive Surgery</b>                      Presenter: Katelyn Lewis (United States)*                      Authors: Katelyn Lewis, Lauren Aronson, Brian Yuen, Pushpak Patel, Rajendra Sawh-Martinez                      Institutions: University of Central Florida College of Medicine, Orlando, FL, United States; Yale New Haven, New Haven, CT, United States</p>
12:53 PM	<p><b>167 3D Printed Surgical Positioning Rib Graft Jig in Combined Orthodontic Surgical Management of Pruzansky/Kaban Type IIB and Type III Hemifacial Microsomia</b>                      Presenter: Miri Tzemach (Israel)                      Authors: Omri Emodi, Tal Capucha, Jiriys Ginin, Miri Tzemach, Adi Rachmiel                      Institution: Rambam Health Care Campus, Haifa, Israel</p>
12:57 PM	<p><b>Discussion</b></p>

11:10 AM - 1:05 PM Room: Elwha B	<p><b>FREE PAPER SESSION 7B – ORTHOGNATHICS</b>                      Session Chairs: Eppo Wolvius (The Netherlands), Pradip Shetye (United States)</p>
11:10 AM	<p><b>305 Correcting the Broad, Flat, and Short Chin Using Modified M-Genioplasty</b>                      Presenter: Guoping Wu (China)                      Authors: Guoping Wu, Zhiyang Xie, Kaili Yan, Wensong Shangguan                      Institution: The Affiliated Friendship Plastic Surgery Hospital of Nanjing Medical University, Nanjing, Jiangsu, China</p>
11:14 AM	<p><b>180 M-Shaped Anterior Maxillary Osteotomy for Correction of Bimaxillary Prognathic and Class II Profile</b>                      Presenter: Chunming Liu (China)                      Authors: Chunming Liu, Ruichen Wang, Quanwen Gao, Min Hou                      Institution: Beijing BCC First Hospital, Beijing, Beijing, China</p>
11:18 AM	<p><b>30 Comparison of One-Jaw and Two-Jaw Design in Virtual Surgery Planning for Patients with Class III Dentofacial Problem</b>                      Presenter: Yoshitsugu Hattori (Taiwan)                      Authors: Yoshitsugu Hattori, Lun-Jou Lo                      Institution: Department of Plastic and Reconstructive Surgery and Craniofacial Research Center, Chang Gung Memorial Hospital, Taoyuan, Taiwan</p>
11:22 AM	<p><b>309 Temporomandibular Joint Ankylosis: Personal Experience and Literature Review</b>                      Presenter: Riccardo Tieghi (Italy)                      Author: Riccardo Tieghi                      Institution: S. Anna Hospital and University, Ferrara, Italy</p>

11:26 AM	<p><b>246 Does the Low and Short Medial Cut Affect Lingual Nerve Recovery After Sagittal Split Osteotomy?</b> Presenter: Philip Tolley (United States) Author: Philip Tolley, Benjamin Massenburg, Russell Ettinger, Srinivas Susarla Institutions: University of Washington, Seattle, WA, United States; Seattle Childrens Hospital, Seattle, WA, United States</p>
11:30 AM	Discussion
11:39 AM	<p><b>429 Assessing the Variability of Inferior Alveolar Nerve Anatomy in Patients Undergoing Extended Sliding Genioplasty</b> Presenter: Ezgi Mercan (United States) Authors: Ezgi Mercan, Ryan Badiie, Philip Tolley, Srinivas Susarla Institution: Seattle Children's Hospital, Seattle, WA, United States</p>
11:43 AM	<p><b>232 Comparative Assessment of Orthodontic and Aesthetic Outcomes after Orthognathic Surgery with Clear Aligner or Fixed Appliance Therapy</b> Presenter: Shin-Shi Tzeng (Taiwan) Authors: Shin-Shi Tzeng, Pang-Yun Chou, Yu-Jia Liou, Pin-Ru Chen, Tzong-Yueh Tsai, Susie Lin Institution: Department of Plastic and Reconstructive Surgery and Craniofacial Research Center, Chang Gung Memorial Hospital at Linkou, Taoyuan, Taiwan</p>
11:47 AM	<p><b>577 Examining the Efficacy of Bone-Anchored Maxillary Protraction to Correct Class III Malocclusion in Patients with Clefts: A Case Series</b> Presenter: Elizabeth Danial (United States) Authors: Elizabeth Danial, Archak Chakraborty, Moyu Fu, Snehlata Oberoi, Jason H. Pomerantz, William Y. Hoffman Institution: University of California San Francisco, San Francisco, CA, United States</p>
11:51 AM	<p><b>624 Avascular Necrosis Complicating Orthognathic Surgery: It's Lurking</b> Presenter: Michael Lypka (United States) Author: Michael Lypka Institution: University of Kansas, Kansas City, KS, United States</p>
11:55 AM	<p><b>90 SCP – CR RIP</b> Presenter: John Polley (United States) Authors: John Polley, Peter Piche, Ron Lints, F. Matthew Smith, Joel Lints, Lilly Newell Institution: Munson Healthcare Cleft and Craniofacial Center, Traverse City, MI, United States</p>
11:59 AM	Discussion
12:08 PM	<p><b>249 Incorporating Buccal Fat Pad Flaps in Infants' Cleft Palatoplasty Reduces the Incidence of Future Orthognathic Surgery</b> Presenter: Raquel Ulma (United States) Authors: Raquel Ulma, Kian Pourak, Christian Vercler, Steven Kasten, Steven Buchman Institution: Department of Surgery, Section of Plastic and Reconstructive Surgery, Ann Arbor, MI, United States</p>

12:16 PM	<p><b>62 Velopharyngeal Function Change after Two-Jaw Orthognathic Surgery in Patients with Cleft: A Study on 162 Consecutive Cases</b> Presenter: Chun-Lin Su (Taiwan) Authors: Chun-Lin Su, Lun-Jou Lo Institution: Chang Gung Memorial Hospital, Taoyuan City, Taiwan</p>
12:20 PM	<p><b>318 Comparison of Furlow and Straight-Line Repair Techniques on Transverse Dental Arch Dimensions and Extent of Orthodontic Intervention</b> Presenter: Collean Trotter (United States) Authors: Collean Trotter, Sarah Alfeerawi, Idean Roohani, Dylan G. Choi, Pasha Shakoori, Artur Fahradyan, Jessica A. Lee, William P. Magee III, Mark Urata, Jeffrey Hammoudeh Institution: Keck School of Medicine of the University of Southern California, Los Angeles, CA, United States</p>
12:24 PM	Discussion
12:37 PM	<p><b>262 Factors Predicting Final Jaw Position in Skeletally Mature Patients with Cleft Lip or Palate: A Retrospective Study</b> Presenter: Michael Edgar (United States) Authors: Michael Edgar, Akriti Choudhary, Brenda Guillen, Gaia Santiago, Chiara Santiago, Alvin Nguyen, Linping Zhao, Lee Alkureishi, David Morris, Pravin Patel, Chad Purnell Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States</p>
12:41 PM	<p><b>372 Does Sequencing Influence Accuracy of Maxillary Positioning in Bimaxillary Cleft Orthognathic Surgery?</b> Presenter: Ryan Badiie (United States) Authors: Ryan Badiie, Hitesh Kapadia, Philip Tolley, Srinivas Susarla Institution: Seattle Children's Hospital, Seattle, WA, United States</p>
12:45 PM	<p><b>220 Three-Dimensional Comparative Changes in the Pharyngeal Airway of Patients with Cleft after Two-Jaw Orthognathic Surgery</b> Presenter: Pin-Ru Chen (Taiwan) Authors: Pin-Ru Chen, Soo-Ha Kwon, Lun-Jou Lo, Pang-Yun Chou Institution: Department of Plastic and Reconstructive Surgery and Craniofacial Research Center, Chang Gung Memorial Hospital, Chang Gung University, Taoyuan, Taiwan</p>
12:49 PM	<p><b>635 Is Oral Surgery Training Required to Perform Orthognathic Surgery? An Opinion Survey of the American Society of Maxillofacial Surgeons</b> Presenter: Zachary Brooks (United States) Authors: Zachary Brooks, Nathan Sigel, Yvonne Roca, Nirbhay Jain, Akishige Hokugo, Reza Jarrahy Institution: David Geffen School of Medicine at UCLA, Los Angeles, CA, United States</p>

12:53 PM	<b>414 A Preliminary Clinical Study on the Effectiveness and Safety of Mandibular Angle Osteotomy Assisted by Craniomaxillofacial Surgery Navigation System</b> Presenter: Gang Chai (China)* Author: Gang Chai Institution: Department of Plastic and Reconstructive Surgery, Shanghai Ninth People's Hospital, Shanghai JiaoTong University School of Medicine, Shanghai, China
12:57 PM	<b>Discussion</b>

1:05 – 2:05 PM Posters in Rooms: Foss, Duckabush, and Cowlitz Rooms	<b>Lunch in Exhibition + Poster Judging</b>
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2:05 – 3:45 PM Room: Elwha A	<b>FREE PAPER SESSION 8A – SYNOSTOSIS AND TEAM CARE</b> Session Chairs: Irene Mathijssen (The Netherlands), David Dunaway (United Kingdom)
2:05 PM	<b>77 Improving Access to Intracranial Volume Measurements for Clinical Use: Open-Source Method Using Computed Tomography</b> Presenter: Raymond Harshbarger (United States) Authors: Raymond Harshbarger, Sarah Frommer, Akhil Surapaneni Institutions: Dell Medical School at the University of Texas at Austin, Austin, TX, United States; Ascension Seton, Austin, TX, United States
2:09 PM	<b>231 A Validated Computational Model of Normal Craniofacial Growth up to Four Years of Age</b> Presenter: Ce Liang (United Kingdom)* Authors: Ce Liang, Roman Hossein Khonsari, David Johnson, Paul O'Higgins, Mehran Moazen Institution: Department of Mechanical Engineering, University College London, London, United Kingdom
2:13 PM	<b>53 Ubiquitination of BMPR1A by SMURF1 Suppresses Osteogenic Differentiation of Cranial Suture Mesenchymal Stem Cells</b> Presenter: Liangliang Kong (China) Authors: Liangliang Kong, Yi Ji, Jie Cui, Weiming Shen Institution: Children's Hospital of Nanjing Medical University, Nanjing, Jiangsu, China
2:17 PM	<b>649 Orbital Dysmorphology and its Association with Intra-Orbital and Peri-Orbital Suture Fusion</b> Presenter: Ryan Layton (United States) Authors: Ryan Layton, Griffin Bins, Lisa David, Christopher Runyan Institution: Wake Forest Department of Plastic and Reconstructive Surgery, Winston-Salem, NC, United States
2:21 PM	<b>Discussion</b>

2:29 PM	<b>477 Deviation of the Superior Sagittal Sinus from the Sagittal Suture in Unilateral Lambdoid Craniosynostosis</b> Presenter: Julia Pazniokas (United States) Authors: Julia Pazniokas, Lindsey Freeman, Sophia Blasco, Scott LeBeau, Nicholas Stence, Brooke French, Allyson Alexander, David Khechoyan, Corbett Wilkinson Institution: University of Colorado, Aurora, CO, United States
2:33 PM	<b>512 Incidental Craniosynostosis in Pediatric Patients – A Review of 590 CT-Scans</b> Presenter: Ahad Shafi (United Kingdom) Authors: Ahad Shafi, Jagajeevan Jagadeesan, Jaime Grant, Desiderio Rodrigues, Martin Evans, Pasquale Gallo Institutions: Birmingham Children's Hospital, Birmingham, United Kingdom; Royal Hospital for Children, Glasgow, United Kingdom
2:37 PM	<b>655 Exploring Racial and Demographic Associations with Craniosynostosis Severity Using Deep Phenotyping</b> Presenter: Joseph Mocharnuk (United States) Authors: Joseph Mocharnuk, Anne Glenney, Griffin Bins, Lauren Salinero, Carlos Barrero, Wenzheng Tao, Erin Anstadt, Lucas Dvoracek, Megan Pencek, Ross Whitaker, Lisa David, Christopher Runyan, Michael Golinko, Michael Alperovich, Jesse Taylor, Jordan Swanson, Jesse Goldstein Institution: University of Pittsburgh Medical Center, Pittsburgh, PA, United States
2:41 PM	<b>322 Twist1 Mutation and Environmental Factors Synergistically Exacerbate Craniosynostosis</b> Presenter: Eloise Stanton (United States) Authors: Eloise Stanton, Mark Urata, Yang Chai Institution: Keck Medicine of USC, Los Angeles, CA, United States
2:45 PM	<b>Discussion</b>
2:53 PM	<b>345 Blood Loss in Fronto Orbital Advancement Surgery (FOAR): A Review of Blood Product Use in over 1370 Consecutive Cases over 11 Years in the UK Designated Craniofacial Units</b> Presenter: Martin Evans (United Kingdom) Authors: Martin Evans, David Johnson, David Dunaway, Chris Parks, Christian Duncan Institution: Craniofacial Unit, Birmingham Children's Hospital, Birmingham, United Kingdom
2:57 PM	<b>523 Intraoperative Augmented Reality Navigation Reduces Dural Sinus Injury and Blood Loss During Craniofacial Surgery: A Pilot Study</b> Presenter: Joanna Gernsback (United States) Authors: Christian A El Amm, Joanna Gernsback, Naina Gross, Matthew Marr, Robert Nevitt, Thomas Kerestes Institution: Department of Neurosurgery, University of Oklahoma, Oklahoma City, OK, USA
3:01 PM	<b>255 Novel Multimodal Blood Management Protocol in Open Craniosynostosis Surgery</b> Presenter: Jonathan Butts (United States) Authors: Jonathan Butts, Sabrina Han, Christopher Edwards, Cristoph Seubert, Cole Dooley, Timothy Martin, Nelson Algarra, Peter Pelletie Mary Jane Michael, Martin Noguera, Bruce Spiess, Lance S. Governale, Jessica A. Ching Institution: University of Florida, Gainesville, FL, United States

3:05 PM	<b>124 Demographic Trends and Predictors of Postoperative Complications in Craniosynostosis Surgery</b> Presenter: Marina Lentskevich (United States) Authors: Marina Lentskevich, Alice Yau, Ariel Figueroa, Irene Yau, Narainsai Reddy, Arun Gosain Institution: Division of Plastic Surgery, Ann and Robert H. Lurie Children's Hospital, Chicago, IL, United States
3:09 PM	<b>Discussion</b>
3:17 PM	<b>140 A Descriptive Analysis of Ophthalmologic Comorbidities in Craniosynostosis</b> Presenter: Nicholas Wesely (United States) Authors: Nicholas Wesely, Darin Patmon, Brooke Geddie, Anna Carlson, John Giroto Institution: Corewell Health, Grand Rapids, MI, United States
3:21 PM	<b>284 Cranio-Cervical Instability in Syndromic Craniofacial Patients</b> Presenter: Syril James (France) Authors: Syril James, Sandro Benichi, Eric Arnaud, Giovanna Paternoster Institutions: Hopital Necker Enfants Malades, Paris, France; Clinique Marcel Sembat, Boulogne Billancourt, France
3:25 PM	<b>556 Challenges of Establishing a Craniofacial MDT from Scratch in a Developing Country: Borneo Experience</b> Presenter: Prabu Rau Sriram (Malaysia) Authors: Prabu Rau Sriram, Rubinderan Muthusamy, Saravanan Gopalan Institution: Sabah Women & Children hospital, Kota Kinabalu, Sabah, Malaysia
3:29 PM	<b>497 Craniosynostosis Surgery: 15 Year Experience in Pakistan</b> Presenter: Ali Azeem Naqvi (Pakistan)* Author: Ali Azeem Naqvi Institution: Bahria International Hospital, Rawalpindi, Punjab, Pakistan
3:33 PM	<b>242 Development of Craniofacial Surgery in India</b> Presenter: Rajiv Agarwal (India) Authors: Rajiv Agarwal, Rishabh Agarwal, Devisha Agarwal Institution: Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, UP, India
3:37 PM	<b>16 Persistent Cranial Defects Following Endoscopic Sagittal Synostosis Surgery</b> Presenter: Robin Wu (United States) Authors: Robin Wu, Robert Menard Institution: Stanford University School of Medicine, Stanford, CA, United States

2:05 – 3:45 PM Room: Elwha B	<b>FREE PAPER SESSION 8B – CLEFT LIP AND ALVEOLAR BONE GRAFTING</b> Session Chairs: Pedro Santiago (United States), Peter Donkor (Ghana)
2:05 PM	<b>96 Success Rate and Predictors of Outcomes in 900 Alveolar Bone Grafts: A Single Surgeon Cohort Study</b> Presenter: Bonnie Padwa (United States) Authors: Bonnie Padwa, Pauline Tio, Prakriti Garkhail, Laura Nuzzi Institution: Boston Children's Hospital, Boston, MA, United States
2:13 PM	<b>657 A Nationwide Analysis of Adverse Events and Cost Between Inpatient Versus Outpatient Alveolar Bone Grafting</b> Presenter: Dylan Choi (United States) Authors: Idean Roohani, Eloise Stanton, Sarah Alfeerawi, Dylan Choi, Collean Trotter, Mark Urata, William Magee, Jeffrey Hammoudeh Institution: Division of Plastic and Maxillofacial Surgery, Children's Hospital Los Angeles, Los Angeles, CA, United States
2:17 PM	<b>642 Failure Rates Based on Alveolar Cleft Size: An Analysis of the Critical Size Defect for rhBMP-2/DBM and ICGB in Alveolar Bone Grafting</b> Presenter: Idean Roohani (United States) Authors: Idean Roohani, Simon Youn, Sarah Alfeerawi, Pasha Shakoory, Collean Trotter, Dylan Choi, Artur Fahradyan, Mark Urata, William Magee, Jeffrey Hammoudeh Institution: Keck School of Medicine of USC, Los Angeles, CA, United States
2:21 PM	<b>Discussion</b>
2:29 PM	<b>682 A Comparison of Three-Dimensional Cone Beam Computed Tomography Outcomes Between Early Versus Late Secondary Alveolar Bone Grafting in Patients with Unilateral Cleft Lip and Palate</b> Presenter: Stephen Yen (United States) Authors: Jeffrey Hammoudeh, Idean Roohani, Xuanyu Lu, Simon Youn, Sarah Alfeerawi, Stephen Yen, Mark Urata Institution: Department of Dentistry and Orthodontics, Los Angeles, CA, United States
2:33 PM	<b>269 What Defines 'Success' in Autologous Alveolar Cleft Bone Grafting? A Meta-Analysis of 132 Studies with 8751 Patients</b> Presenter: Bianca Di Chiaro (United States) Authors: Bianca Di Chiaro, Akriti Choudhary, Sofia Aronson, Chad Purnell Institution: Loyola University Medical Center, Chicago, IL, United States
2:37 PM	<b>654 Assessment and Validation of Preoperative Three-Dimensional Volumetric Analysis to Predict Bone Graft Success in Alveolar Cleft Reconstruction</b> Presenter: Pasha Shakoory (United States) Authors: Pasha Shakoory, Idean Roohani, Simon Youn, Sarah Alfeerawi, Collean Trotter, Dylan Choi, Artur Fahradyan, Mark Urata, William Magee, Jeffrey Hammoudeh Institution: Division of Plastic and Reconstructive Surgery, Keck School of Medicine of USC, Los Angeles, CA, United States

2:41 PM	<p><b>185 It's Hip to Go Home: An Evaluation of Safety and Efficacy of Outpatient Alveolar Bone Grafting</b>                      Presenter: David Mitchell (United States)                      Authors: David Mitchell, Chioma Obinero, Jessica Nye, Jackson Green, Michael Talanker, Phuong Nguyen, Matthew Greives                      Institution: UTHealth Houston McGovern Medical School, Houston, TX, United States</p>
2:45 PM	<p><b>Discussion</b></p>
2:53 PM	<p><b>458 A Single Institution Comparison of Furlow and Straight Line Palatoplasty Techniques in Bilateral Cleft Lip and Palate</b>                      Presenter: Priyanka Naidu (United States)                      Authors: Priyanka Naidu, Collean Trotter, Dylan G. Choi, Idean Roohani, Sarah Alfeerawi, Pasha Shakoori, Mark Urata, Jessica A. Lee, William P. Magee III, Jeffrey Hammoudeh                      Institution: Division of Plastic and Reconstructive Surgery, Keck School of Medicine, Los Angeles, CA, United States</p>
3:01 PM	<p><b>515 Pedicled Buccal Fat Pad Flap Inclusion in Primary Palatoplasty Mitigates Velopharyngeal Insufficiency Risk and Severity in Patients with Cleft Palate</b>                      Presenter: Nathan Sheppard (United States)                      Authors: Nathan Sheppard, Melissa Daniel, Megan Dietze-Fiedler, Christian Vercler, Steven Kasten, Steven Buchman, Raquel Ulma                      Institution: University of Michigan, Ann Arbor, MI, United States</p>
3:05 PM	<p><b>336 Evaluation of Optimal Outcome Reporting (OOR) in Cleft Palate Repair</b>                      Presenter: Daniel M. Balkin (United States)                      Authors: Daniel M. Balkin, Joseph Incorvia, Christopher D. Hughes, Liza Catalozzi, Roseanne Clark, Ann W. Kummer, John G. Meara                      Institutions: Boston Children's Hospital, Department of Plastic &amp; Oral Surgery, Boston, MA, United States; Harvard Medical School, Boston, MA, United States</p>
3:09 PM	<p><b>Discussion</b></p>
3:16 PM	<p><b>474 Buccal Flap During Primary Furlow Palatoplasty Decreases Likelihood of Velopharyngeal Insufficiency in Patients with Cleft Palate</b>                      Presenter: Shuyan Wei (United States)                      Authors: Shuyan Wei, Jose Barrera, James Klugh, Michael Talanker, Stephanie White, Kim-Loan Luu, Phuong Nguyen, Matthew Greives                      Institution: University of Texas Health Science Center at Houston, Houston, TX, United States</p>
3:20 PM	<p><b>229 Prenatal Ultraviolet Exposure and Risk of Orofacial Clefts: A United States Birth Analysis</b>                      Presenter: Giap Vu (United States)                      Authors: Giap Vu, Sara Neimanis, Howard Langstein, Clinton Morrison                      Institution: University of Rochester, Rochester, NY, United States</p>

3:24 PM	<p><b>661 Impact of Suprazygomatic Maxillary Nerve Block on Opioid Use and Postoperative Outcomes in Syndromic and Non-Syndromic Children Undergoing Palatoplasty</b>                      Presenter: Krystof Stanek (United States)                      Authors: Carolyn Rogers-Vizena, Krystof Stanek, Lisa Nussbaum, Walid Alrayashi                      Institutions: Boston Children's Hospital, Boston, MA, United States; Harvard Medical School, Boston, MA, United States</p>
3:28 PM	<p><b>589 Pattern of Catch-Up Growth in Patients with Cleft Palate Using Longitudinal Physical Growth Data from Infancy to Adolescence</b>                      Presenter: Sungmi Jeon (South Korea)                      Authors: Sungmi Jeon, Sukwha Kim, Byung Jun Kim, Jee Hyeok Chung, Seung-Hak Baek                      Institution: Seoul Metropolitan Government-Seoul National University Boramae Medical Center, Seoul, South Korea</p>
3:32 PM	<p><b>44 Propeller Buccal Myomucosal Flap: Anatomical Study and Preliminary Experience in 25 Primary Cleft Palate Reconstructions</b>                      Presenter: Anthony DeLeonibus (United States)                      Authors: Anthony DeLeonibus, Vikas Kotha, Samantha Maharani, Brian Figueroa, Majid Rezaei, Nicholas Sinclair, Ying Ku, Lianne Mulvihill, Bahar Bassiri Garb, Antonio Rampazzo                      Institution: Cleveland Clinic Foundation, Cleveland, OH, United States</p>
3:36 PM	<p><b>Discussion</b></p>

3:45 – 5:15 PM Room: Elwha A	<b>FREE PAPER SESSION 9A – NEUROCOGNITION, CRANIAL HEALING, AND COMPLICATIONS</b> Session Chairs: Chris Forrest (Canada), Enrico Ghizoni (Brazil)
3:45 PM	<b>408 ART and Craniosynostosis</b> Presenter: Madiha Søfteland (Sweden) Authors: Madiha Søfteland, Martjin Cornelissen, Lars Ladfors, Peter Tarnow, Giovanni Maltese, Ali Khatibi, Irene Mathijssen, Lars Kölby Institution: Institute for Clinical Sciences, Department of Plastic Surgery, Sahlgrenska University Hospital, Gothenburg, Sweden
3:49 PM	<b>499 Geospatial and Socioeconomic Disparities Influencing Craniosynostosis Management and Clinical Outcomes: A Retrospective Review</b> Presenter: Caitlyn Belza (United States) Authors: Caitlyn Belza, Lucy Sheahan, Amanda Gosman Institution: University of California, San Diego, San Diego, CA, United States
3:53 PM	<b>473 Craniofacial Surgery in a Low-Resource Setting: The Successes, Challenges, and Prospects</b> Presenter: Solomon Obiri-Yeboah (Ghana)* Authors: Solomon Obiri-Yeboah, Frank Nketia-Boakye, Robert Nii Lamy Larmie, Tuffour Apem Gyimah, Jonathan Olesu, Paul Frimpong, Richard Atuwu-Ampoh, Peter Donkor Institutions: Kwame Nkrumah University of Science and Technology, Kumasi, Ashanti Region, Ghana; Komfo Anokye Teaching Hospital, Kumasi, Ashanti Region, Ghana
3:57 PM	<b>142 Early Delays in Longitudinal Development in Single Suture Craniosynostosis</b> Presenter: Alexis Johns (United States) Authors: Alexis Johns, Christopher Tien, J Gordon McComb, Mark Urata Institutions: Children's Hospital Los Angeles, Los Angeles, CA, United States; USC Keck School of Medicine, Los Angeles, CA, United States
4:01 PM	Discussion
4:08 PM	<b>630 A Longitudinal Audit: Language Assessment of Children with Single Suture Craniosynostosis at 18 Months, 3, 5, and 7 Years of Age and the Implications for the Development of Multi-Disciplinary Team Care Pathways</b> Presenter: R. Susanna Carter (United Kingdom) Authors: R. Susanna Carter, Emma Scobie, Zoe Healey Institution: West Midlands Craniofacial Unit, Birmingham Children's Hospital, Birmingham, West Midlands, United Kingdom
4:12 PM	<b>291 Speech and Language Development, Hearing, and Feeding in Patients with Genetically Confirmed Crouzon Syndrome with Acanthosis Nigricans: A 36-Year Longitudinal Retrospective Review of Patients in the Oxford Craniofacial Unit</b> Presenter: Sarah Kilcoyne (United Kingdom) Authors: Sarah Kilcoyne, Paula Scully, Sarah Overton, Brockbank Sally, Gregory Thomas, Ching Rosanna, Steven Wall, Andrew Wilkie, David Johnson Institution: Oxford Craniofacial Unit, Oxford University Hospitals NHS Foundation Trust, John Radcliffe Hospital, Oxford, Oxfordshire, United Kingdom

4:16 PM	<b>598 Comparative Study on the Neurodevelopment Outcomes in Craniosynostosis Patients with SMAD6 Gene Variants</b> Presenter: Sofia Guernouche (France) Authors: Isabelle Verlut, Sofia Guernouche, Corinne Collet, Massimiliano Rossi, Federico Di Rocco Institution: Department of Pediatric Neurosurgery, HCL, Lyon, France
4:20 PM	<b>312 Prevalence of Reading Difficulties in 9-10-Year-Old Children in Sweden Born with Non-Syndromic Craniosynostosis</b> Presenter: Justin Parry Weinfeld (Sweden) Author: Justin Parry Weinfeld, Christina Persson, Christina Havstam, Lars Kölby, Peter Tarnow Institution: Sahlgrenska University Hospital, Gothenburg, Sweden
4:24 PM	Discussion
4:31 PM	<b>362 Three-Dimensional Animated Videos Improve Caregiver Craniosynostosis Education</b> Presenter: Katherine Zhu (United States) Authors: Katherine Zhu, Jonlin Chen, Matthew Heron, Yunong Bai, Sayantika Roy, Jacob Feitelberg, Sahana Kumar, Yukang Li, Eric Jackson, Robin Yang Institution: Department of Plastic and Reconstructive Surgery, Johns Hopkins University School of Medicine, Baltimore, MD, United States
4:35 PM	<b>619 Inhibition of miR-200a Regenerates Cranial Bone in Critical-Sized Rat and Sheep Skull Defects</b> Presenter: Amelia Hurley-Novatny (United States)* Authors: Amelia Hurley-Novatny, Terry Yin, Brian Andrews, Brad Amendt Institutions: University of Iowa Carver College of Medicine Medical Scientist Training Program, Iowa City, IA, United States; University of Iowa Department of Anatomy and Cell Biology, Iowa City, IA, United States; University of Iowa College of Dentistry, Iowa City, IA, United States
4:39 PM	<b>457 3D Printed Beta-Tricalcium Phosphate (<math>\beta</math> –TCP) Scaffolds Augmented with Dipyridamole Stimulate Bone Regeneration in an In Vivo Translational Pediatric Pig Model without Disruption of Facial Symmetry</b> Presenter: Alexandra Verzella (United States) Authors: Alexandra Verzella, Evellyn DeMitchell-Rodriguez, Chen Shen, Allison Diaz, Andrea Torroni, Lauren Yarholar, Nick Tovar, Vasudev Vivekenand Nayak, Jill Schechter, Andre Alcon, Paulo Coehlo, Bruce Cronstein, Lukasz Witek, Roberto Flores Institution: NYU Grossman School of Medicine, New York, NY, United States
4:43 PM	<b>261 When to Call a Plastic Surgeon for a Cranioplasty? A Risk Assessment Scoring System</b> Presenter: Akriti Choudhary (United States) Authors: Akriti Choudhary, Emily Chwa, Rushmin Khazhanchi, Bianca Di Chiaro, Jing Chen Zhang, Nicolas Kaplan, Gursant Atwal, Chad Purnell Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States
4:47 PM	Discussion

4:54 PM	<p><b>533 Utilizing Machine Learning for Objective Assessment of Craniosynostosis Severity</b>                      Presenter: Tareq Abdel Alim (The Netherlands)                      Authors: Marie-Lise van Veelen, Tareq Abdel Alim, Irene Mathijssen, Gennady Roshchupkin                      Institution: Erasmus University Medical Center, Rotterdam, The Netherlands</p>
4:58 PM	<p><b>596 Contouring Cranioplasty with Carbonated Calcium Phosphate Cement in Syndromic Craniosynostosis: Aesthetics and Long-Term Safety</b>                      Presenter: Zachary Zapatero (United States)                      Authors: Connor Wagner, Zachary Zapatero, Matthew Pontell, Sameer Shakir, Emily Xu, Emily Zhang, Jordan Swanson, Scott Bartlett, Jesse Taylor                      Institution: The Children’s Hospital of Philadelphia, Philadelphia, PA, United States</p>
5:02 PM	<p><b>285 A Normative 3D Imaging Sample to Assess Cranial Growth Following Bifrontal Orbital Remodelling for Metopic Synostosis</b>                      Presenter: Jonathan Burge (Australia)                      Authors: Jonathan Burge, Matthew Fell, Tony Penington, Peter Claes, Aaron Kovacs, Robert Reitmaier, Paolo Cattaneo, Michelle Ling, Hye-Sung Park                      Institutions: Royal Children’s, Melbourne, Vic, Australia; University of Melbourne, Melbourne, Vic, Australia</p>
5:06 PM	<p><b>Discussion</b></p>

3:45 – 5:15 PM Room: Elwha B	<p><b>FREE PAPER SESSION 9B – CRANIOFACIAL MICROSOMIA</b>                      Session Chairs: Rolando Prada (Columbia), Peter Anderson (Australia)</p>
3:45 PM	<p><b>325 Characterizing Mandibular Growth Patterns in Patients with Craniofacial Microsomia</b>                      Presenter: Philip Bystrom (United States)                      Authors: Philip Bystrom, Sobhi Kazmouz, Akriti Choudhary, Austin Seaman, Kyle Bartelt, Bianca DiChiaro, Shreya Raman, Linping Zhao, Chad Purnell                      Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States</p>
3:49 PM	<p><b>470 Craniofacial Microsomia: Accelerating Research and Education (CARE)</b>                      Presenter: Craig Birgfeld (United States)                      Authors: Craig Birgfeld, Nicola Stock, Carrie Heike                      Institution: Seattle Children’s Hospital, Seattle, WA, United States</p>
3:53 PM	<p><b>187 Application of Augmented Reality Based on Automatic Markerless Registration for Facial Plastic and Reconstructive Surgery: A Validation Study</b>                      Presenter: Young Chul Kim (South Korea)                      Authors: Young Chul Kim, Jong Woo Choi                      Institution: Asan Medical Center, Seoul, South Korea</p>
3:57 PM	<p><b>319 Considering the Third Dimension: Maxillary and Mandibular Asymmetry in Patients with Cleft Lip and Palate Undergoing Orthognathic Surgery</b>                      Presenter: Lauren Salinero (United States)                      Authors: Lauren Salinero, Leigh Friedman, Connor Wagner, Carlos Barrero, Matthew Pontell, Jordan Swanson, Scott Bartlett, Michelle Scott, Hyun-Duck Nah, Jesse Taylor                      Institution: Division of Plastic, Reconstructive, and Oral Surgery, The Children’s Hospital of Philadelphia, Philadelphia, PA, United States</p>

4:01 PM	<p><b>Discussion</b></p>
4:09 PM	<p><b>334 Advanced Reconstructive Management for Severe Unilateral Mandibular Hypoplasia</b>                      Presenter: Steven Ovadia (United States)                      Authors: Steven Ovadia, Patrick Combs, Steven Henry, Raymond Harshbarger, Patrick Kelley                      Institutions: University of Texas at Austin Dell Seton Medical Center, Austin, TX, United States; Dell Children’s Medical Center, Austin, TX, United States</p>
4:13 PM	<p><b>595 Kaban-Pruzansky Grade Predicts Perioperative Airway Severity in Hemifacial Microsomia</b>                      Presenter: Jesse Taylor (United States)                      Authors: Carlos Barrero, Matthew Pontell, Isabel Ryan, Larissa Wietlisbach, Connor Wagner, Lauren Salinero, Jordan Swanson, Eric Liao, Scott Bartlett, Jesse Taylor                      Institution: Children’s Hospital of Philadelphia, Philadelphia, PA, United States</p>
4:17 PM	<p><b>97 (Not) Talking the Talk: The Role of Primary Language in Velopharyngeal Insufficiency</b>                      Presenter: Marina Shenouda (United States)                      Authors: Marina Shenouda, Kylie Swiekatowski, Phuong Nguyen                      Institution: UTHealth, Houston, TX, United States</p>
4:21 PM	<p><b>301 Morphological and Quantitative Study of the Inferior Alveolar Nerve Canal in Hemifacial Microsomia</b>                      Presenter: Xin Li (China)*                      Author: Xin Li                      Institution: Shanghai Ninth People’s Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China</p>
4:25 PM	<p><b>Discussion</b></p>
4:33 PM	<p><b>415 Preliminary Study of the Accuracy and Safety of Robot-Assisted Mandibular Distraction Osteogenesis with Electromagnetic Navigation in Hemifacial Microsomia Using Rabbit Models</b>                      Presenter: Ziwei Zhang (China)*                      Author: Ziwei Zhang                      Institution: Department of Plastic and Reconstructive Surgery, Shanghai Ninth People’s Hospital, Shanghai JiaoTong University School of Medicine, Shanghai, China</p>
4:37 PM	<p><b>616 Orthognathic Surgery for Hemifacial Microsomia: Considerations after Costochondral Grafting</b>                      Presenter: Hyun-Duck Nah (United States)                      Authors: Matthew Pontell, Carlos Barrero, Connor Wagner, Lauren Salinero, Jordan Swanson, Jesse Taylor, Scott Bartlett, Hyun-Duck Nah                      Institution: Children’s Hospital of Philadelphia, Philadelphia, PA, United States</p>
4:41 PM	<p><b>614 Costochondral Grafts for Hemifacial Microsomia: 24-Year Experience of a Single Surgeon</b>                      Presenter: Scott Bartlett (United States)                      Authors: Carlos Barrero, Dillan Villavisanis, Larissa Wietlisbach, Matthew Pontell, Connor Wagner, Lauren Salinero, Jordan Swanson, Jesse Taylor, Hyun-Duck Nah, Scott Bartlett                      Institution: Children’s Hospital of Philadelphia, Philadelphia, PA, United States</p>

4:45 PM	<b>230</b> <b>99mTc-MDP Bone Scintigraphy Can Be a Novel Method for Distinguishing Condylar Osteochondroma from Unilateral Condylar Hyperplasia: A Retrospective Diagnostic Test Study</b> Presenter: Hongpu Wei (China)* Authors: Hongpu Wei, Chen Zhang, Jiewen Dai, Xudong Wang Institution: Department of Oral and Craniomaxillofacial Surgery, Shanghai Ninth People's Institution: Hospital, Shanghai, China
4:49 PM	<b>Discussion</b>
4:56 PM	<b>111</b> <b>Morphological Features of Skeletal Dentofacial Asymmetry and Efficacy of Surgery: First Approach in Treating Skeletal Dentofacial Asymmetry with Orthognathic Surgery</b> Presenter: Zhewei Chen (China) Authors: Zhewei Chen, Bin Yang Institution: CAMS&PUMC Plastic Surgery Hospital, Beijing, Beijing, China
5:00 PM	<b>120</b> <b>Velopharyngeal Dysfunction in Craniofacial Microsomia: A Retrospective Cohort Study and Systematic Review of the Literature</b> Presenter: Wietse Rooijers (The Netherlands) Authors: Wietse Rooijers, Ruben Renkema, Pauline Tio, Karan Ramdat Misier, Henriette Poldermans, Jet de Gier, Eppo Wolvius, David Dunaway, Bonnie Padwa, Linda Caron, Maarten Koudstaal Institution: Erasmus MC, Rotterdam, The Netherlands
5:04 PM	<b>423</b> <b>Neuromuscular Electrical Stimulation Therapy Improves Masseter Muscle Function in Craniofacial Microsomia: A Randomized Controlled Trial</b> Presenter: Yan Zhang (China)* Author: Yan Zhang Institution: Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China
5:08 PM	<b>Discussion</b>
6:30 PM	<b>Bus Transfer from Hyatt Regency Seattle to Museum of Flight</b>
7:00 – 10:30 PM	<b>Gala Dinner – Museum of Flight</b> Black Tie Attire; Tickets required

<b>Friday, September 8, 2023</b> Scientific Program	
<b>Room:</b> Foss, Duckabush and Cowlitz	<b>POSTER SESSION 3</b> Facial Trauma, Clefts and Encephaloceles, Basic Science, and Microsurgery  Open for viewing from first Coffee Break to last session. Poster presentations will take place during Lunch Break.
7:15 – 8:25 AM <b>Room: Elwha</b>	<b>ISCFS BUSINESS MEETING</b> (ISCFS ACTIVE VOTING MEMBERS ONLY) Secretary-Treasurer, Moderator: Irene Mathijssen (The Netherlands)
7:30 – 8:30 AM <b>Room: Queets</b>	<b>Young Surgeons Committee Meeting</b> Chair: Ben Massenburg (United States) Brainstorming session on the integration of the new resident, fellow, and young surgeon membership of the ISCFS.
8:30 – 8:35 AM <b>Room: Elwha</b>	<b>Transfer of Presidency</b> Richard Hopper (United States)
8:35 – 8:45 AM	<b>Announcement of 21<sup>st</sup> ISCFS Congress</b> David Mu (China)
8:45 – 9:30 AM <b>Room: Elwha</b>	<b>MONASTERIO LECTURE</b>
8:45 AM	<b>Introduction of Monasterio Lecturer</b> Richard Hopper (United States)
8:50 AM	<b>FERNANDO ORTIZ MONASTERIO LECTURE</b> <b>The Canada-Ukraine Surgical Aid Program: Reconstructing Casualties of War</b> Oleh Antonyshyn (Canada)
9:30 – 11:15 AM <b>Room: Elwha</b>	<b>FREE PAPER SESSION 10 – FACIAL TRAUMA</b> Session Chairs: Prasetyanugraheni Kreshanti (Indonesia), Edward Buchanan (United States)
9:30 AM	<b>202</b> <b>Analysis of Risk Factors for Traumatic Optic Neuropathy in Patients with Facial Trauma and Comparison of the Visual Outcomes of Management Strategies</b> Presenter: Yen-Ting Liu (Taiwan) Authors: Yen-Ting Liu, Pin-Ru Chen, Chia-Fang Chen, Pang-Yun Chou, Chih-Hao Chen, Han-Tsung Liao, Chien-Tzung Chen Institution: Department of Plastic and Reconstructive Surgery and Craniofacial Research Center, Chang Gung Memorial Hospital, Chang Gung University, Taoyuan, Taiwan

9:38 AM	<p><b>373 Microvascular Surgical Techniques for Mandibular Reconstruction of Self-Inflicted Gunshot Wounds</b>                      Presenter: Alexander Michael (United States)                      Authors: Alexander Michael, Brian Andrews                      Institution: University of Iowa Carver College of Medicine, Iowa City, IA, United States</p>
9:42 AM	<p><b>214 Outcome Analysis of Delayed Primary and Secondary Complex Orbital Reconstruction under Application of Computer-Assisted Intraoperative Navigation System</b>                      Presenter: Jia-Ruei Yang (Taiwan)                      Authors: Jia-Ruei Yang, Yu-Ying Chu, Han-Tsung Liao                      Institution: Division of Trauma Plastic Surgery, Department of Plastic and Reconstructive Surgery, Chang Gung Memorial Hospital, Linkou Medical Center, Taoyuan, Taiwan</p>
9:46 AM	<p><b>444 Is the Standard Algorithm in the Management of Frontal Sinus Fractures Still Valid? Evaluation of 125 Patients with Long-Term Results and Craniometric Measurements</b>                      Presenter: Guven Ozan Kaplan (Turkey)                      Authors: Mert Calis, Guven Ozan Kaplan, Kutluhan Yusuf Kucuk, Ahmet Yasir Altunbulak, Ayca Akgoz Karaosmanoglu, Ahmet Ilkay Isikay, Mehmet Emin Mavili, Gokhan Tuncbilek                      Institution: Hacettepe University Faculty of Medicine Department of Plastic Reconstructive and Aesthetic Surgery, Ankara, Turkey</p>
9:50 AM	Discussion
9:58 AM	<p><b>476 Gun Violence in America and the Impact on Craniomaxillofacial Injury</b>                      Presenter: Kelly Hoerger (United States)                      Authors: Kelly Hoerger, Avanti Badrinathan, Krish Shah, Erik Risa, Tyler Stumm, Howard Wang, Edward Davidson                      Institution: Case Western Reserve, University Hospitals, Cleveland, OH, United States</p>
10:02 AM	<p><b>374 Factors Influencing Functional Outcomes in Pediatric Orbital Trapdoor Fracture: A Retrospective Study</b>                      Presenter: Ching-En Chen (Taiwan)                      Authors: Ching-En Chen, Han-Tsung Liao                      Institutions: Division of Plastic and Reconstruction Surgery, Department of Surgery, Taipei Veterans General Hospital, Taipei, Taiwan; Division of Traumatic Plastic Surgery, Department of Plastic and Reconstructive Surgery, Linkou Chang-Gung Memorial Hospital, Taoyuan, Taiwan</p>
10:06 AM	<p><b>562 3D Printing of Orbital Floor Stamps: Feasibility and Efficacy in Reconstruction of Orbital Floor Fractures</b>                      Presenter: Eric Zeng (United States)                      Authors: Eric Zeng, Griffin Bins, Blake Dunson, Christopher Runyan                      Institution: Wake Forest School of Medicine, Winston-Salem, NC, United States</p>
10:10 AM	<p><b>461 Bite Worse Than Their Bark? Pediatric Facial Nerve Injuries Secondary to Dog Bites</b>                      Presenter: Raghav Upadhyaya (United States)                      Authors: Raghav Upadhyaya, Samuel Cole, Michael Klebuc, Amy Xue                      Institutions: Texas Childrens Hospital, Houston, TX, United States; Houston Methodist Hospital, Houston, TX, United States</p>

10:14 AM	Discussion
10:22 AM	<p><b>323 Mandibular Subcondylar Fracture: Improved Functional Outcomes in Selected Patients with Open Treatment</b>                      Presenter: Elisa Atamian (United States)                      Authors: Alex Gibstein, Meghan Miller, James Bradley, Kevin Chen, Elisa Atamian                      Institution: Northwell Health, NYC, NY, United States</p>
10:26 AM	<p><b>383 Intraoperative Ultrasound Assistance Improves Outcomes in Reduction of Zygomatic Arch Fracture</b>                      Presenter: Jia-Yuan Hsu (Taiwan)                      Authors: Jia-Yuan Hsu, Po-Cheng Huang                      Institution: Division of Plastic Surgery, Department of Surgery, National Taiwan University Hospital, Taipei City, Taiwan</p>
10:30 AM	<p><b>74 Orbital Fracture Repair in the Traumatic Brain Injury Patient</b>                      Presenter: Adarsha Malla (United States)                      Authors: Adarsha Malla, Bashar Hassan, Seray Er, Joshua Yoon, Eric Resnic, Cynthia Yusuf, Fan Liang, Robin Yang, Michael Grant                      Institutions: University of Maryland School of Medicine, Baltimore, MD, United States; Department of Neurosurgery, University of Maryland School of Medicine, Baltimore, MD, United States</p>
10:34 AM	<p><b>381 Translation of Virtual Reality Surgical Plans to the OR With Pre-Contoured, Patient-Specific Fixation Plates for Craniofacial Trauma</b>                      Presentation: Sydney Mathis (United States)                      Authors: Sydney Mathis, Isabel Scharf, Naji Bou Zeid, Linping Zhao, Chad Purnell, Pravin Patel, Lee Alkureishi                      Institution: University of Illinois at Chicago, Chicago, IL, United States</p>
10:38 AM	Discussion
10:51 AM	<p><b>400 The Utilization of Surgical Navigation in Acute Zygomatic Fracture Reduction and Fixation and Its Quantitative Outcome Assessment</b>                      Presenter: Yu-Ying Chu (Taiwan)                      Authors: Yu-Ying Chu, Han Tsung Liao                      Institution: Chang Gung Memorial Hospital, Taoyuan, Taiwan</p>
10:55 AM	<p><b>73 Time is Muscle: The Impact of Surgical Timing in Orbital Fracture Repair</b>                      Presenter: Bashar Hassan (United States)                      Authors: Bashar Hassan, Seray Er, Joshua Yoon, Eric Resnick, Cynthia Yusuf, Fan Liang, Richard Redett, Robin Yang, Michael Grant                      Institutions: Division of Plastic and Reconstructive Surgery, R. Adams Cowley Shock Trauma Center, Baltimore, MD, United States; Department of Plastic and Reconstructive Surgery, Johns Hopkins Hospital, Baltimore, MD, United States</p>

10:59 AM	<b>85 Efficacy and Safety of Expanded Polytetrafluoroethylene Implantation in the Correction of Long-Term Post-Traumatic Enophthalmos</b> Presenter: Sizheng Zhou (China) Authors: Sizheng Zhou, Liang Xu, Jie Yuan, Min Wei Institution: Shanghai Ninth People's Hospital, Shanghai, China
11:03 AM	<b>109 Preliminary Reports of Augmented-Reality Assisted Craniofacial Bone Fracture Reduction</b> Presenter: Xianxian Yang (China) Authors: Xianxian Yang, Li Lin, Haisong Xu, Gang Chai, Le Xie Institution: Department of Plastic and Reconstructive Surgery, Shanghai 9th People's Hospital, School of Medicine, Shanghai Jiao Tong University, Shanghai, China
11:07 AM	<b>Discussion</b>
11:15 – 11:35 AM Room: Exhibition	<b>Coffee Break in Exhibition</b>
11:35 AM – 1:10 PM Room: Elwha	<b>FREE PAPER SESSION 11 – ENDOSCOPIC STRIP CRANIECTOMY AND FRONTO-ORBITAL DISTRACTION</b> Session Chairs: Jesse Taylor (United States), Lars Kolby (Sweden)
11:35 AM	<b>544 Orbital and Eyelid Characteristics, Strabismus Severity, and Intracranial Pressure Control in Children with Apert Syndrome Treated by Early Endoscopic Strip Craniectomy Versus by Fronto-Orbital Advancement</b> Presenter: Melissa Kanack (United States) Authors: Linda Dagi, Mark Proctor, Jenny Dohlman, Sanjay Prabhu, Melissa Kanack, John Meara Institution: Boston Children's Hospital, Department of Plastic and Oral Surgery, Harvard Medical School, Boston, MA, USA
11:39 AM	<b>194 Long-Term Outcomes of Fronto-Orbital Distraction for Craniosynostosis with Brachycephaly and Oxycephaly</b> Presenter: Mariko Noto (Japan) Authors: Mariko Noto, Daisuke Sakahara, Ryoko Umaba, Noritsugu Kunihiro, Masamitsu Kuwahara, Keisuke Imai Institution: Department of Plastic & Reconstructive Surgery, Osaka City General Hospital, Osaka, Japan
11:43 AM	<b>636 Objective Measurement of Long-Term Shape Outcomes in Spring Surgery Versus Cranial Vault Remodeling</b> Presenter: Christopher Runyan (United States) Authors: Christopher Runyan, Blake Dunson, Griffin Bins, Ryan Layton, Larry Zhou, Lisa David Institution: Wake Forest Department of Plastic and Reconstructive Surgery, Winston-Salem, NC, United States

11:47 AM	<b>511 Endoscopic Strip Craniectomy with Post-Operative Helmet Orthosis for Craniosynostosis in the United Kingdom: Experience from the First 100 Cases</b> Presenter: Greg James (United Kingdom) Authors: Greg James, Ahmed Elawadly, Simon Eccles, David Dunaway, Adikarige Haritha Dulanka Silva, Noor ul Owase Jeelani, Juling Ong Institutions: Craniofacial Unit, Great Ormond Street Hospital, London, United Kingdom; University College London, London, United Kingdom; Department of Neurosurgery, Great Ormond Street Hospital, London, United Kingdom
11:51 AM	<b>Discussion</b>
11:58 AM	<b>482 Springs Versus Helmet: A 15-Year Experience with Minimally Invasive Treatment for Craniosynostosis</b> Presenter: Lawrence Lin (United States) Authors: Lawrence Lin, Carolina Romero-Narvaez, Eric Min, Jonathan Pindrik, Annie Drapeau, Ibrahim Khansa, Gregory Pearson Institutions: The Ohio State University Wexner Medical Center Department of Plastic and Reconstructive Surgery, Columbus, OH, United States; Nationwide Children's Hospital Section of Plastic and Reconstructive Surgery, Columbus, OH, United States
12:02 PM	<b>69 School-Age Anthropometric Outcomes After Open or Endoscopic Repair of Sagittal Craniosynostosis</b> Presenter: Kamlesh Patel (United States) Authors: Kamlesh Patel, Annahita Fotouhi, Gary Skolnick, Corinne Merrill, Katherine Hofmann, Esperanza Mantilla-Rivas, Brent Collett, Virginia Allhusen, Sybill Naidoo, Gary Rogers, Robert Keating, Matthew Smyth, Suresh Magge Institution: Washington University School of Medicine, St. Louis, MO, United States
12:06 PM	<b>358 Comparison of Long-Term Cognitive Outcomes of School-Age Children with Non-Syndromic Sagittal Craniosynostosis After Treatment with Either Endoscopic Strip Craniectomy or Open Surgery</b> Presenter: Suresh Magge (United States) Authors: Suresh Magge, Annahita Fotouhi, Virginia Allhusen, Brent Collett, Gary Skolnick, Sybill Naidoo, Matthew Smyth, Robert Keating, Gary Rogers, Kamlesh Patel Institutions: Division of Neurosurgery, Children's Hospital of Orange County, Orange, CA, United States; Department of Neurosurgery, University of California, Irvine, CA, United States
12:10 PM	<b>369 Towards Minimally Invasive Robotic Craniosynostosis Surgery: Development of a Novel Articulating Bone Cutting Tool</b> Presenter: Dale Podolsky (Canada) Authors: Dale Podolsky, Jones Law Meng, James Drake, John Phillips Institutions: The Hospital for Sick Children, Toronto, Ontario, Canada; University of Toronto, Toronto, Ontario, Canada
12:14 PM	<b>Discussion</b>

12:22 PM	<p><b>385 Advantage of Endoscope-Assisted Suturectomy for Syndromic Craniosynostosis</b>                      Presenter: Masafumi Kamata (Japan)                      Authors: Masafumi Kamata, Reina Kitabata, Makoto Hikosaka, Tsuyoshi Kaneko, Ako Takamatsu, Mayuka Uchida, Hideki Ogiwara, Kenichi Usami                      Institution: Department of Plastic and Reconstructive Surgery, National Center for Child Health and Development, Tokyo, Japan</p>
12:26 PM	<p><b>505 Fronto-Orbital Advancement and Remodeling (FOAR) with Distraction in Syndromic Craniosynostosis: A New Voyage of Discovery</b>                      Presenter: Greg Thomas (United Kingdom)                      Authors: David Johnson, Greg Thomas, Rosie Ching, Steven Wall, Fintan Sheerin, Tim Lawrence, Shailendra Magdum, Jayaratnam JahaMohan                      Institution: Oxford Craniofacial Unit, Oxford, United Kingdom</p>
12:30 PM	<p><b>537 Long-Term Results of Distraction of Fronto-Orbital Segment as a Non-Vascularized Bone Graft in Craniosynostotic Patients</b>                      Presenter: Mert Calis (Turkey)                      Authors: Gokhan Tuncbilek, Guven Ozan Kaplan, Elif Gunay Bulut, Mert Calis                      Institution: Hacettepe University, Department of Plastic Reconstructive and Aesthetic Surgery, Ankara, Turkey</p>
12:34 PM	Discussion
12:42 PM	<p><b>565 Design and Manufacturing of a Novel Distractor for Unicoronal Craniosynostosis Correction</b>                      Presenter: Alessandro Borghi (Italy)                      Authors: Chiara Bregoli, Jacopo Fiocchi, Carlo Alberto Biffi, Silvia Schievano, David Dunaway, Noor Ul Owase Jeelani, Ausonio Tuissi, Alessandro Borghi                      Institutions: Great Ormond Street Institute of Child Health, London, UK, United Kingdom; Great Ormond Street Hospital, London, UK, United Kingdom; Durham University, Durham, UK, United Kingdom</p>
12:46 PM	<p><b>679 Implications of Distraction Osteogenesis and Fronto-Orbital Advancement on the Skull Base: A Radiographic Metric Analysis in Unicoronal Synostosis</b>                      Presenters: Kiersten Woodyard De Brito (United States)*                      Authors: Kiersten Woodyard De Brito, Gustavo Leon, Scott Rapp                      Institution: Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States</p>
12:50 PM	<p><b>637 Fronto-Facial Distraction: Personal Reflections of 152 Cases Undertaken over 22 Years</b>                      Presenter: David Dunaway (United Kingdom)                      Author: David Dunaway                      Institutions: Great Ormond Street Hospital for Children, London, United Kingdom; University College London, London, United Kingdom</p>
12:54 PM	<p><b>80 Fronto-Orbital Distraction in Unicoronal Craniosynostosis: A 3-Year Follow-Up Study</b>                      Presenter: Lars Kölby (Sweden)                      Authors: Lars Kölby, Jonas Mellgren, Karin Säljö, Madiha Bhatti-Søfteland, Peter Tarnow, Robert Olsson, Tobias Hallén, Giovanni Maltese                      Institution: Institute of Clinical Sciences, Department of Plastic Surgery, Sahlgrenska University Hospital, Gothenburg, Sweden</p>
12:58 PM	Discussion

11:35 AM — 1:10 PM Room: Queets	<p><b>PANEL 3: CRANIOFACIAL ORTHODONTIC PANEL: SUCCESSES, CHALLENGES AND OPPORTUNITIES</b>                      Panel Chairs: Pedro Santiago (United States), Hitesh Kapadia (United States), Pradip Shetye (United States)</p>
11:35 AM	<p><b>Welcome Remarks and First Lecture</b>  <b>Nasoalveolar Molding: Controversy or Skepticism? Myths, Facts and Opportunities</b>                      Presenter: Pedro E. Santiago (United States)                      Institution: Duke University, Durham, NC, United States</p>
11:45 AM	<p><b>Infant Ear Molding</b>                      Presenter: Lindsay A. Schüster (United States)                      Institution: University of Pittsburgh Medical Center, Children's Hospital, Pittsburgh, PA, United States</p>
11:55 AM	<p><b>3D Tools for Tooth Identification in Cleidocranial Dysplasia</b>                      Presenter: Kathryn Preston (United States)                      Institution: Phoenix Children's. Phoenix, AZ, United States</p>
12:05 PM	<p><b>Orthodontic Considerations in Treacher Collins Syndrome</b>                      Presenter: Hitesh Kapadia (United States)                      Institution: Seattle Children's, Seattle, WA, United States</p>
12:15 PM	<p><b>Alveolar Bone Grafting: Consensus, Conflict and Confusion</b>                      Presenter: Patricia Beales (United States)                      Institution: Phoenix Children's, Phoenix, AZ, United States</p>
12:25 PM	<p><b>Long Term Outcome of Le Fort III Distraction in Patients with Syndromic Craniosynostosis</b>                      Presenter: Pradip R. Shetye (United States)                      Institution: NYU Langone, New York, NY, United States</p>
12:35 PM	<p><b>Management of the End-Stage Skeletal Discrepancy in Patients with Syndromic Craniosynostosis</b>                      Presenter: Srinivas Susarla (United States)                      Institution: Seattle Children's, Seattle, WA, United States</p>
12:45 PM	Discussion
1:10 — 1:55 PM Posters in Rooms: Foss, Duckabush, and Cowlitz	Lunch in Exhibition + Poster Judging
1:55 — 2:55 PM Room: Elwha	<p><b>PANEL 4: THE EFFECT OF AGING ON CRANIOFACIAL OUTCOMES</b>                      Panelists: Irene Mathijssen (The Netherlands), Cassio Raposo do Amaral (Brazil), Scott Bartlett (United States), Giovanna Paternoster (France), JW Choi (South Korea)</p>

2:55 – 3:50 PM Room: Elwha	<b>FREE PAPER SESSION 12 – METOPIC SYNOSTOSIS</b> Session Chairs: Federico Di Rocco (France), Craig Birgfeld (United States)
2:55 PM	<b>209 Brain Volume in Metopic Synostosis</b> Presenter: Linda Gaillard (The Netherlands) Authors: Linda Gaillard, Meike Tjaberinga, Marjolein Dremmen, Irene Mathijssen, Henri Vrooman Institution: Erasmus MC – Sophia Children’s Hospital, University Medical Center Rotterdam, Department of Plastic and Reconstructive Surgery and Hand Surgery, Rotterdam, The Netherlands
2:59 PM	<b>288 The Natural History of Untreated Metopic Synostosis: A Morphological Study</b> Presenter: Ahmed Elawadly (United Kingdom) Authors: Ahmed Elawadly, Luke Smith, Alessandro Borghi, Dulanka Silva, Juling Ong, David Dunaway, Owase Jeelani, Greg James Institution: Great Ormond Street Hospital, London, United Kingdom
3:03 PM	<b>554 The Spectrum of Severity in 368 Patients with Metopic Craniosynostosis: An Update to the CranioRate™ Machine Learning Algorithm</b> Presenter: Anne Glenney (United States) Authors: Anne Glenney, Joseph Mocharnuk, Griffin Bins, Erin Anstadt, Lucas Dvoracek, Megan Pencek, Wenzheng Tao, Ross Whitaker, Lisa David, Christopher Runyan, Michael Golinko, Michael Alperovich, Jesse Taylor, Jordan Swanson, Jesse Goldstein Institution: University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA, United States
3:07 PM	<b>693 Radiographic Severity Associated with Worse Executive Functioning in Children with Metopic Craniosynostosis</b> Presenter: Mariana Almeida (United States) Authors: Mariana Almeida, David Alper, Carlos Barrero, Mica Williams, Jean Carlo Rivera, Jordan Swanson, John Persing, Michael Alperovich Institution: Yale School of Medicine, New Haven, CT, United States
3:11 PM	<b>520 Machine Learning Analysis of Post-Operative Results in Metopic Craniosynostosis</b> Presenter: Erin Anstadt (United States) Authors: Erin Anstadt, Anne Glenney, Joseph Mocharnuk, Lucas Dvoracek, Justin Beiriger, Wenzheng Tao, Madeleine Bruce, John Smetona, Ross Whitaker, Jesse Goldstein Institution: University of Pittsburgh Medical Center, Pittsburgh, PA, United States
3:15 PM	<b>Discussion</b>
3:22 PM	<b>94 Impact of Perioperative Hypotension and Blood Loss on Brain Injury Biomarkers in Metopic Craniosynostosis Surgery</b> Presenter: Ingrid Stubelius (Sweden) Authors: Ingrid Stubelius, Martin Thorsson, Isak Michaëlsson, Christopher Lundborg, Peter Tarnow, Giovanni Maltese, Madiha Bhatti Söfteland, Thomas Skoglund, Tobias Hallén, Lars Kölby Institution: University of Gothenburg, Institute of Clinical Sciences, Department of Anaesthesia and Intensive Care Medicine, Sahlgrenska University Hospital, Gothenburg, Sweden

3:26 PM	<b>404 Assessing Retinal Status in Children with Non-Syndromic Trigenocephaly, Using Spectral-Domain Optical Coherence Tomography</b> Presenter: Sumin Yang (The Netherlands) Authors: Sumin Yang, Sjoukje Loudon, Irene Mathijssen Institution: Erasmus Medical Center, Rotterdam, The Netherlands
3:30 PM	<b>534 Toward a Normative, Optimal Interfrontal Angle Atlas for Objective Diagnosis of Metopic Craniosynostosis</b> Presenter: Austin Tapp (United States) Authors: Austin Tapp, Esperanza Mantilla-Rivas, David García-Mato, Monica Manrique, Kathleen N. Johnson, Gary F. Rogers, Marius George Linguraru Institution: Children’s National Hospital, Washington, DC, United States
3:34 PM	<b>628 Is Less More? Conservatism in the Treatment of Trigenocephaly</b> Presenter: Jochem Spoor (The Netherlands) Authors: Jochem Spoor, Sarah Versnel, Mieke Pleumeekers, Oscar Eelkman Rooda, Marie-Lise van Veelen, Irene Mathijssen Institution: Erasmus MC, Rotterdam, The Netherlands
3:38 PM	<b>539 Full Thickness Cranial Defect Healing Following Fronto-Orbital Advancement for Non-Syndromic Craniosynostosis</b> Presenter: Justin-James Chua (United States) Authors: Justin-James Chua, Paymon Sanati-Mehrizi, Ezgi Mercan, Amy Lee, Richard Ellenbogen, Craig Birgfeld, Richard Hopper Institution: University of Washington, Seattle, WA, United States
3:42 PM	<b>Discussion</b>
3:50 – 4:58 PM Room: Elwha	<b>FREE PAPER SESSION 13 – SAGITTAL SYNOSTOSIS</b> Session Chairs: Steven Wall (United Kingdom), Lisa David (United States)
3:50 PM	<b>225 Neurocognitive Outcome in Sagittal Synostosis Patients</b> Presenter: Melissa Kurniawan (The Netherlands) Authors: Melissa Kurniawan, Jolanda Okkerse, Gwen Dieleman, Irene Mathijssen, Clemens Dirven, Marie-Lise van Veelen Institution: Erasmus Medical Center, Rotterdam, The Netherlands
3:58 PM	<b>712 Creation and Implementation of Global and Regional Measures of Scaphocephaly</b> Presenter: Blake Dunson (United States) Authors: Blake Dunson, Griffin Bins, Ryan Layton, Larry Zhou, Sam Kogan, Lisa David, Christopher Runyan Institution: Atrium Health Wake Forest Baptist, Winston-Salem, NC, United States
4:02 PM	<b>Discussion</b>

4:10 PM	<p><b>54 Morphometric Outcomes of Non-Syndromic Sagittal Synostosis Following Open Middle and Posterior Cranial Vault Expansion</b>                      Presenter: Benjamin Massenburg (United States)                      Authors: Benjamin Massenburg, Ezgi Mercan, Craig Birgfeld, Srinivas Susarla, Amy Lee, Richard Ellenbogen, Richard Hopper                      Institutions: Seattle Children's Hospital, Seattle, WA, United States; University of Washington, Seattle, WA, United States</p>
4:14 PM	<p><b>451 The Near InfraRed Spectroscopy: A Device to Monitor the Child During Anesthesia for the Surgical Correction of Scaphocephaly</b>                      Presenter: Julie Chauvel-Picard (France)                      Authors: Sofia Guernouche, Sylvie Combet, Matthieu Vinchon, Alexandru Szathmari, Pierre-Aurélien Beuriat, Julie Chauvel-Picard, Federico Di Rocco                      Institution: HCL, Lyon, France</p>
4:18 PM	<p><b>528 Deep Learning-Based Segmentation of Intracranial Volume and Calvarial Bones in Pre- and Post-Operative CT-Images of Children with Sagittal Craniosynostosis</b>                      Presenter: Jesper Unander-Scharin (Sweden)                      Authors: Jesper Unander-Scharin, Johan Nysjö, Per Enblad, Daniel Nowinski, Robin Visvanathar                      Institution: Uppsala University, Uppsala, Uppland, Sweden</p>
4:22 PM	<p><b>545 The Rate of Cesarean Section is Increased in Births of Children with Sagittal Synostosis: A Population-Based Study</b>                      Presenter: Lina Elfving (Finland)                      Authors: Lina Elfving, Arja Heliövaara, Mika Gissler, Junnu Leikola, Pia Vuola                      Institution: University of Helsinki, Helsinki, Uusimaa, Finland</p>
4:26 PM	Discussion
4:38 PM	<p><b>287 A Pilot Study for the Use of Machine Learning to Predict Spring Assisted Cranioplasty Outcomes in Sagittal Synostosis</b>                      Presenter: Itxasne Antúnez Saéiz (United Kingdom)                      Authors: Itxasne Antúnez Sáenz, Ane Alberdi Aramendi, Silvia Schievano, Juling Ong, David Dunaway, Noor Ul Owase Jeelani, Alessandro Borghi                      Institutions: University College London, London, United Kingdom; Mondragon Unibertsitatea, Arrasate-Mondragón, Spain</p>
4:42 PM	<p><b>677 Morphology and Outcomes in Combined Sagittal and Unilateral Coronal Synostosis</b>                      Presenter: Damini Tandon (United States)                      Authors: Damini Tandon, Jackson Burton, Madeline Karsten, Gary Skolnick, Sybill Naidoo, Mark Proctor, Matthew Smyth, Kamlesh Patel                      Institution: Washington University in St. Louis, St. Louis, MO, United States</p>
4:46 PM	Discussion
4:55 PM Room: Elwha	<p><b>CLOSING REMARKS</b>                      Richard Hopper (United States)</p>
5:00 PM Room: Elwha	<b>20TH ISCFS CONGRESS ADJOURNS</b>

**Wednesday, September 6, 2023**

**Poster Session 1**

Craniosynostosis, Neurosurgical Considerations and Virtual Planning

Open for viewing from first Coffee Break to last session. Poster presentations will take place during Lunch Break.

**Poster N°: 1 | Abstract N°: 115**

**Syringomyelia in Crouzon/Pfeiffer Syndrome; Watch the Back Long Term**

Presenter: Iris Cuperus (The Netherlands)  
 Authors: Iris Cuperus, Workgroup Craniosynostosis ERN CRANIO  
 Institution: Erasmus Medical Center, Rotterdam, The Netherlands

**Poster N°: 2 | Abstract N°: 290**

**A 360-Degree Approach to Syndromic Faciocraniosynostoses – An Early Experience with a Functional Concept**

Presenter: Suhas Udayakumaran (India)  
 Authors: Suhas Udayakumaran, Pramod Subhash  
 Institution: Amrita Institute of Medical Sciences and Research Centre, Kochi, Kerala, India

**Poster N°: 3 | Abstract N°: 364**

**Evaluating Surgical Outcomes Following Reduction Cranioplasty for Hydrocephalic Macrocephaly: A Systematic Review**

Presenter: Steven Moura (United States)  
 Authors: Steven P. Moura, Alexandra Center, Manasa Kalluri, Jessica Blum, Ellen Shaffrey, Samuel Lee, Jingtang Ng, Catharine Garland, Daniel Cho  
 Institution: University of Wisconsin-Madison, Madison, WI, United States

**Poster N°: 4 | Abstract N°: 365**

**Neurosurgical Nuances of 75 Syndromic Craniosynostosis Patients who Underwent PVDO**

Presenter: Enrico Ghizoni (Brazil)  
 Authors: Enrico Ghizoni, Cássio Eduardo Raposo-Amaral, João Pedro Leite Pereira, Letícia Mansano de Souza, Camila Gomes Martins, César Augusto Raposo-Amaral  
 Institutions: University of Campinas, Campinas, SP, Brazil; Sobrapar, Campinas, SP, Brazil

**Poster N°: 5 | Abstract N°: 436**

**A Case Series of Midline Sagittal Skull Indentation in Adolescence**

Presenter: Mandy Flor (United States)  
 Authors: Mandy Flor, Arlene Rozzelle, Deniz Altinok, Neena Marupudi  
 Institution: Wayne State University School of Medicine – Division of Plastic Surgery, Detroit, MI, United States

**Poster N°: 6 | Abstract N°: 439**

**Case Report of an Infant with Frontal Congenital Outer Table Skull Depression**

Presenter: Arlene Rozzelle (United States)  
 Authors: Arlene Rozzelle, Mandy Flor, Neena Marupudi  
 Institutions: Children's Hospital of Michigan – Department of Plastic Surgery, Detroit, MI, United States; Wayne State University School of Medicine – Division of Plastic Surgery, Detroit, MI, United States

**Poster N°: 7 | Abstract N°: 532**

**The Fate of the Frozen Bone Flap: Quantitative Assessment of Bone Flap Resorption Following Delayed Autologous Cranioplasty**

Presenter: Sai Cherukuri (United States)

Authors: Sai Cherukuri, Eugene Zheng, Andrew Emanuels, Jamie Van Gompel, Jonathan Morris, Samir Mardini, Waleed Gibreel

Institution: Mayo Clinic, Rochester, MN, United States

**Poster N°: 8 | Abstract N°: 555**

**Multidisciplinary Treatment of a Complex Pediatric Dermatofibrosarcoma Protuberans of the Scalp**

Presenter: Eugene Zheng (United States)

Authors: Eugene Zheng, Sai Cherukuri, Andrew Emanuels, Edward Ahn, Christopher Arpey, Samir Mardini, Waleed Gibreel

Institution: Mayo Clinic, Rochester, MN, United States

**Poster N°: 9 | Abstract N°: 710**

**Management of Sinogenic Intracranial Complications in Pediatric Patients: Role of Plastic Surgery in Treatment**

Presenter: Moreen Njoroge (United States)\*

Authors: Moreen Njoroge, Cynthia Yusuf, Pasha Shakoori, Mari Groves, Christopher Lopez, Robin Yang

Institutions: Johns Hopkins University School of Medicine, Baltimore, MD, United States; Duke University School of Medicine, Durham, NC, United States

**Poster N°: 10 | Abstract N°: 19**

**Early Bone Reformation after Cranial Vault Remodeling for Sagittal Craniosynostosis: 3D Measurement and Reformation Pattern**

Presenter: Sarut Chairisawadisuk (Thailand)

Authors: Sarut Chairisawadisuk, Kantapat Phakdeewisetkul, Kanin Sirichatchai, Sasima Tongchai, Elie Hammam, Vani Prasad, Mark Moore

Institutions: Division of Plastic Surgery, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand; Cleft and Craniofacial SA, Women's and Children's Hospital, North Adelaide, SA, Australia

**Poster N°: 11 | Abstract N°: 31**

**Comparing Clinical Outcomes in Bone Particulate Autologous and Alloplastic Pediatric Cranioplasty**

Presenter: Matthew Greydanus (United States)

Authors: Matthew Greydanus, Nikki Rezanian, Robert Roth, Amir Aminzada, Amir Dorafshar

Institution: Rush University Hospital, Chicago, IL, United States

**Poster N°: 12 | Abstract N°: 40**

**Craniometric and Volumetric Analyses of Normocephalic and Scaphocephalic Patients with Non-Syndromic Single-Suture Sagittal Craniosynostosis**

Presenter: Alexander Velazquez (United States)

Authors: Alexander Velazquez, Michael Lebharr, Martin McCandless, Kristen Weaver, James Shiflett, Ian Hoppe, Laura Humphries

Institution: University of Mississippi Medical Center School of Medicine, Jackson, MS, United States

**Poster N°: 13 | Abstract N°: 51**

**Posterior Cranial Retraction Combined with Bilateral Parietal Distraction for Children with Non-Syndromic Craniosynostosis**

Presenter: Weimin Shen (China)

Authors: Weimin Shen, Jie Cui, Yi Ji

Institution: Department of Plastic Surgery, Children's Hospital of Nanjing Medical University, Nanjing, China

**Poster N°: 14 | Abstract N°: 98**

**What to Do with Incidental Finding of a Fused Sagittal Suture?**

Presenter: Jennifer Strahle (United States)

Authors: Jennifer Strahle, Sarah Chiang, Allyson Alexander, Craig Birgfeld, Christopher Bonfield, Daniel Couture, Lisa David, Brooke French, Barbu Gociman, Jesse Goldstein, Michael Golinko, John Kestle, Amy Lee, Suresh Magge, Ian Pollack, Alex Rottgers, Christopher Runyan, Matthew Smyth, C Corbett Wilkinson, Gary Skolnick, Kamlesh Patel, Synostosis Research Group (SynRG)

Institution: St. Louis Children's Hospital, St. Louis, MO, United States

**Poster N°: 15 | Abstract N°: 138**

**Multiple Revolution Osteotomies in Trigenocephaly**

Presenter: Ana Cabezas (Colombia)

Authors: Ana Cabezas, Diego Caycedo, Marcela Cabal, Luis Santacruz

Institutions: Universidad del Valle, Cali, Valle, Colombia; Hospital Universitario del Valle, Cali, Valle, Colombia

**Poster N°: 16 | Abstract N°: 186**

**Comparing the Squamosal to Coronal Suture Relationship Between Unicoronal and Bicoronal Synostosis**

Presenter: Trent Schimmel (Canada)

Authors: Trent Schimmel, Swetha Prakash, Emilie Robertson, Vivek Mehta, Curtis Budden

Institution: University of Alberta, Edmonton, AB, Canada

**Poster N°: 17 | Abstract N°: 197**

**Incidence and Factors of Secondary Craniosynostosis: A Single-Center Retrospective Research**

Presenter: Songchunyan Zhang (China)

Authors: Songchunyan Zhang, Cenbin Dong

Institution: Children's Hospital of Fudan University, Shanghai, China

**Poster N°: 18 | Abstract N°: 200**

**The Simultaneous Use of Spring and Distraction Osteogenesis as a Safe and Stable Method for Coronal-Suture Craniosynostosis**

Presenter: Yi Ji (China)

Authors: Yi Ji, Weimin Shen

Institution: Children's Hospital of Nanjing Medical University, Nanjing, Jiangsu, China

**Poster N°: 19 | Abstract N°: 212**

**Optimal Outcome Reporting for Single-Suture Craniosynostosis: A Novel Metric for Benchmarking Quality**

Presenter: Christopher Hughes (United States)

Authors: Christopher Hughes, Lauren Schmidtberg, Monica Maloney, Megan Anderson, David Hersh, Markus Bookland, Jonathan Martin, Charles Castiglione

Institutions: Connecticut Children's, Hartford, CT, United States;

University of Connecticut School of Medicine, Farmington, CT, United States

**Poster N°: 20 | Abstract N°: 219**

**Sand Dollar & Staves Technique for Treatment of Unilateral Lambdoid Craniosynostosis in Non-Syndromic Patients: A Comparative Analysis of Operative Metrics and Aesthetic Outcomes**

Presenter: Andrew Ferry (United States)  
 Authors: Andrew Ferry, Tareck Haykal, Amjed Abu-Ghname, Edward Buchanan, Laura Monson, Howard Weiner, David Bauer, Robert Dempsey, Renata Maricevich  
 Institutions: Texas Children's Hospital, Houston, TX, United States; Baylor College of Medicine, Houston, TX, United States

**Poster N°: 21 | Abstract N°: 226**

**Health-Related Quality of Life in Children and Adolescents with Sagittal Synostosis**

Presenter: Melissa Kurniawan (The Netherlands)  
 Authors: Melissa Kurniawan, Stephanie van de Beeten, Hein Raat, Irene Mathijssen, Marie-Lise van Veelen  
 Institution: Erasmus Medical Center, Rotterdam, The Netherlands

**Poster N°: 23 | Abstract N°: 240**

**Craniometric and Aesthetic Outcomes in Craniosynostosis Surgery: A Systematic Review and Meta-Analysis**

Presenter: Michael Edgar (United States)  
 Authors: Chad Purnell, Michael Edgar, Akriti Choudhary, Shreya Raman, Lee Alkureishi  
 Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 24 | Abstract N°: 247**

**The Effect of Helmeting on Head Circumference Following Endoscopic Strip Craniectomy for Metopic Craniosynostosis**

Presenter: Natalie Bishop (United Kingdom)  
 Authors: Natalie Bishop, Christopher Hillyar, Luke Smith, Greg James, Simon Eccles, Dulanka Silva, Owase Jeelani, David Dunaway, Juling Ong  
 Institutions: UCL, London, United Kingdom; Great Ormond Street Hospital for Children, London, United Kingdom

**Poster N°: 25 | Abstract N°: 250**

**Evaluating Relapse Following Fronto-Orbital Advancement for Metopic and Unilateral Coronal Synostosis: The Lateral Brow Projection Angle**

Presenter: Adrienne Fettig (United States)  
 Authors: Fiona Stefanik, Adrienne Fettig, Kelsi Krakauer, Darius Balumuka, Lori Howell, Nathan Selden, Erik Wolfswinkel  
 Institution: Oregon Health and Science University, Portland, OR, United States

**Poster N°: 26 | Abstract N°: 289**

**High Incidence of Non-Synostotic Posterior Plagiocephaly in Children with Trigenocephaly**

Presenter: Ahmed Elawadly (United Kingdom)  
 Authors: Ahmed Elawadly, Luke Smith, Dulanka Silva, David Dunaway, Owase` Jeelani, Juling Ong, Greg James  
 Institution: Great Ormond Street Hospital, London, United Kingdom

**Poster N°: 27 | Abstract N°: 304**

**Eye and Orbital Anatomy in Metopic Synostosis**

Presenter: Pauline Tio (The Netherlands)  
 Authors: Pauline Tio, Linda Gaillard, Anna Puppels, Marjolein Dremmen, Sjoukje Loudon, Irene Mathijssen  
 Institution: Erasmus MC, Rotterdam, The Netherlands

**Poster N°: 28 | Abstract N°: 343**

**Stratification of Ophthalmologic Diagnoses Following Correction of Non-Syndromic Craniosynostosis**

Presenter: Robin Wu (United States)  
 Authors: Allison Hu, Brian Sweeney, Robin Wu, Arhana Chattopadhyay, Laura Prolo, Kelly Mahaney, Rohit Khosla, H. Peter Lorenz  
 Institution: Stanford University, Palo Alto, CA, United States

**Poster N°: 29 | Abstract N°: 355**

**The Burden of Care for Caregivers of Children Undergoing Orthotic Helmet Therapy: A Qualitative Study**

Presenter: Tega Ebeye (Canada)  
 Authors: Tega Ebeye, Ayeh Hussain, Christopher Forrest, Johanna Riesel  
 Institution: University of Toronto, Temerty Faculty of Medicine, Toronto, Ontario, Canada

**Poster N°: 30 | Abstract N°: 371**

**Calvarial Vault Remodeling Technique for Lambdoid Craniosynostosis**

Presenter: Kamlesh Patel (United States)  
 Authors: Kaamyra Varagur, Kamlesh Patel, Sarah Chiang, Matthew Smyth, Gary Skolnick, Sybill Naidoo  
 Institution: Washington University in St. Louis School of Medicine, St. Louis, MO, United States

**Poster N°: 31 | Abstract N°: 382**

**Low Rate of Psychiatric Diagnoses Despite High Prevalence of Developmental Delay Following Non-Syndromic Craniosynostosis Surgery**

Presenter: Brian Sweeney (United States)  
 Authors: Brian Sweeney, Robin Wu, Allison Hu, David Perrault, Laura Prolo, Kelly Mahaney, Rohit Khosla, Peter Lorenz  
 Institution: Stanford University School of Medicine, Stanford, CA, United States

**Poster N°: 32 | Abstract N°: 395**

**Pre-Operative Management of Sagittal Synostosis**

Presenter: Peter Anderson (Australia)  
 Author: Peter Anderson  
 Institution: Cleft & Craniofacial South Australia, Adelaide, South Australia, Australia

**Poster N°: 33 | Abstract N°: 419**

**Keeping an Eye on Metopic Craniosynostosis: Effects of Severity on Orbital Dymorphology**

Presenter: Zachary Zapatero (United States)  
 Authors: Carlos Barrero, Matthew Pontell, Zachary Zapatero, Kirin Naidu, Connor Wagner, Lauren Salinero, Jordan Swanson, Jesse Taylor, Scott Bartlett  
 Institution: Children's Hospital of Philadelphia, Philadelphia, PA, United States

**Poster N°: 34 | Abstract N°: 426**

**Clinical Presentation and Management of Isolated Squamosal Craniosynostosis**

Presenter: Alexander Wilson (United States)  
 Authors: Matthew Pontell, Connor Wagner, Alexander Wilson, Neil Reddy, Lauren Salinero, Carlos Barrero, Jordan Swanson, Jesse Taylor, Scott Bartlett  
 Institution: The Children's Hospital of Philadelphia, Philadelphia, PA, United States

**Poster N°: 35 | Abstract N°: 433**

**Two Year Comparison of Sagittal Synostosis Morphometric Outcomes Following Open Posterior Expansion Versus Endoscopic Strip Craniectomy with Helmet Molding Performed before Four Months of Age**

Presenter: Leah Chen (United States)

Authors: Leah Chen, Ezgi Mercan, Benjamin Massenburg, Richard Hopper, Srinivas Susarla, Amy Lee, Richard Ellenbogen, Craig Birgfeld

Institution: University of Washington, Seattle, WA, United States

**Poster N°: 36 | Abstract N°: 435**

**Cranial Shape Changes in Non-Syndromic Unilateral Lambdoid Synostosis after Open Posterior Vault Remodeling: An Observational Study of Two-Year Outcomes**

Presenter: Andy Nguyen (United States)

Authors: Andy Nguyen, Chad Purnell, Ezgi Mercan, Amy Lee, Craig Birgfeld, Srinivas Susarla, Richard Ellenbogen, Richard Hopper

Institution: University of Washington, Seattle, WA, United States

**Poster N°: 37 | Abstract N°: 440**

**Disparities in Craniofacial Surgery Treatment and Outcomes: Results of a Systematic Review and Meta-Analysis of International Research**

Presenter: Natalie Plana (United States)

Authors: Connor Wagner, Michaela Hitchner, Natalie Plana, Carrie Morales, Lauren Salinero, Carlos Barrero, Matthew Pontell, Scott Bartlett, Jesse Taylor, Jordan Swanson

Institution: The Children's Hospital of Philadelphia, Philadelphia, PA, United States

**Poster N°: 38 | Abstract N°: 447**

**Endoscope-Assisted Fronto-Orbital Distraction Osteogenesis Reduces Blood Loss Without Increasing Operative Time in Unicoronal Craniosynostosis**

Presenter: Dillian Villavisanis (United States)

Authors: Connor Wagner, Dillian Villavisanis, Matthew Pontell, Carlos Barrero, Lauren Salinero, Jordan Swanson, Scott Bartlett, Jesse Taylor

Institution: The Children's Hospital of Philadelphia, Philadelphia, PA, United States

**Poster N°: 39 | Abstract N°: 472**

**Orbital Dymorphology Corrects after Endoscopic Strip Craniectomy in Metopic Craniosynostosis**

Presenter: Adam Goodreau (Canada)

Authors: Adam Goodreau, John Phillips, Dale Podolsky, Christopher Forrest, Johanna Riesel

Institution: The Hospital for Sick Children, Toronto, ON, Canada

**Poster N°: 40 | Abstract N°: 541**

**Perinatal Features of Metopic Craniosynostoses in Finland 1987-2010. Population-Based Study.**

Presenter: Lina Elfving (Finland)

Authors: Lina Elfving, Pia Vuola, Mika Gissler, Arja Heliovaara, Junnu Leikola

Institution: University of Helsinki, Helsinki, Uusimaa, Finland

**Poster N°: 41 | Abstract N°: 543**

**Billing Practices in Pediatric Fronto-Orbital Advancement Surgery: Review of National Billing Database**

Presenter: David Khechoyan (United States)\*

Authors: David Khechoyan, Anna Lee, Elliot Le, Christodoulos Kaoutzannis, Jason Yu, Brooke French, Allyson Alexander, Corbett Wilkinson, David Mathes

Institution: University of Colorado, Denver, CO, United States

**Poster N°: 42 | Abstract N°: 560**

**Can Computational Anthropometry Distinguish Metopic Ridge from Metopic Synostosis?**

Presenter: Paymon Sanati-Mehrizi (United States)

Authors: Paymon Sanati-Mehrizi, Ezgi Mercan, Craig Birgfeld, Amy Lee, Richard Ellenbogen, Richard Hopper

Institutions: University of Washington, Seattle, WA, United States; Seattle Children's Hospital, Seattle, WA, United States

**Poster N°: 43 | Abstract N°: 621**

**Three-Dimensional Printed Skulls Improve Caregiver Education on Craniosynostosis: A Randomized Controlled Trial**

Presenter: Katherine Zhu (United States)

Authors: Katherine Zhu, Jonlin Chen, Sahana Kumar, Christopher Shallal, Kirby Leo, Yunong Bai, Yukang Li, Eric Jackson, Alan Cohen, Robin Yang

Institution: Department of Plastic and Reconstructive Surgery, Johns Hopkins School of Medicine, Baltimore, MD, United States

**Poster N°: 44 | Abstract N°: 665**

**Genetic Implications on Behavioral Outcomes in Non-Syndromic Sagittal Craniosynostosis**

Presenter: David Alper (United States)

Authors: David P. Alper, Mariana N. Almeida, Mica C.G. Williams, John A. Persing, Michael Alperovich

Institution: Yale School of Medicine, New Haven, CT, United States

**Poster N°: 45 | Abstract N°: 717**

**Suturectomies Assisted by Cranial Orthosis Remodeling for the Treatment of Craniosynostosis Can Be Performed without an Endoscope**

Presenter: Asaf Olshinka (Israel)

Authors: Asaf Olshinka, Lior Har-Shai, Ivan Novitski, Amir Kershenovich

Institution: Schneider Children's Medical Center of Israel, Petach-Tikva, Israel

**Poster N°: 46 | Abstract N°: 704**

**Long-Term Behavioral Outcomes are Different Between School-Aged Children with Metopic and Sagittal Synostosis**

Presenter: Mariana Almeida (United States)

Authors: Mariana Almeida, David Alper, Mica Williams, Jean Carlo Rivera, John Persing, Michael Alperovich

Institution: Yale School of Medicine, New Haven, CT, United States

**Poster N°: 47 | Abstract N°: 281**

**The Rise of Online Medical Education During COVID-19: The International Craniofacial Chang Gung Webinar**

Presenter: Junior Tu (Taiwan)

Authors: Junior Tu, Gloria Chen, Pang-Yun Chou

Institution: Chang Gung Memorial Hospital, Taoyuan, Taiwan

**Poster N°: 48 | Abstract N°: 709**

**Preference Signaling in the Plastic Surgery Residency Application Process: The Student's Perspective**

Presenter: Gian Paul Rivera (United States)

Authors: Jean Carlo Rivera, David Alper, Mica Williams, Sacha C. Hauc, Mariana Almeida, Gian Paul Rivera, John Persing, Michael Alperovich

Institution: Yale School of Medicine, New Haven, CT, United States

**Poster N°: 49 | Abstract N°: 714**

**Epidemiological Trends in Facial Fractures and Dental Injuries Related to Leisurely Activities**

Presenter: Marianne Almeida (United States)

Authors: Sacha Hauc, Viola Stögner, Helia Hosseini, Jean Carlo Rivera, Michael Alperovich, Marianne Almeida

Institution: Yale University, New Haven, CT, United States

**Poster N°: 50 | Abstract N°: 123**

**Genetic Diagnostic Yield in an 11-Year Birth Cohort of Craniosynostosis Patients**

Presenter: Linda Gaillard (The Netherlands)

Authors: Linda Gaillard, Anne Goverde, Marjolein Weerts, Annelies De Klein, Irene Mathijssen, Marieke Van Dooren

Institution: Erasmus MC – Sophia Children's Hospital, University Medical Center Rotterdam, Department of Plastic and Reconstructive Surgery and Hand Surgery, Rotterdam, The Netherlands

**Poster N°: 51 | Abstract N°: 139**

**Posterior Fossa Distraction with Cranial Vault Remodeling in Cloverleaf Skull Deformity: Case Report**

Presenter: Diego Caycedo (Colombia)

Authors: Diego Caycedo, Juan Ayala, Marcela Cabal, Luis Santacruz

Institutions: Universidad del Valle, Cali, Valle, Colombia; Clínica Imbanaco, Cali, Valle, Colombia; Hospital Infantil Club Noel, Cali, Valle, Colombia; Hospital Universitario del Valle, Cali, Valle, Colombia

**Poster N°: 52 | Abstract N°: 151**

**Patients of Syndromic Craniosynostosis Treated with LeFort III Distraction Osteogenesis during Middle and Late Childhood: A Long-Term Surgical Outcome Study**

Presenter: Chi-Chin Lo (Taiwan)

Authors: Chi-Chin Lo, Pang-Yun Chou, Lun-Jou Lo, Wen-Ching Ko

Institution: Department of Plastic and Reconstructive Surgery, Chang Gung Memorial Hospital, Taoyuan, Taiwan

**Poster N°: 53 | Abstract N°: 165**

**Delays in Early Development in Syndromic and Multiple Suture Craniosynostosis**

Presenter: Alexis Johns (United States)

Authors: Alexis Johns, Eric Riklin, Dylan Choi, Sophia Garnica, J Gordon McComb, Mark Urata

Institutions: Children's Hospital Los Angeles, Los Angeles, CA, United States; University of Southern California Keck School of Medicine, Los Angeles, CA, United States

**Poster N°: 54 | Abstract N°: 195**

**Computer-Aided Midface Distraction in Syndromic Craniosynostosis**

Presenter: Thomas Mon-Hsian Hsieh (Taiwan)

Authors: Thomas Mon-Hsian Hsieh, Po-Cheng Huang, Hung-Ying Lin

Institutions: Center for Craniofacial Medicine & Morphological Sciences, National Taiwan University Hospital, Taipei, Taiwan, Taiwan; Division of Plastic Surgery, National Taiwan University Children's Hospital, Taipei, Taiwan, Taiwan; Division of Plastic Surgery, Department of Surgery, National Taiwan University Hospital, Taipei, Taiwan, Taiwan

**Poster N°: 55 | Abstract N°: 215**

**Supplemental Reconstruction of the Apert Hand Following Syndactyly Release**

Presenter: Jonah Donnenfield (United States)

Authors: Jonah Donnenfield, Laura Nuzzi, Amir Taghinia, Brian Labow

Institution: Department of Plastic and Oral Surgery, Boston Children's Hospital, Harvard Medical School, Boston, MA, United States

**Poster N°: 56 | Abstract N°: 294**

**The Impact of Obstructive Sleep Apnea on Growth in Patients with Syndromic and Complex Craniosynostosis**

Presenter: Sumin Yang (The Netherlands)

Authors: Sumin Yang, Irene Mathijssen, Koen Joosten

Institution: Erasmus Medical Center, Rotterdam, The Netherlands

**Poster N°: 57 | Abstract N°: 344**

**Treatment of Children with Syndromic Craniofacial Dysostosis with Frontofacial Advancement in a Bibloc Fashion Using a Customized Rigid External Distraction System (RED II)**

Presenter: Max Heiland (Germany)

Authors: Max Heiland, Ira Maistrel, Matthias Schulz, Ulrich-Wilhelm Thomale, Tobias Ebker

Institution: Charité – Universitätsmedizin Berlin, Department of Oral and Maxillofacial Surgery, Berlin, Germany

**Poster N°: 58 | Abstract N°: 357**

**Evaluation of Epilepsy in Patients with Syndromic Craniosynostosis**

Presenter: Daniela Alves Gulhote (Brazil)

Authors: Daniela Gulhote, Enrico Ghizoni, Cassio Amaral, Ana Carolina Coan

Institutions: SOBRAPAR Hospital, Campinas, São Paulo, Brazil; Hospital de Clínicas – UNICAMP, Campinas, São Paulo, Brazil

**Poster N°: 59 | Abstract N°: 442**

**Quantitative Evaluation of Changes to Nasal Septum and Inferior Turbinate Morphology Following Le Fort III Midface Advancement**

Presenter: Bianca Di Chiaro (United States)

Authors: Bianca DiChiaro, Sobhi Kazmouz, Gaia Santiago, Akriti Choudhary, Linping Zhao, Pravin Patel, Chad Purnell

Institution: Loyola University Medical Center, Chicago, IL, United States

**Poster N°: 60 | Abstract N°: 481**

**Managing Late Onset ERF-Related Craniosynostosis with Cranial Vault Distraction Osteogenesis**

Presenter: Leandro Marx (United States)

Authors: Leandro Marx-Albuquerque, Ana Meza-Rochin, Darius Balumuka, Nathan Selden, Lori K. Howell, Erik M. Wolfswinkel

Institution: Oregon Health & Science University, Portland, OR, United States

**Poster N°: 61 | Abstract N°: 521**

**Role of Onlay Computer-Aided Design (CAD) Implants in the Management of Relapse in Syndromic Craniosynostosis**

Presenter: Joel Prince (United States)

Authors: Christian A El Amm, Robert Nevitt, Matthew Marr, Thomas Kerestes, AbdelMoniem Ali, Joel Prince, Joanna Gernsbach

Institution: Section of Plastic Surgery, University of Oklahoma, Oklahoma City, OK, United States

**Poster N°: 62 | Abstract N°: 550**

**Clinical Analysis of Le Fort III Osteotomy Distraction for Obstructive Sleep Apnea in Children with Syndromic Craniosynostosis**

Presenter: Yue Liy (China)

Authors: Yue Liy, Tao Xu, Xiaojing Liu, Y Zhang

Institution: Peking University International Hospital, Beijing, China

**Poster N°: 63 | Abstract N°: 618**

**Result of Cranioplasty Using Bone Dust from the Scrapper in 115 Cases of Craniosynostosis**

Presenter: Nur Ereğ (Turkey)

Authors: Nur Ereğ, İbrahim Vargel

Institution: Department of Plastic, Reconstructive and Aesthetic Surgery, Hacettepe University Faculty of Medicine, Ankara, Turkey

**Poster N°: 64 | Abstract N°: 623**

**Protocol for Records in Mid-Face Surgery in Syndromic Craniosynostosis**

Presenter: Susana Dominguez (United Kingdom)

Authors: Susana Dominguez-Gonzalez, Jennifer Vesey, David Richardson, Anusha Henedige,

Wendy Blumenow, Anna Kearney, Katie Piggott, Christian Duncan, Joanna May

Institution: Alder Hey Children's Hospital, Liverpool, United Kingdom

**Poster N°: 65 | Abstract N°: 715**

**Midface Hypoplasia after Frontofacial Advancement Procedure: 10 Years Follow Up**

Presenter: Yulan Permatasari (Indonesia)

Authors: Yulan Permatasari, Suka Adnyana

Institution: Bali Mandara Hospital, Denpasar, Indonesia

**Poster N°: 66 | Abstract N°: 104**

**Pediatric Cranial Intraosseous Lipoma: Literature Review and Craniofacial Treatment Approach**

Presenter: Anna Lee (United States)

Authors: Anna Lee, Thomas Ridder, Allyson Alexander, Brooke French, David Mathes, David Khechoyan

Institution: University of Colorado, Denver, CO, United States

**Poster N°: 67 | Abstract N°: 191**

**Computer-Aided, Customized-Assembled Cutting Guides for Intraoral Approach Mandible Reduction**

Presenter: Ming-Jui Chung (Taiwan)

Authors: Ming-Jui Chung, Thomas Mon-Hsian Hsieh, Po-Cheng Huang, Yu-Hsun Kao

Institution: Division of Plastic Surgery, Department of Surgery, National Taiwan University Hospital, Taipei City, Taiwan

**Poster N°: 68 | Abstract N°: 266**

**Virtual Surgical Planning (VSP) Cutting Guides for Genioglossus Advancement**

Presenter: Chad Purnell (United States)

Authors: Chad Purnell, Nicolas Kaplan, Brenda Guillen, Akriti Choudhary

Institutions: University of Illinois at Chicago College of Medicine, Chicago, IL, United States; Shriners' Hospital for Children, Chicago, IL, United States

**Poster N°: 69 | Abstract N°: 276**

**Patient-Specific Cutting Guides in Le Fort II Distraction with Zygomatic Repositioning: A Case Report**

Presenter: Nathan Calzadilla (United States)

Authors: Kevin Yang, Nathan Calzadilla, Akriti Choudhary, Chad Purnell

Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 70 | Abstract N°: 337**

**Virtual Surgical Planning for Staged Craniopagus Conjoined Twin Separation: Reports from the Cutting Edge**

Presenter: Carrie Morales (United States)

Authors: Lauren Salinero, Matthew Pontell, Elizabeth Malphrus, Connor Wagner, Carlos Barrero,

Gregory Heuer, Carlo Marras, Oren Tepper, N U Owase Jeelani, Jesse Taylor, Carrie Morales

Institution: Division of Plastic, Reconstructive, and Oral Surgery, The Children's Hospital of Philadelphia, Philadelphia, PA, United States

**Poster N°: 71 | Abstract N°: 459**

**Treatment of Delayed Presentations of Craniosynostosis: Utility of Virtual Surgical Planning**

Presenter: Elizabeth Danial (United States)

Authors: Elizabeth Danial, Elizabeth George, Peter Sun, Jason H. Pomerantz

Institution: University of California San Francisco, San Francisco, CA, United States

**Poster N°: 72 | Abstract N°: 496**

**Utilizing Patient-Specific Virtual Reality Planning for Free Fibula Mandibular Reconstruction: A Case Series**

Presenter: Nicolas Kaplan (United States)

Authors: Nicolas Kaplan, George Nahass, Isabel Scharf, Naji Bou Zeid, Kevin Yang, Linping Zhao,

Pravin Patel, Lee Alkureishi

Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 73 | Abstract N°: 602**

**A Four-Year Experience of First Stage Auricular Reconstruction in Microtia Using Patterned and Holed 3D Cutting Guide Methods**

Presenter: Indri Lakhsmi Putri (Indonesia)

Authors: Indri Lakhsmi Putri, I Gusti Agung Ngurah Widya Pramana, Faizal Rezky Dhafin,

Imaniar Fitri Aisyah, Djoko Kuswanto

Institution: Department of Plastic Reconstructive and Aesthetic Surgery, Faculty of Medicine, Airlangga University, Surabaya, Indonesia

**Poster N°: 74 | Abstract N°: 604**

**In-House Application of Virtual Surgical Planning and 3D Printing: The Surgical Design for each Type of Craniosynostosis**

Presenter: Ting-Chen Lu (Taiwan)

Author: Ting-Chen Lu

Institution: Chang Gung Memorial Hospital, Linkou, Taiwan

**Poster N°: 75 | Abstract N°: 626**

**Immediate Cranioplasty Using a Patient-Specific Poly-Ether-Ether-Ketone (PEEK) Implant in Patients with Spheno-Orbital Meningioma and Hyperostosis: Is It Feasible?**

Presenter: Scott Odorico (United States)

Authors: Waleed Gibreel, Scott Odorico, Jamie Van Gompel, Samir Mardini, Sai Cherukuri

Institution: Mayo Clinic, Rochester, MN, United States

**Poster N°: 76 | Abstract N°: 647**

**Fabrication of a Patient Specific Template for Fronto-Orbital Advancement and Remodeling**

Presenter: Jörn Wittig (Austria)

Authors: Jörn Wittig, Michael Rasse, Alexander Gaggl

Institution: Oral and Maxillofacial Surgery, University Hospital Salzburg, Salzburg, Austria

**Poster N°: 197 | Abstract N°: 125**

**Sociodemographic Disparities Affecting Access to and Outcomes after Cleft Lip Repair:  
A Systematic Review of the Literature**

Presenter: Shuyan Wei Wei (United States)

Authors: Chioma Obinero, Naikhoba Munabi, Thomas Imahiyerobo, Matthew Greives, Alexandra Boyd, Shuyan Wei Wei

Institution: UT Health Houston, Department of Surgery, Houston, TX, United States

**Thursday, September 7, 2023**

**Poster Session 2**

Team Care, Orthodontic and Maxillofacial, Distraction Osteogenesis, Artificial Intelligence and Facial Feminization

Open for viewing from first Coffee Break to last session. Poster presentations will take place during Lunch Break.

**Poster N°: 77 | Abstract N°: 265**

**Comparison of Methodologies for Craniofacial Soft-Tissue Cephalometrics:  
The Value of Virtual Reality**

Presenter: Akriti Choudhary (US)

Authors: Akriti Choudhary, John Vandevender, Sobhi Kazmouz, Marina Lentskevich, Michael Edgar, Christopher Juarez, Julius Mendoza, Kevin Yang, Kyle Bartelt, Alvin Nguyen, Chad Purnell

Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 78 | Abstract N°: 271**

**Can Automated and Semi-Automated Tools Replace the Human Eye for Conducting  
Periorbital Measurements? A Comparison of Three Modalities**

Presenter: Alvin Nguyen (United States)

Authors: Alvin Nguyen, Deanna Bradley, Claudia Lasalle, Jeffrey Peterson, George Nahass, Akriti Choudhary, Ann Tran, Chad Purnell

Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 79 | Abstract N°: 283**

**Machine Learning Applied to Cranioplasty Outcomes**

Presenter: Sonia Hamilton (United States)\*

Authors: Sonia Hamilton, Justin Huang, Hyonoo Joo, Micah Belzberg, Colleen Perez, Chad Gordon

Institution: Johns Hopkins University School of Medicine, Baltimore, MD, United States

**Poster N°: 80 | Abstract N°: 411**

**Full-Automatic Segmentation and Volume Measurement of Masseter Muscle Based on  
Three-Dimensional Computed Tomography Using U-Shaped Network: A Validation Study in East Asians**

Presenter: Wenqing Han (China)\*

Author: Wenqing Han

Institution: Shanghai 9th People's Hospital, Shanghai, Shanghai, China

**Poster N°: 81 | Abstract N°: 449**

**Revolutionizing Craniosynostosis Care through AI Integration: A Systematic Review**

Presenter: Heli Patel (United States)

Authors: Heli Patel, Justin Camacho, Daniel Cho

Institution: NSU Dr. Kiran C Patel College of Allopathic Medicine, Davie, FL, United States

**Poster N°: 82 | Abstract N°: 529**

**Using Latent Disentangled Convolutional Variational Autoencoders in the Identification of  
Beckwith-Wiedemann Syndrome**

Presenter: Tia Rijlaarsdam (United Kingdom)

Authors: Tia Rijlaarsdam, Simone Foti, Luke Smith, Eimear O'Sullivan, Athanasios Papaioannou, Matthew Clarkson, Eppo Wolvius, Lara van de Lande, David Dunaway, Juling Ong

Institutions: UCL Great Ormond Street Institute of Child Health and Craniofacial Unit, London, United Kingdom; Erasmus Medical Center, Rotterdam, The Netherlands

**Poster N°: 83 | Abstract N°: 707**

**Generative Pre-Trained Transformer Large Language Model Develops Novel Innovations in Craniofacial Surgery: A New Method of Creating Patent Ideas?**

Presenter: Daniel Najafali (United States)\*

Authors: Daniel Najafali, Logan Galbraith, Erik Reiche, Justin Camacho, Hossein Jazayeri, Sacha Hauc, Jean Carlo Rivera, Stefano Araya, Shane Morrison, Amir Dorafshar

Institution: Carle Illinois College of Medicine, Urbana, IL, United States

**Poster N°: 85 | Abstract N°: 137**

**Structural Facial Feminization**

Presenter: Rodrigo Penagos (Colombia)

Authors: Rodrigo Penagos, Diego Caycedo, Marcela Cabal

Institutions: Universidad del Valle, Cali, Valle, Colombia; Hospital Universitario del Valle, Cali, Valle, Colombia

**Poster N°: 86 | Abstract N°: 311**

**The Application of Guide Plate with Malleableness and Memory in Mandibular Angle Osteotomy**

Presenter: Houbing Zheng (China)

Authors: Houbing Zheng, Biao Wang, Meishui Wang

Institution: The First Affiliated Hospital of Fujian Medical University, Fuzhou, Fujian, China

**Poster N°: 87 | Abstract N°: 376**

**The Accuracy of a Patient Specific Three-Dimensional Digital Ostectomy Template for Mandibular Angle Ostectomy**

Presenter: Guoping Wu (China)

Authors: Guoping Wu, Zhiyang Xie, Kaili Yan, Wensong Shangguan

Institution: The Affiliated Friendship Plastic Surgery Hospital of Nanjing Medical University, Nanjing, Jiangsu, China

**Poster N°: 88 | Abstract N°: 699**

**Changes in Surface Area, Width, and Height in the Orbit, Mandible, and Chin among Facial Feminization Patients**

Presenter: Mica Williams (United States)

Authors: Mica Williams, Mariana Almeida, David Alper, Jean Carlo Rivera, Kyra Seiger, Catherine Yu, Saddhe Mohammed, John Persing, Michael Alperovich

Institution: Yale School of Medicine, New Haven, CT, United States

**Poster N°: 89 | Abstract N°: 702**

**Race and Ethnicity in Facial Gender-Affirming Surgery: A Gap in the Literature**

Presenter: Essie Ghafoor (United States)

Authors: Essie Ghafoor, Madyson Brown, Bashar Hassan, Lily Mundy, Stella Seal, Fan Liang

Institution: Johns Hopkins University, Baltimore, MD, United States

**Poster N°: 90 | Abstract N°: 61**

**JAPANCranio 2021: National Prospective Survey of Craniosynostosis in Japan**

Presenter: Ikkei Tamada (Japan)

Authors: Ikkei Tamada, Takuya Akai, Yuzo Komuro, Shigeo Kyutoku

Institution: Department of Plastic and Reconstructive Surgery, Tokyo Metropolitan Children's Medical Center, Fuchu, Tokyo, Japan

**Poster N°: 91 | Abstract N°: 150**

**European Reference Network CRANIO**

Presenter: Irene Mathijssen (The Netherlands)

Authors: Irene Mathijssen MD, PhD, MBA-H, Jana Steerneman, Ikram Ikhssim

Institution: Erasmus MC, Rotterdam, The Netherlands

**Poster N°: 92 | Abstract N°: 154**

**Soft Tissue Correction in Hemifacial Microsomia and Parry-Romberg Syndrome Patients: Systematic Review**

Presenter: Marina Lentskevich (United States)

Authors: Marina Lentskevich, Alice Yau, Sophia Allison, Prottusha Sarkar, Arun Gosain

Institutions: University of Illinois at Chicago, Chicago, IL, United States; Division of Plastic Surgery, Ann and Robert H. Lurie Children's Hospital, Chicago, IL, United States

**Poster N°: 93 | Abstract N°: 210**

**Fat Grafting for Temporal Hollowing Augmentation Following Craniectomy**

Presenter: Sophia Arbuiso (United States)

Authors: Sophia Arbuiso, Joshua Choe, Gillian Graifman, Edmond Ritter, Elizabeth Zellner

Institution: New York Medical College, Valhalla, NY, United States

**Poster N°: 94 | Abstract N°: 278**

**Problem Mapping in Craniosynostoses in an Institutional Cohort, Using our Previously Published Work on Nomenclature**

Presenter: Vinanthi Vinay (India)

Authors: Vinanthi Vinay, Suhas Udayakumaran, Pramod Subhash, Shibani Nerurkar, Arjun Krishnadas

Institution: Amrita Institute of Medical Sciences and Research Centre, Kochi, Kerala, India

**Poster N°: 95 | Abstract N°: 295**

**Social Media and Website Use: The Experiences of Parents and Carers Accessing Care at the Oxford Craniofacial Unit**

Presenter: Sarah Kilcoyne (United Kingdom)

Authors: Sarah Kilcoyne, Overton Sarah, Brockbank Sally, Lloyd-White Samuel D Clin, Rosanna Samuels, Matthew Hotton, Jennifer Cropper, Gregory Thomas, David Johnson

Institution: Oxford Craniofacial Unit, Oxford University Hospitals NHS Foundation Trust, John Radcliffe Hospital, Oxford, Oxfordshire, United Kingdom

**Poster N°: 96 | Abstract N°: 297**

**A Novel, Team Approach to Providing Craniofacial Surgery in the Era of COVID-19**

Presenter: Sumit Das (United Kingdom)

Author: Sumit Das

Institution: Oxford University Hospital, Oxford, Oxon, United Kingdom

**Poster N°: 97 | Abstract N°: 303**

**Concurrent Plagiocephaly and Craniofacial Clinics**

Presenter: Chinonye Ihekweazu (United States)

Authors: Chinonye Ihekweazu, Jennifer Maybach, Scott LeBeau, Rebecca Palis, Brooke French, Allyson Alexander, David Khechoyan, Corbett Wilkinson

Institution: Childrens Hospital Colorado, Aurora, CO, United States

**Poster N°: 98 | Abstract N°: 342**

**Information Material for Patients with Craniosynostosis and their Parents**

Presenter: Elin Weissbach (The Netherlands)  
Authors: Elin Weissbach, Mariët Faasse, Irene Mathijssen  
Institution: Erasmus MC, Rotterdam, The Netherlands

**Poster N°: 99 | Abstract N°: 347**

**Optimization of the Electronic Health Record for Craniofacial Team Care**

Presenter: Catharine Garland (United States)  
Authors: Catharine Garland, Tristan Laszewski, Daniel Cho  
Institution: University of Wisconsin, Madison, WI, United States

**Poster N°: 100 | Abstract N°: 392**

**The Cost of Delay: A Systematic Review Investigating Risk Factors for Delayed Craniosynostosis Treatment**

Presenter: Jessica Blum (United States)  
Authors: Jessica Blum, Jingtang Ng, Jasmine Craig, Rachel Smith, Anchith Kota, Steven Moura, Avery Ford, Catharine Garland, Daniel Cho  
Institution: University of California San Diego, San Diego, CA, United States

**Poster N°: 101 | Abstract N°: 396**

**Multidisciplinary Cleft Charity Mission in Indonesia**

Presenter: Vika Tania (Indonesia)  
Authors: Vika Tania, Prasetyanugraheni Kreshanti, Denny Irwansyah, Marsandi Nugraprawira, Jasmine Athiyya Wibowo, Jessica Halim, Luh Karunia Wahyuni, Julieta Pancawati, Marini Mihardjanti, Elvie Zulka, Kristaninta Bangun  
Institution: Cleft and Craniofacial Center Dr. Cipto Mangunkusumo Hospital, Jakarta, Indonesia

**Poster N°: 102 | Abstract N°: 446**

**The Gift of a Fresh Start: Results from A Single-Center Surgical Gift Program**

Presenter: Gabriela Sendek (United States)  
Authors: Gabriela Sendek, Caitlyn Belza, Miriam Becker, Amanda Gosman  
Institution: Division of Plastic Surgery, Department of Surgery, University of California, San Diego, San Diego, CA, United States

**Poster N°: 104 | Abstract N°: 548**

**Minimally Invasive Pediatric Craniofacial Surgery – A New Anesthetic Paradigm?**

Presenter: Shammi Kakad (United Kingdom)  
Authors: Shammi Kakad, Karolina Wloch, Usman Ali, Pamela Cupples, Owase Jeelani, Gregory James, Juling Ong, Kar-Binh Ong, Sally Wilmshurst  
Institution: Great Ormond Street Hospital, London, United Kingdom

**Poster N°: 105 | Abstract N°: 566**

**A US National Review of Crowdsourcing for Plagiocephaly Helmets**

Presenter: Brendan Podszus (United States)  
Authors: Brendan Podszus, Jason Pham, Erika Dopson, Shikha Trivedi, Yifan Guo  
Institution: EVMS, Norfolk, VA, United States

**Poster N°: 106 | Abstract N°: 572**

**Pediatric Craniofacial Quality Improvement Rounds: A Combined Multi-Disciplinary Australian and New Zealand Initiative**

Presenter: David Moon (Australia)  
Authors: David Moon, Damian Marucci, Michael Rtshiladze, Christopher Forrest  
Institution: Sydney Children's Hospital Network, Sydney, NSW, Australia

**Poster N°: 107 | Abstract N°: 587**

**Parental Knowledge and Attitudes towards Genetic Counseling and Childhood Genetic Testing for Congenital Anomalies in Qatar**

Presenter: Houda Kilani (Qatar)\*  
Authors: Houda Kilani, Karen El-Akouri, Abdulziz Farooq, Zumin Shi, Mashael Alshafai, Mitchell Stotland, Houssein Khodjet Elkhal  
Institutions: Sidra Medicine, Division of Plastic, Craniofacial, and Hand Surgery, Doha, Qatar; College of Health Sciences, Department of Biomedical Sciences, QU Health. Qatar University. Doha, Doha, Qatar

**Poster N°: 108 | Abstract N°: 608**

**Socioeconomic Influence on Surgical Management and Outcomes in Patients with Craniosynostosis – A Systematic Review**

Presenter: Melanie Bakovic (United States)  
Authors: Melanie Bakovic, Lilliana Starsiak, Ryan McCaffrey, Spencer Bennett, Esperanza Mantilla Rivas, Monica Manrique, Gary Rogers, Albert Oh  
Institution: George Washington University School of Medicine and Health Sciences, Washington, DC, United States

**Poster N°: 109 | Abstract N°: 609**

**Development and Preliminary Validation of a Bilingual Health-Related Quality of Life Tool for Diverse Craniofacial Conditions**

Presenter: Caitlyn Belza (United States)  
Authors: Caitlyn Belza, Karen Leung, Miriam Becker, Burcin Ataseven, Jacqueline Breunig, Christopher Bernal-Trinidad, RocNeil Nguyen, Josseline Herrera Eguizabal, Michael Oca, Katherine Wilson, Abbey Ervin, Vanessa Malcarne, Amanda Gosman  
Institution: University of California, San Diego, School of Medicine, San Diego, CA, United States

**Poster N°: 110 | Abstract N°: 625**

**Comparison of Speech Sound Production and Phonological Development in Patients with Unilateral Cleft Lip and Palate with or without Nasoalveolar Molding (NAM)**

Presenter: Lindsay Schuster (United States)  
Authors: Lindsay Schuster, Maryam Arab, Mahmoud Arab, Katherine Katko, Matthew Ford  
Institution: UPMC Children's Hospital, Pittsburgh, PA, United States

**Poster N°: 111 | Abstract N°: 652**

**Immunotherapy-Associated Total and Permanent Loss of Facial and Non-Facial Fat Compartments: Have we Found the Optimal Treatment?**

Presenter: Lucas Kreutz Rodrigues (United States)  
Authors: Lucas Kreutz-Rodrigues, Jess Rames, Austin Chen, Sai Cherukuri, Waleed Gibreel  
Institution: Mayo Clinic, Rochester, MN, United States

**Poster N°: 112 | Abstract N°: 678**

**Scoping Review of Healthcare Disparities in Treatment of Craniosynostosis: Assessing Impacts of Race, Insurance, and Socioeconomic Status**  
Presenter: Sharmi Amin (United States)  
Authors: Sharmi Amin, Hailey Tursak, Raquel Ulma, Christian Vercler  
Institution: University of Michigan, Ann Arbor, MI, United States

**Poster N°: 113 | Abstract N°: 698**

**Novel, Low-Cost Ear Elevation Splint for Auricular Reconstruction**  
Presenter: Akira Yamada (United States)  
Authors: Emily Chwa, Nikhil Shah, Erin Claussen, Breanna Baltrusch, Sophia Allison, Akira Yamada  
Institution: Division of Plastic and Reconstructive Surgery, Ann & Robert H. Lurie Children's Hospital, Chicago, IL, United States

**Poster N°: 114 | Abstract N°: 701**

**A Critical Assessment of Gender Diversity within Plastic Surgery**  
Presenter: Jean Carlo Rivera (United States)  
Authors: Jean Carlo Rivera, Sacha C. Hauc, Mica Williams, Paris D. Butler, John Persing, Michael Alperovich  
Institution: Yale School of Medicine, New Haven, CT, United States

**Poster N°: 115 | Abstract N°: 37**

**Posterior Cranial Vault Distraction in Transplant Patients**  
Presenter: John Magruder Sullivan (United States)  
Authors: John Sullivan, Alicia Snider, Jeffery Farrington, Ian Hoppe  
Institution: University of Mississippi Medical Center, Jackson, MS, United States

**Poster N°: 116 | Abstract N°: 39**

**Posterior Vault Distraction in the Acute Setting**  
Presenter: Matthew Sink (United States)  
Authors: Matthew Sink, Laura Galarza, Kristin Weaver, Mason Shiflett, Laura Humphries, Ian Hoppe  
Institution: University of Mississippi Medical Center School of Medicine, Jackson, MS, United States

**Poster N°: 117 | Abstract N°: 43**

**Mandibular Distraction in Patients with Pierre Robin Sequence: A Multi-Surgeon Experience**  
Presenter: Shelby Goza (United States)  
Authors: Shelby Goza, Madyson Brown, Samuel Hopper, John Phillips, Matthew Sink, Katie Brown, Colton Fernstrum, Laura Humphries, Ian Hoppe  
Institution: University of Mississippi Medical Center, Jackson, MS, United States

**Poster N°: 118 | Abstract N°: 60**

**Perioperative Management of Obstructive Sleep Apnea in Patients with Syndromic Craniosynostosis Undergoing LeFort III Osteotomy with Distraction: A Case Series**  
Presenter: Katie Wegener Brown (United States)  
Authors: Kathryn Brown, Shelley Edwards, Ian Hoppe  
Institution: University of Mississippi Medical Center, Jackson, MS, United States

**Poster N°: 119 | Abstract N°: 101**

**Reconstruction of Complex Facial Asymmetry: Problems and Refinements**  
Presenter: Natalia Katherine Moreno Rozo (Colombia)\*  
Authors: Natalia Katherine Moreno Rozo, Oswaldo Javier Gomez Diaz  
Institution: National University of Colombia, Bogota, Cundinamarca, Colombia

**Poster N°: 120 | Abstract N°: 119**

**Experiences of Parents in Mandibular Distraction Osteogenesis**  
Presenter: Jacoba Kats (The Netherlands)  
Authors: Jacoba Kats, Eppo Wolvius, Mariska van Veen- van der Hoek, Hansje Bredero-Boelhouwer, Irene Mathijssen  
Institution: Erasmus Medical Centre, Rotterdam, The Netherlands

**Poster N°: 122 | Abstract N°: 315**

**Mandibular Distraction Osteogenesis: Respiratory, Dental, Neurological, and Scar Outcomes at Four-Year Follow-Up**  
Presenter: Elizabeth Card (United States)  
Authors: Lauren Salinero, Mychajlo Kosyk, Elizabeth Card, Carrie Morales, Carlos Barrero, Connor Wagner, Matthew Pontell, Christopher Cielo, Michelle Scott, Hyun-Duck Nah, Scott Bartlett, Jesse Taylor, Jordan Swanson  
Institution: Division of Plastic, Reconstructive, and Oral Surgery, The Children's Hospital of Philadelphia, Philadelphia, PA, United States

**Poster N°: 123 | Abstract N°: 352**

**Mandibular Bone Behavior in Patients with Craniofacial Microsomia and Goldenhar Syndrome Treated by Distraction Osteogenesis Technique**  
Presenter: Jose Rolando Prada (Colombia)  
Authors: Jose Rolando Prada, María Fernanda Vergel, Yvonne Pereira  
Institutions: Children's University Hospital of San José, Bogotá, Bogotá, Colombia; Santa Fe de Bogota Foundation, Bogotá, Bogotá, Colombia

**Poster N°: 124 | Abstract N°: 403**

**Caregiver Challenges in Nursing a Patient with External Craniofacial Distractors**  
Presenter: Herni Lutfiah Hussein (Singapore)  
Authors: Herni Lutfiah Hussein, Joanne Jovina Siow Huey Cheng, Yong Chen Por  
Institution: KK Women's and Children's Hospital, Singapore, Singapore

**Poster N°: 125 | Abstract N°: 491**

**Adverse Events Associated with Craniofacial Distractor Use**  
Presenter: Jina Yom (United States)  
Authors: Carol Wang, Jose Palacios, Travis Peng, Matthew Saleem, Daniel Zhu, Sammy Othman, Nicholas Bastidas, Jina Yom  
Institution: Northwell Health, Lake Success, NY, United States

**Poster N°: 126 | Abstract N°: 504**

**Minimal Access Le Fort III Osteotomy (MALO) for Distraction Osteogenesis in Young Children – A Retrospective Comparative Study**  
Presenter: Pramod Subash (India)  
Authors: Pramod Subash, Suhas Udayakumaran  
Institution: Amrita Institute of Medical Sciences, Kochi, Kerala, India

**Poster N°: 127 | Abstract N°: 570**

**Two-Stage Treatment Strategy for Hemifacial Microsomia Type II: Prior Ramus Distraction Followed by Maxillomandibular Osteotomy and Fat Grafting**

Presenter: Masanobu Yamashita (Japan)

Authors: Masanobu Yamashita, Fumiya Kinoshita, Kenichi Shimada

Institutions: Department of Plastic and Reconstructive Surgery, Kanazawa Medical University, Uchinada, Ishikawa, Japan; Craniofacialclinic KANAZAWA, Kanazawa, Ishikawa, Japan

**Poster N°: 128 | Abstract N°: 611**

**Positive Airway Outcomes in Syndromic Pierre Robin Sequence Infants Treated with Mandibular Distraction Osteogenesis: A Single Surgeon's Experience**

Presenter: Ann Carol Braswell (United States)

Authors: Ann Carol Braswell, Grant Wagner, Edgar Soto, Rene Myers

Institution: University of Alabama at Birmingham Heersink School of Medicine, Birmingham, AL, United States

**Poster N°: 129 | Abstract N°: 705**

**Intraoperative Facial Nerve Monitoring during Mandibular Distraction Osteogenesis in Infants with Robin Sequence**

Presenter: Albert Oh (United States)

Authors: Monica Manrique, Albert Oh, Esperanza Mantilla-Rivas, Juan C Rojas Cortez, Sohel Rana, Sara Toro-Tobon, John Thomas, Gary Rogers

Institution: Division of Plastic and Reconstructive Surgery, Children's National Hospital, Washington, DC, United States

**Poster N°: 130 | Abstract N°: 17**

**Facial Contour Refining after Surgery-First SSRO with Computer-Assisted Design in East Asians**

Presenter: Chenzhi Lai (China)\*

Authors: Chenzhi Lai, Xiaolei Jin

Institution: Plastic Surgery Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

**Poster N°: 131 | Abstract N°: 28**

**Evaluation of Treatment with Unilateral Mandibular Sagittal Split Ramus Osteotomy and Maxillary Osteotomy in Patients with Condylar Osteochondroma and Mandibular Asymmetry**

Presenter: Liang Xia (China)\*

Authors: Liang Xia, Wenwen Yu

Institution: Shanghai Ninth Peoples' Hospital, Shanghai, China

**Poster N°: 132 | Abstract N°: 36**

**Pediatric Maxilla-Mandible Oncoplastic Reconstruction: A 25 Patient Case Series**

Presenter: Ammar Hashemi (United States)\*

Authors: Ammar Hashemi, Nicholas Yim

Institution: Texas Children's Hospital, Houston, TX, United States

**Poster N°: 133 | Abstract N°: 57**

**Orthognathic Treatment in a Patient with SHORT syndrome: A Case Report**

Presenter: Suhaym Mubeen (United Kingdom)

Authors: Suhaym Mubeen, Clara Gibson, Robert D Evans

Institution: Great Ormond Street Hospital, London, United Kingdom

**Poster N°: 134 | Abstract N°: 126**

**Abbé Flap as a Treatment for Sequelae in Patients Undergoing Cleft Lip Surgery. A Case Report**

Presenter: Matias Gonzalez Camara (Spain)\*

Authors: Matias Gonzalez Camara, Ramón Vera Martín, Macarena Fernández-Mayoralas Gómez, Alberto García-Perla García

Institution: Public Hospital, Seville, Andalucía, Spain

**Poster N°: 135 | Abstract N°: 182**

**Use of 3-Dimensional Modeling in Interdisciplinary Planning of Cleidocranial Dysplasia**

Presenter: Kathryn Preston (United States)

Authors: Kathryn Preston, Jason Yu, Sanjay Mallya

Institution: Phoenix Children's Hospital, Phoenix, AZ, United States

**Poster N°: 136 | Abstract N°: 218**

**Three-Dimensional Controlled Non-Surgical Treatment of Hemifacial Microsomia in the Growing Child**

Presenter: Reiko Shibazaki-Yorozuya (Japan)

Authors: Reiko Shibazaki-Yorozuya, Ryo Sasaki, Yorikatsu Watanabe

Institution: Yorozuya Dental Office, Tokyo, Japan

**Poster N°: 137 | Abstract N°: 223**

**The Sternocleidomastoid Muscle – Parotid Space Approach Reduces the Risks of Postparotidectomy Salivary Fistula**

Presenter: Lin Lan (China)

Authors: Lin Lan, Wei Wang, Diancan Wang

Institution: Peking University School and Hospital of Stomatology, Beijing, China

**Poster N°: 138 | Abstract N°: 252**

**Case Report: Orthognathic Surgery on a Patient with Osteogenesis Imperfecta Type IV**

Presenter: Nicholas Yim (United States)

Authors: Nicholas Yim, Ammar Hashemi

Institution: Texas Children's Hospital, Houston, TX, United States

**Poster N°: 139 | Abstract N°: 258**

**Characterizing Intranasal Anatomy and Airway Morphology in Patients with Dentofacial Deformities: A Retrospective Study**

Presenter: Nicholas Kaplan (United States)

Authors: Nicolas Kaplan, Chiara Santiago, Christopher Juarez, Chijioke Dike, Akriti Choudhary,

Liping Zhao, Lee Alkureishi, David Morris, Pravin Patel, Chad Purnell

Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 140 | Abstract N°: 260**

**Medial Epicanthal Fold Correction Using a Y-W Epicanthoplasty in Asian Eyelids**

Presenter: Dasom Kim (South Korea)

Authors: Dasom Kim, Hojin Park, Seung Ha Park

Institution: Department of Plastic & Reconstructive Surgery, Korea University, College of Medicine, Korea University Anam Hospital, Seoul, South Korea

**Poster N°: 141 | Abstract N°: 277**

**Expected Outcomes of Maxillomandibular Advancement on Obstructive Sleep Apnea – A Systematic Review and Pooled Analysis**

Presenter: Philip Bystrom (United States)  
Authors: Philip Bystrom, Christopher Juarez, Alvin Nguyen, Akriti Choudhary, Chad Purnell  
Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 143 | Abstract N°: 324**

**A Modified Technique for Medial Canthal Reconstruction with Titanium Plates in Children with Blepharophimosis Syndrome**

Presenter: Amitabh Thacoor (United Kingdom)  
Authors: Amitabh Thacoor, Yassir Abou-Rayyah, David Dunaway, Juling Ong  
Institution: Great Ormond Street Hospital for Children, London, United Kingdom

**Poster N°: 144 | Abstract N°: 412**

**How Does Jaw-Closing Muscle Morphology Relate to Variation in Mandibular Shape in Infants?**

Presenter: Ezgi I. Çetin (The Netherlands)  
Authors: Ezgi I. Çetin, Hugo Dutel, Maxime Taverne, Feline W.R. Steup, Eppo B. Wolvius, Maarten J. Koudstaal, Lara S. van de Lande, Roman H. Khonsari  
Institutions: Department of Oral and Maxillofacial Surgery, Erasmus Medical Center, Rotterdam, The Netherlands; Craniofacial Growth and Form Lab, Necker – Enfants Malades University Hospital, Paris, France

**Poster N°: 145 | Abstract N°: 486**

**Eight Years after One- Versus Two-Stage Cleft Lip and Palate Repair: Are there any Outcome Differences?**

Presenter: Karen Leung (United States)  
Authors: Karen Leung, Christopher Bernal-Trinidad, Jiwon Crowley, Amanda Wacenske, Robert Jacob, Amanda Gosman  
Institution: University of California San Diego, San Diego, CA, United States

**Poster N°: 146 | Abstract N°: 535**

**Does Stripping of the Pterygomasseteric Sling in Sagittal Split Osteotomy Result in Bony Reabsorption?**

Presenter: Alvin Nguyen (United States)  
Authors: Alvin Nguyen, Chiara Santiago, Gaia Santiago, Michael Edgar, Akriti Choudhary, Oday Obaid, Linping Zhao, Lee Alkureishi, Pravin Patel, Chad Purnell  
Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 147 | Abstract N°: 549**

**Preliminary Observation of Free Autologous Fat Transplantation (AFT) in the Treatment of Mild to Moderate Hemifacial Microsomia (HFM) in Children**

Presenter: Xinhai Ye (China)  
Authors: Xinhai Ye  
Institution: Dpt. FPRS/Ophthalmology, Eye & ENT Hospital, Fudan University, Shanghai, Shanghai, China

**Poster N°: 148 | Abstract N°: 617**

**Characterizing the Epidemiology and Biomechanics of Paediatric Facial Fractures Associated with Dental Injuries**

Presenter: Janina Kueper (United States)  
Authors: Janina Kueper, Anne Glenney, Fuat Baris Bengur, Jazhira Irgebay, Joseph Losee, Jesse Goldstein  
Institution: UPMC, Pittsburgh, PA, United States

**Poster N°: 149 | Abstract N°: 670**

**Optimal Treatment Order with Fibula Free Flap Reconstruction, Oncologic Treatment, and Dental Implants: A Systematic Review**

Presenter: Shreya Sriram (United States)\*  
Authors: Shreya Sriram, Moreen Njorege, Matthew Heron, Katherine Zhu, Lily Zhu, Cynthia Yusuf, Robin Yang  
Institution: Johns Hopkins School of Medicine, Baltimore, MD, United States

**Poster N°: 150 | Abstract N°: 671**

**Demographic, Comorbidity, and Operative Differences Between Adult and Pediatric Cases of Salivary Gland Malignancy**

Presenter: Aseela Samsam (United States)  
Authors: Victor Yu, Aseela Samsam, Rajendra Sawh-Martinez, Joseph Lopez  
Institution: Lake Erie College of Osteopathic Medicine, Bradenton, FL, United States

**Poster N°: 151 | Abstract N°: 673**

**Wired vs. Rigid Fixation for Traumatic Mandibular Angle Fractures**

Presenter: Kelly Harmon (United States)\*  
Authors: Kelly Harmon, Hossein Jazayeri, Nima Khavanin, Joseph Lopez, Amir Dorafshar  
Institution: Rush University Medical Center, Chicago, IL, United States

**Poster N°: 152 | Abstract N°: 716**

**Detoured Sagittal Split Osteotomy to Avoid Unexpected Fracture of Inferior Alveolar Nerve**

Presenter: Clement Lin (Taiwan)  
Author: Cheng-Hui Lin  
Institution: Craniofacial Center and Craniofacial Research Center, Chang Gung Memorial Hospital, Taoyuan, Taiwan. Chang Gung University, Taoyuan, Taiwan

**Poster N°: 180 | Abstract N°: 663**

**Balancing Improved Survival and Long-Term Outcomes after Surgical Treatment of Pediatric Head and Neck Cancer**

Presenter: Ishani Premaratne (United States)\*  
Authors: Ishani Premaratne, Colleen Trotter, Ja-Shen Lo, Idean Roohani, Sarah Alfeerawi, Pasha Shakoori, Devon O'Brien, Dylan Choi, Kevin Chen, Mark Urata, Jeffrey Hammoudeh  
Institution: Division of Plastic and Reconstructive Surgery, Keck School of Medicine, Los Angeles, CA, United States

**Poster N° 228 | Abstract N°: 718**

**Geographical and Socioeconomic Effects on Cleft Lip and Palate in Australia**

Presenter: Steven Cook (Australia)  
Authors: Steven Cook, Mark Moore  
Institution: Women's and Children's Hospital, Adelaide, Australia

## Friday, September 8, 2023

### Poster Session 3

Facial Trauma, Clefts and Encephaloceles, Basic Science and Microsurgery

Open for viewing from first Coffee Break to last session. Poster presentations will take place during Lunch Break.

#### Poster N°: 22 | Abstract N°: 236

##### Early Intervention Services in Single Suture Craniosynostosis

Presenter: Dylan Choi (United States)

Authors: Dylan Choi, Alexis Johns, Jeffrey Hammoudeh, J. Gordon McComb, Mark Urata

Institution: Division of Plastic and Maxillofacial Surgery, Children's Hospital Los Angeles, Los Angeles, CA, United States

#### Poster N°: 84 | Abstract N°: 129

##### Non-Binary Rhinoplasty: A Case Series of Pre-Operative Considerations, Techniques and Clinical Outcomes

Presenter: Sumun Khetpal (United States)

Authors: Sumun Khetpal, Aura Elias, Justine Lee

Institution: University of California – Los Angeles, Los Angeles, CA, United States

#### Poster N°: 153 | Abstract N°: 25

##### Lasting Structural Support with Cadaveric Cartilage for Wegener's Granulomatosis (Polyangitis) Nasal Reconstruction

Presenter: Sarah Barnett (United States)

Authors: Meghan Miller, Elisa Atamian, James Bradley, Joshua Choe, Sabrina Sam, Sarah Barnett

Institution: Perelman School of Medicine at the University of Pennsylvania, PA, United States

#### Poster N°: 154 | Abstract N°: 29

##### Predictors of Outcomes and Complications after Orbital Wall Fractures Reconstruction with Unsintered Hydroxyapatite/Poly L-Lactide

Presenter: Sang Wha Kim (South Korea)

Authors: Sang Wha Kim, Sang Il Kim

Institution: Seoul National University, Seoul, South Korea

#### Poster N°: 155 | Abstract N°: 59

##### Combining Patient Specific Implant with Malar Reduction to Repair Mid-Facial Asymmetry Caused by Craniofacial Fractures in Asians

Presenter: Sizheng Zhou (China)

Authors: Taoran Jiang, Sizheng Zhou, Ka loi Wong, Zheyuan Yu, Dejun Cao, Min Wei

Institution: Department of Plastic and Reconstructive Surgery, Shanghai 9th People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China

#### Poster N°: 156 | Abstract N°: 64

##### Application of Orthognathic Surgery Principles and Techniques in the Management of Deformity and Malocclusion after Craniomaxillofacial Trauma

Presenter: Han Tsung Liao (Taiwan)

Author: Han-Tsung Liao

Institution: Department of Plastic Surgery, Chang Gung Memorial Hospital, Linkou, Taiwan

#### Poster N°: 157 | Abstract N°: 67

##### Orbital Fracture Management and Outcomes in Baltimore: A Multicenter Analysis

Presenter: Seray Er (United States)

Authors: Seray Er, Bashar Hassan, Joshua Yoon, Eric Resnick, Cynthia Yusuf, Tomer Lagziel, Fan Liang, Thomas Ptak, Richard Reddett, Robin Yang, Judy Pan, Michael Grant

Institution: University of Maryland School of Medicine, Baltimore, MD, United States

#### Poster N°: 158 | Abstract N°: 72

##### Development and Validation of a Risk Calculator for the Prediction of Postoperative Diplopia Following Orbital Fracture Repair in Adults

Presenter: Bashar Hassan (United States)

Author: Bashar Hassan, Nicholas Hricz, Seray Er, Joshua Yoon, Eric Resnick, Cynthia Yusuf, Fan Liang, Robin Yang, Michael Grant

Institutions: Division of Plastic and Reconstructive Surgery, R. Adams Cowley Shock Trauma Center, Baltimore, MD, United States; Department of Plastic and Reconstructive Surgery, Johns Hopkins Hospital, Baltimore, MD, United States

#### Poster N°: 159 | Abstract N°: 102

##### The Efficacy and Safety of Milled PEEK (Polyetheretherketone) Implant for Facial Bone Reconstruction

Presenter: Dong Yeon Kim (South Korea)

Author: Dong Yeon Kim

Institution: Department of Plastic and Reconstructive Surgery, St. Vincent Hospital, The Catholic University of Korea, Suwon, South Korea

#### Poster N°: 160 | Abstract N°: 114

##### Traumatic Brain Injury in Patients with Frontal Sinus Fractures

Presenter: Pharibe Pope (United States)

Authors: Pharibe Pope, Bashar Hassan, Kimberly Oslin, Meryam Shikara, Fan Liang, Kalpesh Vakharia, Natalie Justicz, Andrea Hebert, Michael Grant

Institution: University of Maryland School of Medicine, Baltimore, MD, United States

#### Poster N°: 161 | Abstract N°: 149

##### Maxillofacial Fracture: An 11-Year Retrospective Study of 2240 Cases in Northwest China

Presenter: Di Yan (China)

Authors: Di Yan, Zhongwei Zhou, Jingjing Mao, Kun Cao, Xiaojuan Sun

Institution: General Hospital of Ningxia Medical University, Yinchuan, Ningxia, China

#### Poster N°: 162 | Abstract N°: 155

##### Risk Factors Associated with Hospital Admissions for Pediatric Craniofacial Trauma

Presenter: Dongdan Guo (United States)

Authors: Vicky Yau, Dongdan Guo, Hunter Martin

Institution: Northwell Health at Long Island Jewish Medical Center, New Hyde Park, NY, United States

#### Poster N°: 163 | Abstract N°: 193

##### Modified Keystone Perforator Island Flap Techniques for Small- to Moderate-Sized Scalp and Forehead Defect Coverage

Presenter: Wonseok Cho (South Korea)

Authors: Wonseok Cho, Kyu Nam Kim

Institution: Kangbuk Samsung Hospital, Seoul, South Korea

**Poster N°: 164 | Abstract N°: 241**

**Application of Submental Intubation for Simple Airway Management in Panfacial Fracture. A Report on 31 Cases**

Presenter: Ngoc Tuyen Le (Vietnam)

Authors: Ngoc Tuyen Le, Binh Nguyen, Quang Dong, Tu Doan

Institution: National Hospital of Odonto-Stomatology, Hanoi, Vietnam

**Poster N°: 165 | Abstract N°: 244**

**Mandibular Fracture Patterns and Associations with Other Craniofacial Fractures**

Presenter: Allison Karwoski (United States)

Authors: Allison Karwoski, Bashar Hassan, Seray Er, Eric Resnick, Michael Grant

Institution: University of Maryland School of Medicine, Baltimore, MD, United States

**Poster N°: 166 | Abstract N°: 254**

**Predictors of Postoperative Complications Following Mandibular Fracture Repair**

Presenter: Eric Resnick (United States)

Authors: Eric Resnick, Bashar Hassan, Seray Er, Allison Karwoski, Judy Pan, Michael Grant

Institution: University of Maryland School of Medicine, Baltimore, MD, United States

**Poster N°: 168 | Abstract N°: 274**

**Differences in Practice Patterns in Orbital Fracture Management: A National Survey**

Presenter: Kevin Yang (United States)

Authors: Kevin Yang, Chiara Santiago, Gaia Santiago, Akriti Choudhary, Sruti Akella, Nicholas Callahan, Chad Purnell

Institution: University of Illinois at Chicago College of Medicine, Chicago, IL, United States

**Poster N°: 169 | Abstract N°: 380**

**New Vision: Application of Hybrid Operative Room in Plastic Surgery**

Presenter: Po-Cheng Huang (Taiwan)

Author: Po-Cheng Huang

Institution: Division of Plastic Surgery, Department of Surgery, National Taiwan University Hospital, Taipei City, Taiwan. Center for Craniofacial Medicine and Morphological Sciences, National Taiwan University Hospital, Taipei City, Taiwan

**Poster N°: 170 | Abstract N°: 390**

**Neglected Fractures in Maxillofacial Injuries in the Year 2020-2022 in a National Referral Hospital, Epidemiological Study with Case Series**

Presenter: Prasetyanugraheni Kreshanti (Indonesia)

Authors: Prasetyanugraheni Kreshanti, Vika Tania, Windy Cendrick, Kristaninta Bangun

Institutions: Cleft and Craniofacial Center Dr. Cipto Mangunkusumo Hospital, Jakarta, Indonesia; Division of Plastic Reconstructive and Aesthetic Surgery, Department of Surgery, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia

**Poster N°: 171 | Abstract N°: 393**

**Epidemiology of Maxillofacial Injuries in Indonesia in the Year 2020-2022: A Single-Centre National Referral Hospital Study**

Presenter: Windy Cendrick (Indonesia)

Authors: Windy Cendrick, Vika Tania, Prasetyanugraheni Kreshanti, Kristaninta Bangun

Institution: Division of Plastic Reconstructive and Aesthetic Surgery, Department of Surgery, Faculty of Medicine, Universitas Indonesia, Jakarta, Jakarta Pusat, Indonesia

**Poster N°: 172 | Abstract N°: 398**

**Complex Mandibular Fracture Reconstruction Using Vascularized Free Fibular Flap**

Presenter: Dwi Wikasono (Indonesia)

Authors: Dwi Wikasono, Prasetyanugraheni Kreshanti, Vika Tania, Kristaninta Bangun, Mohamad Rachadian Ramadan, Parintosa Atmodiwirjo, Jasmine Athiyya Wibowo

Institutions: Cleft and Craniofacial Center Dr. Cipto Mangunkusumo Hospital, Jakarta, Indonesia; Division of Plastic Reconstructive and Aesthetic Surgery, Department of Surgery, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia

**Poster N°: 173 | Abstract N°: 413**

**An Innovative Virtual Reality Training Tool for the Pre-Hospital Treatment of Cranialmaxillofacial Trauma**

Presenter: Xiangdong Qi (China)\*

Author: Xiangdong Qi

Institution: Zhujiang Hospital, Guangzhou, Guangdong, China

**Poster N°: 174 | Abstract N°: 488**

**Self-Inflicted Gunshot Wound to The Orbits: A Case Report and Systematic Review**

Presenter: Dieter Brummund (United States)

Authors: Dieter Brummund, Angela Chang, Joseph Michienzi

Institution: Larkin Community Hospital, Miami, FL, United States

**Poster N°: 175 | Abstract N°: 490**

**Resorbable Plating Systems in Craniofacial Surgery: Adverse Events Reported in the MAUDE Database**

Presenter: Carol Wang (United States)

Authors: Carol Wang, Jose Palacios, Travis Peng, Matthew Saleem, Sammy Othman, Nicholas Bastidas

Institution: Northwell Health, Lake Success, NY, United States

**Poster N°: 177 | Abstract N°: 590**

**Characterization of Cranial Growth Pattern Using Craniometric Parameters and Best-Fit Logarithmic Growth Curves**

Presenter: Sungmi Jeon (South Korea)

Authors: Sungmi Jeon, Sukwha Kim, Jee Hyeok Chung, ByungJun Kim, Seung-Hak Baek, Il Hyung Yang

Institution: Seoul Metropolitan Government-Seoul National University Boramae Medical Center, Seoul, South Korea

**Poster N°: 178 | Abstract N°: 632**

**A National Database Perspective on Pediatric Non-Accidental Trauma Patients and Differential Outcomes for Facial Trauma Operations**

Presenter: Dana Meshkin (United States)

Authors: Dana Meshkin, Joseph Mocharnuk, Annie Glenney, Raj Vyas, Miles Pfaff

Institution: University of Pittsburgh School of Medicine, Pittsburgh, PA, United States

**Poster N°: 179 | Abstract N°: 660**

**Epidemiology, Key Outcomes, and Advances in Managing Pediatric Facial Fractures Associated with Skin and Nerve Trauma**

Presenter: Zhazira Irgebay (United States)

Authors: Janina Kueper, Zhazira Irgebay, Anne Glenney, Fuat Baris Bengur, Joseph Losee, Jesse Goldstein

Institution: UPMC, Pittsburgh, PA, United States

**Poster N°: 181 | Abstract N°: 666**

**Should Prophylactic Antibiotics be Used in Patients with Traumatic Facial Injury?**

Presenter: Hossein Jazayeri (United States)

Authors: Hossein Jazayeri, Kelly Harmon, Nima Khavanin, Joseph Lopez, Amir Dorafshar

Institution: University of Michigan, Ann Arbor, MI, United States

**Poster N°: 182 | Abstract N°: 695**

**Rise in Incidence of Gunshot Wounds to the Face: A 12-Year Retrospective Study of Changing Patterns in Management**

Presenter: Jack Bane (United States)

Authors: Jack Bane, Andrea Biaggi-Ondina, Paul Deramo, David Wainwright

Institution: Division of Plastic Surgery, Department of Surgery, McGovern Medical School,

University of Texas Health Science Center at Houston, Houston, TX, United States

**Poster N°: 183 | Abstract N°: 148**

**An Additional Whole-Exome Sequencing Study in 102 Panel-Undiagnosed Patients: A Retrospective Study in a Chinese Craniosynostosis Cohort**

Presenter: Yingzhi Wu (China)

Author: Yingzhi Wu

Institution: Huashan Hospital Fudan University, Shanghai, China

**Poster N°: 184 | Abstract N°: 207**

**Upper Airway Differences Between Pierre Robin Sequence and Treacher Collins Syndrome**

Presenter: Cristiano Tonello (Brazil)

Authors: Cristiano Tonello, Lucas Costa, Rodrigo Nunes, Daniela Carrera, Roseli Zechi-Ceide, Nivaldo Alonso

Institution: Hospital for Rehabilitation of Craniofacial Anomalies- University of São Paulo, Bauru, SP, Brazil

**Poster N°: 185 | Abstract N°: 208**

**Harnessing the Power of Technology to Perform Accurate Osteotomies: A Novel Computer-Controlled Workflow**

Presenter: Naji Bou Zeid (United States)

Authors: Naji Bou Zeid, Devansh Saini, Linping Zhao, Pravin Patel, Tong-Chuan He, Russell Reid, Lee Alkureishi

Institution: Department of Surgery, Division of Plastic, Reconstructive, and Cosmetic Surgery,

University of Illinois at Chicago (UIC), Chicago, IL, United States

**Poster N°: 186 | Abstract N°: 275**

**ARHGAP29 Regulates the Proliferation of Mouse Embryonic Palatal Mesenchymal Cells**

Presenter: Yongqing Huang (China)\*

Author: Yongqing Huang

Institution: General Hospital of Ningxia Medical University, Yinchuan, Ningxia, China

**Poster N°: 187 | Abstract N°: 307**

**Osteogenic Potential of Different Mesenchymal Progenitor Cells from Clinically Relevant Harvesting Sites for 3D Bioprinting of Artificial Bone Tissue**

Presenter: Patrick Dinkelborg (Germany)

Authors: Patrick Dinkelborg, Anna-Klara Amler, Jacob Spinnen, Dehne Tilo, Benedicta Beck-Broichsitter,

Max Heiland, Carsten Rendenbach

Institution: Charité – Universitätsmedizin Berlin, Berlin, Germany

**Poster N°: 188 | Abstract N°: 410**

**The Bone-Forming Activity of the Periosteum after Prelamination of Periosteum-Fascia Complex**

Presenter: Hojin Park (South Korea)

Authors: Hojin Park, Byung-Il Lee

Institution: Korea University Anam Hospital, Seoul, South Korea

**Poster N°: 189 | Abstract N°: 454**

**Automated Head Measurements from 3D Photogrammetry in Young Children**

Presenter: Tareq Abdel Alim (The Netherlands)

Authors: Tareq Abdel Alim, Pauline Tio, Melissa Kurniawan, Irene Mathijssen, Clemens Dirven,

Marie-Lise van Veelen, Gennady Roshchupkin

Institution: Erasmus Medical Center, Rotterdam, South Holland, The Netherlands

**Poster N°: 190 | Abstract N°: 460**

**A Critical Examination of Antibiotic Administration in Septorhinoplasty and Endoscopic Sinus Surgery: A Systematic Review**

Presenter: Cristina Benites (United States)

Authors: Cristina Benites, Heli Patel, Usman Awan, Saket Pandit, Anastassia Shifchik, Skylar Harmon,

Tatevik Malisetyan, Michelle L. Demory

Institution: Nova Southeastern University Dr. Kiran C Patel College of Allopathic Medicine, Davie, FL, United States

**Poster N°: 193 | Abstract N°: 686**

**Cranial Defect Reconstruction with Custom 3D-Printed Hydroxyapatite Scaffolds: A Large Pre-Clinical Model**

Presenter: Daniel Couture (United States)

Authors: Christopher Runyan, Daniel Couture, Griffin Bins, Heather Burkart, Will Molair, Samuel Kogan, Lukasz Witek

Institution: Wake Forest Baptist Department of Neurosurgery, Winston-Salem, NC, United States

**Poster N°: 194 | Abstract N°: 84**

**Maternal Vitamin D Supplementation on PTCH1 and RAD54B Gene Polymorphisms in Children with Oral Cleft**

Presenter: Reza Morvaridi Farimani (United States)\*

Authors: Reza Morvaridi Farimani, Asghar Ebadifar, Saba Tohidkhal

Institutions: Minnesota Dental Research Center for Biomaterials and Biomechanics, Minneapolis, MN,

United States; Dentofacial Deformities Research Center Research Institute of Dental Sciences,

Faculty of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Islamic Republic of Iran

**Poster N°: 195 | Abstract N°: 89**

**Primary Cleft Repair in Adult Patients with Untreated Cleft Lip and Palate Deformity**

Presenter: Karam Allam (Egypt)

Author: Karam Allam

Institution: Sohag University, Sohag, Sohag, Egypt

**Poster N°: 196 | Abstract N°: 99**

**Institution Experience on the First Case of Using Pre-Epiglottic Baton Plate for a Patient with Pierre Robin Sequence**

Presenter: Joanne Cheng (Singapore)

Authors: Joanne Jovina Siow Huey Cheng, Yong Chen Por, Chieh Shen Koo, Herni Lutfiah Hussein

Institution: KK Women's and Children's Hospital, Singapore, Singapore

**Poster N°: 198 | Abstract N°: 174**

**Sociodemographic Disparities in Access to and Outcomes After Cleft Palate Repair in the United States: A Systematic Review of the Literature**

Presenter: Naikhoba Munabi (United States)

Authors: Naikhoba Munabi, Chioma Obinero, Matthew Greives, Thomas Imahiyerobo

Institution: USC Keck School of Medicine, Los Angeles, CA, United States

**Poster N°: 199 | Abstract N°: 192**

**Secondary Alveolar Bone Grafting Following Gingivoperiosteoplasty in Children with Cleft Lip and Palate**

Presenter: Erik Wolfswinkel (United States)

Authors: Darius Balumuka, Kelsi Krakauer, Samantha Burch, Erik Wolfswinkel, Lori Howell

Institution: Oregon Health and Science University, Portland, OR, United States

**Poster N°: 200 | Abstract N°: 201**

**Adjunctive Techniques in Primary Cleft Palate Reconstruction: A Systematic Review**

Presenter: Anthony Deleonibus (United States)

Authors: Ying Ku, Anthony Deleonibus, Mazen Al-Malak, Lianne Mulvihill, Samantha Maasarani, Bahar Bassiri Gharb, Antonio Rampazzo

Institution: Cleveland Clinic Foundation, Cleveland, OH, United States

**Poster N°: 201 | Abstract N°: 204**

**Does Age at the Time of Speech Surgery for Cleft Velopharyngeal Insufficiency Influence Functional Outcomes and the Need for Revision Surgery?**

Presenter: Danielle Sobol (United States)

Authors: Danielle Sobol, Stefanie Hush, Katherine Dillon, Kazlin Mason, Joseph Williams

Institution: Children's Healthcare of Atlanta, Atlanta, GA, United States

**Poster N°: 202 | Abstract N°: 213**

**Repeat Buccal Flaps Successfully Reduce Hypernasality in a Patient with Cleft Palate**

Presenter: David Mitchell (United States)

Authors: Jackson C. Green, Austin Lignieres, Matthew R. Greives, David Mitchell

Institution: Division of Plastic Surgery, Department of Surgery, McGovern Medical School at The University of Texas Health Science Center, Houston, TX, United States

**Poster N°: 203 | Abstract N°: 238**

**Destructive Nasofrontal Dermoid Cyst in a Female Toddler: A Case Report**

Presenter: Sarayuth Dumrongwongsiri (Thailand)

Author: Sarayuth Dumrongwongsiri

Institution: Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

**Poster N°: 204 | Abstract N°: 375**

**Early Tongue Stitch Removal Following Palatoplasty – Challenging the Status Quo**

Presenter: Leandro Marx-Albuquerque (United States)

Authors: Samantha J. Burch, Ellie A. Moeller, Deo D. Balumuka, Kelsi N. Krakauer, Erik M. Wolfswinkel, Lori K. Howell, Leandro Marx-Albuquerque

Institution: Oregon Health and Science University, Portland, OR, United States

**Poster N°: 206 | Abstract N°: 378**

**Pesticide Use is Associated with Increased Risk of Cleft Lip and Palate in the United States**

Presenter: Connor Arquette (United States)

Authors: Priscila Cevallos, Kelsi Krakauer, Connor Arquette, Rahim Nazerali, Rohit Khosla, Clifford Sheckter

Institution: Stanford University, Palo Alto, CA, United States

**Poster N°: 207 | Abstract N°: 384**

**Three-Dimensional Printing for Bone Graft Surgical Planning in Facial Clefts**

Presenter: Lobredia Zarasade (Indonesia)

Author: Lobredia Zarasade

Institution: Medical Faculty Airlangga University, Surabaya, Jawa Timur, Indonesia

**Poster N°: 208 | Abstract N°: 479**

**Analysis of ACPA COVID-19 Guidelines on 30-Day Post-Operative Surgical Outcomes of Cleft Repair: An ACS NSQIP Pediatric Analysis**

Presenter: Chris Schilson (United States)

Authors: Christopher Schilson, Emily Littman, Andrew Broda, Aseela Samsam, Joseph Lopez, Rajendra Sawh-Martinez

Institution: University of Central Florida College of Medicine, Orlando, FL, United States

**Poster N°: 209 | Abstract N°: 480**

**Investigation of Cleft Palate Repair Outcomes in Patients with 22q11 Deletion Syndrome: An ACS NSQIP Pediatric Analysis**

Presenter: Rajendra Sawh-Martinez (United States)

Authors: Andrew Broda, Emily Littman, Aseela Samsam, Christopher Schilson, Joseph Lopez, Rajendra Sawh-Martinez

Institution: University of Central Florida College of Medicine, Orlando, FL, United States

**Poster N°: 210 | Abstract N°: 492**

**Botulinum Toxin for Scar Modulation in Primary Cleft Lip Repair: A Meta-Analysis**

Presenter: Leonardo Alaniz (United States)

Authors: Leonardo Alaniz, Joseph Mocharnuk, Jagmeet Arora, Melinda Lem, Justin Cordero, Miles Pfaff

Institution: University of California, Irvine - Department of Plastic and Reconstructive Surgery, Orange, CA, United States

**Poster N°: 211 | Abstract N°: 502**

**Midface Growth Outcomes Following Staged Rotation Advancements for Bilateral Cleft Lip Repair**

Presenter: Erin Wolfe (United States)

Authors: Erin Wolfe, Jonatan Hernandez Rosa, Marta Mejia, S. Anthony Wolfe

Institution: University of Southern California, Los Angeles, CA, United States

**Poster N°: 212 | Abstract N°: 516**

**A Modified Technique to Address the "Locked-Out" Premaxilla in Bilateral Cleft Palate Repair**

Presenter: James Vargo (United States)

Authors: James Vargo, Todd Thurston, Steven Buchman

Institutions: Children's Hospital and Medical Center, Omaha, NE, United States;

University of Nebraska Medical Center, Omaha, NE, United States

**Poster N°: 213 | Abstract N°: 519**

**Novel Quantification of the Levator Veli Palatini for Cleft Palate Repair via Intraoperative MRI**

Presenter: Adrian Osias (United States)  
Auhors: Tiffany Lee, Adrian Osias, Robert Mann, Lakshmi Kollara, Rajendra Sawh-Martinez  
Institution: Linda University School of Medicine, Loma Linda, CA, United States

**Poster N°: 214 | Abstract N°: 579**

**Designing the Prolabial Flap in Revisional Bilateral Cleft Lip Surgery: Clinical and Quantitative Analysis of Post-Operative Widening with Longer-Term Follow-Up**

Presenter: Jeffrey Goldstein (United States)  
Authors: Jeffrey Goldstein, Alina Sinha Medical  
Institution: Childrens Mercy Hospitals, Kansas City, MO, United States

**Poster N°: 215 | Abstract N°: 583**

**Increased Social Vulnerability is Associated with Non-Syndromic Cleft Lip and Palate in the United States – A CDC Vital Statistics Review of 2,876,892 Live Births**

Presenter: Golddy Saldana (United States)\*  
Authors: Golddy Saldana, Priscila Cevallos, Dylan Singh, Karan Raman, Rahim Nazerali, Clifford Sheckter  
Institutions: University of California Davis School of Medicine, Sacramento, CA, United States; Division of Plastic and Reconstructive Surgery, Department of Surgery, Stanford University School of Medicine, Stanford, CA, United States

**Poster N°: 216 | Abstract N°: 615**

**Financial Analysis of Routine Intensive Care Unit Admission Following Palatoplasty in Patients with Robin Sequence**

Presenter: Esperanza Mantilla-Rivas (United States)  
Authors: Nicolle Episalla, Esperanza Mantilla-Rivas, Amir Elzomor, John Thomas, Monica Manrique, Sohel Rana, Gary Rogers, Albert Oh  
Institution: Division of Plastic and Reconstructive Surgery, Children's National Hospital, Washington, DC, United States

**Poster N°: 217 | Abstract N°: 633**

**Case Report of an Anophthalmic, Anencephalic Neonate with Midline Cleft Lip and Palate**

Presenter: Neena Marupudi (United States)  
Authors: Neena Marupudi, Mandy Flor, Michael Cools, Arlene Rozzelle  
Institutions: Children's Hospital of Michigan – Department of Pediatric Neurosurgery, Detroit, MI, United States; Wayne State University School of Medicine – Department of Neurosurgery, Detroit, MI, United States

**Poster N°: 218 | Abstract N°: 684**

**Infection of a Calcified Cephalohematoma: Case Report, Literature Review and Proposed Treatment Algorithm**

Presenter: Courtney Doherty (United States)  
Authors: Courtney Doherty, Aubree Ford, Afshin Salehi, James Vargo  
Institution: University of Nebraska Medical Center, Omaha, NE, United States

**Poster N°: 219 | Abstract N°: 694**

**Reconstruction of Severe Frontonasal Dysplasia in Infancy: A Case Report**

Presenter: Raj Vyas (United States)  
Authors: Omotayo Arowojolu, Raj Vyas  
Institution: UC Irvine Plastic Surgery, Orange, CA, United States

**Poster N°: 220 | Abstract N°: 48**

**Scalp Free Flap in Ehlers-Danlos Syndrome**

Presenter: Shannen Ramey (United States)  
Authors: Shannen Ramey, Braden Rolig, Kendall Keck, Andrei Odobescu  
Institution: University of Iowa Hospitals and Clinic, Iowa City, IA, United States

**Poster N°: 221 | Abstract N°: 302**

**Visualization Mapping and Current Trends of Facial Contouring Procedures: A Bibliometric Analysis Based on Web of Science**

Presenter: Xin Li (China)  
Authors: Xin Li  
Institution: Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China

**Poster N°: 222 | Abstract N°: 363**

**Reconstructive Management Using Thoracodorsal Artery Pedicled Compound Free Flap, Gap Arthroplasty for Temporomandibular Joint Ankylosis**

Presenter: Jun Won Lee (South Korea)  
Authors: Se Ho Shin, In Suck Suh, Jai Koo Choi, Seong Hwan Kim, Jun Won Lee, Sang Seok Woo, Ki Hyun Kim, Kyung Min Kim  
Institution: Plastic and Reconstructive Surgery, Kangnam Sacred Heart Hospital, Hallym University College of Medicine, Seoul, South Korea

**Poster N°: 223 | Abstract N°: 518**

**Concomitant Orthognathic Surgery & Fibula Free Flap Reconstruction after Hemimandibulectomy – A Unique Case Combination**

Presenter: Tiffany Lee (United States)  
Authors: Tiffany Lee, Sabrina Pavri, James Mayo, Rafael Toro-Serra, Joseph Lopez, Rajendra Sawh-Martinez  
Institution: University of Central Florida College of Medicine, Orlando, FL, United States

**Poster N°: 224 | Abstract N°: 540**

**Surgical Outcomes in Children with Craniofacial Desmoid Tumors: A Systematic Review of the Literature**

Presenter: Hannah Brown (United States)  
Authors: Hannah Brown, Bryan Torres, Julisa Nuñez, Jatin P. Shah, Richard Wong, Chenue Abongwa, Fouad Hajjar, Rajendra Sawh-Martinez, Joseph Lopez  
Institution: University of Central Florida, College of Medicine, Orlando, FL, United States

**Poster N°: 225 | Abstract N°: 567**

**A Novel Algorithm for Pediatric Microsurgical Maxillary and Mandibular Reconstruction Using Custom Endoprosthesis**

Presenter: Collean Trotter (United States)  
Authors: Jeffrey Hammoudeh, Collean Trotter, Devon O'Brien, Sarah Alfeerawi, Idean Roohani, Dylan Choi, Pasha Shakoori, Artur Fahradyan, Mark Urata, Jessica Lee  
Institution: Keck School of Medicine of the University of Southern California, Los Angeles, CA, United States

**Poster N°: 226 | Abstract N°: 600**

**Microvascular Management of the Scalp, Skull, and Skull Base**

Presenter: Alexander Michael (United States)

Authors: Alexander Michael, Brian Andrews

Institution: University of Iowa Carver Collage of Medicine, Iowa City, IA, United States

**Poster N°: 227 | Abstract N°: 605**

**Utilizing our In-House 3D Printing Service to Improve Accuracy for Microsurgical Reconstruction of the Mandible and Maxilla at Great Ormond Street Hospital**

Presenter: Simon Eccles (United Kingdom)\*

Authors: Theodore Howard, Luke Smith, Simon Eccles

Institution: Great Ormond Street Hospital, London, London, United Kingdom



# SATELLITE SYMPOSIUM

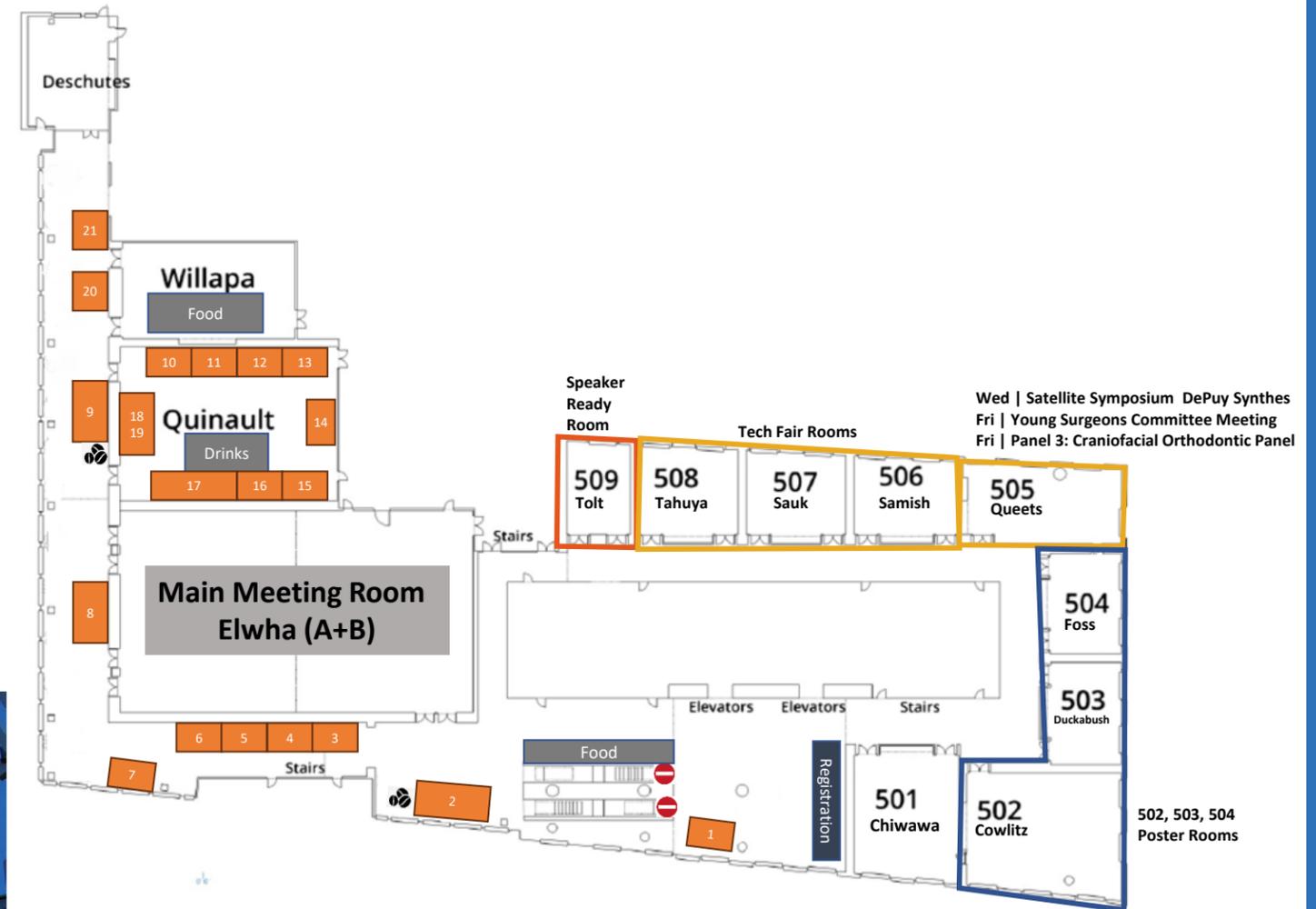
# FLOOR PLAN

Wednesday, September 6, 2023 | Room: 505 Queets

12:50 – 1:50 PM

## SATELLITE SYMPOSIUM DEPUY SYNTHES

**Gender Affirming Facial Surgery:  
Building a Practice and Achieving Consistent  
High Quality Results**  
Michael Alperovich, MD, MSc, FACS (United States)  
Institution: Plastic and Reconstructive Surgery, Yale University



Wed | Satellite Symposium DePuy Synthes  
Fri | Young Surgeons Committee Meeting  
Fri | Panel 3: Craniofacial Orthodontic Panel

502, 503, 504  
Poster Rooms



- |   |                     |    |                |    |                 |
|---|---------------------|----|----------------|----|-----------------|
| 1 | ISCFS               | 8  | KLS Martin     | 15 | Novarad         |
| 2 | Stryker             | 9  | Depuy Synthes  | 16 | Immersive Touch |
| 3 | mectron/Piezo       | 10 | Brainlab       | 17 | Xironetic       |
| 4 | GBR Medical         | 11 | 3dMD           | 18 | Marina Medical  |
| 5 | ASCFS/Face          | 12 | Invent Medical | 19 | QMP             |
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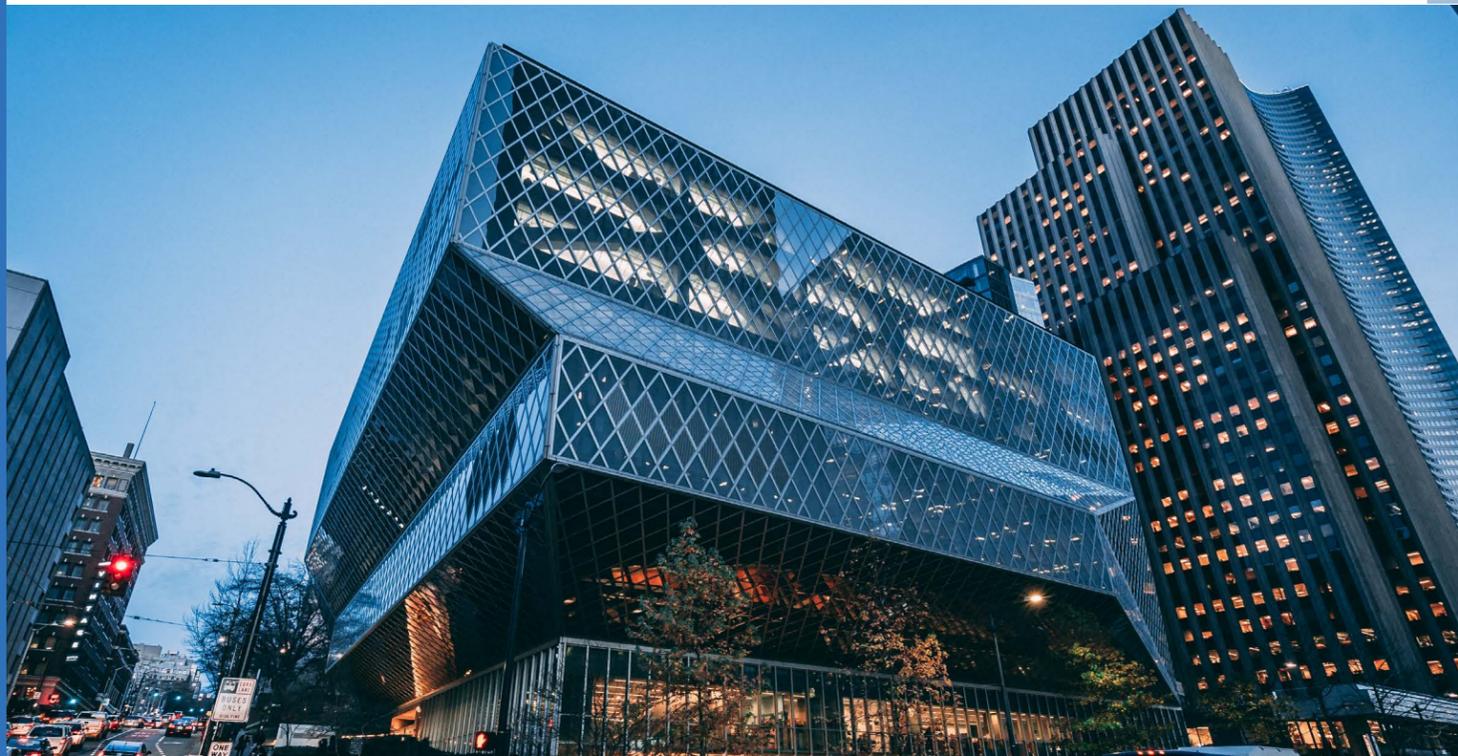
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AMLPHAC – Asociación Mexicana de Labio Paladar Hendido AC  
ANZCMFS – Australian and New Zealand Society of Craniomaxillofacial Surgeons  
ASCFS – American Society of Craniofacial Surgeons  
FACE – Official organ of the ASCFS  
ASPN – American Society of Pediatric Neurosurgeons  
KCPCA – Korean Cleft Palate Craniofacial Association  
LATIFCA – Latin American Craniofacial Association



## SOCIAL EVENTS

### Welcome Reception



Connect with friends and colleagues from all over the world over light refreshments in the exhibition area.

**When:** September 5, 2023 from 5:30 pm to 7:30 pm  
**Where:** Exhibition Area, Hyatt Regency  
**Dress Code:** Smart Casual

### Society and Fellowship Dinners



Enjoy an evening with fellows and friends. Please find a list of restaurant recommendations here: [www.visitseattle.org](http://www.visitseattle.org)

**When:** Wednesday, September 6, 2023  
– individually organized –

### Gala Dinner at the Museum of Flight



Join us for a special Gala Dinner in the spectacular setting of the world-famous Museum of Flight on Boeing Field. Savor an elegant dining experience under the wings of the world's fastest airplane, the Lockheed M-21 Blackbird. Our guest speaker will inspire us with the rich history and exciting future of aeronautical and space flight.

**When:** September 7, 2023 from 7:00 pm to 10:30 pm  
**Where:** Boeing Museum of Flight  
**Transfer:** 6:30 pm from the Hyatt Regency  
**Dress Code:** Black Tie Attire; Tickets required

## ABOUT ISCFS

The International Society of Craniofacial Surgery (ISCFS) was founded in June 1983 in Montreal.



**INTERNATIONAL SOCIETY OF CRANIOFACIAL SURGERY**

### The goals of ISCFS are to:

- Furnish leadership and foster advances in craniofacial surgery
- Provide a forum for exchange of knowledge pertaining to the practice
- Stimulate research, investigation, and teaching methods for preventing and correcting congenital and acquired craniofacial deformities
- Enhance the study and practice of craniofacial surgery
- Afford recognition to those who have contributed to craniofacial surgery by extending to them membership in the ISCFS

**More Information on:** [www.iscfs.org](http://www.iscfs.org)

## ISCFS BIENNIAL CONGRESS

The biennial Congress presents outcome studies and presentations of new techniques, as well as a focus on molecular biology as it relates to craniofacial growth and development, minimally invasive procedures for treatment of craniofacial anomalies such as distraction osteogenesis, the use of endoscopic procedures, application of advanced imaging techniques, and the continuing assessment of methodology currently in use.

### Congress Sites 1985-2023



## CONGRESS FEES

### Congress Fees | September 6-8, 2023

	Onsite Registration Fee: from September 4, 2023
Active and Associate Member	\$1,350.00
Resident/Registrar/Fellow Member	\$700.00
Non-Member	\$1,500.00
Current Non-Member Resident / Registrar / Fellow / Medical Student (1)	\$800.00
Accompanying Person / Practice Manager / Office Staff / Non-MD Team Member (2)	\$750.00

### Pre-Congress Fees | September 5, 2023

	Onsite Registration Fee: from September 4, 2023
Active and Associate Member	\$500.00
Resident/Registrar/Fellow Member	\$325.00
Non-Member	\$600.00
Current Non-Member Resident / Registrar / Fellow / Medical Student (1)	\$375.00
Accompanying Person / Practice Manager / Office Staff / Non-MD Team Member (2)	\$350.00

(1) requires proof of status by letter from program director including dates of training.

(2) requires proof of status by letter from employer.

All registered participants fees include: congress materials, admittance to the scientific sessions, coffee breaks, lunches and the welcome reception. Prices are in USD.

### Social Program Fees

Gala Dinner   Museum of Flight, September 7, 2023	\$150.00
<b>Welcome Reception   September 5, 2023</b>	
Registered participant	included
Accompanying person	\$75.00
Children's Fees (Age 6-18)	\$50.00

## INFORMATION

### CME

This activity has been planned and implemented in accordance with the accreditation requirements of the Washington State Medical Association through a joint providership of Seattle Children's Hospital and the International Society of Craniofacial Surgery. Seattle Children's Hospital is accredited by the Washington State Medical Association to provide continuing medical education for physicians.

This activity meets the criteria for up to 28.25 hours of Category I CME credit to satisfy the relicensure requirements of the Washington State Medical Quality Assurance Commission.

Seattle Children's designates this live education activity for a maximum of 28.25 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

### CERTIFICATE OF ATTENDANCE

Certificate of attendance will be provided for all delegates.

### OFFICIAL LANGUAGE

Organized by an International Scientific Society, all presentations will be given in English. Simultaneous interpretation will not be provided.

### EXHIBITION

We are pleased to have the accompanying industry exhibition in the foyer and Quinault. The coffee and lunch breaks will take place within the exhibition. You will find the exhibitor list on page 99.

### CONGRESS VENUE

The meeting will take place at the Hyatt Regency Seattle.

**Hyatt Regency Seattle**  
808 Howell Street  
Seattle, WA 98101  
Phone: +1 206.973.1234



The ISCFS Congress Hotel Hyatt Regency Seattle is located in the heart of the Emerald City and is the first LEED Gold certified hotel in the city. It is close to Lake Union and Elliott Bay and just a few steps from restaurants, shopping, theaters and top attractions.

### AIRPORT ACCESS

Airport Seattle Tacoma

By Train: Line 1 Link Light Rail; West Lake Station

By Bus: 16, 17, 320, 49, 545, 550, 590, 70, H Line

Taxi

### PARKING

Self Parking (Hotel Guest)

Overnight for hotel guests.

Vehicle height limit in garage Levels P6 & P7 is 6' 7". Vehicle height limit in garage Levels P4 & P5 is 6' 9". Please contact hotel directly for oversized vehicle parking options. \$43 - Parking is subject to availability and pricing may change.

### WIFI

Free wifi access is offered to all participants.

### USEFUL TELEPHONE NUMBERS

Emergency: 911

Seattle-Tacoma International Airport:

T. +1 (206) 787-5388

T. +1 (800) 544-1965

King Street Station (AMTRAK):

T. +1-800-USA-RAIL (1-800-872-7245)

TTY +1-800-523-6590

### Taxi:

Seattle Yellow Cab: +1 206 622 6500

Farewest Taxi: +1 206 622 1717

Sea-Tac International Taxi Association: +1 206 246 99 99

Uber

### CONGRESS SECRETARIAT

boeld communication, Inc.

Phone US: +1 603 707 8206

Email: boeldUS@bb-mc.com

www.bb-mc.com

## SPEAKER INSTRUCTIONS

### SPEAKING TIME

- Podium presentations have either 3min or 6min speaking time. In the interest of a smooth congress process, speakers are requested to take their seats in the front row of the meeting room before the start of their respective session.
- In the spirit of collegiality, we ask that you do not exceed your speaking time.
- Timing needs to be very strict. The green light on the podium speaker timer will turn yellow at one minute remaining and the microphone will be cut off if you talk more than 30 seconds after the solid red light appears. 3-minute presentations should have no more than 6 slides. 6-minute presentations no more than 12 slides.

### DISCUSSION

Discussion remarks are to be spoken freely. No projections are permitted during discussions. The audience is requested to use the microphones located in the aisles and to state their name, institution and country at the beginning of their remarks.

### IMAGE PROJECTION

PCs with PowerPoint for 16:9 projection using LCD projectors are provided. The use of your own laptop is not permitted. Upload or check your presentation in the Speaker Ready Room no later than two hours before the start of your session. Film files or special fonts (characters) must be embedded. Our AV team will delete all files after the Congress.

### MICROPHONE

A fixed lectern microphone is installed in the lecture rooms.

### DEALING WITH CONFLICTS OF INTEREST

Presentations must follow the slide format below:

- 1st Slide – Must include title and speaker name.
- 2nd Slide – Must include disclosures of all financial relationships with ineligible companies. If you have nothing to declare, please state: **I do not have any financial relationships.**

### NOTES ON THE POSTER PRESENTATIONS

The poster exhibition will take place in rooms Foss, Duckabush and Cowlitz. Posters should be attached to poster boards in the designated location with provided pins.

#### Please respect the following schedule:

**Wednesday: Poster Session 1: Craniosynostosis, Neurosurgical Considerations and Virtual Planning**  
Put up posters by 9:30 am – Take down posters at 5:00 pm

**Thursday: Poster Session 2: Team Care, Orthodontic and Maxillofacial, Distraction Osteogenesis, Artificial Intelligence and Facial Feminization**  
Put up posters by 10:30 am – Take down posters at 5:00 pm

**Friday: Poster Session 3: Facial Trauma, Clefts and Encephaloceles, Basic Science and Microsurgery**  
Put up posters by 11:00 am – Take down posters at 5:00 pm

The poster number indicated in the program is noted on the poster board. Posters will only be accepted in paper format no larger than 4 by 4 feet (1.22 by 1.22 meters). Presenters should stand by their posters during the lunch break on their assigned day. Box lunches will be served close to the posters to encourage people to enjoy the poster rooms. Judging for Best Poster Award will take place during lunch each day. We kindly ask you to remove the posters each day. We ask for your understanding that posters left behind cannot be forwarded and will be discarded.

## PARTICIPATE IN OUR INTERACTIVE POLLS:



# NOTES





# ISCFS 2023

5-8 SEPTEMBER

Seattle, Washington, United States

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[WWW.ISCFS-2023.COM](http://WWW.ISCFS-2023.COM)