SCOLIOSIS RESEARCH SOCIETY

Virtual 55th Annual Meeting

MEETING GUIDE

AVAILABLE ONLINE SEPTEMBER 3 THROUGH DECEMBER 31, 2020

LIVE SESSIONS: SEPTEMBER 9-13, 2020

SRS
Scoliosis Research Society

Sponsored by the Scoliosis Research Society

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SRS Scoliosis Research Society

SRS WOULD LIKE TO THANK THE FOLLOWING SUPPORTERS WHO PROVIDED GRANT SUPPORT TO THE 55TH ANNUAL MEETING.

DePuy Synthes

Globus Medical, Inc.

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Live Session Agenda - US Eastern Daylight Time

The following sessions will be presented live with opportunities for live discussion and Q&A. The live session agenda is provided in three different tables to display session times in US Eastern Daylight Time (page 4), Central European Summer Time (page 5), and China Standard Time (page 6).

US EASTERN DAYLIGHT TIME

DATE	TIME	SESSION
Wednesday, September 9	8:00-10:10	**Pre-Meeting Course** - Interdisciplinary Care for Optimizing Outcomes in the Patient with Spinal Deformity
	10:20-12:00	**Scientific Program** - Session 1: Quality/Safety/Value/Complications
Thursday, September 10	9:00-10:30	**Scientifc Program (2 Concurrent Sessions)** - Session 2A: Adolescent Idiopathic Scoliosis - Session 2B: Adult Spinal Deformity
	10:30-11:35	**Opening Ceremonies*** - Presidential Address - Biederman, Cotrel, Blount Humanitarian, and Lifetime Achievement Awards - Acknowledgment of Corporate Supporters - Howard Steel Lecture: Navajo Code Talker, *Peter Macdonald Sr.*
Friday, September 11	9:00-10:40	**Scientific Program** - Session 3: Nerves And Big Curves - Advances in Neuromonitoring and Management of Severe Spinal Deformity
	10:40-11:15	**Harrington Lecture** - The Respiratory Impact of Early Onset Scoliosis and Current Treatments: Where Do We Go From Here? *Presented by Gregory J. Redding, MD*
Saturday, September 12	9:00-10:50	**Hibbs Basic Science and Clinical Research Award Nominees** - Session 4A: Hibbs Basic Research Award Nominees - Session 4B: Hibbs Clinical Research Award Nominees
	10:50-11:30	**2021 Preview, Scientific Awards & Transfer of Presidency*** - 28th IMAST and 56th Annual Meeting Preview - Hibbs, Goldstein & Moe Awards - Transfer of Presidency
	11:30-12:40	**Early Career Surgeons Session**
Sunday, September 13	9:00-11:00	**Half-Day Courses (2 Concurrent Sessions)** - Optimizing Value And Minimizing Complications in Adult Spinal Deformity Surgery: the Roles of Teams, Risk Stratification, and Technology - Non-Fusion Scoliosis Correction in the Treatment of AIS: Fundamentals and Future

For expanded session information, please view the Annual Meeting Final Program available online at www.srs.org/am20/program.

Live Session Agenda - Central European Summer Time

The following sessions will be presented live with opportunities for live discussion and Q&A. The live session agenda is provided in three different tables to display session times in US Eastern Daylight Time (page 4), Central European Summer Time (page 5), and China Standard Time (page 6).

CENTRAL EUROPEAN SUMMER TIME

DATE	TIME	SESSION
Wednesday, September 9	14:00-16:10	**Pre-Meeting Course** - Interdisciplinary Care for Optimizing Outcomes in the Patient with Spinal Deformity
	16:20-18:00	**Scientific Program** - Session 1: Quality/Safety/Value/Complications
Thursday, September 10	15:00-16:30	**Scientifc Program (2 Concurrent Sessions)** - Session 2A: Adolescent Idiopathic Scoliosis - Session 2B: Adult Spinal Deformity
	16:30-17:35	**Opening Ceremonies*** - Presidential Address - Biederman, Cotrel, Blount Humanitarian and Lifetime Achievement Awards - Acknowledgment of Corporate Supporters - Howard Steel Lecture: Navajo Code Talker, *Peter Macdonald Sr.*
Friday, September 11	15:00-16:40	**Scientific Program** - Session 3: Nerves And Big Curves - Advances in Neuromonitoring and Management of Severe Spinal Deformity
	16:40-17:15	**Harrington Lecture** - The Respiratory Impact of Early Onset Scoliosis and Current Treatments: Where Do We Go From Here? *Presented by Gregory J. Redding, MD*
Saturday, September 12	15:00-16:50	**Hibbs Basic Science and Clinical Research Award Nominees** - Session 4A: Hibbs Basic Research Award Nominees - Session 4B: Hibbs Clinical Research Award Nominees
	16:50-17:30	**2021 Preview, Scientific Awards, Transfer of Presidency*** - 28th IMAST and 56th Annual Meeting Preview - Hibbs, Goldstein & Moe Awards - Transfer of Presidency
	17:30-18:40	**Early Career Surgeons Session**
Sunday, September 13	15:00-17:00	**Half-Day Courses (2 Concurrent Sessions)** - Optimizing Value And Minimizing Complications in Adult Spinal Deformity Surgery: the Roles of Teams, Risk Stratification, and Technology - Non-Fusion Scoliosis Correction in the Treatment of AIS: Fundamentals and Future

For expanded session information, please view the Annual Meeting Final Program available online at www.srs.org/am20/program.

Live Session Agenda - China Standard Time

The following sessions will be presented live with opportunities for live discussion and Q&A. The live session agenda is provided in three different tables to display session times in US Eastern Daylight Time (page 4), Central European Summer Time (page 5), and China Standard Time (page 6).

CHINA STANDARD TIME

DATE	TIME	SESSION
Wednesday, September 9	20:00-22:10	**Pre-Meeting Course** - Interdisciplinary Care for Optimizing Outcomes in the Patient with Spinal Deformity
	22:20-00:00	**Scientific Program** - Session 1: Quality/Safety/Value/Complications
Thursday, September 10	21:00-22:30	**Scientifc Program (2 Concurrent Sessions)** - Session 2A: Adolescent Idiopathic Scoliosis - Session 2B: Adult Spinal Deformity
	22:30-23:35	**Opening Ceremonies*** - Presidential Address - Biederman, Cotrel, Blount Humanitarian, and Lifetime Achievement Awards - Acknowledgment of Corporate Supporters - Howard Steel Lecture: Navajo Code Talker, *Peter Macdonald Sr.*
Friday, September 11	21:00-22:40	**Scientific Program** - Session 3: Nerves And Big Curves - Advances in Neuromonitoring and Management of Severe Spinal Deformity
	22:40-23:15	**Harrington Lecture** - The Respiratory Impact of Early Onset Scoliosis and Current Treatments: Where Do We Go From Here? *Presented by Gregory J. Redding, MD*
Saturday, September 12	21:00-22:50	**Hibbs Basic Science and Clinical Research Award Nominees** - Session 4A: Hibbs Basic Research Award Nominees - Session 4B: Hibbs Clinical Research Award Nominees
	22:50-23:30	**2021 Preview, Scientific Awards, Transfer of Presidency*** - 28th IMAST and 56th Annual Meeting Preview - Hibbs, Goldstein & Moe Awards - Transfer of Presidency
	23:30-00:40	**Early Career Surgeons Session**
Sunday, September 13	21:00-23:00	**Half-Day Courses (2 Concurrent Sessions)** - Optimizing Value And Minimizing Complications in Adult Spinal Deformity Surgery: the Roles of Teams, Risk Stratification, and Technology - Non-Fusion Scoliosis Correction in the Treatment of AIS: Fundamentals and Future

For expanded session information, please view the Annual Meeting Final Program available online at www.srs.org/am20/program.

Always Evolving With You

SPINAL DEFORMITY

Building on our 35 year legacy of advancing spine care globally, DePuy Synthes is committed to always evolving with you; delivering the ideas, resources, and solutions you need to treat your patients today and in the years to come.

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Self-Paced Program

September 3-December 31, 2020

Self-paced content will be available to all registered attendees through December 31, 2020. Once all of the self-paced content has been completed, additional CME can be claimed.

Industry Workshops*

DePuy Synthes: Perioperative Neurologic Complications in Adult and Pediatric Deformity

Globus Medical, Inc.: Adult and Adolescent Spinal Deformity: Complex Surgical Techniques with ExcelsiusGPS®

Medicrea: The Importance of Artificial Intelligence to Improve Outcomes and Efficiencies through Standardization

Medtronic: Evolutions in Spine Care: Innovative Solutions for Complex Cases

NuVasive: Powerful and Efficient Deformity Correction

Stryker: Complex Pediatric Deformities: How Have We Evolved in the Past Decade?

For more on industry workshops, visit www.srs.org/am20/industry-workshops.

Pre-Meeting Course Supplement

Section 2: Practice Management and Managing Practice

Section 3: Resource Management Panel: Accessing Tools And Infrastructure For The Patient

Half-Day Courses Supplement

Pediatric Abstracts

Adult Abstracts

Abstract Sessions

Adolescent Idiopathic Scoliosis II

Cervical Deformity

Early Onset Scoliosis/Syndromic

Sagittal/PJK

Spondylolisthesis/Congenital/Miscellaneous

Adult Spinal Deformity II

Basic Science

Membership Information Session*

Prospective members and new candidate members are invited to visit the SRS membership module to learn more about membership with SRS.

WHEN TIME MATTERS

Rod Link Reducer 3-Plane Deformity Correction Technique is designed to improve the technique for deformity correction and reduce operative time compared to traditional scoliosis correction techniques.[1]

75 MINUTES SAVED IN THE OPERATING ROOM

vs traditional correction techniques[1]

Discover more about the Rod Link Reducer technique at:
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1. Zhang, H. and D. Sucato, A novel posterior Rod-Link-Reducer system provides safer, easier, and better correction of severe scoliosis. *Spine Deformity*, (2019); 7: 445-453.

Meeting Information

MEETING DESCRIPTION

The 55th Annual Meeting is a complete web-based meeting experience for the realization of the Scoliosis Research Society's mission and goals, to foster the optimal care of all patients with spinal deformities. Presentations are given by leading experts in the field and have value for health care professionals who treat spinal deformities at all levels and in all ages. Over 150 papers, faculty-led instructional courses, industry-supported workshops, e-posters on the latest research, and more will be presented on an array of topics, including adolescent idiopathic scoliosis, growing spine, kyphosis, adult deformity, trauma, neuromuscular scoliosis, and tumors for live and/or self-paced viewing.

LEARNING OBJECTIVES

Upon completion of the Annual Meeting, participants should be able to:

- Analyze current research to inform best practices in clinical care.
- Implement risk stratification strategies in preoperative assessment in patients with spinal deformity.
- Incorporate multi-disciplinary teams to optimize patient outcomes.
- Identify optimal candidates for non-fusion or fusion approaches.
- Apply best practices in spinal deformity care to minimize complications and improve safety.

TARGET AUDIENCE

Spine surgeons (orthopaedic and neurological surgeons), residents, fellows, nurses, nurse practitioners, physician assistants, engineers and company personnel.

ACCREDITATION STATEMENT

The 55th Annual Meeting has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the sponsorship of the Scoliosis Research Society (SRS). SRS is accredited by the ACCME to provide continuing medical education for physicians.

CREDIT DESIGNATION

SRS designates the live online activity, 55th Annual Meeting, for a maximum of 11.5 *AMA PRA Category 1 Credits*™. SRS designates the self-paced enduring material, for a maximum of 13.75 *AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in each activity.

CME CERTIFICATES

CME certificates will be available online in the Annual Meeting platform upon the completion of each activity. Certificates will not be mailed or emailed. The online certificate access is the only source for this documentation. Please contact SRS at cme@srs.org with any questions. SRS asks that all Annual Meeting CME certificates be claimed no later than February 1, 2021.

DISCLOSURE OF CONFLICT OF INTEREST

It is the policy of SRS to insure balance, independence, objectivity and scientific rigor in all of their educational activities. In accordance with this policy, SRS identifies conflicts of interest with instructors, content managers, and other individuals who are in a position to control the content of an activity. Conflicts are resolved by SRS to ensure that all scientific research referred to, reported, or used in a CME activity conforms to the generally accepted standards of experimental design, data collection and analysis. Complete faculty disclosures will be included in the final program.

**Denotes Non-CME Session • US EDT = US Eastern Daylight Time; CEST = Central European Summer Time; CST = China Standard Time*

Meeting Information

FDA STATEMENT (UNITED STATES)

Some drugs and medical devices demonstrated during this course have limited FDA labeling and marketing clearance. It is the responsibility of the physician to be aware of drug or device FDA labeling and marketing status.

LANGUAGE

English will be the official language of the SRS Annual Meeting.

E-POSTERS

There are 75 E-Posters available for your review in the e-poster module.

The e-poster module is supported, in part, by NuVasive.

INDUSTRY WORKSHOPS

Delegates are encouraged to view the industry workshops and take part in the live workshop discussions. Each workshop is programmed by a single-supporting company and will feature presentations on topics and technologies selected by the company. Workshops are supported by DePuy Synthes; Globus Medical, Inc.; Medicrea; Medtronic; NuVasive; and Stryker. Please note, CME credits are not available for workshops.

MEMBERS BUSINESS MEETING

All SRS members are invited to attend the virtual Member Business Meeting on Tuesday, September 8 from 09:00-09:30 US EDT/15:00-15:30 CEST/21:00-21:30 China Standard Time. Agendas will include reports from the various SRS committees, updates on SRS activities and programs, and voting.

EARLY CAREER SURGEONS SESSION

The Early Career Surgeons Session is a new initiative a part of SRS's recently developed, Early Career Surgeon's Program. This session offers a unique opportunity for early career members and non-members to interact closely with a panel of experts, through didactic case based discussions. All learners are invited to participate in the live session on Saturday, September 12.

The Early Career Surgeons Session is supported, in part, by a grant from Medtronic.

EVALUATIONS

Please take time to complete the evaluations for each session you attend. Evaluations allow us to assess whether we have met your needs as a learner and what we can do to improve the next activity. After completing the evaluation surveys, CME and attendance certificates are generated.

SRS MEMBERSHIP

Check out the SRS Membership module for information about becoming a SRS member, upcoming meetings, and more.

Attending this 55th Annual Meeting virtually will count toward membership meeting requirements.

ANNOUNCEMENT BOARD

An announcement board is available in the online platform to inform learners about meeting updates and live session information.

The announcement board is supported, in part, by NuVasive.

STAY UP TO DATE WITH SRS DURING THE 55TH ANNUAL MEETING AND SHARE YOUR EXPERIENCES

#SRSAM20

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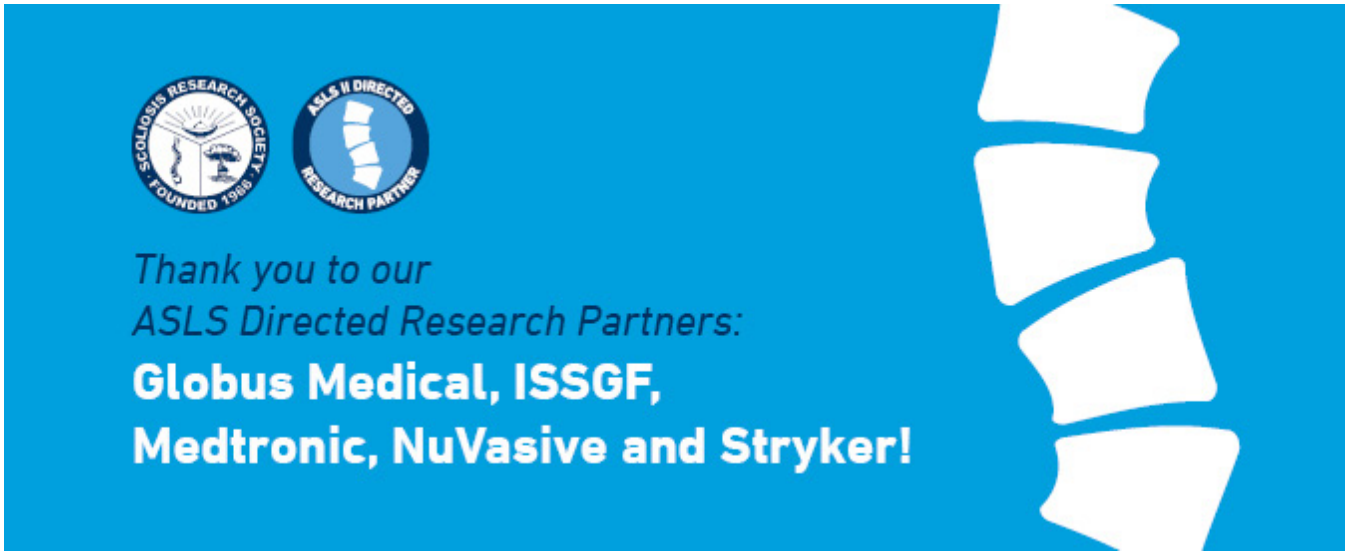
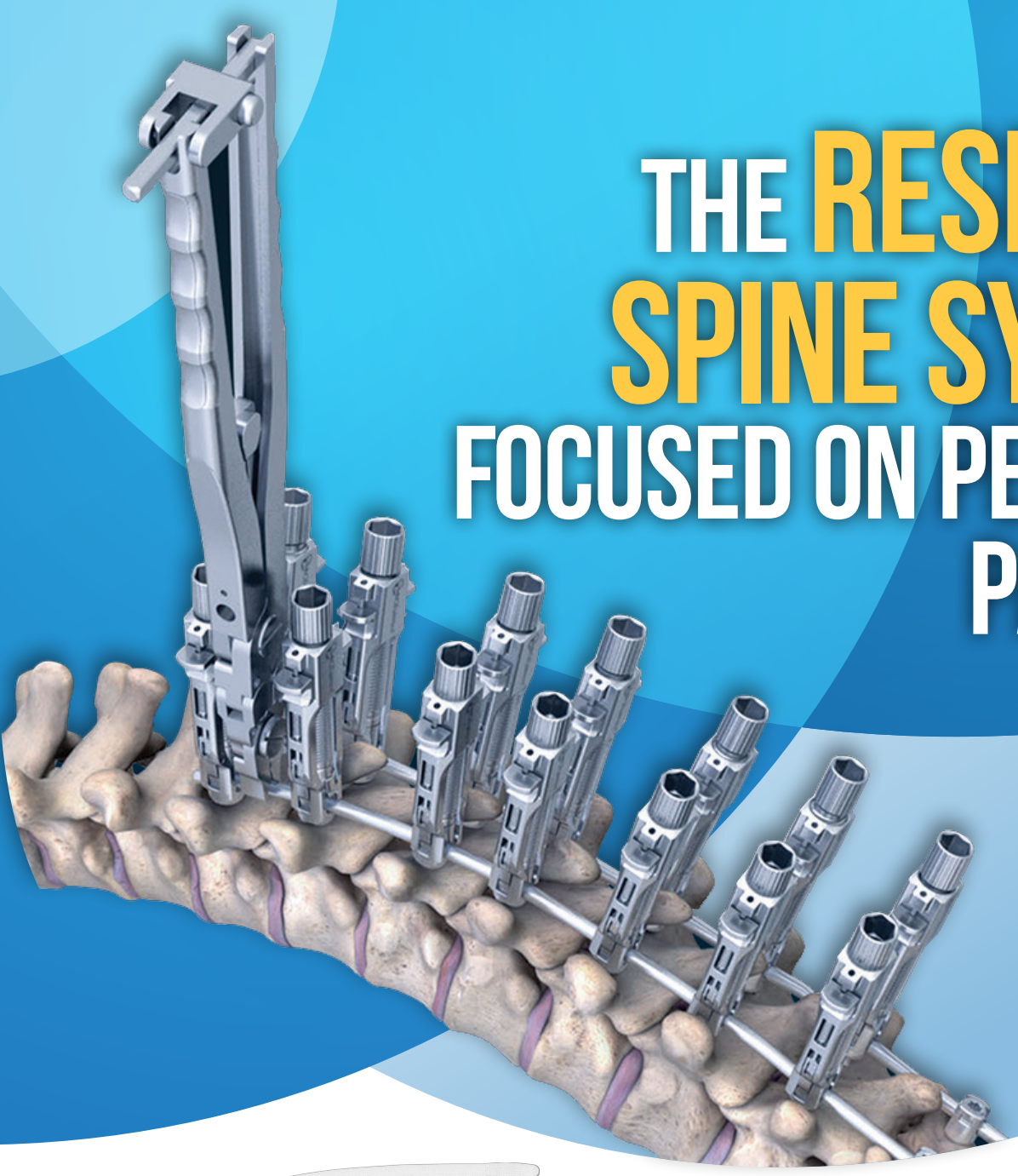
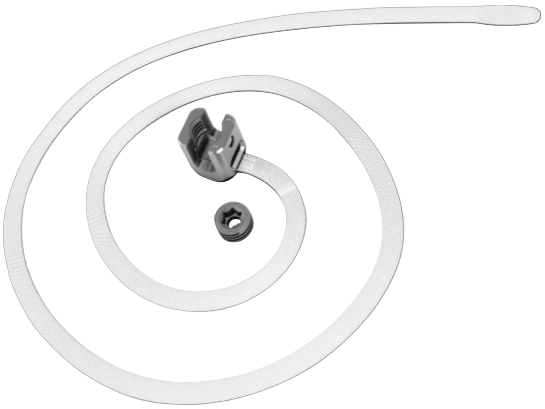


**Denotes Non-CME Session • US EDT = US Eastern Daylight Time; CEST = Central European Summer Time; CST = China Standard Time*

THE RESPONSE SPINE SYSTEM FOCUSED ON PEDIATRIC PATIENTS





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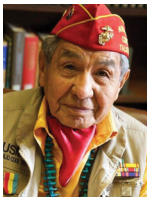
Guest Lecturers and Award Recipients

Howard Steel Lecture



Peter MacDonald, Sr.
Navajo Code Talker and Former Leader of the Navajo Nation

At the age of 15, Peter MacDonald, a Navajo from Teecnospos, Arizona, enlisted in the U.S. Marine Corps. He went through boot camp at U.S. Marine Corps Recruit Depot (MCRD), San Diego, CA. Following regular combat and communication training at USMCB in Camp Pendleton, CA, MacDonald, along with other Navajo Marines, was secluded from other Marines for top-secret Navajo Code School. During the final phase of World War II (1944-46) MacDonald served in South Pacific as Navajo Code Talker and North China with the Sixth Marine Division.

He was honorably discharged with a rank of Corporal. He went back to his home community of Teecnospos, Arizona. After graduation from High School and Junior College in Muskogee, Oklahoma, MacDonald went on to University of Oklahoma and graduated with an Electrical Engineering degree (BSEE). He pursued graduate studies at UCLA while working as a Project Engineer on the Polaris Missile project for (Howard) Hughes Aircraft Company. MacDonald served as Project Manager for the manufacture of the Polaris Missile Guidance System and was a member of the elite Hughes Technical Staff (MTS).

MacDonald has a long list of entrepreneurial endeavors attached to his name. Prominent among his work experience is his service as Chairman of the Navajo Nation from 1971 to 1983 and 1987 to 1991. MacDonald was re-elected to the Office of the Chairman four times—unprecedented in Navajo history. MacDonald is co-founder of the Council of Energy Resource Tribes (CERT), the National Tribal Chairman Association, the American Indian National Bank and the Native American Prep School. MacDonald also worked as Sales and Marketing Director for Cataract Engineering Company, providing engineering service for start-ups of Nuclear Power Plants and overhaul of coal-fired power plants.

Among his many honors are, Recipient of Congressional Silver Medal for heroic service to the nation as a USMC Navajo Code Talker, University of Oklahoma Engineering Hall of Fame, and Special Commendation by U.S. President Richard M. Nixon for "exceptional services to others". Chairman MacDonald also served as a civilian member of USMC Education and Training Board of Directors appointed by the Secretary of Navy. In addition, MacDonald was featured in TIME magazine as one of 200 "Rising Leaders of America" in 1974. He received Honorary Doctorate degrees from the University of Southern Utah in Cedar City and the College of Ganado (AZ). In 1978 he also received the Distinguished Service Citation from the University of Oklahoma—the institution's highest honor where he also served on the University of Oklahoma Board of Visitors and Bacone College Board of Regents.

MacDonald served on several national task forces and commissions (appointments by Presidents of the United States and Governors of Arizona and New Mexico). He now lectures at schools, colleges and universities, clubs, political organizations, government agencies and businesses. He is married and has five children and nine grandchildren. Currently he lives with his wife, Wanda, on the Navajo reservation at Tuba City, Arizona. MacDonald is currently President of the Navajo Code Talkers Association, raising funds to build National Navajo Code Talkers Museum and Veteran Center to honor Heroes of WWII, whose unique legacy, from 1942 through 1945, helped win the war transmitting top-secret messages in every major battle in the pacific theatre. Navajo Code was the only military code, in modern history, never broken by an enemy.

Guest Lecturers and Award Recipients

Harrington Lecture

Gregory J. Redding, MD

The Respiratory Impact of Early Onset Scoliosis and Current Treatments: Where Do We Go From Here?

Early onset scoliosis (EOS) often produces progressive restrictive and less often obstructive lung disease, with small lung volumes, stiff spine and chest wall, and reduced respiratory muscle motion and strength. Current surgical treatments act to distract the spine, reduce spine curvature, and promote vertebral length and in the process almost preserves lung function that exists prior to surgery. This is progress but not more is needed. New treatments should accomplish the following: 1) Preserve motion of the ribs and diaphragm, 2) Maximize function of both lungs, 3) Create space for further lung growth, and 4) Enhance respiratory muscle strength. Current treatments increase intrathoracic space alone. Improvements in treatments must salvage and/or preserve motion to maintain or improve respiratory reserve over time. This will require multiple disciplines to design the next generation surgical and non-surgical approaches to early onset spine and chest wall deformities.

Dr. Greg Redding is a professor of pediatrics at the University of Washington and Chief of the Pulmonary and Sleep Medicine Division at Seattle Children's Hospital. Dr. Redding has conducted clinical research for 40 years and has published more than 200 peer-reviewed articles, reviews, and chapters. He has received two lifetime achievement awards in pediatric respiratory medicine from the American Academy of Pediatrics and from the American Thoracic Society. He began to work in the field of spine and thoracic cage deformity in 2004 after meeting Dr. Bob Campbell. He has lectured internationally about the impact and mechanisms of impaired breathing due to spine deformities in early childhood and their functional consequences. He received the first Robert M. Campbell Jr. Award for Innovation in Early Onset Scoliosis in 2018. He remains actively conducting clinical research and recruiting more pediatric pulmonologists to collaborate with their spine colleagues throughout the world.

Walter P. Blount Award Recipients

The Walter P. Blount Humanitarian acknowledges outstanding service to those with spinal deformity, and for generosity to the profession and society. The 2020 Walter P. Blount Humanitarian award recipient will be acknowledged during the opening ceremonies on Wednesday, September 9 and will be presented the award in-person at the 2021 Annual Meeting.

Francisco J. Sánchez Pérez-Grueso Sr., MD

Dr. Francisco J. Sánchez Pérez-Grueso was born in Toledo, Spain. He completed his medical school at the Universidad de Salamanca and did his Orthopedic Surgery residency program at Hospital Universitario La Paz, Madrid. After his Residency, he joined the Spinal Deformity Unit as a staff member and soon after started a surgical program on pediatric spinal deformity surgery.

He expanded his training in spine deformity surgery visiting different specialized international centers (The Robert Jones and Agnes Hunt Orthop. Spine Disorders Dep. Oswestry, UK; Deutches Skoliosezentrum, Bad Wildungen, Germany; Hospital Saint Vincent de Paul, Paris; Hospital for Special Surgery, New York, USA).

He was promoted to Chief of the Spine Unit Hospital La Paz in 2006 until his retirement in October 2018. He has been appointed Emeritus of Madrid Health System developing his research activity at Hospital La Paz.

His membership with the SRS began in 1995. He served on the Growing Spine, Global Outreach, and Globalization Committees. He became chair of the Growing Spine Committee in 2009, Director at large in the SRS Board from 2010 to 2012, and senior SRS travelling fellow in 2018.

He began working in Ghana in 2003 as part of the FOCOS initiative led by Dr. Oheneba Boachie-Adjei. Over 10 years he worked with a group of committed surgeons focused on helping children suffering from severe spine deformities. Ultimately, the Foundation was able to establish the FOCOS teaching

hospital, which currently trains orthopaedic surgeons from Ghana and across West Africa.

Also alongside Dr. Boachie, they established the curriculum for the development program of spine surgeons in Sofia, Bulgaria, sponsored by the SRS. After a year of navigating administrative hurdles, the first surgery took place in 2008, working together with Dr. Steve Mardjetko. In the subsequent four years, the project helped local surgeons lead by Dr. Yablansky to achieve full autonomy in performing complex spine surgery.

In May 2017, there was a gathering to mark the 10-year anniversary of the program in Plovdid, where the founders joined local surgeons, as well as Dr. David Clements and Dr. Ahmet Alanay, who have continued with the initiative.

Throughout these years in Spain, he developed a great activity in the dissemination of new concepts and techniques in the treatment of spinal deformities. In 2004 he became the president of the Spanish Spine Society (GEER) from 2004 to 2006.

Within his research activity, his participation in different Study Groups (GSSG and ESSG) stands out. He has published more than 50 peer-reviewed papers and more than 100 podium presentation in national and international meetings.

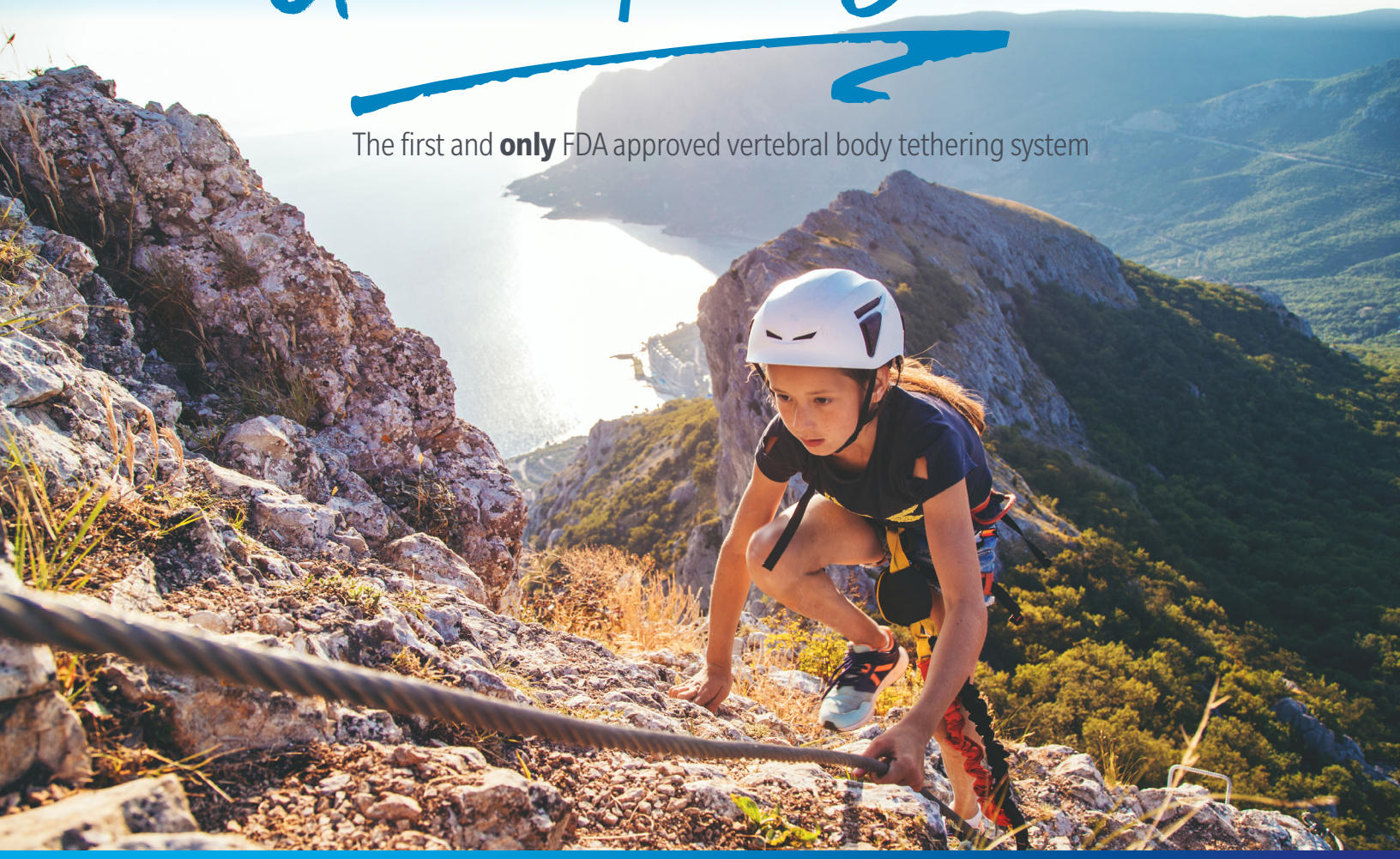
Lifetime Achievement Award Recipients

The Lifetime Achievement award recipients were chosen from among the SRS membership, based on long and distinguished service to the Society and spinal deformity research and care. The 2020 Lifetime Achievement award recipients will be acknowledged during the opening ceremonies on Wednesday, September 9 and will be presented the awards in-person at the 2021 Annual Meeting.

The Tether™

Ahead of the Curve

The first and **only** FDA approved vertebral body tethering system



Learn more about this scoliosis treatment at **myscoliosis.com**

Humanitarian Device. Authorized by Federal law for use in the treatment of skeletally immature patients that require surgical treatment to obtain and maintain correction of progressive idiopathic scoliosis, with a major Cobb angle of 30 to 65 degrees whose osseous structure is dimensionally adequate to accommodate screw fixation, as determined by radiographic imaging. Patients should have failed bracing and or be intolerant to brace wear. The effectiveness of this device for this use has not been demonstrated.

INDICATIONS FOR USE

The Tether™ - Vertebral Body Tethering System is indicated for skeletally immature patients that require surgical treatment to obtain and maintain correction of progressive idiopathic scoliosis, with a major Cobb angle of 30 to 65 degrees whose osseous structure is dimensionally adequate to accommodate screw fixation, as determined by radiographic imaging. Patients should have failed bracing and/or be intolerant to brace wear.

CONTRAINDICATIONS

The Tether™ - Vertebral Body Tethering System should not be implanted in patients with the following conditions:

1. Presence of any systemic infection, local infection, or skin compromise at the surgical site;
2. Prior spinal surgery at the level(s) to be treated;
3. Known poor bone quality defined as a T-score -1.5 or less;
4. Skeletal maturity;
5. Any other medical or surgical condition which would preclude the potential benefit of spinal surgery, such as coagulation disorders, allergies to the implant materials, and patients unwillingness or inability to cooperate with post-operative care instructions.

AE STATEMENT

The most common device or procedure-related AEs by subject occurrence include overcorrection of the instrumented curve (12/57, 21.1%), nausea/vomiting (12/57, 21.1%) and definite or suspected cord breakage (8/57, 14.0%).

COMMON POST-OP SURGICAL RISKS MAY INCLUDE

Pain in the back, neck, extremities and chest,nausea/vomiting, overcorrection of instrumented curve, inadequate curve correction, cord breakage, development of new curves, spondylolisthesis, bone screw migration, numbness or tingling, lung collapse or fluid on the lung.

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Guest Lecturers and Award Recipients

Jean Dubousset, MD

Jean Dubousset, born in 1936, is a pediatric orthopedic surgeon, now retired from clinical work. He received his medical education at Clermont Ferrand and Paris Universities, graduating with his MD in general surgery in 1965. He practiced pediatric orthopedics both privately and publicly in Paris until 1979, then moved to full time public practice at St. Vincent de Paul hospital for his entire remaining career, and acted as Professor of Pediatric Orthopedic surgery until 1991. He became a Member of the National Academy of Medicine and a member of the French Academy of Surgery in 2002. He was also member of the scientific committee of the Yves Cotrel Foundation at the Institut de France and is Chevalier de la Légion d'Honneur(2000).

Jean Dubousset has participated in the SRS Annual meeting almost every year beginning in 1969. He attended the meeting in Anaheim alongside Christian Salanova and Pierre Stagnara and after a 6 week tour of important scoliosis institutions in the US, he later returned to France with his new knowledge of the Halo device and the Milwaukee brace. He became a corresponding member of SRS in 1978, then Active Fellow, and is currently an Emeritus Member. He was the Harrington lecturer of the SRS at the Ottawa meeting of 1996 under the presidency of Vernon Tolo, and got the prestigious W. Blount Humanitarian award of the Society in 2010.

After reading the book of Hodgson in 1970, Jean Dubousset introduced France to wide anterior spine surgery in children. After working on paralytic pelvic obliquity in preparation for the GES (A French scoliosis Study group founded in 1969 on the model of SRS) Meeting in 1973 in Paris, he introduced the 3D basic principles for spinal pathology describing pelvic & cephalic vertebra concepts leading to economical conical balance system in humans. He is Co- inventor with Yves Cotrel of CD instrumentation for spine surgery in 1983, which describes the succession of scoliotic curves along the gravity line axis of the body with their apical and junctional zone, and is useful for the segmental instrumentation as well as the rotation maneuver of the rods and important for the strategies for correction. He performed the first CD instrumentation in the US at the Leatherman Center in Louisville in 1985 and soon after in Boston with John Hall.

He was an active developer of GICD study group, travelling and teaching all over the world. With his wife, Anne Marie, he spent 1987 on sabbatical in the USA, half in Miami with Harry Shufflebarger and the other half at Texas Scottish Right Hospital in Dallas with Tony Herring's team. During his sabbatical year in the USA, he did important work researching about etiology of idiopathic scoliosis and doing experimental research in chickens after a pinealectomy and the role of melatonin in its initiation which was presented at the SIROT meeting in 1988. His work continued with Masafumi Machida in Japan, later being presented and receiving awards at the 2016 SRS Annual Meeting in Prague.

He also had the opportunity during his sabbatical year in the US to develop the use of ILIZAROV system to perform salvage procedures of difficult spinal problems, elongating or shortening by compression of the pathological deformities.

Jean Dubousset was the initiator of the EOS imaging low dose radiation system, thanks to his collaboration with George Charpak (Nobel Prize winner) and Biomechanics engineers from ENSAM Paris and LIO Montreal. Creating a 3D computer reconstruction of the entire skeleton in a standing functional position, the first application was at St Vincent de Paul Hospital in Paris in 2000.

Jean Dubousset is a member of the most important scientific societies all over the world regarding pediatric orthopedics, especially spine, general pediatrics, and pediatric tumor diseases with many distinctions. He still continues to research human biomechanics focusing on Etiology of AIS and the importance of transversal plane of the body and on the consequences of ageing on the spinal alignment.

Finally Jean Dubousset's artistic activities include modern stained glass restoration of the destroyed windows of a 15th century church close to his country side family house.He also creates smaller picture pieces using original techniques.

**Denotes Non-CME Session • US EDT = US Eastern Daylight Time; CEST = Central European Summer Time; CST = China Standard Time*

Guest Lecturers and Award Recipients

Stuart L. Weinstein, MD

Dr. Weinstein is the Ignacio V. Ponseti Chair and Professor of Orthopaedic Surgery and Professor of Pediatrics at The University of Iowa. Dr. Weinstein received his A.B. Honors degree in Political Science and History from the University of Illinois in 1968. He received his medical degree (Alpha Omega Alpha) from the University of Iowa in 1972. After interning in Internal Medicine at The University of California San Francisco, he returned to the University of Iowa for a residency in Orthopaedic Surgery. In 1976 he joined the faculty of the Department of Orthopaedic Surgery at The University of Iowa.

Dr. Weinstein was an NIH funded researcher. He has published more than 260 scientific articles in peer review journals (including the NEJM, JAMA, The Lancet, Nature). His research work has focused on spinal deformity in children and the natural history and long-term outcome of pediatric musculoskeletal conditions. He has edited three major textbooks including The Pediatric Spine: Principles and Practice; Lovell and Winter's Pediatric Orthopaedics and Turek's Orthopaedics.

Dr. Weinstein's many contributions to orthopaedics have been recognized by his receipt of the Bristol-Myers Squibb/Zimmer Award for Distinguished Achievement in Orthopaedic Research; The Kappa Delta /Orthopaedic Research and Education Foundation Clinical Research Award (1998 and again in 2015- for the *Evidence Base for the Prognosis and Treatment of Adolescent Idiopathic Scoliosis*); The ABJS/CORR Nicolas Andry Award for research (2018); The Russell Hibbs Award for Clinical Research (1998, 2014, 2015) given by the Scoliosis Research Society; and The Arthur H. Heune Memorial Award, given by the St. Giles Foundation and The Pediatric Orthopaedic Society of North America. In 2005, Dr. Weinstein was the recipient of the Alfred R. Shands, Sr., MD Award, presented by the Orthopaedic Research Society and The American Orthopaedic Association for his significant contributions to orthopaedics and his devotion of a professional lifetime to furthering knowledge in the fields of musculoskeletal disease.

Dr. Weinstein received the 2000 Iowa Board of Regents Award for Faculty Excellence for sustained record of excellence across the spectrum of faculty endeavors. In 2003, he received the Ernest O. Theilen Clinical Teaching and Service Award presented by the Roy J. and Lucille Carver College of Medicine. In 2009, he received the highest award in the College of Medicine, the Distinguished Mentor Award presented by the Roy J. and Lucille Carver College of Medicine. In 2011, Dr. Weinstein received the William W. Tipton, Jr., MD, Award for Outstanding Leadership in Orthopaedics from the American Academy of Orthopaedic Surgeons and the Orthopaedic Research and Education Foundation. In 2010 he received the lifetime achievement from POSNA. In 2012, he received the American Orthopaedic Association's Distinguished Contributions to Orthopaedics Award. In 2016, he was honored by the Vietnamese Government and Minister of Health and awarded the Civilian Medal for Contributions to the Development of Healthcare in Vietnam. In 2019 he received the lifetime achievement award from SOSORT.

Dr. Weinstein was a recipient of an American, British, Canadian (ABC) Traveling Fellowship in 1985. He has been honored for his contributions to Orthopaedic Surgery by honorary memberships in National Orthopaedic Associations around the world including Australia, New Zealand, Germany, Great Britain Thailand, China, Portugal, and Argentina. In 2007, he was made a Fellow of The Royal College of Surgeons of England and in 2014 he was made an Honorary Member of the European Federation of National Orthopedic Associations of Orthopaedics and Traumatology (EFORT).

Dr. Weinstein is past president of the American Academy of Orthopaedic Surgeons, The American Orthopaedic Association, The American Board of Orthopaedic Surgery, The Pediatric Orthopaedic Society of North America, The United States National Action Network of the International Bone and Joint Decade, The International Center for Orthopaedic Education (ICOE), Doctors for Medical Liability Reform (DMLR), Past Chairman of the Board of Trustees of the Journal of Bone and Joint Surgery (JBJS) and past Chairman of the American Association of Orthopaedic Surgeons Political Action Committee. He currently serves as an American College of Surgeons Children's Hospital Surgery Surveyor and a Trustee for the Orthopaedic Research and Education Foundation.

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Lawrence Rinsky, MD

Meghan Imrie, MD

James Policy, MD

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